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A CLEAN SLATE:
THE ARCHAEOLOGY OF
THE DONNER PARTY'S WRITING SLATE FRAGMENTS

By

Molly Elizabeth Swords

Bachelor of Arts, The University of Montana, 2003

Thesis

presented in partial fulfillment of the requirements
for the degree of

Master of Arts
in Anthropology, Forensic Anthropology

The University of Montana
Missoula, MT

Spring 2008

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ABSTRACT

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Anthropology

A Clean Slate: The Archaeology of the Donner Party's Writing Slate Fragments

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Archaeological investigations into the whereabouts of the Alder Creek Donner family campsite yielded a number of artifacts. One type of artifact collected was writing slate fragments, the topic of this thesis. Why were writing slate fragments found at the Alder Creek camp? An investigation into writing slate in the historical record had to be conducted to address this question. The lack of pertinent research associated with writing slate posed a major obstacle, as it has been disregarded as a diagnostic artifact in historical archaeological literature. This paper addresses this problem by a history of writing slate and its uses, as well as including a discussion of precursors to writing slate, to provide a context for materials recovered from the Alder Creek site. It was first thought that writing slate was only used in the context of education, as might have provided a means of keeping the children busy during the Donner Party's snowbound experience. However, this research indicates that a number of other activities can be associated with writing slate; including messages and notes, record keeping and accounting, gaming and gambling. The writing slate recovered from the Donner family camp is analyzed here using the results of the historical overview of this material and a cognitive archaeological approach.

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Chapter 1

INTRODUCTION

Objects are reluctant witnesses to the past; they have to be questioned carefully and closely if they are to provide accurate information (Caple 2006:iv).

Archaeological patterns are thus given meaning through the content of written sources. The artifact, if not entirely mute, can only speak through the text. Archaeology remains subservient to, and parasitic upon, history (Moreland 2001:102).

Archaeologists use material remains to better understand the lives and experiences of people who lived in the past. In the case of the 2004 archaeological investigation at Alder Creek, the location of the Donner Party's Donner family camp, writing slate fragments were found. When I first started this project, I was given the task of examining writing slate fragments to explore ways in which it might be possible to identify remnant writing on those slate fragments to better understand the experience of the people who were stranded in one of the infamous Donner Party starvation camps. As I researched further into this topic, a new focus for my thesis emerged. I discovered that there was a lack of information on writing slate in the archaeological literature. Although writing slate was commonly used throughout the nineteenth century and into the twentieth century, it was hardly ever described. This discovery led to a shift in my research. I still continued to examine ways to find remnant writing on the slate fragments; however my research objectives changed to ensure an appropriate historical context for writing slate would be available for the analysis of this material.

The first research objective set out to compile a history of writing slate in the United States. In the process, a related objective sought to identify the various functions of writing slate. I initially assumed that writing slate was primarily associated with education; however, as this research unfolded, I realized that slate was used for many other activities. Finally, the third research objective focused on the project's original goal: to analyze and examine the writing slate recovered from the Donner family camp. This objective specifically sought to determine whether it might be possible to identify remnant writing to interpret topics such as normalization and the presence of children's activities. Games, record keeping, educational activities, or other forms of writing were among some of the expectations associated with the third research objective. Even though the writing slate fragments were initially thought to be linked with children, realistically any artifact found at the site could have been used by the children. After completing the second research objective, it became clear that, any adult at the Donner family camp was just as likely to have used the writing slate as well as children.

Due to the fact that writing slate has been found at some archaeological sites, a small amount of literature exists that notes the presence of this material in various contexts. These range from school house archaeological investigations to research at a military fort and a historic mining ghost town (Bower 1978; Clouse 1996; Pena 2001; Rotman 2005). Writing slate was merely listed among the artifacts found at these sites and never discussed in detail. This analysis will take a further step than other archaeological investigations that have recovered writing slate by highlighting the material as the sole subject of an investigation, using the slate fragments from the Donner

family camp archaeological assemblage.

In 1846, a wagon train headed west from Independence, Missouri. Among the travelers were the Donner brothers, George and Jacob, who planned to settle with their families in California. George, Jacob, their wives, and many others never saw their final destination and instead became the subject of one of the most infamous events in United States history: the saga of entrapment, starvation, and cannibalism of the California-bound Donner Party during the winter of 1846-1847 (McGlashan 1940[1880]; Stewart 1936; Hardesty 1997; Rarick 2008). News of the Donner Party tragedy both stunned and fascinated the American public and it still attracts the attention of both academics and non-academics today.

Dr. Donald Hardesty of the University of Nevada, Reno, conducted the first systematic archaeological investigation at the two major Donner Party encampments (Donner Lake and Alder Creek) in the 1990s. While he confidently located one of the cabins, the Murphy cabin, at Donner Lake, the precise location of the Donner family camp at Alder Creek eluded him (Hardesty 1997). He recovered artifacts indicative of an emigrant-era camp, but no hearth feature to provide those artifacts with a campsite context. In 2003 and 2004, Dr. Kelly Dixon and Dr. Julie Schablitsky returned to the Alder Creek camp, found a buried hearth feature, and confirmed the presence of the Donner Party-Era campsite in the Alder Creek Meadow (Dixon et al. 2008).

Once the controversial topic of cannibalism was investigated using the bone fragments (Dixon et al. 2008), additional analyses took place to examine other physical remains of the Donner family camp. Writing slate fragments were among these remains

and those objects are the topic of this thesis. The first step in the analysis of the writing slate required an examination of the literature related to writing slate research; the details of this search, along with other research methods, are outlined in chapter 3 herein. As noted above, I soon learned that there was no known history of writing slate or even a detailed analysis of slate fragments recovered from archaeological contexts. As a result, chapter 4 is dedicated to outlining a brief history of writing followed by a general history of writing slate. There were setbacks in compiling this chapter, at first, due to the paucity of writing slate descriptions in historical records. In my frustration, and in response to a paper recommending eBay as a tool for historical archaeologists (Schuyler and Gaskell 2006), I began to contact sellers of writing slate on eBay to ask about the information they displayed on their auction page. I asked about how they determined the age of the writing slate and where they got their information. The answer always was “it looks old” or “somebody told me it was that old.” In addition, I posted bulletins on numerous pen collectors’ websites, asking if they knew of any information concerning writing slate, to no avail. I also contacted museums and Rock Quarry Companies but found no further information on writing slate. I began to realize that if I needed a history of writing slate, I would have to compile it myself. Using historical records, patents, documents, catalogues and museum artifacts, I was able to piece together a history of writing slate, which became the subject of chapter 4.

Once the history of writing slate was outlined, it became possible to examine the meaning and uses of those objects in the Donner family’s starvation camp at Alder Creek. Chapter 5 will present an overview of cognitive archaeology and the ways in which a

cognitive approach to the interpretation of these objects can aid an analysis of their role in the Donner's ordeal. For example, I hypothesized that the writing slate might have been used to normalize a desperate situation and might have been used at the Donner family camp in the context of education, such as school lessons for the children. Tamsen Donner, the matriarch of the Donner family, was a schoolteacher who had hopes of starting a ladies' seminary in California and who traveled west with supplies for that school. Indeed, writing slates were undoubtedly part of the cargo included with those supplies and could have been used in the Donner family camp during the winter of encampment. I also hypothesized that writing slate could be a diagnostic artifact to help identify the presence of children in the archaeological record of the Alder Creek camp. Before continuing with the analysis and history of writing slate, a brief history of the Donner Party is presented in the next chapter to provide the context for this study.

Chapter 2

HISTORY OF THE DONNER PARTY

The indescribable sufferings endured by that handful of souls, lost in the snows of the Sierra Nevada Mountains, can never be told by any single individual, as there were two camps, seven miles apart from each other, and the story of one is not that of the other (*Los Angeles Times* May 13, 1896).

When President Thomas Jefferson signed the Louisiana Purchase Treaty in 1803, the United States doubled in size. It was with this purchase and the journey of Lewis and Clark, that the allure of setting off into the “Wild West” was born. Even though the Donner Party’s wagon train departed for California in the spring of 1846, some 40 years after the signing of the Louisiana Purchase, their journey was still rugged and full of unpredictable events. The Donners migrated to California before it was a state (Barnard 1977:171). In fact they were heading to the territory still owned by Mexico when they first started out.

In 1846, the Donner family contingent was part of a wagon train that headed west from Independence, Missouri. The Donner family consisted of the Donner brothers, George and Jacob, and their immediate families. George Donner was a successful farmer who decided to move his family to the California. George traveled with his wife Tamsen, and their three children. George’s children from his previous wife joined the emigrants as well. George’s brother, Jacob, and his family also traveled west with the ill-fated party (Johnson 1996:249; Werner 1996:25; Hardesty 1997).

As was typical for the time, the Donners brought supplies with them to use on the trail and to set up their home in California. “The wagon’s carrying capacity was generally limited to a load of 2000 to 5000 pounds, and a pioneer not only had to take provisions for the trip but cargo that would be needed to set up a new home” (Capps 1990:9). In a letter addressed to her sister, Tamsen Donner wrote;

My Dear Sister, ...Now in the midst of preparation for starting across the mountains I am seated on the grass in the midst of the tent to say a few words to my dearest & only sister. ...My three daughters are around me, one at my side trying to sew, Georgeanna fixing herself up in old India rubber cap & Eliza Poor knocking on my paper & asking me ever so many questions. ... I can give you no idea of the hurry of the place at this time. It is supposed there will be 7000 wagons will start from this place this season. We go to California, to the bay of San Francisco. It is a four months trip. I am willing to go & have no doubt it will be an advantage to our children & to us. I came here last evening & start to-morrow on the long journey. Farewell, my sister, you shall hear form me as soon as I have an opportunity... Farewell T(amsen) E. Donner (Werner 1995:29).

It has been documented in a number of different sources how Tamsen Donner was an accomplished teacher who planned to start a school in California (McGlashan 1940 [1880]; Hardesty 1997; Mullen 1997) and had brought school supplies with them in order to do this (Werner 1995).

The Donners connected with other emigrants in Independence, Missouri, the meeting point for the westward journey. In Independence travelers could buy provisions and join up with wagon trains to travel in large groups to Oregon and California. Wagon trains with “covered wagons were the major means of transportation in the mid-nineteenth century west” (Capps 1990:9). The Donners left Independence, Missouri on May 12, 1846. The initial wagon train they joined was enormous one, with over 500

wagons. They traveled along the Oregon Trail (Figure 1) and most of the other wagon train members were on their way to Oregon.

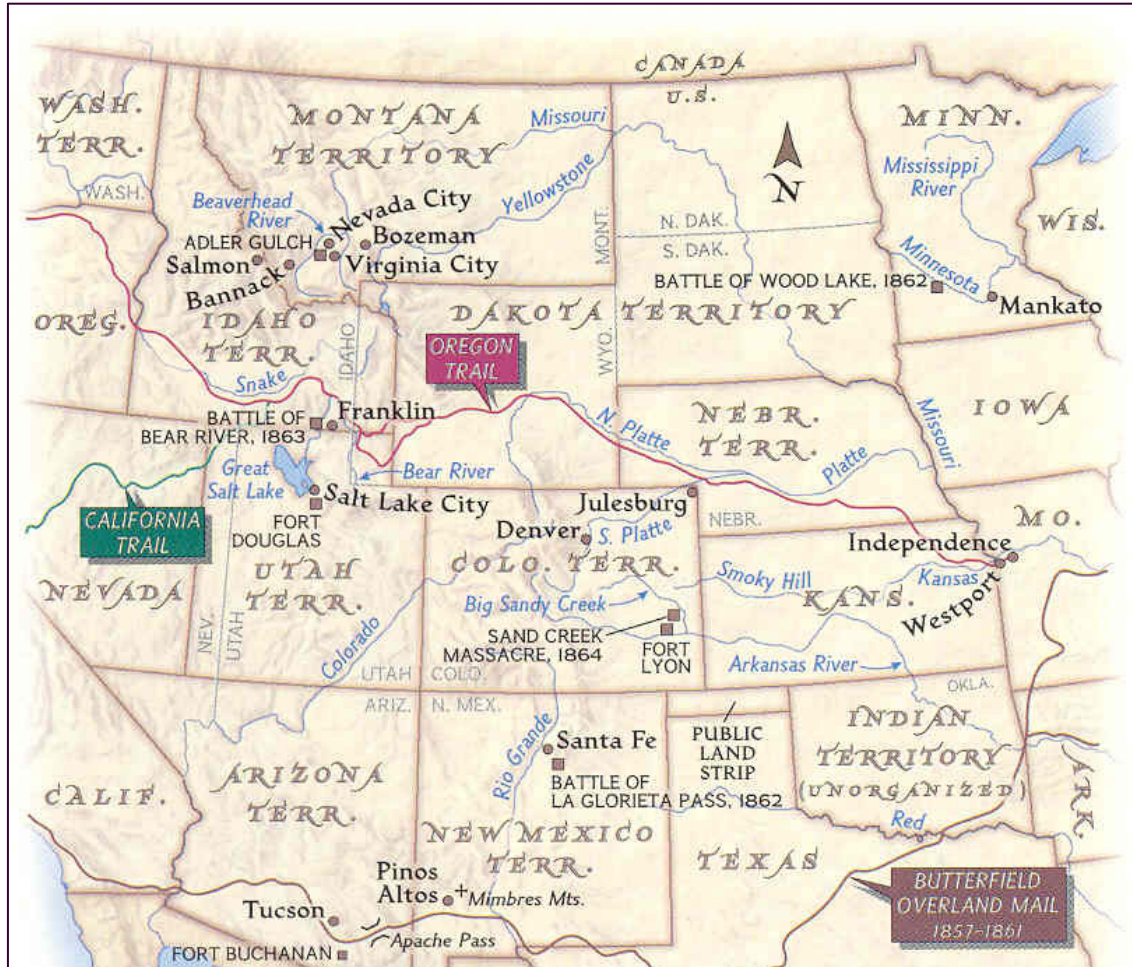


Figure 1. Map of the Oregon and California Trail System Taken By the Donner Party (Walker 1997:37).

When the wagon train reached the Little Sandy River, in what is now Wyoming, the Donner family broke off to follow a “shortcut” to California that took travelers south of the Great Salt Lake to meet up with the California Trail on the other side of the a vast

desert. “For the earliest emigrants, the knowledge of how best to make the overland trek was gained through word of mouth and by trial and error, but in the mid-1840s emigrant guidebooks became available” (Capps 1990:2). Joining the Donner family on this shortcut, known as the Hasting Cutoff, were several families and various single men, namely teamsters (Stewart 1988[1936]:18). James F. Reed, also from the Donner’s hometown of Springfield, Illinois, and George Donner served as co-captains to lead the new wagon train, which totaled 87 men, women, and children (Johnson 1996:294-298). This is the “official” formation of the ill-fated group known as the Donner Party; their number would be reduced to 81 by the time they ascended the Sierra Nevada, the site of their fateful winter encampment.

The Hastings Cutoff proved to be a troublesome, alterative route. The party ended up blazing a new trail through the Wasatch Mountains, which exhausted the adult males and caused the group to lose precious time. In addition, the Great Salt Desert crossing was trying and included experiences such as the company’s cattle stampeding in search of distant water (Rarick 2008:70-75). Subsequently, the slow pace caused by this shortcut resulted in the group’s late crossing of the rugged Sierra Nevada range. Additionally, James Reed was banished from the group for killing one of the train’s teamsters in a disagreement that led to a fatal scuffle. This left George Donner as the sole captain of the fatigued party. By the time the group reached the eastern Sierras, it had lost most of its original social cohesion, with small cliques forming and traveling separately along the trail (Hardesty 1997:10-11).

The Donner family was one such clique. They fell behind the rest of the party,

and during their late crossing of the Sierras around October 31, 1846, George Donner injured himself fixing a broken wagon axle; this injury became infected, which rendered the patriarch of the Donner Party an invalid. When the snow prevented them from going any further, the Donner family established a camp at Alder Creek. The Alder Creek location was situated near a meadow and about a mile off the trail. The rest of the Party, comprised of sixty people, stopped and camped about six miles further up the trail (Figure 2), establishing three cabins at what is now known as Donner Lake. In all 21 people were snowbound at Alder Creek; of these individuals, twelve (57%) of whom were children (Johnson 1996:294-298).

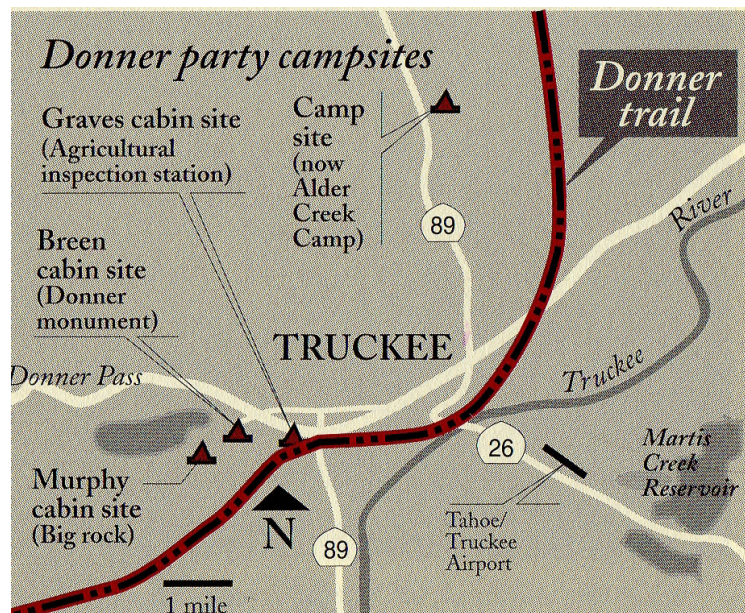


Figure 2. Map of the Donner Party camp sites near the Emigrant Trail and the modern town of Truckee, California (Mullen: 1997:195).

The Donner family and their teamsters thought that their stay at the Alder Creek

location would be temporary. The three shelters they built were makeshift lean-to structures which were constructed with covers from the wagons, quilts, coats, and blankets (*Los Angeles Times* December 15, 1921; Werner 1995:36). Wagon covers were made from a variety of different cloths ranging from “duck, rain-proof canvas, well-oiled or painted linen, white drilling, muslin, sailcloth or oilcloth” (Capps 1990:5). While the Donner family group built temporary housing at Alder Creek, the rest of the party continued about six miles ahead on the trail to what is known today as Donner Lake. They built three cabins at the lake site, which initially sheltered 60 individuals (Werner 1995:36). As far as housing goes, the Donner Lake encampment endured a better quality of life. The Alder Creek camp residents, with their make-shift tents, were constantly cold and wet. Oftentimes, it was difficult for them to start a fire to keep themselves warm (Werner 1995:41).

The Donner Party became snowbound in the Sierra Nevada for over four long, grueling months. In addition to supplies running low, the extreme snow accumulation made it impossible to go out searching for food, and snow drifts quickly buried horses and oxen. Survivors described a dire situation: “we were often without fires for days and meat was beyond reach at times, then we ate hides, and strings or went hungry” (King and Steed 1995:168-169). It is during this time in the mountains that the Donner Party “reportedly” resorted to cannibalizing their dead in order to survive.

The party made a number of attempts to escape and seek help. The first of these began on November 13, 1846. Thirteen men and two women left the Murphy Cabin site at Donner Lake and were forced to return to the camp later that evening, as the snow

drifts and accumulation of up to ten feet made it impossible to proceed (Mullen 1997:200). Another desperate attempt to escape occurred on December 15, 1846, when a small group decided to construct snowshoes to prevent themselves from sinking into the deep snow. Since, this was the major obstacle thwarting the previous attempt to reach help, along with extreme exhaustion and malnutrition. This group of 15 snowshoers, composed of ten men and five women, become known as the “Forlorn Hope.” When they first began their trek, they believed they needed to travel about 40 miles to reach help; in actuality, it was 70 miles. This group reportedly resorted to the first cases of cannibalism (Johnson 1996:130). On January 17, 1847, the surviving members of the Forlorn Hope party, five women and two men, reached a homestead, the Johnson’s Ranch in Bear Valley, California (Hardesty 1997:15; Mullen 1997:285). Given the Forlorn Hope’s bittersweet success, multiple relief parties were organized.

The first relief party took off from Johnson’s Ranch on February 5, 1847 (Mullen 1997:274). They reached the Murphy Cabin site on February 18, 1847 and the Alder Creek site on February 19, 1847 (Johnson 1996; Mullen 1997: 274, 286). Twenty-three emigrants left with the first relief party; however, two children were too weak to make the trip and returned to the camp. Three other emigrants ended up dying along the way.

James Reed, who traveled ahead of the Donner Party after killing a teamster, had actually made it across the Sierra Nevadas before the storm. Reed ended up leading the second relief party to rescue his family and the survivors. The second relief party departed on February 21, 1847, reaching the Murphy Cabin site on March 1, 1847 and the Alder Creek campsite on March 2, 1847 (Mullen 1997:288, 296). Seventeen emigrants

left with the second relief party.

The third relief party reached the Murphy cabin on March 14, 1847 and took all of the remaining survivors from the two camps except for Tamsen Donner, George Donner, and Lewis Keseberg; Keseberg was a member of the Donner Lake cabin camp (Mullen 1997:306). Tamsen Donner decided to stay behind with her husband because his infection and starved condition rendered him too weak to make the trek out of the Sierras. George Donner ended up dying at the Alder Creek campsite before the fourth and last relief party arrived. Tamsen Donner also perished in the mountains before the last relief party returned. Supposedly, after her husband passed away, she trekked over to the Murphy cabin site at Donner Lake, met with the last survivor—Keseberg—there, and then died (Mullen 1997:316, 318). There is speculation as to whether she died of natural causes or was murdered by Lewis Keseberg. Whatever the case, Tamsen's body was never found and Keseberg was thought desperate and mentally unstable enough to have murdered her and possibly cannibalized her (Mullen 1997:320).

On April 17, 1847, the fourth and final rescue party reached the Murphy Cabin site, finding only Lewis Keseberg as the last survivor. The fourth relief brought Keseberg down from the mountains to California, thus ending the Donner Party's tragic ordeal in the Sierras. When all was said and done, 46 party members survived and 41 perished in the Sierras (McGill 2005:2, Johnson 1997:294-298). The reports of cannibalism amazed and captured the attention of the American public. McGlashan states that "new and fragmentary versions of the sad story have appeared almost every year since the unfortunate occurrence" (McGlashan 1947:6).

Many people know about the Donner Party and their association with cannibalism, but the conflicting accounts of this behavior, particularly at the Donner family camp at Alder Creek, has inspired archaeologists to examine the Alder Creek camp to conduct a forensic-like archaeological investigation of the site (e.g. Dixon et al. 2008; see also Hardesty 1997). There are diaries, journals, and memoirs written about the Donner Lake group (e.g. Patrick Breen's *Diary and the Miller/Reed Diary*; Mullen 1997:206); however, there are no surviving diaries that consistently detail everyday activities at the Alder Creek camp site. There are recollections about Tamsen Donner meticulously keeping a diary, but her diary—like her body—has never been found. Jean Baptiste Trudeau, a survivor of the tragedy, spoke to Eliza Donner when she was older he told her about her mother;

I had been sent a number of times with messages from your mother to persons at the other camp; once I brought her a letter. She wrote everyday, and kept an account of everything that happened. If her papers had been saved, they would be very valuable to you and you would see everything I tell you is true (*Los Angeles Times* May 13, 1896).

If Tamsen Donner's diary was ever discovered, it would likely provide the missing documentary link to understand daily life at the Alder Creek camp and to know details about the controversial issue of cannibalism. Tamsen Donner was clearly an accomplished writer and “on her journey across the United States, she was hired by the *Springfield, Illinois Journal* as a correspondent” (*Los Angeles Times* May 13, 1896). There are notes about Tamsen Donner joining the children outside in the snow on nicer days:

Sometimes she wrote in her diary; sometimes she sketched the mountains

and the treetops. “While knitting and sewing, she held us children spellbound with wondrous tales of Joseph in Egypt, of Daniel in the lions den, of Elijah, healing the widows son, of Samuel, and of the Master who took young children into his arms and blessed them” (Werner 1995:42).

Without Tamsen’s diary, archaeology provides the next option to examine everyday life at the Alder Creek camp. However, the popularity of the Donner tragedy influenced relic seekers to disturb the details for archaeologists. On May 16, 1891 an article was telegraphed to the *Los Angeles Times*, entitled “A Rich Find: The Donner Party’s Treasure Discovered.” This article placed a bounty on any physical remains from the Donner Party campsites: “as relics of the Donner party the find is very valuable, \$100 having been offered for one of the pieces” (*Los Angeles Times* May 16, 1891).

As late as the 1920s there were instances of people panning for gold and mentioning the Donner Party site. On March 27, 1921 an article highlighted what a young girl and her family noticed as they passed by the location of the Donner Lake site while panning for gold: “they came over the Old Santa Fe trail, and passed by the deserted cabins and the bleaching bones of the Donner Party” (*Los Angeles Times* March 27, 1921:V7). Even in the 1920s, the mere mention of possibly seeing Donner Party “bones” was enough to be the subject of an article. The destruction of the Donner camps made it that much more difficult for archaeologists to decipher details about daily life in these sites.

Can the new archaeological materials excavated within the last 20 years (e.g. Hardesty 1997; Dixon et al. 2008) shed a new light on the ever popular and tragic story of the Donner Family? With Hardesty’s (1997) work at the Alder Creek site in the early

1990s and Dixon and Schablitsky's recent work (Dixon et al. 2008), artifacts have been uncovered that are influencing new examinations of the Donner Party story. Writing slate fragments are among those materials. Finding ways of examining those objects were as difficult as locating the elusive Donner family camp itself.

Chapter 3

METHODS AND ANALYSIS OF DONNER PARTY WRITING SLATE FRAGMENTS

Since World War II archaeology has seen the emergence of an entirely new area of scholarly research and public concern. Paralleling a continued growth of prehistoric studies has been the awareness that the development of American culture itself has left a rich and varied archaeological record (Schuyler 1978:ix).

Historical Sources

In researching both the Donner Party and writing slate, numerous historical sources were examined, including newspaper articles, catalogues, magazines, and patents. Catalogues were used by individuals to order everything from musical instruments, personal hygiene products, to the kitchen sink. Catalogues were important because people in remote locations could have access to goods and supplies, as long as they were near a train station or postal office. These catalogues included the Sears and Roebuck Catalogue, the Montgomery Ward Catalogue, and Bloomingdales Catalogue. Finally, the online records of the United States Patent and Trademark Office were consulted, as well as the Google Patent Search Engine, using terms such as writing slate, writing tablet, school slate, school tablet, and school board. By wording the searches with these terms, a variety of slate uses emerged, in addition to those associated with education. Although every patent was not actually manufactured, the patent information still provided information about how writing slate was used or could have been used. Writing slate

research was only one part of this thesis, however. Additional tasks were carried out to investigate the Donner Party's history.

The Donner Party was a horrific, albeit, fascinating story that spawned many news articles throughout the nation and the world. However, many of the surviving party members were traumatized and often exaggerated events like cannibalism or did not want to discuss the ordeal after the fact. Over half of the original party members died in the mountains, and many survivors invariably wanted to forget the past. Also, a high percentage of the survivors were children who had either forgotten details of the ordeal or who were likely sheltered from exposure to the daily stress by adults in the party. As with many historical accounts, it is important to regard documentary accounts of the Donner Party with skepticism and a critical eye.

A plethora of documentary sources exist for researching the history of the Donner Party, including articles, books, newspaper accounts, and obituaries. Obituaries of Donner Party members not only summarized the life of each individual, but also highlighted the ordeal of winter entrapment. Often, new information from survivors remembering the tragedy emerged from the obituaries. Since others have already researched and presented detailed histories of the Donner Party (e.g. McGlashan 1880; Stewart 1936; Johnson 1996; Hardesty 1997; Rarick 2008), much of the historical background required compiling of secondary sources.

Identification of Writing Slate

During my research, I realized that a number of writing slate fragments were misidentified. For example, lab workers originally identified 20 slate fragments recovered from the 2004 field season (Figure 3). After closer examination, it became apparent that only nine of these were actually slate. The remaining 11 fragments were basalt, which is endemic to the area where the excavations took place.



Figure 3. Basalt fragment originally thought to be writing slater form Unit J, Accession number 17-14083-038.

In order to distinguish the basalt from the slate, I established the following protocol. First, unlike basalt, slate rock fractures in “cleavable sheets” (Coenraads 2005:129), or layers. Slate used for writing slate is fairly thin; it is never more than $\frac{1}{4}$ of

an inch thick and usually much thinner than that. Basalt on the other hand, requires flint knapping in order to become as thin as slate; evidence of knapping can be seen on the surface of the basalt as it is never as smooth as slate rock. It is important to note that both slate and basalt's color can vary, depending on where it originated. Slate and basalt can range from black to gray. The basalt fragments found in 2004, when examined closely have tiny crystals throughout the rock. The Donner slate fragments did not have these crystals.

Another issue related to the identification of writing slate is associated with manufacturing information. Writing slates were not always stamped with manufacturer's marks. By the late nineteenth and early twentieth centuries, such marks were placed on the frame of the slate, but these were often made of wood, which does not usually preserve in archaeological contexts.

Donner Party Writing Slate Fragments

Background

Slate fragments were found during multiple phases of fieldwork at the Donner family camp at Alder Creek. The first discovery of writing slate fragments occurred during Dr. Don Hardesty's 1990 excavation in the meadow at Alder Creek. Dr. Hardesty sought the Donner family camp site at Alder Creek as he had already confirmed the exact location of the Murphy cabin at Donner Lake. The artifacts that were uncovered at Alder Creek dated from the 1840s, the era associated with the Donner families' 1846-1847

occupation of that area (Hardesty 1997). However, Dr. Hardesty's crew was unable to find the remnants of a hearth. Without a hearth feature, it was impossible to definitively state that this was the exact location of the campsite used by the Donner family during their occupation at Alder Creek.

In 2003 and 2004 Dr. Kelly Dixon and Dr. Julie Schablitsky took over the investigation to continue to hone in on the exact whereabouts of the Donner family campsite at Alder Creek by seeking a hearth feature. During the 2003 field season, no writing slate fragments emerged in the archaeological record. However, during the 2004 season, 11 writing slate fragments were found in the immediate vicinity of a hearth feature. The discovery of the hearth feature provided a campsite context to accompany the artifacts dating from the timeframe of the Donner Party, verifying this location as the correct location of the Donner family campsite at Alder Creek (Dixon et al. 2008).

1990 Writing Slate Fragments

The majority of the writing slate fragments unearthed during all of the Alder Creek excavations were found during the 1990 field season. There were 32 writing slate fragments recovered from both the 1900 and 2004 excavations with 21 of these recovered in 1990 and 11 recovered in 2004. Figure 3 shows a section of Hardesty's excavation map for the 1990 season. The entire excavation map is located in Appendix B. This partial section of Hardesty's map includes the excavation units in which writing slate was unearthed. It is important to note that writing slate fragments were not found in all of the

excavation units in Figure 4. Table 1 highlights the exact excavation units in which the fragments were found, and these units correlate to the map in Figure 4.

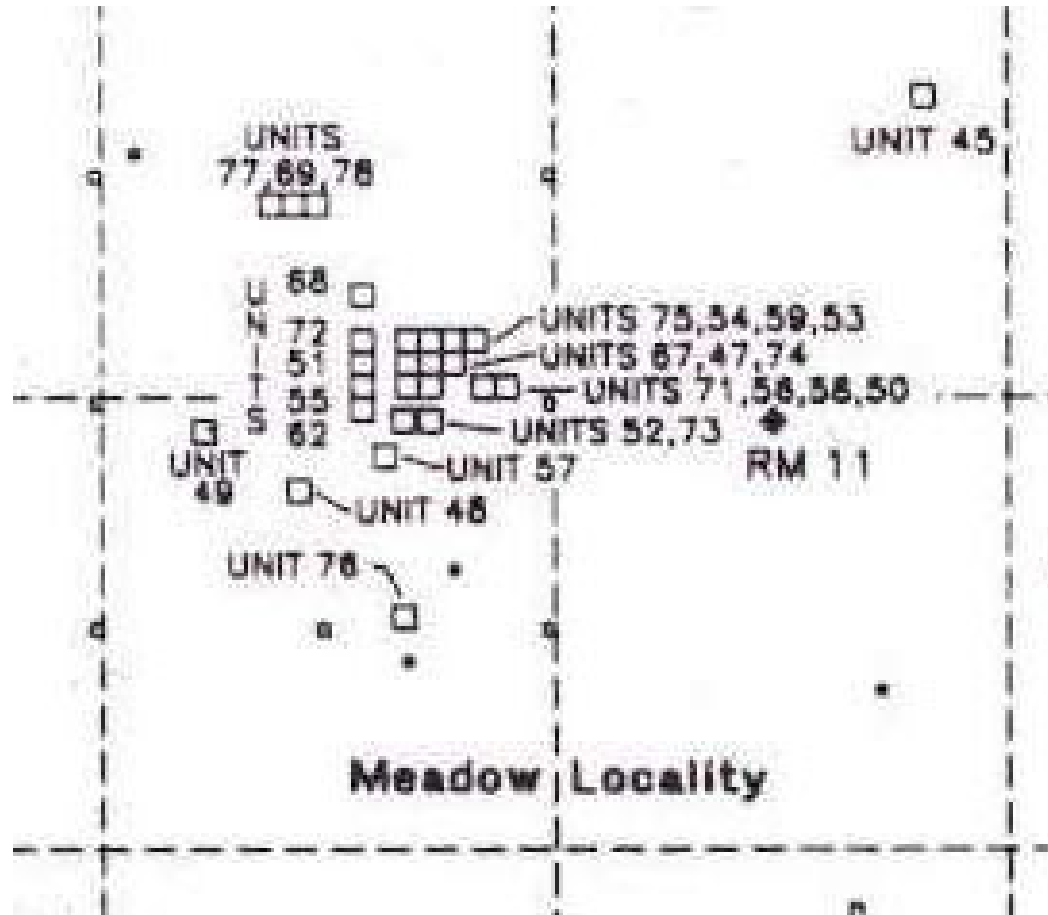


Figure 4. Alder Creek map showing 1990 excavation units which contained writing slate fragments (Hardesty 1997:67); the complete 1990 excavation map is in Appendix B.

Table 1. Writing slate fragments recovered from Hardesty's 1990 Excavation.

Writing Slate Fragments, Alder Creek Excavations 1990						
Accession No.	Description 1	Description 2	Description 4	Area	Context	Frag Ct.
17-14072-978	Activities	Writing	Slate	Unit 47	01	1
17-14072-979	Activities	Writing	Slate	Unit 47	01	1
17-14072-977	Activities	Writing	Slate	Unit 51	01	1
17-14072-969	Activities	Writing	Slate	Unit 54	02	3
17-14072-970	Activities	Writing	Slate	Unit 54	02	1
17-14072-975	Activities	Writing	Slate	Unit 62	02	2
17-14072-971	Activities	Writing	Slate	Unit 68	01	1
17-14072-971	Activities	Writing	Slate	Unit 68	01	1
17-14072-974	Activities	Writing	Slate	Unit 72	02	2
17-14072-972	Activities	Writing	Slate	Unit 74	01	7
17-14072-976	Activities	Writing	Slate	Unit 75	01	1

Writing slate fragments were found in eight (1 x 1 meter) excavation units during the 1990 excavations. Two writing slate fragments (Figure 5 and 6) were found in unit 47. One slate fragment (Figure 6) was identified as the corner piece of a writing slate. The corner fragment was easy to identify as it had a distinct shape consisting of a rounded edge.



Figure 5. Writing slate fragment, Unit 47, Accession number 17-14072-978



Figure 6. Corner writing slate fragment, Unit 47, Accession number 17-14072-978.

The number of writing slate fragments varied from each unit. The highest number of writing slate fragments came from Unit 74; there were seven slate fragments were found here, ranging in size 2.5cm to 0.5 cm in length (Figure 7). Unit 68 contained the smallest number of artifacts recovered containing writing slate during Hardesty's 1990 fieldwork. Only nine artifacts were recovered and they were all fragmented. Of these nine, two were writing slate fragments, one of which is shown in Figure 8. In unit 72, there were 34 artifacts recovered; two were writing slate fragments. In unit 75, 102 artifacts were recovered, one of which was a writing slate fragment (Figure 9).



Figure 7. Writing slate fragments, Unit 74, Accession number 17-14072-974.



Figure 8. Writing slate fragment, Unit 68, Accession number 17-14072-971.



Figure 9. Writing slate fragments, Unit 75, Accession number 17-14072-976.

2004 Writing Slate Fragments

Twenty items were identified as writing slate fragments in the 2004 collection. However, after closer inspection, this number was reduced to 11 writing slate fragments; the other 9 fragments were basalt mistakenly identified as slate. Writing slate fragments were recovered in the direct vicinity of the hearth located during the 2004 field season. Figure 10 shows a map of the 2004 units, along with some of the 1990 excavation units.

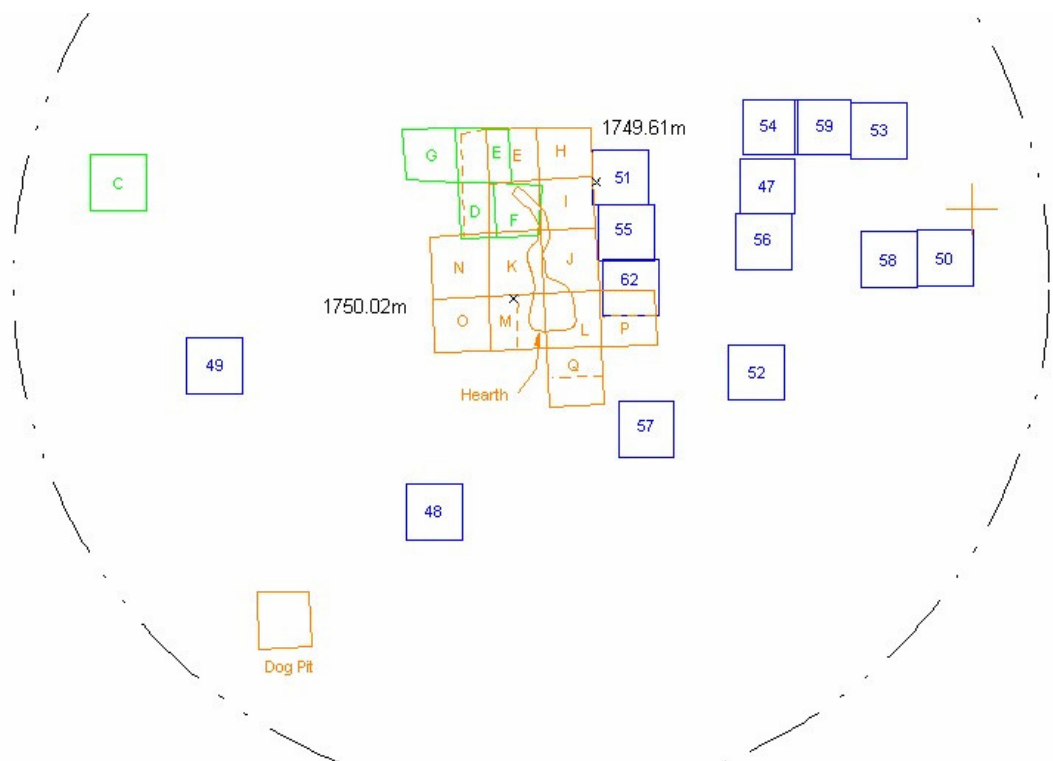


Figure 10. Map of Alder Creek 2004 Excavation Units (letters), with some of Dr. Hardesty's 1990 Excavation Units (numbers).

The writing slate fragments recovered during 2004 emerged from excavation units J, H, and I. Unit J lay along the edge of the hearth feature, while units I and H lay along a “rivulet” representing a runoff area of the hearth. The runoff area was likely created by melting snow and water moving away from the center of the hearth. Excavations at unit I recovered 555 artifacts, four of which were slate.



Figure 11. Largest writing slate fragment recovered to date from Alder Creek, Unit J, Accession number 17-14083-034.

The artifacts recovered from unit H total 648, with four slate fragments among these. Finally, five slate fragments were recovered from Unit J; the 2004 field crew unearthed a total of 1251 artifacts from Unit J. One of the slate fragments (Figure 10) from Unit J consists of an edge piece of a writing slate and is the largest fragment of this material found at Alder Creek to date. Due to its size, this piece was closely analyzed for

remnant writing. The methods and results of this examination are discussed below. In addition, the edge piece was used to determine the MNI count. Since it was the only diagnostic piece, the MNI count for writing slate is one.

Table 2. Writing slate fragments from Alder Creek 2004 excavation.

Writing Slate Fragments 2004 Excavations						
Accession No.	Description 1	Description 2	Description 4	Area	Context	Frag Ct.
17-14083-013	Activities	Writing	Slate	Unit J	01	1
17-14083-034	Activities	Writing	Slate	Unit J	-	1
17-14083-038	Activities	Writing	Slate	Unit J	02	2
17-14083-044	Activities	Writing	Slate	Unit J	02	1
17-14083-048	Activities	Writing	Slate	Unit I	02	4
17-14083-064	Activities	Writing	Slate	Unit H	01	1
17-14083-104	Activities	Writing	Slate	Unit H	East IF/L3	1

1990 and 2004 Slate Fragments

It is important to note that the writing slate fragments were among the materials recovered from both the 1990 and 2004 excavations that were not associated with foodways. Most of the artifacts recovered from 1990 were glass fragments and sherds of ceramics. The fragments that were able to be identified were pieces of bottles, cups,

saucers, bowls and a teacup. In 1990 artifacts that were not associated with foodways consisted of lead shot balls, metal fragments, a fragmented rivet, a fragmented buckle, and mirror fragments. The 1990 units lay in close proximity to the hearth, but not as close as the 2003 and 2004 units. In the 2004 units that contained writing slate, the predominant material recovered were bone fragments. This makes sense as cooking likely took place at the hearth. Also found in the immediate vicinity of the hearth were fragmented glass, fragmented ceramics, wood/charcoal, lead shots, nails, a button, and a bead. It appears, therefore, that slate was just as much a part of the camp's material culture as everyday necessities such as clothing, hardware, ammunition, and domestic wares.

The writing slate fragments could not be identified as a specific "brand" of writing slate, as there were no makers marks found on them nor was there evidence of wooden frame pieces associated with the slate. One slate fragment stood out because of two lines carved across one side (Figure 12). None of the other writing slate fragments displayed such lines.

Possible Remnant Writing?

It was hypothesized that the writing slate fragments might contain remnant writing that could add another line of documentary evidence to better understand daily life at the Alder Creek camp. If written information could be found by looking more

closely at the surfaces of the slate, school lessons or children's play might be observed to support the hypothesis that this camp's residents normalized their situation with such activities. Unfortunately, visual analyses of the slate fragments from the Donner families' Alder Creek camp have revealed no discernible traces of remnant writing.

Visual analysis included a hand-held three dimensional laser scanner. Tim Urbaniak of the University of Montana Billings used this high resolution tool to scan the writing slate fragments to determine whether any extant, subtle traces of writing might be discernable. This proved futile, however. Additionally, a study of writing slate using a scanning electron microscope revealed no remnant traces of writing (Wyatt et al. 2005). As another non-destructive option for examining the surface of the writing slate, experiments involving a chalky substance dusted over the slate were explored. However, after researching another attempt to use chalk to display the writing on a writing slate, this technique, too, proved unsuccessful because it "clarified all the cracks and other extraneous marks" (Blezzard 1979: 26).

Although, no remnant writing seemed to be present on the writing slate fragments from the Donner family camp, one piece exhibited lines carved on one side (Figure 12). It is difficult to tell if these lines were handmade or manufactured. If more slate fragments containing lines were unearthed, this question might be easier to answer.



Figure 12. Writing slate fragment with lines, Unit H, Donner Family Camp, Accession number 17-14073-064.

The Donner Party slate fragments provided an opportunity to re-examine camp life at Alder Creek. With so many inquiries focused on the stories of cannibalism, writing slate provided an opportunity for another interpretation of the site, namely one that centered on daily lives of the Donner family camp occupants, in particular the lives of the children at that site. In order to better explain the significance of the writing slate, a history of writing slate needed to be compiled.

Chapter 4

HISTORY OF WRITING SLATE

Of the thousands of languages spoken at different periods in different parts of the globe, fewer than one in ten have ever developed an indigenous written form (Harris 1986: 15).

Although writing slate's purpose was to record the written word, ironically, there is very little written about the history of writing slate. In order to analyze the writing slate fragments recovered from the Donner family camp, it was necessary to develop a context dedicated to a history of writing slate. This topic is only one aspect of an extensive history of graphic and written accounts of human activity. It has been argued that prehistoric pictographs of the North American Indians are a form of written language or proto-writing (Robinson 1995:56). Thus, indigenous rock art could be considered part of an enormous writing tablet or blackboard. There are people who disagree with pictographs being the first form of writing since it was symbolic and not a written form of communication. Rather, many argue that writing developed when humans needed accounting systems such as those associated with ancient Mesopotamian civilizations (Harris 1986:71).

Precursors to Writing Slate



Figure 13. Example of cuneiform writing (Robinson 1995:88).

The earliest forms of writing have been recovered from southern Mesopotamia, the region nestled in between the Tigris and Euphrates River in modern Iraq and commonly known as the “cradle of civilization.” Here, early forms of agriculture flourished and humans developed a sedentary lifestyle. With the shift from hunting and gathering way of life to agricultural lifestyle, more complex societies developed, as did surplus food products in need of accounting. The earliest forms of the world’s written language have been found here depicted by symbols used to keep records of surplus and trade goods. These symbols were drawn onto tablets made of clay and evolved into

cuneiform (Figure 13). The clay tablets were then baked in an oven (Ullman 1932:196), which preserved them for future generations. The exact date of cuneiform's origin is debatable. Some scholars believe that it was early as 3300 B.C., while others believe that it was actually 3500 B.C. (Robinson 1995:93; Abdi 2007:1).



Figure 14. Cuneiform tablet with schoolwork, 1900-1700 B.C. (British Museum: ME 104096).

The ancient Mesopotamians used the clay tablets and these written symbols to keep track of their emerging economy. The written script itself was applied with the aid of a stylus. Scribes held the stylus at an angle and applied pressure to leave an imprint in the soft, pre-fired clay. Sumerian schools that taught cuneiform were called 'tablet houses,' and tablets with school lessons have been preserved from these places (Figure

14). These writing tablets were used not only in schools, but also for administrative, economic, epistolary, legal, religious or mythological purposes (Dalix 2000:197). In the late nineteenth century, a study of cuneiform tablets was conducted and all of the tablets that were examined related to “commercial transactions, principally to the lending of money. One of them is a quittance for the receipt of a large amount of lead” (Sayce 1890:2). Cuneiform tablets have also been discovered with recipes (Jeffries 2006:8) and allocations for beer (Figure 15).



Figure 15. Tablet recording the allocation of beer, about 3100-3000 B.C. (British Museum: ME 140855).

Cuneiform symbols were not only pressed into clay surfaces, but were also etched into

stone, ivory, metal, and wax surfaces for use on elaborate artistic pieces, such as statues (Robinson 1995:50).

Ancient Egyptian forms of writing—hieroglyphics—also represent one of the world’s oldest forms of documentary evidence. There is a debate over the first emergence of cuneiform versus the first emergence of Egyptian hieroglyphics. Some scholars believe that the emergence of hieroglyphics was a reaction to the cuneiform writing in Mesopotamia around 3300 B.C. (Robinson 1995:93). “Sumerian merchants were the first to codify[*sic*] their transactions in a recognizable script more than 5,000 years ago. They were alone in this discovery, archaeologists have long claimed, though some new evidence suggests the Egyptians were developing pictorial hieroglyphics independently at the same time” (Jeffries 2006:8). Others believe that hieroglyphics appeared first around 3000 B.C. and that cuneiform materialized after that around 3500 B.C. (Abdi 2007:1).

Regardless of who developed writing first, it is agreed upon that ancient Egyptians were also developing their own written language around the same time that cuneiform appeared. The ancient Egyptians not only carved, but painted hieroglyphics. Hieroglyphics, similar to cuneiform, were written on stone. However, stone was not the only object written upon; ancient Egyptians developed and used the first form of paper for writing purposes. The paper was named after the plant from which it was produced: papyrus. Pieces of the papyrus plant were dried and woven together into a type of thick, rough mat. Then scribes wrote on the resulting “paper” and stored it in rolls. Papyrus was mainly used in ancient Egypt for record-keeping and schooling. The Egyptians also

utilized wooden tablets to practice their writing. These wooden tablets were rectangular in shape and covered with a thin layer of plaster (Grove Art 2007).

Ancient Egyptians also wrote on limestone rocks. The fragmented limestone rocks were called ostracons or ostrakons (Figure 16). Ostracons also appear on fragmented pieces of pottery sherds. The writing on both the limestone and pottery fragments were placed on the sherds after the item was broken. Ostracons were “generally lists of things to remember, messages, rough drafts”; basically, they were equivalent to today’s “post it” notes (Gros de Beler 2002:15). Ostracons were found in not only in ancient Egypt but also in Roman and Greek societies.



Figure 16. Hieroglyphics on an Egyptian ostracon (Gros De Beler 2002:15).

One of the oldest “books” that has ever been found at an archaeological site was

found by Dr. George Bass's underwater archaeological investigations in the Mediterranean Sea. This book was found in the context of a shipwreck that dated to the Bronze Age (Bass 1987:703). The book consisted of two wooden leaves that could be folded to protect the writing on bees wax tablets inside of the leaves. "The recessed inner faces of the leaves were scored with cross hatched lines, obviously to hold the beeswax, which was inscribed with a stylus" (Bass 1987:731).

The ancient Greeks and Romans used writing tablets also made of wax (Figure 17):

This was made of wood covered with a thin coating of wax in which letters were scratched with a pointed stylus of some hard substance, usually bone or bronze. The other end was blunt and was used to smooth the wax surface, *i.e.* to erase the writing. The wax tablet resembled a modern school slate. Sometimes two (or more) were fastened together, like double slates. Wax tablets were used chiefly for temporary writing, such as letters and accounts. Such tablets continued to be used to some extent throughout the middle Ages and even into the nineteenth century (Ullman 1932: 197-198).



Figure 17. Roman wax tablet and stylus (British Museum: P&EE 1934 12-10 100).

Wax tablets served various purposes for the Romans, from accounting to correspondence. The correspondence was mostly found in letters from military men to family members or other military officials. The Greek and Roman societies also used paper made of cloth and they used ostracons (broken pottery and limestone). The Greeks actually used ostracons in official capacities to vote out members of their society by writing down the name of the individual on an ostracon and then submitting it to the council (Renfrew & Bahn 2007: 235).

History of Writing Slate

While paper, wax, and other media served as templates for various forms of writing over time, the earliest recorded occurrence of writing slate dates back to the fifteenth century. In the southwest United Kingdom, near Somerset, in a town called Mudgley, two slates were found during an excavation. These slates were presented to the Wells Museum in 1898. The slates were found in the roofing section of a building; however, this was not their first use (Blezzard 1979:26). These slates were of interest to the museum because they had music etched or “scratched” across them (Blezzard 1979:26). Research on the music contained on these slates has revealed that “it is unlikely to date from before 1400,” but most likely dates “from the first half of the fifteenth century” (Blezzard 1979: 27, 29). The slates were found in the context of a home, and were determined not to be “educational” slates due to the type of music on the slates (Blezzard 1979: 30). The type of music on the slates was not church music or music that may have been taught at schools during this time; rather the music was likely used for entertainment where it would have been played at a town festivity (Blezzard 1979:30). There are no other known sources describing earlier occurrence of writing slate, and no other published archaeological reports have highlighted it as a major find.

Slate is a type of metamorphic rock resulting from low-grade regional metamorphism of shale or mudstone. Metamorphism causes recrystallization and alignment of platy mica minerals at right-angles to the direction of the compression, creating readily cleavable sheets (Coenraads 2005:129). These cleavable sheets make it

easy to break the slate into forms that can be easily utilized by humans for a variety of functions. While slate was primarily used for construction of roofing and flooring of historic and modern structures, it was used for a plethora of additional activities. By the nineteenth century, writing slates were being mass produced and being sold in a variety of contexts, as suggested by advertisements for writing slates and slate books in the Montgomery Ward and Company Spring and Summer Catalogue of 1895 and the Sears and Roebuck Catalogue of 1897. Slate was made for activities that included education, gaming for games and scorekeeping, toys for children, messages, directories and in underwater activities (Pruyn & Hyatt 1880:1; Garrigues 1881:1; Huntley 1885:2; Herbert 1892:2; Seifert 1896:2; Brown 1898:2; Mahurin 1926:1).

While “chalkboards” or “blackboards” in schools were larger, historic writing slates were made to be handheld. Writing slates are rectangular and vary in size, but mostly span the 5 x 7 or 8 x 12 inch range (Figure 18). The earliest forms of writing slate were constructed from slate cut into small rectangular tablets/sheets about ¼ to ½ inches thick. While the slate was often sold as plain tablet-sized sheets, some individuals made their own wooden frames. This frame was useful because it helped with the longevity of the slate as the slate could easily break and chip. These “homemade” frames could also consist of felt that looped around the frame. Writing slate was also two sided; meaning that a user could write on one side or flip it over and write on the other side.

By the late nineteenth century writing slates were available with wooden frames already surrounding the slate (Appendix C). The John Hyatt Company’s slates could be purchased in the 1897 Sears, Roebuck, and Company catalogue with these frames (Figure

19). Eventually, there were improvements added to the frames, such as the option to reuse the frame when the slate was fractured or broken (Jocelyn 1873:1) and such as the ability to hold sponges, writing utensils, or paper (Barbarick 1875:1).

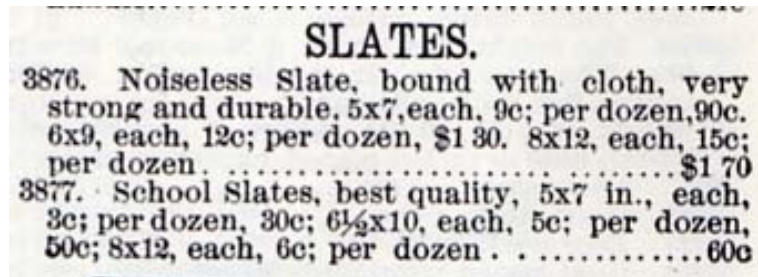


Figure 18. Advertisement for writing slate (Bloomingdale's 1988:143).

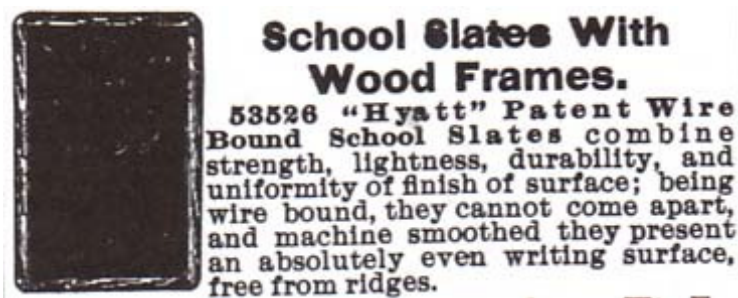


Figure 19. Advertisement for school slate with wooden frame (Sears, Roebuck and Company 1968:356).

Whether “homemade” or manufactured, frames consisted of smooth wood and sometimes had felt looping around the frame (Figure 20). There is no information about the purpose the felt looping served. It may have served as decoration for the individual

user or it may have prevented splinters from the wooden frame. An examination of historical patents revealed that in 1890, there was still a problem with noise made by the slates when they were written on with a slate pencil. In response, one resourceful individual invented a writing slate frame that claimed to prevent the slate from breaking and rendering it noiseless: “to render the slate-frame noiseless when completed, I have covered the end and side members of the frame with some flexible material- such as rubber cloth- which can be easily cleaned” (Scrymgeour 1890:1). Other improvements included the placement of “muffling cords” to double slate to address the problem with noise, and also to provide stability, so that if a cord broke, the slate was not rendered useless (Marks 1892:1). It is entirely possible that the cord shown in Figure 20 may have been used to cushion the slate in the name of noise prevention.

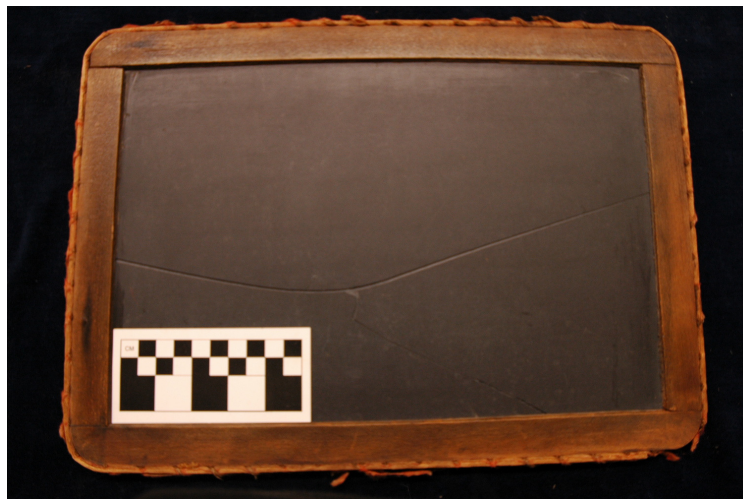


Figure 20. Antique writing slate with remnant felt looping around the frame (Author’s personal collection).

The noise made by slate pencils on writing slate is, after personal experience, worse than fingernails across chalkboards. There are also mentions of noise made by slates in general. “In schools and other places where slates are used the noise or vibration resulting from the dropping of the slates on a desk or other surface is a source of much annoyance” (Pruyn & Hyatt 1880:1). A patent for a slate book which holds writing slate but has a “book cover” represents another improvement associated with the noise problem: “whereby all sound is muffled or deadened when the article comes in contact with a desk or other hard surface whether the covers be opened or closed” (Pruyn & Hyatt 1880:1). An advertisement for this type of book (Figure 21) stated, “Hyatt patent wire bound school slates combine strength, lightness, durability and uniformity of finish of surface; being wire bound *they cannot come apart*, and machine-smoothed they present an absolutely even writing surface, free from ridges” and cost .4 cents for a 6x9 slate (Montgomery Ward 1969:119).

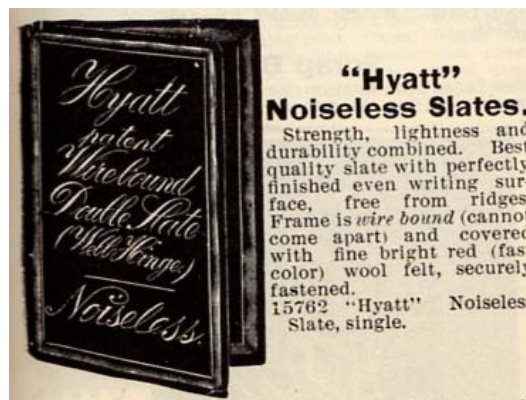


Figure 21. Hyatt noiseless slates advertisement (Sears, Roebuck and Company 1968:356).

Individual slates varied in size; however, they also varied in type. Slates were available as a single slate, with two sides to write on, or as a double slate, with four sides to write on. The double slate was hinged together to open like a book. Some double slates came with felt looping around the edges, attaching the two slates together. Other double slates came with a metal hinge attaching the two slates together (Figure 22). Care had to be taken when adding hinges and metal nails to the slate frames, as they could split and destroy the frame (Stuckle 1883:1).



Figure 22. Double writing slate hinge (Author's personal collection).

The slate surface was either a smooth blank one or it has lines etched across it (Figure 23). There were two different ways that the lines were placed on the surface:

earlier slates included lines made by the individual user with a ruler while later lines were factory made. In 1889 a patent was issued for a “line maker” for writing slate. This was a handheld comb object, similar to a modern handheld garden fork made up of metal teeth, which made several lines at once. The patent states that “in order to properly instruct the young in writing it is necessary to teach them the correct proportion of letters, and for this purpose parallel lines have to be drawn upon slates, which determine the proper height of the various letters” (Will 1889:1). Also found within the patents for writing slates are glimpses into the daily routine of the schoolhouse life.

A teacher’s valuable time is often taken up by having a great number of slates to rule for pupils. So, too, by the methods now employed, when the slates are ruled and the writing-matter rubbed out, the ruled lines are also rubbed out, and it is necessary to rule the slates again. This repeated ruling of slates by teachers draws heavily upon their time, which could otherwise be profitably employed (Will 1889:1).

There were writing slates with graphs, similar to today’s graph paper, and there were descriptions of writing slate lines being colored (Appendix M). The colored lines were made by filling the “engraved lines or cuts with any suitable coloring material- such as paint or enamel- so as to give a smooth and uniform surface to the slate” (Jahr & Wedekind 1891:2). Jahr and Wedekind in 1891 give additional background information on color slate lines.

We are aware that slates have been heretofore made with engraved lines and that colored lines have been made upon the surfaces of slates by means of chemicals; but neither of these forms of slates is satisfactory for the following reasons: When the lines are scratched or engraved in the substance of the slate, they leave the surface uneven, so that uniform and perfect writing cannot be done thereon. The lines, furthermore, soon become filled with dirt and become practically indistinguishable without a great strain upon the eyes of the children using the slates. Where the lines

are formed by chemicals combined with or precipitated in the slate itself only a surface stain is produced, or if sufficient of the chemical is applied to sink deeply into the substance of the slate it will necessarily spread so as to make the lines very broad and ragged (Jahr & Wedekind 1891:2).

A slate ruler was designed in 1893, in order to allow individual users to easily draw lines in writing slate. This ruler was supposedly easy for children to operate (Ahne 1893:1).

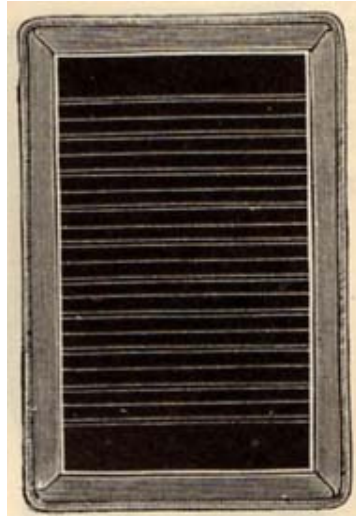


Figure 23. Writing slate with lines (Montgomery Ward Catalogue 1969:119).

Besides writing slates, “slate books” also appear in historic catalogues and advertisements. Slate books were not made of slate, however. Rather they were made of a harder paper cloth material with a silicate coating that resembles slate and is known for not cracking and easily scratching (Sears, Roebuck and Company 1968:356; Stewart 1885:1). Slate books could be written on with slate pencils or lead pencils. Slate books had a couple of advantages over traditional writing slate tablets. First of all, they were not as heavy as writing slate. Slate books were also smaller and more compact than

writing slate. Another advantage to slate books is they would not fracture and break if dropped like writing slates would. Slate book pages, with a silicate coating, had “a backing of pasteboard or card-board” “which are impervious to moisture” (Stewart 1885: 1). Although there are no studies dedicated to the wear and tear ability of the slate books, a patent issued on February 17, 1874 was for an “Improvement in Erasive Tablets” (Appendix D). This “erasive tablet” was made of silicate slate and the improvement was for creating a way to stop writing from erasing and “blurring” when the tablet was closed (Brown 1874: 1).



Figure 24. Slate book advertisement sketch (Montgomery Ward Catalogue 1969:119).

In addition to traditional writing slates, “artificial writing slates” were also manufactured. These closely resembled writing slate with traditional frames (Appendix J). However, just as with the slate books, these “artificial writing slates” were covered with a silicate coating (Stewart 1885:1). On October 21, 1924 an invention of a new

“school slate” was patented. This school slate’s frame was round and circular. The school slate was not made of slate but, of two metal sheets that would undergo “a treatment characterized as ‘slatizing’ for enabling the surface to be written upon with chalk or pencil” (Cress 1924:1). Another patent that dealt with writing slate in schools was issued in 1931. This slate was part of a circular device that would ask a child question at the top and the student would use the slate in the middle of the circle to solve the problem and turn the device to reveal the answer (Barnowitz 1931:1).

While writing slate was a popular medium for schooling in the nineteenth and twentieth centuries, it fell out of favor as the price of paper became cheaper (*Los Angeles Times* October 1, 1889; *Washington Post* October 15, 1916). Ironically, when the price of paper increased in 1916, there were articles discussing the resurgence traditional writing slates (*Washington Post* July 2, 1916 and October 15, 1916). One major obstacle facing writing slate had to do with the sanitary aspect of writing slate in schools. Children usually spat to wipe their slate clean. Most of the time, the writing slates found in schoolhouses were communal writing slates. The children would receive different ones every time they had school. This unsanitary component of writing slate use and the rise of diseases caused people to look unfavorably at this media, inspiring alternative and more sanitary options (Griffin 1898:1). Slate books were seen as one of these sanitary alternatives to traditional writing slate. As noted above, the shrilling noise associated with writing slates also rendered them unsavory. Additionally, slate was not the best surface for writing and if they dropped and fractured they were useless (Robertson 1917:1):

Slate which has been commonly used as a writing board or blackboard has a naturally abrasive surface composed of pits with jagged edges, but

slate is not completely satisfactory as a writing board because it is heavy, is difficult to work and cannot readily be made in various colors. Furthermore, slate is comparatively expensive and may be fractured easily (Buxbaum & Lebenseld 1951:2).

While slate was popular during the nineteenth century and had been in use as a medium for writing since at least the fifteenth century, its weaknesses outweighed its benefits, and it fell out of common use during the early twentieth century. Like its precursors, including wax and clay tablets and papyrus, writing slate was used for anything from record keeping to education to amusement.

Writing Slate Uses and Related Activities

While writing slate appears to be an everyday school item, it also held a specific function for the disabled. Slate was used for Braille boards for the blind and for a tool to write on and receive messages on for the deaf (Kitto and Knight 1846:57; Barrett 1873:500). In 1846, an author gives an account of learning he was deaf; “and the writer soon displayed upon his slate the awful words—‘You are Deaf’” (Kitto and Knight 1846:57). While slate served as a communication tool for the disabled, it also served a variety of other functions.

An article published in *Harper’s New Monthly Magazine* gives the most insight into the different uses of writing slate during the mid-nineteenth century:

A few years ago, people knew nothing of slate but as a material to roof houses with and do sums upon, were charmed to find it could be made to serve for so large a thing as a billiard-table. For billiard-tables there is nothing like slate, so perfectly level and smooth as it is. Then, fishmongers found there was nothing like slate for their slabs (till they are

rich enough to afford marble); and farmers' wives discovered the same thing in regard to their dairies. Plumbers then began to declare that there was nothing like slate for cisterns and sinks: and builders, noticing this, tried slate for the pavement of wash-houses, pantries, and kitchens, and for cottage floors: and they have long declared that there is nothing like it; it is so clean, and dries so quickly. If so, thought the ornamental gardener; it must be the very thing for garden chairs, summer-houses, sun-dials, and tables in arbors; and it is the very thing. The stone mason was equally pleased with it for gravestones (*Harper's New Monthly Magazine* December 1852:79).

During the late nineteenth century an increased amount of patents were submitted to the U.S. Office of Patents. Even though the first United States patent statute became law on April 10, 1790, there were hardly any patents related to writing slate until the late nineteenth century (Dobyns 1994:1). By examining these patents, articles, and catalogues the various activities associated with the uses of slate became apparent and have been divided into three major categories: education, recreation, and industry.

Education

From advertisements in catalogues, articles, and patents, writing slate's main purpose seemed to be associated with education (*Los Angeles Times* October 1, 1889; Griffin 1898:1; Barnowitz 1931:1; Sears, Roebuck and Company 1968:356). As a portable object, writing slate was used "to aid and facilitate the teaching of children in the primary schools and at home, and to entertain themselves" (Eller 1886: 1). In *Harper's New Monthly Magazine*, there were numerous articles in which writing slate was highlighted; "he spent his life in scribbling on the slate, and hopping round the play-

ground of the school” (*Harper’s New Monthly Magazine* 1854:103). Writing slate was also easier to clean and less expensive than paper (*Washington Post* July 2, 1916). It is important to note that children were not the only group using writing slates for schooling; adults who wanted to learn to read and write used them:

At eighteen George Stephenson... knew that if he could learn to read he might learn all about these famous inventions... his (school)master set him sums on his slate, to be wrought out at odd moments during the day (*Harper’s New Monthly Magazine* 1857:668).

While writing slate was seen directly in connection with schooling of children, it had other uses as well.

Recreation

Recreation comprises a number of different activities, including, but by no means limited to, gaming, gambling, and even contacting “spirits.” At the turn of the twentieth century, Americans were fascinated with the occult. It turns out that writing slate played a role with this fascination. Writing slate also became known as “spirit slate,” providing a medium to contact the deceased and ask them questions:

Well, she ain’t like any medium I ever saw; and Mr. Green was kinder inclined to spiritualism too; and I’ve been to séances; and I lived next door to a lady used to get a dollar a séance, and have all sorts of slate-writing (*Thanet* 1899:645).

At this time, the Ouija board was also making a splash in turn-of-the-century popular culture. One example of how these spirit slates were used was found *The Washington*

Post. In this article spirit slates were brought to court hearing in order to contact a deceased person. The reason for contacting the person was a dispute with the arrangements of the last will and testament (*Washington Post* March 26, 1924). In a reaction to these “spirit slates” investigations occurred to debunk the legitimacy of actually contacting spirits (Ulrici 1882:282). Even though the public embraced these “spirit slates” the scientific community rendered them “absolutely senseless” (Wundt 1882:512).

Slates were also “useful for amusement or instruction” in games (Smith 1889:1). Writing slates were commonly found with nineteenth-century games requiring scorekeeping. In 1875, a patent for a chess board (Appendix E) and a writing slate “to keep the requisite account of the standing of each player” was issued (Herzog 1875:1). Slate was used to keep score of card games (Drude & St. Arnauld 1888) and was used to keep count in the game of dominos (Herbert 1892:2). Combined game-board and blackboard, “capable of being used by several persons at the same time, either in playing games, writing, drawing, or studying, or all at once” where a slate on one side and a game-board on the other in which “checkers, backgammon, or similar games” could be played (Smith 1889:1). Also, writing slate was attached to a puzzle board game to keep track of definitions for certain words in this particular game (Mahurin 1926:1).

Writing slates were also utilized as a “tabular counting device” that could count “with great accuracy and exemption from dispute, together with a clear exhibit of progress and result, in the game of dominos and other games, such as whist, euchre, casino, &c., also applicable as a petty-cash counter” (Herbert 1892:2). This particular

tabular counter was larger than a typical writing slate and would be made with silicate slate coating (Appendix L).

In 1896, a patent was issued for a convertible game table. This game table was very elaborate, with drawers and pull out sections, which allowed the user to play any number of different games. One pull out section consisted of a writing slate that could be pulled out to make a slate writing desk (Seifert 1896:2). Writing slates in the context of recreation were said to be “very useful in cigar-stores, restaurants, saloons, and other places” (Herbert 1892:2).

All of the games mentioned in the historical record were associated with adults; there were no mentions of children associated with these particular games. There was an article in *Harper’s New Monthly Magazine* (1867) in which children played a game involving slate was described:

“Got a slate and pencil?”

The widow furnished the required articles. He then found a book, which happened to be a Testament, and using the cover as a rule, marked out the plan of a game.

“Fox and geese, Nancy; ye play?” And having picked off a sufficient number of kernels from one of the ears of corn, and placed them upon the slate for geese, he selected the largest he could find for a fox, stuck it upon a pin, and proceeded to roast it in the candle.

“Which’ll ye have, Nancy?” – pushing the slate toward her; “take your choice, and give me the geese; then beat me if you can! Come, won’t ye play?” (*Harper’s New Monthly Magazine* May 1858:766).

It is important to note that all forms of recreation associated with slate could be used by both adults and children.

Industry

Like its ancient precursors, writing slate also served administrative purposes, including recording and communication in the form of office messages. A patent issued in 1881 included a writing tablet made of slate and paper, which could be removed, sheet by sheet, to keep track of business sales/expenses (Appendix H); slate was located on the bottom of the writing tablet “to facilitate rapid calculations in the selling of goods” (Garrigues 1881:1).

In the late nineteenth century a patent was issued for an office and building directory with a slate component that folded down at a forty-five degree angle so one could leave a message or instructions on the slate (Brown 1898:2). Writing slate was also built into furniture, such as a cabinet for hotel stationary, which could be used for “guests in hotels,” “passengers on steamboats” or other traveling accommodation areas (William 1890:1). This cabinet was intended to sit in reception areas where it was used by employees. It contained a slate “on which is kept an account of the regular drawers or tablets, to what rooms sent” in order to keep tables on what was leaving the cabinet (William 1890:1).

With the invention of the telephone came the invention of items that would be used in conjunction with the telephone (Appendix O). For example, a “telephone desk” that was invented in 1890 contained space for a telephone, a place for slate pencils, a cup for water (in order to clean the slate), and writing slate (Schram 1890:1). The slate had “permanently” ruled lines in order to keep numbers and notes about who was calling

(Schram 1890:1). Another telephone desk invented in 1893 had a desktop that consisted mostly of slate, for quick messages, and a paper tablet on the right side of the desk for other messages (Pruyn 1883:1).

Writing slate was also used for communicating with late nineteenth century divers while they were underwater (Appendix K). “It will be noticed in the drawings that the chamber is amply provided with windows, through which any signs made by the person within may be read outside, or writing upon a slate may be read through a window, and frequently conversation can be understood through the walls of the chamber” (Huntley 1885:2). Even today, there are special “writing slates” that divers take into the water with them to write messages to each other. These modern diving writing slates are not made of slate but resemble a plastic message board.

Writing slates were also used by workers on the railroad to keep their records and car reports handy and safe. Keiser’s railroad-conductor’s folder and car-record, consisted of a hand held folder that contained paper, carbon paper, and writing slate.

In wet weather, the slate is brought into requisition and all entries are made thereon, and subsequently transferred to the record sheets after the conductor has returned to his car or other place of shelter. When the slate is to be thus used, all of the record sheets are entirely covered and concealed (Keiser 1908:1).

While writing slate has been emphasized in these specific three categories, it likely served a variety of other purposes. These three groups seemed to be the most common after going through all of the documents pertinent to writing slate history. Writing slate also had a number of accessories, the topic of the following section.

Accoutrements for Writing Slate

The most common accoutrement associated with writing slates were slate pencils (Figure 25). Slate pencils, like slate tablets, were made from slate rock or soapstone (Sears, Roebuck and Company 1968:353). These pencils would leave an etching or scratch across the surface of the writing slate. A white chalky residue was left behind by this scratching and was visual to the user. This residue could be removed by erasing it with a finger or sponge, but was commonly removed by spitting on the slate and wiping it clean. Knives sharpened writing slate pencils, leaving slate shavings (Goldthwait 1878:1). Knife blades were often attached to writing slate frames, by fitting into notches in the frames (Field 1886:1). Slate pencils could vary in length; however, most were about five and a half inches long (Sears, Roebuck and Company 1968: 353).



Figure 25. Slate pencil (Author’s Personal Collection)

Slate pencils were also used for functions other than writing. In *Harper’s New Monthly Magazine*, there is a story in which another use of writing slate is touched upon:

“I should think you did. I found out all your hair-dressing secrets—all about the crimping and frizzing, you know—and say, Molly, do you ‘do’ your curls now over a slate pencil?”(Perry 1867:378).

A cleaner specifically for writing slates was invented in 1883 (Appendix I). It mentions that in order to clean slate “it is usual to employ a wet sponge for erasing the figures or writing and a dry cloth for drying the slate” (Bushnell 1883:1). There were other inventions associated with cleaning the slates. One such product was a combination slate cleaner and pencil sharpener that was patented in 1892. This combination cleaner was a hand-held block of wood that contained a “fur felt” on one side and a metal file on the other side (Thurber 1892:1). The felt was to clean the slate and the file was to

sharpen the slate pencils. A slate ruler was designed in 1893, in order to easily draw lines in writing slate. This ruler was supposedly easy for children to operate (Ahne 1893:1).

Conclusions

In studying the accoutrements associated with writing slate, it is important to note that slate pencils are found in archaeological contexts that are similar to writing slate fragments. This research has shown that writing slate can be used for various activities. While literature in the late nineteenth century was very valuable in gaining new insights into the different uses of writing slate, the literature around the timeframe of the Donner Party was scarce. Luckily, there was an article in *Harper's New Monthly Magazine* that listed the different uses of slate (*Harper's New Monthly Magazine* December 1852:79). This article, proved valuable because it was written only six years after the Donner Party tragedy. In order to understand the significance of the Donner Party writing slate fragments, this history of writing slate aids in explaining the different uses of writing slate and can be utilized in the interpretation of these possible function(s) of this material at the Donner family campsite. To better understand such functions, an investigation of writing slate within the archaeological literature was conducted.

Chapter 5

WRITING SLATE IN THE ARCHAEOLOGICAL RECORD

Archaeologists, no matter where they work, reconstruct past environments and landscapes and study the actual objects that people made, used, and left behind (Cantwell and Wall 2001: 4) .

Schoolhouse Archaeology

As might be expected, schoolhouse archaeology projects include the most common reference to writing slate and slate pencils (Bower 1978; Pena 1992; Clouse 1996; Clouse 1999; Gibbs & Beisaw 2000; Agbe-Davies 2001; Rotman 2005). “Slates and slate pencils, marbles and jacks, buttons and buckles” are among the most common types of objects found during schoolhouse excavations (Rotman 2005:8). Some of these archaeologists state that such objects are not being studied and reported upon to the extent that would help historians and other archaeologists (Gibbs & Beisaw 2000). Rather, a majority of schoolhouse archaeological studies focus on the floor plan of the school or the building materials used to construct the structure (e.g. Bigelow & Nagel 1987; Pena 1992; Agbe-Davies 2001).

In 1975, 1976, and 1977, an archaeological dig at an African American meeting house in Boston, Massachusetts yielded writing slate fragments. This meeting house was established in 1806 and was situated in an area populated by free black slaves throughout the early nineteenth century (Bower 1978:118). In 1834, a grammar school was

constructed next to the meeting house (Bower 1978:118). “Artifacts which probably related to the school were found such as slate pencils, pieces of slate to write on, several children’s cups, marbles, and a china doll face” (Bower 1978:122).

Archaeology of a Bermudian schoolhouse established by black Bermudians for their children after emancipation provides a glimpse into the lives of these students and the community in the nineteenth to twentieth centuries (Pena 2001:128). Pena states “writing slate fragments are the dominant ‘education-related’ artifacts” (Pena 2001:147). “Thirty-one slate pencil fragments and fifty-eight fragments of writing slates” were recovered, “some of which were scored on one side to create a ‘lined’ surface for young writers” (Pena 2001:147). Pena’s work is one of the few studies that actually devotes a small section of the analysis to writing slate. The bulk of the analysis focuses on the fact that writing slate and slate pencils were more durable and cheaper than paper and pens (Pena 2001:147).

Another archaeological investigation in which writing slate fragments were discovered involved the study of a rural schoolhouse in New York that dated from 1855 to 1915. Writing slate fragments were found in a test unit situated outside the front of the schoolhouse. In this test unit “buttons, slate fragments, six slate pencils, a bone inlay for a handle, and a pearlware cup fragment” were unearthed (Pena 1990:14). No further examinations of these objects appeared in this report.

Military Archaeology

While the appearance of slate may seem overly obvious at schoolhouse excavations, the appearance of writing slate in other contexts serves as a reminder of this material's widespread use. Fort Snelling, Minnesota was a military post that was established in 1820. Archaeological investigation at this historic military fort uncovered writing slate fragments, called "slate board fragments" (Clouse 1999:93). These were found in a variety of locations at the fort. The highest frequency of slate board came from the shops/hospital and the long barracks, which yielded seven slate fragments each (Clouse 1996:601). Writing boards (6) also appeared during excavations of the stables at Fort Snelling (Clouse 1996:601). The well, short barracks, the enlisted man's latrine, commissary, officer's quarters, officer's latrine and school house are the other locations where slate writing boards were unearthed. Interestingly, the school house only had one slate writing board in its assemblage (Clouse 1996:601). Clouse's interpretation mirrors the results of the nineteenth century functions of writing slate described in chapter 4: their widespread appearances suggests "activities of individuals who are literate" and the distribution "of these objects may potentially reflect areas that were used as offices or where school was taught" (Clouse 1996:585). The date range for the existence and use of the buildings that contained the slate boards was 1822- 1903 (Clouse 1996:547).

Mining Town Archaeology

Writing slate fragments were also recovered at a mining ghost town known as Coloma in Western Montana during the University of Montana's 2006 archaeological field school. Although historical documents are unclear about the exact date of the first historic occupation of Coloma, mining endeavors were underway in the vicinity of Coloma by the latter portion of the nineteenth century, as early as the 1860s (Timmons 2006). Hopeful miners had a well-established community at Coloma by the winter of 1894-1895. After the community's promising gold mining boom, the assortment of necessary services arrived, including saloons, boarding houses, a dance hall, and a library. In 1903, diminished profits fueled a bust for the community, and it lost its post office and status as a town. While a handful of miners made sporadic visits to the area through the Great Depression and into the 1950s, many features at Coloma have been deserted for over 100 years.

Informal pedestrian survey of the town yielded writing slate fragments with lines carved into them (Figure 26). The fragments were found directly downhill of a collapsed building structure. The function of that building is unknown. The writing slate at Coloma may have been used for education, given that there were families and children in the town. There was a school located in the town of Garnet and reports of there being a school in Coloma, although it has not been identified yet. Nevertheless, writing slate may have been used for gambling or gaming as there was also a high percentage of

miners in the town. Further investigations are being conducted at Coloma that may identify more writing slate fragments.

There are no other published descriptions about writing slate in the archaeological literature. In order to provide an analysis of writing slate from the Donner Party's Alder Creek camp without a body of research to aid with comparative analyses, it is necessary to establish a theoretical framework for this thesis and for future analysis. Such a framework is provided in the next chapter.

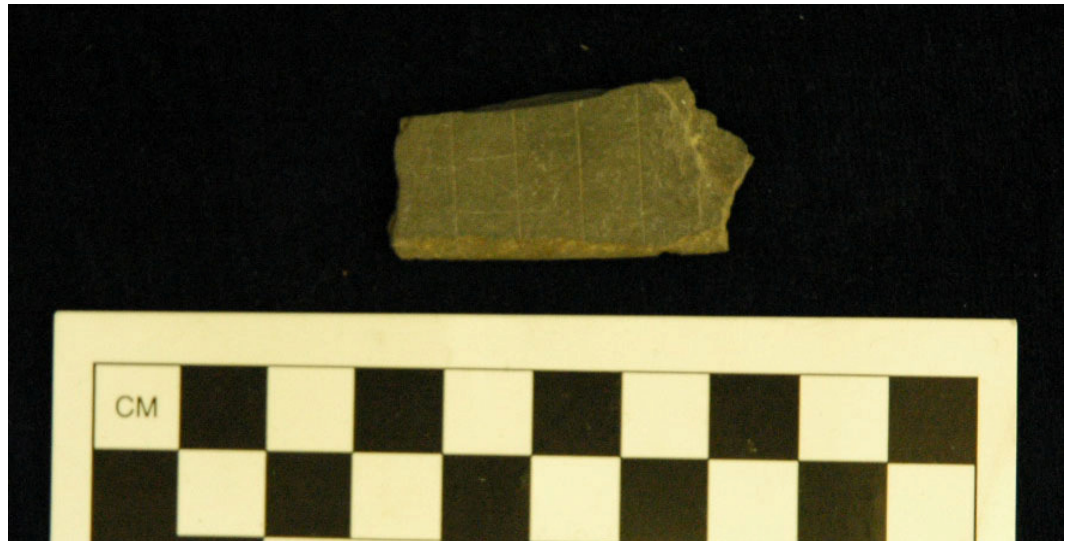


Figure 26. Writing slate fragment with lines found at Coloma Ghost Town.

Chapter 6

COGNITIVE ARCHAEOLOGY AND CHILDREN IN THE ARCHAEOLOGICAL RECORD

Archaeological interpretation would be so much easier if the artifacts would just open up and tell us what they had seen and experienced (Orser 1996:108).

The presence of writing slate in the Donner family camp influenced a series of questions. Were school lessons being given in camp? Were the children merely playing games with the writing slate? Was writing slate used for something completely different? Was the writing slate used at all or was it merely cargo bound for Tamsen Donner's seminary in California? If the slate was used, did it present a signature of children in the archaeological record? We may never know the purpose writing slate fragments served, but as social scientists studying humans, it is necessary to analyze these objects as part of the Donner Party's archaeological chronicle. Archaeologists often rely on theory to explain phenomena that cannot be directly observed. In the case of the writing slate recovered from the Donner family camp, cognitive theory influenced attempts to interpret and explain these objects.

Cognitive Archaeology

To interpret the Donner Party's writing slate fragments, cognitive archaeology will be used to decipher the meaning and uses of those objects by the members of the Donner family camp. The people stranded in that camp certainly perceived the slate and

other objects in various ways: “It is by our use of things, and what we say, think and feel about them- how we represent them- that we give them a meaning” (Hall 1997:3).

Cognitive archaeology will be used to provide possible answers to the questions posed above and to emphasize the meaning writing slate might have had for the families stranded in a starvation camp.

Cognitive archaeology is still considered to be in its infancy with new definitions emerging constantly (Renfrew and Zubrow 1994:viii). One definition of cognitive archaeology is: “the study of past ways of perception and thought, or the function of cognition in the past, as seen in the material remains of a culture” (Neuwirth 2002:112).

Another definition states:

Cognitive archaeology is the study of all those aspects of ancient culture that are the product of the human mind: the perception, description, and classification of the universe; the nature of the supernatural; or human values are conveyed in art; and all other forms of human intellectual and symbolic behavior that survive in the archaeological record (Flannery and Marcus 1999:351).

Flannery and Marcus argue that cognitive archaeology has the means to make archaeology “more holistic” (Flannery and Marcus 1999:361). It is thought that since the human mind has a cognitive map, when humans produce something it is from the past and has been imprinted in our minds. This cognitive map is a key element of this approach (Renfrew 1994). In cognitive studies: “One seeks, instead, to ‘enter the mind’ of the early individuals involved through some effort of active empathy” (Renfrew 1994:6). It is important to note that when using cognitive archaeology, archaeologists’ own experiences, beliefs, and bias may effect their interpretation (Zubrow 1994:187).

Simply put, the objective of cognitive archaeology “is to uncover cultural reasoning, human reasoning or the common sense of a culture” (Neuwirth 2002:112).

The theory of cognitive archaeology became prevalent during the rise of processual archaeology. In archaeological theory there are two major paradigms: processual and post-processual. There are many different trajectories of thought within each. Processual archaeology, also known as the “New Archaeology,” is heavily influenced by the scientific method to help explain archaeological phenomena. While processualism’s roots in archaeology date back to Walter Taylor’s (1948) critique of culture history, this paradigm predominated American archaeological investigations during the 1960s and 1970s.

Post-processual archaeology emerged as part of a postmodern critique in the 1970s. While post-processual archaeological theories argued that processual scientific methods overlooked diverse and individual histories, processual archaeologists criticized post-processualists for conducting research that lacked systematic credibility. In turn, post-processual archaeologists continue to assert that true “scientific studies” using processual theories can never be achieved, due to biases that exist among archaeologists.

Representing something of a transition between processual and post processual archaeology, cognitive archaeology emerged as a reaction to processual theories that highlighted the importance of topics such as the physical environment, evolution, and ecology. Cognitive archaeologists argued that culture and the human mind also influenced past behavior. Therefore cognition needed to be taken into account when the subject matter and data allowed. In other words, in cognitive studies, the human mind is

examined by analyzing certain artifacts. Archaeologists who employ cognitive theory are, in a sense, trying to step into the minds of the individuals being studied through the material remains left behind.

Since most prehistoric sites do not have the luxury of historical documents or oral informants, cognitive theory was the only means of systematically examining the human mind as represented by physical or material remains. Cognitive studies were commonly applied to rock art (Lange 1990; Chippindale and Tacon 1998; Keyser and Klassen 2001; Lewis-Williams 2002; Arsenault 2004; Chippindale and Nash 2004) to examine the meaning and symbolism of such art.

Cognitive archaeology can benefit archaeologists when they know enough background information on the culture. However, if hardly any background information is known “such reconstruction can border on science fiction” (Flannery & Marcus 1999:360). In order to be able to use cognitive archaeology, Segal states that “one needs a clear description both of the end-product and of the conditions under which the task occurs” (Segal 1994:24). Hence, historical archaeology or archaeology with a clear connection to a past culture provide the most valid contexts for cognitive interpretations.

James Deetz, a historical archaeologist, used cognitive archaeology in his study of gravestones in the northeast. Deetz found that changes in gravestones designs overtime reflected changes in perceptions about death, which in turn represented change in ideology (Deetz 1996:96). In addition, Deetz, Flannery, and Marcus discuss the importance of examining building design and the use of public spaces to interpret cognition in the form of ideology (Deetz 1977; Flannery and Marcus 1976a, 1976b,

1994). These structures and places can help illustrate the ideology of the particular time period. Although Deetz and Flannery practice different types of archaeology (historic and prehistoric), they both have found useful ways to use cognitive archaeology to interpret the cultures that they study.

Cognitive archaeology provides an approach to interpreting topics related to ideology and human reasoning. In the case of the Donner Party, reasoning was considered a key research issue with regard to topics like normalizing a desperate predicament. The writing slate appeared to be the only artifact type that could foster such an interpretation where normalization might have comforted adults struggling for survival and sanity; also the slate might have provided a means of soothing children. The signature of children in the archaeological record is, however, nearly impossible to trace.

Children

Kathleen Deagon defines one aspect of the role of historical archaeology as “the documentation of disenfranchised groups without written history” (Deagon 1991:105). Although a number of groups have been overlooked in the archaeological record, this section calls attention to the need to remember children when examining an archaeological site. This is particularly important regarding the Donner family camp at Alder Creek as over half of the occupants of that camp were children.

Children have been influential in American history in a number of ways, serving roles such as members of a family, members of a distinct population, producers and

consumers, and cultural and political symbols (Demos 2005:29). Even though children have been active participants within societies, they have often been neglected within both the historical and archaeological record.

“Children are often ‘cute,’ and their artifacts can be seen as ‘quaint,’ but children are hardly inconsequential, and there is far more to their history than quaint artifacts.” (Demos 2005:27) Historians and archaeologists are just beginning to unravel the complex and diverse world that the early American child experienced. It also behooves historians and archaeologists to remember that “the childhood experienced by adults for children is not necessarily what children actually experience, and a comprehensive history of children is not necessarily synonymous with the history of childhood” (Demos 2005:24). For example, children who migrated to the West had completely different experiences than children who stayed on the east coast. In addition, children from different social classes also had different experiences:

The lessons for anyone trying to reconstruct the lives of children is clear: Be careful. Generalizing about the history of children, based mainly on the experiences of the boys and girls of one social class in one part of the country, tells us as much (or as little) as looking at the history of the United States entirely through the eyes of adults (West 2005:224).

Due to the fact that “children’s play often involves found or discarded artifacts, and artifacts attributable solely to children are rare, if no absent, from most archaeological assemblages” (Baxter 2006:3), it is dauntingly challenging to attempt to use archaeological remains as a vehicle for studying this marginalized group. Moreover, artifacts used by adults may have been used by children, such as marbles (Baxter

2005:22).

Two other important aspects to remember about children in the archaeological record include:

- 1) Children have randomizing and/or “distorting” effect on artifact distributions, making it virtually impossible for archaeologists to study children in behavioral contexts.
- 2) Children’s activities tend to occur in areas peripheral to adult activities (Baxter 2005:58).

One activity in which children were active participants was education. It is said that education in the archaeological record “is usually restricted to written accounts” (Wileman 2005:47). Although school house archaeological excavations discussed above recovered artifacts associated with education and children. It is important to note that “schools were, and remain, important means of transferring cultural practices that promote community survival while maintaining social hierarchies and inculcating ways of thinking about the individual’s role in his or her community” (Gibb and Beisaw 2006:2).

As American settlers migrated to the American West, they transported children and education, both of which helped transform the character and cultural practices of the region. Children were considered: “probably even more important on the frontier than elsewhere in rural America” (West 2005:219). Children provided an extra pair of hands to work the land, to set up towns, and thus grew up to populate the west. Children were an integral component of the nineteenth-century settlement of the west and an inherent part of the tragedy associated with the Donner Party, as they were unwilling participants

of decisions made by adults and a majority of the survivors from the Alder Creek camp.

Discussion

Children were important in the settling of the American West, as well as active participants in the Donner Party saga. In particular, the Alder Creek camp was a temporary home for more children than adults. This thesis initially sought to emphasize the importance of writing slate and its relation to children at the Alder Creek location. Cognitive archaeological analyses require a thorough understanding of not only the artifact in question, but the situation surrounding the artifact. Cognitive archaeology was used to interpret the role of writing slates at the Alder Creek camp, guided by the assumption that the occupants of Alder Creek used writing slate to normalize their situation through everyday activities such as school lessons, games, or any number of other writing pursuits.

This thesis' goal to uncover remnant writing on the slate fragments was expected to assist in a cognitive archaeological interpretation, such as one that would lead to an understanding of the way(s) in which adults could have attempted to normalize the situation for the sake of their children and for their own sanity. However, this thesis research recovered no evidence of normalization on the writing slate- or any remnant writing on that slate.

In addition, writing slate was thought to have been an artifact that could help highlight children in the archaeological record. However, after researching the history of

writing slate and its association with education, recreation, and industry, the perception that writing slate is solely associated with children has been altered. This fact, along with other final thoughts, will be addressed in the following chapter.

Chapter 7

INTERPRETATIONS AND CONCLUSIONS: THE END...OR JUST THE BEGINNING?

Although the written word may not have endured, the material remains of the past have survived. They are there, waiting to fill in the missing pages of history—provided we can get to them in time (Hume 1978:204).

When this project first began, the writing slate fragments found at the Alder Creek campsite were thought to be artifacts associated with Tamsen Donner's cargo of school supplies intended for the ladies' seminary she planned to open in California (McGlashan 1940 [1880]: 139-143). In addition, the high percentage of children to adults at this camp and the common association of children, education, and writing slate fostered an assumption that writing slate was the sole artifact representative of children at the Alder Creek campsite, as no toys were found. When the writing slate fragments were unearthed around the hearth, visions of children huddled around the campfire, practicing their school lessons, emerged. However, after my research on writing slate, this vision of writing slate as a diagnostic artifact signifying children and education in the archaeological record has been drastically altered.

It is important to note that the writing slate fragments were among a small number of artifacts recovered from both the 1990 and 2004 excavations that were not associated with foodways. Most of the artifacts recovered from 1990 were glass fragments and sherds of ceramics. The fragments that were able to be identified included pieces of

bottles, cups, saucers, bowls and a teacup. In the 2004 units containing writing slate, the predominant material recovered were bone fragments that represented intense food processing. With a collection so strongly representative of foodways in a starvation camp, the writing slate influenced another means of studying the Donner Party saga.

In his book on the archaeology of the Donner Party, Donald L. Hardesty noted, “their possessions also say something about the material things the party members believed to be most important” (Hardesty 1997:8). Indeed, the presence of writing slate at the Donner families’ Alder Creek camp is a testimony to literacy and education, or is it? The initial assumption, that writing slate was only used in educational contexts caused many other explanations to be overlooked. Writing slates could have been used by the children, but not for schooling. The children could have been playing games and drawing pictures on the slate which was common during the nineteenth century (*Harper’s New Monthly Magazine* 1858:366). In addition, the writing slates could have been used by the adults to keep track of the days they were entrapped, the supplies that they had left, or even to keep track of debts owed to others from trading supplies (Garrigues 1881; Herbert 1892). The slates could also have been used by adults for gambling and games (Herbert 1892; Smith 1889; Mahurin 1926). The slates found at the Alder Creek campsite may not have even been owned by Tamsen Donner, as they could have just as likely been brought by one of the teamsters for gambling. With all of these alternative explanations for writing slate found at the Alder Creek campsite, using the slate to identify children and children’s activities becomes doubtful. Even so, in this case, the writing fragments have helped to shed a different light on the Donner Party.

The Alder Creek campsite was cold and damp; if paper was used it would get ruined. Writing slate was reusable, portable, and dried quickly after being wet (*Harper's New Monthly Magazine* 1852:80). It is important to remember that in the context of schooling both children and adults could have used the slates (*Harper's New Monthly Magazine* 1857:668). The Alder Creek adults or the children could have adapted writing slate's function from schooling to any number of other uses to adjust or normalize to the stresses of their winter entrapment. It is hard to say what the real story of life was like at the Alder Creek camp during those horrible months. Newspaper stories need to be used critically due to the media frenzy that surrounded this horrific tragedy (e.g. *California Star* April 1847). Personal accounts by the survivors also have to be carefully examined, given the sensationalism and trauma linked with the claims of cannibalism. Children were certainly influential in the creation of collective memory associated with the Donner Party, especially since they represented a majority of the survivors from the Donner family camp. Yet their memories were clouded and tend to include conflicting accounts of life in camp (e.g., King and Steed 1995). Given the problems with the primary historical sources and given the lack of detail about everyday life at a starvation camp, the archaeological remains of this camp were expected to provide evidence that might fill in gaps about daily life. In the case of writing slate, this set of artifacts was presumed to contain evidence of normalizing, or coping behaviors using the framework of cognitive archaeological explanation. Such an explanation is difficult to support with standard archaeological analysis, especially given the Donner Family Camp site's meager remains. As a result, this thesis has had to resort to its major contributions being the development

of a history of writing slate and challenging the assumption that such material can be used to identify children, education, literacy, or even normalization. However, given the context of the Donner Party, all of these are possible.

In the case of the Donner Party's writing slate fragments, there was hope that they would retain some form of remnant writing. However, the visual examinations of the writing slate yielded no such evidence. Such inconclusive findings should not discourage other researchers from continuing to make more careful inspections of writing slate, especially given the fact that the Donner Party writing slates may have not been used as heavily as other slates found at other archaeological sites. In addition, future research of writing slate should explore DNA analysis. To clean writing slates, people would use a sponge and water or special cleaning solution. Saliva was also commonly used. It is possible that DNA from saliva may survive in degraded forms on slate fragments, thus it may be possible to discern identities of the users of writing slate from various sites (see also Dixon 2006; Schablitsky 2006; Swords and Dixon 2006).

Writing slate is a "widely known artifact" but is hardly ever examined as a diagnostic object. Yet, writing slate was a common object, so common in fact, that there were people inventing new writing slates, accoutrements for writing slates, and furniture containing writing slate. Archaeologists have long associated writing slate with children, and education. Writing slate could indeed be the diagnostic artifact for both children and education, but that was not the only function of writing slate. Archaeologists must realize that finding writing slate does not always signify the presence of children. While children used writing slate, adults did too. While writing slate was associated with

schoolhouses and education, it was also widely used for games, gambling, debts, and communication. While the writing slate fragments at Alder Creek may have been used by the children in that camp, it could have also been used by adults for gaming, gambling, or record-keeping.

Even though I did not expect this to turn into a project that outlined writing slate's history, it did provide an opportunity to examine a ubiquitous, yet overlooked aspect of material culture from the past hundred-plus years. Writing slate is significant in the archaeological record and historical record. It signifies literacy and record-keeping, among other things, and is part of a 5000-year heritage of writing behavior among humans.



Figure 27: Donner Party trying to cross the Sierras (Barnard 1977:162).

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A CLEAN SLATE: THE ARCHAEOLOGY OF
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APPENDICES

APPENDIX A
DONNER PARTY ALDER CREEK 2004 ARTIFACTS

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-002	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	17 cmbd	Unit F
05-17-57-01-003	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	17 cmbd	Unit F
05-17-57-01-004	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	17 cmbd	Unit F
05-17-57-01-005	Lead	Activities	Ammunition	Hunting/Defense	Shot	N/A	17 cmbd	Unit H
05-17-57-01-006	Ferrous	Structural	Hardware	N/A	Nail	Corroded Fragment	02	Unit H
05-17-57-01-007	Charcoal	Floral	Indefinite	NA	Wood	Fragment	02	Unit H
05-17-57-01-008	Wood	Floral	Indefinite	N/A	Wood	Fragment	02	Unit H
05-17-57-01-009	Aqua Glass	Undefined Use	Indefinite	N/A	Glass	Fragment	02	Unit H
05-17-57-01-010	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	02	Unit H
05-17-57-01-011	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit H
05-17-57-01-012	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit H
05-17-57-01-013	Slate	Activities	Writing	N/A	Slate	Fragment	01	Unit J
05-17-57-01-014	Glass	Indefinite Use	Indefinite	N/A	Undefined	Fragment	01	Unit J
05-17-57-01-015	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit J
05-17-57-01-016	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	01	Unit J
05-17-57-01-017	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit I
05-17-57-01-018	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	01	Unit I
05-17-57-01-019	Green Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit I
05-17-57-01-020	Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit I
05-17-57-01-021	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit I
05-17-57-01-022	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	01	Unit I
05-17-57-01-023	Glass	Personal	Accoutrements	Jewelry	Sphere	Complete/Fragment	01	Unit I
05-17-57-01-024	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit I
05-17-57-01-025	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit I
05-17-57-01-026	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit I
05-17-57-01-027	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit I
05-17-57-01-028	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Corroded fragment	01	Unit I
05-17-57-01-029	Aqua Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit I
05-17-57-01-030	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment	02	Unit H
05-17-57-01-031	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	02	Unit H
05-17-57-01-032	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit F
05-17-57-01-033	Olive Glass	Domestic	Food	Container	Bottle	Fragment	-	Unit F

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-034	Slate	Activities	Writing	N/A	Slate	Fragment	-	Unit J
05-17-57-01-035	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	-	Unit F
05-17-57-01-036	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	02	Unit J
05-17-57-01-037	Colorless Glass	Domestic	Indefinite	Container	Bottle	Fragment	02	Unit J
05-17-57-01-038	Slate	Activities	Writing	N/A	Slate	Fragment	02	Unit J
05-17-57-01-039	Whiteware	Domestic	Food Prep/Consumption	Serving	Dish	Fragment	02	Unit J
05-17-57-01-040	Ferrous	Structural	Hardware	N/A	Nail	Corroded fragment	02	Unit J
05-17-57-01-041	Colorless Glass	Domestic	Indefinite	N/A	Undefined	Fragment	02	Unit J
05-17-57-01-042	Aqua Glass	Domestic	Food Storage	Drinking Vessel	Bottle	Fragment	02	Unit J
05-17-57-01-043	Colorless Glass	Structural	Material	N/A	Window	Fragment	02	Unit J
05-17-57-01-044	Slate	Activities	Writing	N/A	Slate	Fragment	02	Unit J
05-17-57-01-045	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit J
05-17-57-01-046	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit J
05-17-57-01-047	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit J
05-17-57-01-048	Slate	Activities	Writing	N/A	Slate	Fragment	02	Unit I
05-17-57-01-049	Olive Glass	Domestic	Food Storage	Container	Bottle	Fragment	02	Unit I
05-17-57-01-050	Aqua Glass	Domestic	Food Storage	Container	Bottle	Fragment	02	Unit I
05-17-57-01-051	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit I
05-17-57-01-052	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit I
05-17-57-01-053	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	03	Unit K
05-17-57-01-054	Ferrous	Structural	Hardware	N/A	Nail	Corroded fragment	03	Unit K
05-17-57-01-055	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit K
05-17-57-01-056	Slate	Activities	Writing	N/A	Slate	Fragment	03	Unit K
05-17-57-01-057	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment	03	Unit K
05-17-57-01-058	Bone	Domestic	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-059	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	01	Unit H
05-17-57-01-060	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	01	Unit H
05-17-57-01-061	Olive Glass	Domestic	Food Storage	Container	Bottle	Fragment	01	Unit H
05-17-57-01-062	Aqua Glass	Domestic	Food Storage	Container	Bottle	Fragment	01	Unit H
05-17-57-01-063	Jasper/Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit H
05-17-57-01-064	Slate	Activities	Writing	N/A	Slate	Fragment	01	Unit H

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-065	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit H
05-17-57-01-066	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-067	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-068	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-069	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-070	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-071	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-072	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-073	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit H
05-17-57-01-074	Stone	Activities	Firearms	Hunting/Defense	Flint	-	04	Unit J
05-17-57-01-075	Wood	Floral	Indefinite	N/A	Wood	Fragment	01	Unit K
05-17-57-01-076	Lead	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit K
05-17-57-01-077	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit K
05-17-57-01-078	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit K
05-17-57-01-079	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit K
05-17-57-01-080	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit K
05-17-57-01-081	Stone	Undefined Use	Indefinite	N/A	Mineral	Fragment	01	Unit K
05-17-57-01-082	Olive Glass	Domestic	Food Storage	Container	Bottle	Fragment	01	Unit K
05-17-57-01-083	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit K
05-17-57-01-084	Whiteware	Domestic	Food Prep/Consumption	Serving	Indefinite	Fragment	01	Unit K
05-17-57-01-085	Basalt	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit K
05-17-57-01-086	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-087	Basalt	Undefined Use	Indefinite	Lithic	Debitage	Fragment	0	Unit H
05-17-57-01-088	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	0	Unit H
05-17-57-01-089	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Unit H
17-17-57-01-090	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Unit H
05-17-57-01-091	Metal	Undefined Use	Indefinite	N/A	Indefinite	Fragment	02	Unit K
05-17-57-01-092	Ferrous	Structural	Hardware	N/A	Nail	Corroded fragment	02	Unit K
05-17-57-01-093	Charcoal	Floral	Indefinite	N/A	Undefined	Fragment	02	Unit K
05-17-57-01-094	Colorless Glass	Domestic	Indefinite	N/A	Bottle	Fragment	02	Unit K
05-17-57-01-095	Olive Glass	Domestic	Food Prep/Consumption	N/A	Bottle	Fragment	02	Unit K

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-096	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	02	Unit K
05-17-57-01-097	Slate	Activities	Writing	N/A	Slate	Fragment	02	Unit K
05-17-57-01-098	Opaque White Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit K
05-17-57-01-099	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	02	Unit K
05-17-57-01-100	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit K
05-17-57-01-101	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit K
05-17-57-01-102	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit K
05-17-57-01-103	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit K
05-17-57-01-104	Slate	Activities	Writing	N/A	Slate	Fragment	East IF/L3	Unit H
05-17-57-01-105	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	East IF/L3	Unit H
05-17-57-01-106	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	East IF/L3	Unit H
05-17-57-01-107	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	East IF/L3	Unit H
05-17-57-01-108	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	East IF/L3	Unit H
05-17-57-01-109	Ferrous	Structural	Hardware	N/A	Nail	Fragment	East IF/L3	Unit H
05-17-57-01-110	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	East IF/L3	Unit H
05-17-57-01-111	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit J
05-17-57-01-112	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit I
05-17-57-01-113	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit I
05-17-57-01-114	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit I
05-17-57-01-115	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit I
05-17-57-01-116	Stone	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit I
05-17-57-01-117	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	04	Unit I
05-17-57-01-118	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit I
05-17-57-01-119	Ferrous	Activities	Transportation	Animal	Wagon	Fragment	04	Unit I
05-17-57-01-120	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	03	Unit J
05-17-57-01-121	Olive Glass	Domestic	Food Prep/Consumption	Container	Undefined	Fragment	03	Unit J
05-17-57-01-122	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Fragment	03	Unit J
05-17-57-01-123	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	03	Unit J
05-17-57-01-124	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	03	Unit J
05-17-57-01-125	Bone	Faunal	Bone	Animal	Bone	Fragment	03	Unit J
05-17-57-01-126	Bone	Faunal	Bone	Animal	Bone	Fragment	03	Unit J

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-127	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit I
05-17-57-01-128	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	03	Unit J
05-17-57-01-129	Bone	Faunal	Bone	Animal	Bone	Fragment	03	Unit I
05-17-57-01-130	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-131	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-132	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-133	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-134	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-135	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-136	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit I
05-17-57-01-137	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-138	Stone	Undefined Use	Indefinite	Lithic	Undefined	Fragment	04	Unit H
05-17-57-01-139	Stone	Undefined Use	Indefinite	Lithic	Undefined	Fragment	04	Unit H
05-17-57-01-140	Ferrous	Activities	Transportation	Fastener	Wagon	Corroded fragment	04	Unit H
05-17-57-01-141	Stone	hearth	Indefinite	N/A	Undefined	Fragment	Intf/Lv 3	Unit H
05-17-57-01-142	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit H
05-17-57-01-143	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	04	Unit H
05-17-57-01-144	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit H
05-17-57-01-145	Brass	Personal	Clothing	Fastener	Button	Complete	04	Unit H
05-17-57-01-146	Ferrous	Undefined Use	Hardware	N/A	Undefined	Fragment	04	Unit H
05-17-57-01-147	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-148	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-149	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-150	Bone	Faunal	Bone	Animal	Bone	Fragment	04	Unit H
05-17-57-01-151	Bone	Faunal	Bone	Animal	Bone	Fragment	04	Unit H
05-17-57-01-152	Lead	Activities	Ammunition	Hunting/Defense	Musket Ball	Complete	04	Unit J
05-17-57-01-153	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit J
05-17-57-01-154	Brass	Personal	Clothing	Fastener	Button	Complete	04	Unit J
05-17-57-01-155	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit J
05-17-57-01-156	Aqua Glass	Undefined Use	Indefinite	N/A	Indefinite	Fragment	04	Unit J
05-17-57-01-157	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit J

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-158	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit J
05-17-57-01-159	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit J
05-17-57-01-160	Whiteware	Domestic	Food	N/A	Undefined	Fragment	04	Unit J
05-17-57-01-161	Stone	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit J
05-17-57-01-162	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit J
05-17-57-01-163	Bone/Charcoal	Faunal/Floral	Bone/Wood	N/A	Bone/Wood	Fragment	04	Unit J
05-17-57-01-164	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit J
05-17-57-01-165	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Unit J
05-17-57-01-166	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-167	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-168	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-169	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-170	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-171	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-172	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	0-20 cmbd	George
05-17-57-01-173	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	0-20 cmbd	George
05-17-57-01-174	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	0-20 cmbd	George
05-17-57-01-175	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0-20 cmbd	George
05-17-57-01-176	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0-20 cmbd	George
05-17-57-01-177	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit M
05-17-57-01-178	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit M
05-17-57-01-179	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	01	Unit M
05-17-57-01-180	Whiteware	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit M
05-17-57-01-181	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit M
05-17-57-01-182	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit N
05-17-57-01-183	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit N
05-17-57-01-184	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit N
05-17-57-01-185	Bone	Faunal	Bone	Animal	Bone	Burnt fragment	02	Unit N
05-17-57-01-186	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit N
05-17-57-01-187	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	02	Unit N
05-17-57-01-188	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit N

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-189	Ferrous	Structural	Hardware	N/A	Nail/tack	Fragment	02	Unit N
05-17-57-01-190	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit N
05-17-57-01-191	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit N
05-17-57-01-192	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	02	Unit N
05-17-57-01-193	Unidentified	Personal	Clothing	Fastener	Button	Fragment	02	Unit N
05-17-57-01-194	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit M
05-17-57-01-195	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit M
05-17-57-01-196	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit M
05-17-57-01-197	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit M
05-17-57-01-198	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	02	Unit M
05-17-57-01-199	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit M
05-17-57-01-200	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	02	Unit M
05-17-57-01-201	Ferrous	Structural	Hardware	N/A	Nail	Fragment	02	Unit M
05-17-57-01-202	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit M
05-17-57-01-203	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit O
05-17-57-01-204	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit O
05-17-57-01-205	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit O
05-17-57-01-206	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit O
05-17-57-01-207	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit O
05-17-57-01-208	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit K
05-17-57-01-209	Ferrous	Undefined Use	Indefinite	N/A	Nail	Fragment	04	Unit K
05-17-57-01-210	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit K
05-17-57-01-211	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit K
05-17-57-01-212	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit K
05-17-57-01-213	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-214	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-215	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-216	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-217	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-218	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-219	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-220	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-221	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-222	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-223	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-224	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-225	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit K
05-17-57-01-226	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-227	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit K
05-17-57-01-228	Bone	Faunal	Bone	Animal	Bone	Fragment	04	Unit K
05-17-57-01-229	Bone	Faunal	Bone	Animal	Bone	Calcined/weathered	04	Unit K
05-17-57-01-230	Copper-alloy	Personal	Clothing	Fastener	Button	Complete	02	Unit O
05-17-57-01-231	Bone	Faunal	Bone	Animal	Bone	Calcined/burned/weathered	04	Unit K
05-17-57-01-232	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	04	Unit K
05-17-57-01-233	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit L
05-17-57-01-234	Charcoal	Faunal	Indefinite	N/A	Wood	Fragment	04	Unit L
05-17-57-01-235	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit L
05-17-57-01-236	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit L
05-17-57-01-237	Stone	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit L
05-17-57-01-238	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit L
05-17-57-01-239	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit L
05-17-57-01-240	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit L
05-17-57-01-241	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit L
05-17-57-01-242	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit L
05-17-57-01-243	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit L
05-17-57-01-244	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit L
05-17-57-01-245	Ferrous	Structural	Hardware	N/A	Nut	Complete	04	Unit L
05-17-57-01-246	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	04	Unit L
05-17-57-01-247	Aqua Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit L
05-17-57-01-248	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit H
05-17-57-01-249	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	4

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-250	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	Interface	Unit N
05-17-57-01-251	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	Interface	Unit N
05-17-57-01-252	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	Interface	Unit N
05-17-57-01-253	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	Interface	Unit N
05-17-57-01-254	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	Interface	Unit N
05-17-57-01-255	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit K
05-17-57-01-256	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit K
05-17-57-01-257	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit K
05-17-57-01-258	Aqua Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit K
05-17-57-01-259	Whiteware	Undefined Use	Food Prep/Consumption	N/A	Undefined	Fragment	04	Unit K
05-17-57-01-260	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit K
05-17-57-01-261	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-262	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit H
05-17-57-01-263	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit H
05-17-57-01-264	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Unit H
05-17-57-01-265	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit H
05-17-57-01-266	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit H
05-17-57-01-267	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit M
05-17-57-01-268	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-269	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit M
05-17-57-01-270	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit M
05-17-57-01-271	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit M
05-17-57-01-272	Bone	Faunal	Bone	Animal	Bone	Fragment	04	Unit M
05-17-57-01-273	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit M
05-17-57-01-274	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-275	Stone	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit M
05-17-57-01-276	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-277	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-278	Stone	Activities	Tools	N/A	Whetstone	Fragment	04	Unit M
05-17-57-01-279	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-280	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit L

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-281	Wood	Floral	Indefinite	N/A	Wood	Burnt fragment	03	Unit L
05-17-57-01-282	Bone	Faunal	Bone	Animal	Bone	Fragment	03	Unit L
05-17-57-01-283	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit L
05-17-57-01-284	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit L
05-17-57-01-285	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	03	Unit L
05-17-57-01-286	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit L
05-17-57-01-287	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Fragment	03	Unit L
05-17-57-01-288	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	03	Unit L
05-17-57-01-289	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	03	Unit L
05-17-57-01-290	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit J
05-17-57-01-291	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit J
05-17-57-01-292	Bone	Faunal	Bone	Animal	Bone	Fragment	02	Unit L
05-17-57-01-293	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit L
05-17-57-01-294	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	02	Unit L
05-17-57-01-295	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	02	Unit L
05-17-57-01-296	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit L
05-17-57-01-297	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit L
05-17-57-01-298	Ferrous	Structural	Hardware	N/A	Nail	Fragment	02	Unit L
05-17-57-01-299	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	02	Unit L
05-17-57-01-300	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit L
05-17-57-01-301	Ferrous	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit L
05-17-57-01-302	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit L
05-17-57-01-303	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit L
05-17-57-01-304	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	01	Unit L
05-17-57-01-305	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit L
05-17-57-01-306	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Un.J/K
05-17-57-01-307	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	George
05-17-57-01-308	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	George
05-17-57-01-309	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-310	Aqua Glass	Domestic	Food Prep/Consumption	Container	Undefined	Fragment	04	Un.L/M
05-17-57-01-311	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit M

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-312	Ferrous	Structural	Hardware	N/A	Nut/Bolt	Fragment	04	Unit M
05-17-57-01-313	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit M
05-17-57-01-314	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Un.L/M
05-17-57-01-315	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-316	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-317	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-318	Wood	Undefined Use	Indefinite	N/A	Wood	Charred fragment	04	Unit M
05-17-57-01-319	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit M
05-17-57-01-320	Bone	Faunal	Bone	Animal	Bone	Burnt fragment	04	Unit M
05-17-57-01-321	Whiteware	Domestic	Food Prep/Consumption	Container	Creamer	Fragment	04	Unit M
05-17-57-01-322	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Un.L/M
05-17-57-01-323	Bone	Faunal	Bone	Animal	Bone	Fragment	04	0
05-17-57-01-324	Bone	Faunal	Bone	Animal	Bone	Fragment	04	Un.J/K
05-17-57-01-325	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	0	Unit N
05-17-57-01-326	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Un.J/K
05-17-57-01-327	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	04	Un.J/K
05-17-57-01-328	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Un.J/K
05-17-57-01-329	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-330	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit M
05-17-57-01-331	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit Q
05-17-57-01-332	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit Q
05-17-57-01-333	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	01	Unit Q
05-17-57-01-334	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	01	Unit Q
05-17-57-01-335	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	01	Unit Q
05-17-57-01-336	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit Q
05-17-57-01-337	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit Q
05-17-57-01-338	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Un.L/M
05-17-57-01-339	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit P
05-17-57-01-340	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Un.J/K
05-17-57-01-341	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Un.J/K
05-17-57-01-342	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit Q

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-343	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit P
05-17-57-01-344	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit Q
05-17-57-01-345	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit L
05-17-57-01-346	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Un.L/M
05-17-57-01-347	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit P
05-17-57-01-348	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	02	Unit O
05-17-57-01-349	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Un.J/K
05-17-57-01-350	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	0	Un.J/K
05-17-57-01-351	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit N
05-17-57-01-352	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit N
05-17-57-01-353	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit N
05-17-57-01-354	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit N
05-17-57-01-355	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01	Unit N
05-17-57-01-356	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-357	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-358	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-359	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-360	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-361	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-362	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-363	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-364	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit F
05-17-57-01-365	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit L
05-17-57-01-366	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit E
05-17-57-01-367	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit E
05-17-57-01-368	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit E
05-17-57-01-369	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit Q
05-17-57-01-370	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit Q
05-17-57-01-371	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit Q
05-17-57-01-372	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	04	Unit Q
05-17-57-01-373	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment	0	Unit Q

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-374	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-375	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	04	Unit M
05-17-57-01-376	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	01 and 02	Unit M
05-17-57-01-377	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	2	Unit M
05-17-57-01-378	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	02	Unit M
05-17-57-01-379	Bone	Faunal	Bone	Animal	Bone	Calcined fragment	03	Unit M
05-17-57-01-380	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	05	Unit Q
05-17-57-01-381	Ferrous	Domestic	Hardware	N/A	Nail	Fragment	03	Unit M
05-17-57-01-382	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	03	Unit M
05-17-57-01-383	Colorless Glass	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit M
05-17-57-01-384	Wood	Floral	Indefinite	N/A	Wood	Fragment	03	Unit M
05-17-57-01-385	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment	03	Unit M
05-17-57-01-386	Olive Glass	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit M
05-17-57-01-387	Copper-alloy	Structural	Hardware	Furniture	Latch	Fragment	04	Unit M
05-17-57-01-388	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment		Unit Q
05-17-57-01-389	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit Q
05-17-57-01-390	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit Q
05-17-57-01-391	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit Q
05-17-57-01-392	Ferrous	Structural	Hardware	N/A	Nail	Fragment	0	Unit O
05-17-57-01-393	Stone	Undefined Use	Indefinite	Lithic	Debitage	Complete	01 Surface	Unit K
05-17-57-01-394	Ferrous	Structural	Hardware	N/A	Nail	Fragment	01 Surface	Un.J/K
05-17-57-01-395	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit M
05-17-57-01-396	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit M
05-17-57-01-397	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit M
05-17-57-01-398	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit M
05-17-57-01-399	Whiteware	Domestic	Food Prep/Consumption	Serving	Plate	Fragment	04	Unit M
05-17-57-01-400	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit M
05-17-57-01-401	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-402	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-403	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-404	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L

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Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-405	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-406	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-407	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Unit L
05-17-57-01-408	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit L
05-17-57-01-409	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit E
05-17-57-01-410	Wood	Floral	Indefinite	N/A	Wood	Burnt Fragment	04	Unit E
05-17-57-01-411	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit E
05-17-57-01-412	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit E
05-17-57-01-413	Olive Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit P
05-17-57-01-414	Aqua Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit P
05-17-57-01-415	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	01	Unit P
05-17-57-01-416	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit Q
05-17-57-01-417	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Unit Q
05-17-57-01-418	Soil Sample	Undefined Use	Indefinite	N/A	Undefined	Fragment	04	Unit Q
05-17-57-01-419	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit E
05-17-57-01-420	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit E
05-17-57-01-421	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit E
05-17-57-01-422	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	04	Unit E
05-17-57-01-423	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	04	Un.L/M
05-17-57-01-424	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	04	Un.L/M
05-17-57-01-425	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Un.L/M
05-17-57-01-426	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Un.L/M
05-17-57-01-427	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Un.L/M
05-17-57-01-428	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Un.L/M
05-17-57-01-429	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Un.L/M
05-17-57-01-430	0	0	0	0	0	0	0	0
05-17-57-01-431	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit N
05-17-57-01-432	Lead	Activities	Ammunition	Hunting/Defense	Sprue	Fragment	04	Unit N
05-17-57-01-433	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	04	Unit N
05-17-57-01-434	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit N
05-17-57-01-435	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	04	Unit N

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-436	Aqua Glass	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit N
05-17-57-01-437	Colorless Glass	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit N
05-17-57-01-438	Soil Sample	Undefined Use	Indefinite	N/A	Undefined	Fragment	Interface	Unit Q
05-17-57-01-439	Ferrous	Structural	Hardware	N/A	Nail	Fragment	Interface	Unit Q
05-17-57-01-440	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	Interface	Unit Q
05-17-57-01-441	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	Interface	Unit Q
05-17-57-01-442	Ferrous	Structural	Hardware	N/A	Tack	Complete/Fragment	2	Unit M
05-17-57-01-443	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit M
05-17-57-01-444	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit M
05-17-57-01-445	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	02	Unit M
05-17-57-01-446	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	01	Unit N
05-17-57-01-447	Ferrous	Structural	Hardware	N/A	Nail	Fragment	01	Unit N
05-17-57-01-448	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	01	Unit N
05-17-57-01-449	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	01	Unit N
05-17-57-01-450	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	01	Unit N
05-17-57-01-451	Lead	Activities	Ammunition	Hunting/Defense	sprue	Fragment	01	Unit N
05-17-57-01-452	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Unit F
05-17-57-01-453	Wood	Floral	Indefinite	N/A	Wood	Fragment	04	Unit F
05-17-57-01-454	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit F
05-17-57-01-455	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	04	Unit F
05-17-57-01-456	Colorless Glass	Indefinite Use	Indefinite	N/A	Indefinite	Fragment	04	Unit F
05-17-57-01-457	Lead	Activities	Ammunition	Hunting/Defense	Sprue	Fragment	04	Unit F
05-17-57-01-458	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	04	Unit F
05-17-57-01-459	Ferrous	Structural	Hardware	N/A	Nail	Fragment	04	Unit F
05-17-57-01-460	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	04	Unit F
05-17-57-01-461	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	03	Unit P
05-17-57-01-462	Ferrous	Structural	Hardware	N/A	Nail	Fragment	03	Unit P
05-17-57-01-463	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-464	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-465	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-466	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P

Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-467	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-468	Lead	Activities	Ammunition	Hunting/Defense	Shot	Fragment	03	Unit P
05-17-57-01-469	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-470	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-471	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete		
05-17-57-01-472	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	03	Unit P
05-17-57-01-473	Slate	Activities	Writing	N/A	Pencil	Fragment	03	Unit P
05-17-57-01-474	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	03	Unit P
05-17-57-01-475	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	03	Unit P
05-17-57-01-476	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit P
05-17-57-01-477	Whiteware	Domestic	Indefinite	N/A	Undefined	Burnt fragment	03	Unit P
05-17-57-01-478	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit P
05-17-57-01-479	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	03	Unit P
05-17-57-01-480	Wood	Floral	Indefinite	N/A	Wood	Charred fragment	04	Un.J/K
05-17-57-01-481	Ferrous	Structural	Hardware	N/A	Nail	Fragment	03	Un.J/K
05-17-57-01-482	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	03	Un.J/K
05-17-57-01-483	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit O
05-17-57-01-484	Lead	Activities	Ammunition	Hunting/Defense	Shot	Complete	02	Unit O
05-17-57-01-485	Ferrous	Structural	Hardware	N/A	Nail	Fragment	02	Unit O
05-17-57-01-486	Colorless Glass	Domestic	Indefinite	N/A	Undefined	Fragment	02	Unit O
05-17-57-01-487	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit O
05-17-57-01-488	Whiteware	Domestic	Indefinite	N/A	Undefined	Fragment	02	Unit O
05-17-57-01-489	Charcoal	Floral	Indefinite	N/A	Wood	Fragment	02	Unit Q
05-17-57-01-490	Ferrous	Structural	Hardware	N/A	Nail	Fragment	02	Unit O
05-17-57-01-491	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit O
05-17-57-01-492	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit O
05-17-57-01-493	Colorless Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit O
05-17-57-01-494	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit O
05-17-57-01-495	Whiteware	Domestic	Food Prep/Consumption	Serving	Undefined	Fragment	02	Unit O
05-17-57-01-496	Lead	Activities	Ammunition	Hunting/Defense	Shot/Sprue	Complete/Fragment	02	Unit P
05-17-57-01-497	Ferrous	Structural	Hardware	N/A	Nail	Fragment	02	Unit P

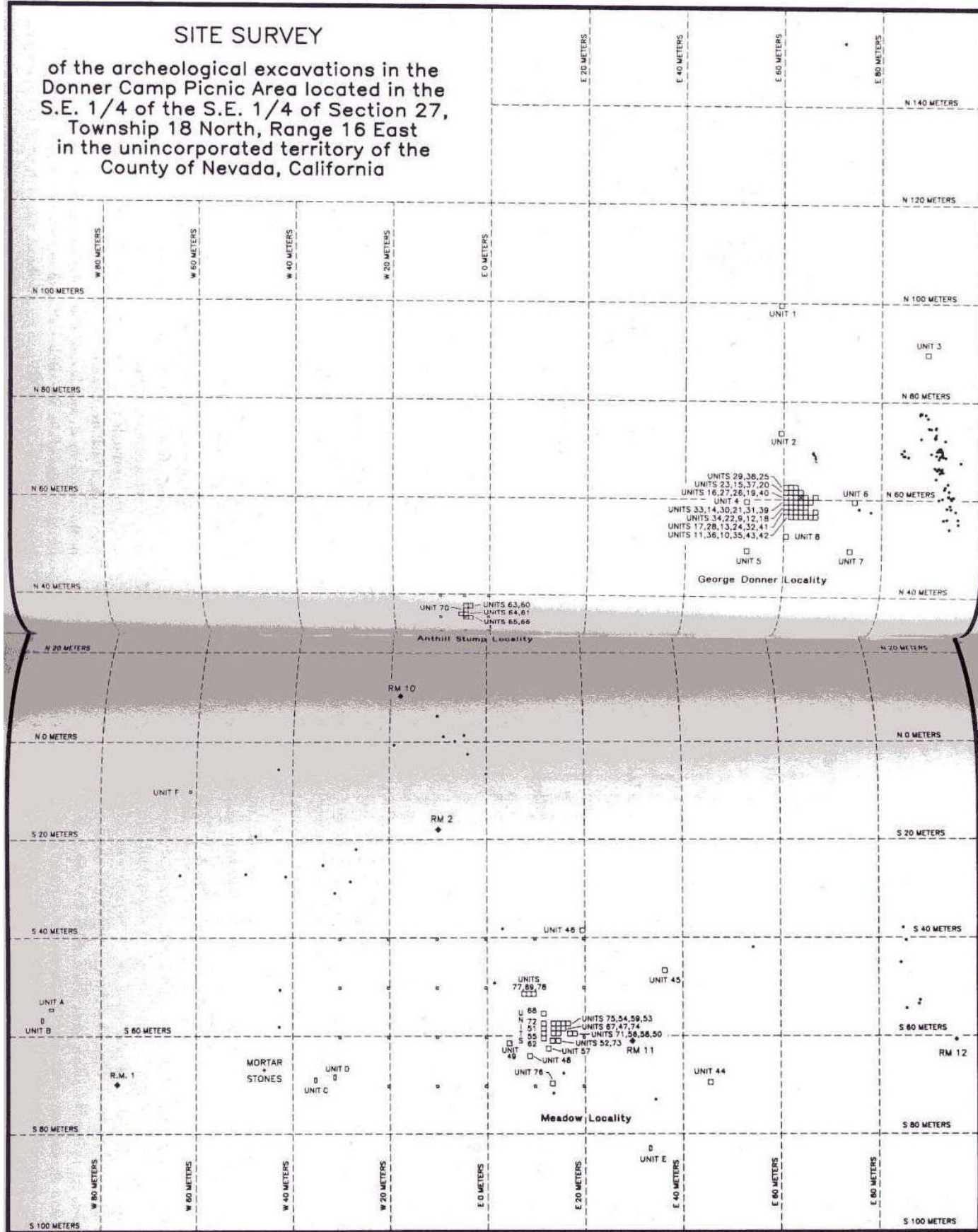
Donner Party - Alder Creek 2004 Excavation

Catalog No.	Material	Description 1	Description 2	Description 3	Description 4	Condition	Context	Area
05-17-57-01-498	Aqua Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit P
05-17-57-01-499	Olive Glass	Domestic	Food Prep/Consumption	Container	Bottle	Fragment	02	Unit P
05-17-57-01-500	Stone	Undefined Use	Indefinite	Lithic	Debitage	Fragment	02	Unit P
05-17-57-01-501	Colorless Glass	Undefined Use	Indefinite	N/A	Undefined	Fragment	02	Unit P
05-17-57-01-502	Whiteware	Domestic	Food Prep/Consumption	N/A	Undefined	Fragment	02	Unit P
05-17-57-01-503	Glass	Personal	Accoutrements	Jewelry	Bead	Fragment	01	Unit H
05-17-57-01-504	Aqua Glass	Personal	Grooming/Health	N/A	Mirror	Fragment	-	
05-17-57-01-001	Bone	Faunal	Bone	Animal	Bone	Fragment	Cont 4	DEFG

APPENDIX B
Hardesty's Map of 1990 Excavation (Hardesty 1997: 67)

SITE SURVEY

of the archeological excavations in the
Donner Camp Picnic Area located in the
S.E. 1/4 of the S.E. 1/4 of Section 27,
Township 18 North, Range 16 East
in the unincorporated territory of the
County of Nevada, California

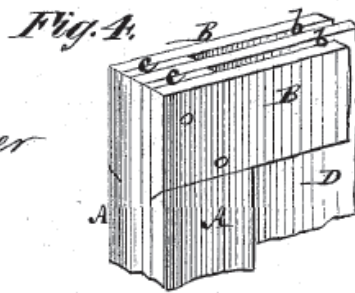
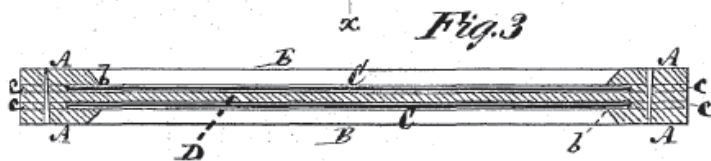
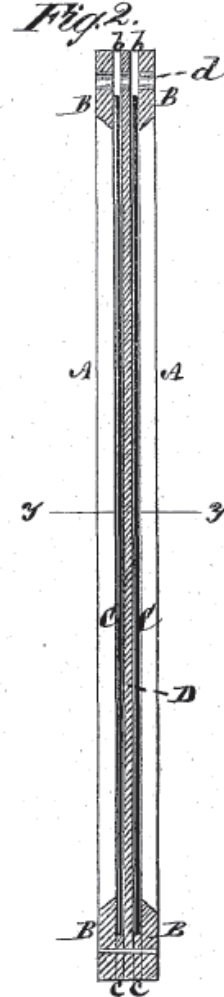
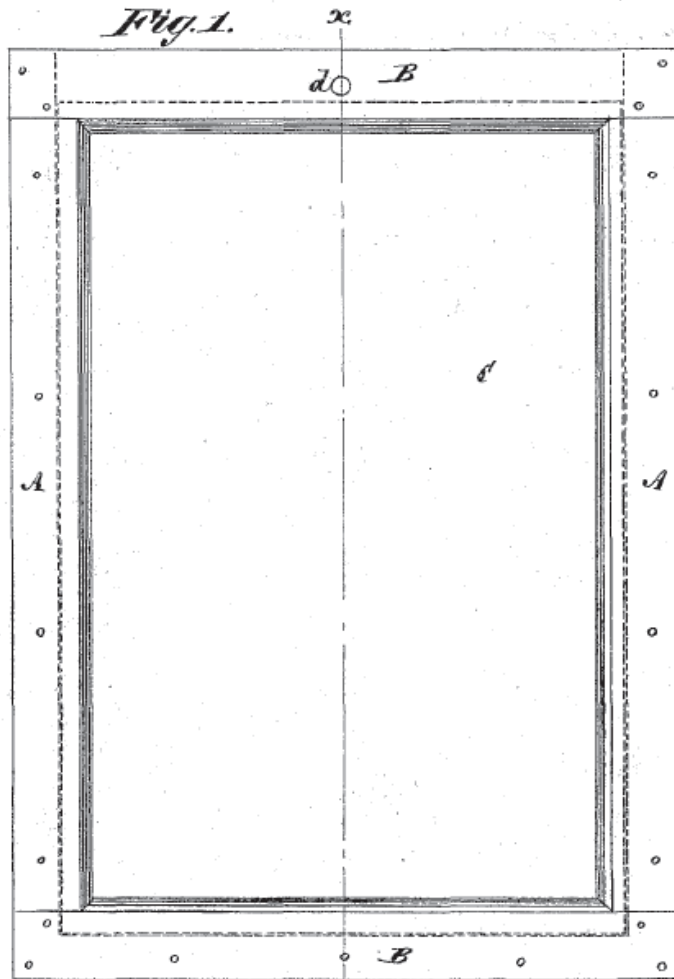


APPENDIX C
UNITED STATES PATENT OFFICE: IMPROVEMENT IN
SLATE-FRAMES

A. H. JOCELYN.
Slate-Frames.

No. 144,104.

Patented Oct. 28, 1873.



Witnesses
John Becker
Thos Haynes

A. H. Jocelyn
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

ALBERT H. JOCELYN, OF NEW YORK, N. Y.

IMPROVEMENT IN SLATE-FRAMES.

Specification forming part of Letters Patent No. **144,104**, dated October 28, 1873; application filed June 25, 1873.

To all whom it may concern:

Be it known that I, ALBERT H. JOCELYN, of the city, county, and State of New York, have invented an Improvement in Slate-Frames, of which the following is a specification:

This invention relates to slates for marking or writing purposes, in which frames are used to bind and hold the slates proper within them; and consists generally in a novel construction of the frame, whereby the slates may be slipped to their places, and removed when necessary to renew them, by sliding them in or out of slots in the end or side of the frame, subject to support at their backs when inserted by a diaphragm connected with the frame, and of retention within the latter. The same construction applies to a single slate.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a face view of a framed slate constructed in accordance with my invention; Fig. 2, a section of the same on the line *xx*; Fig. 3, a section thereof on the line *yy*; and Fig. 4, a view in perspective of one of the angles or corners of the frame.

Similar letters of reference indicate corresponding parts.

A A and B B represent the side and end pieces of the frame, which are here shown as made double to receive two slates, C C, down within them through slots *b b* in the one end or side of the frame, which latter is suitably constructed for the purpose—that is, either by recessing the interior faces of the pieces composing the frame or by introducing extra pieces *c c* between said frame pieces—and a diaphragm, D, extending across the frame and forming a support or back to the slate or slates C C, said diaphragm extending either wholly or partially into the edges of the frame, and being secured by the same means, whether pegs, brads, or glue, which hold the side and end pieces of the frame together, and virtually forming a binder to hold the several pieces of the frame together, as well as to form a support to the back of the slate or slates. This diaphragm D may be of pasteboard, wood, or any

suitable material, and the slates C C may either be of natural stone or of any artificial composition. I prefer to use what is known as the silicate slate.

For school and other purposes a slate thus constructed will be found most useful and economical, inasmuch as the frame braced by the diaphragm D will answer for almost any number of slates proper, introduced, as wear requires, through the slots *b b*, or either of them, accordingly as the slate is a single or double one.

The slates C C, or either of them, when in their places, may be secured from slipping or sliding out through the slots *b b* by various means; but a simple and efficient device for the purpose consists in a cross, plain, or eye-letted hole, *d*, through the portion of the frame in which are the slots *b b*, outside of the edges of the slates when in their places, and so that a string passed through said hole *d* will serve as a stop to the slates proper as well as, if desired, a means of suspending the slate or of attaching the pencil.

If desired, instead of making the frame of the slate as described, the same may be struck up, or molded in halves or sections out of *papier-maché* or other material, with provision for the slot or slots *b* to receive the slate or slates, such halves or sections being secured together by any suitable means.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the diaphragm D with the side and end pieces A A and B B of the frame, and the slot or slots *b* for the removable slate or slates, said diaphragm serving to brace the frame pieces together, and to form a back or support to the slate or slates, essentially as herein described.

2. The combination, with the slot or slots *b* in the frame, of the cross-hole *d* and the slate or slates C, substantially as and for the purpose herein set forth.

ALBERT H. JOCELYN.

Witnesses:

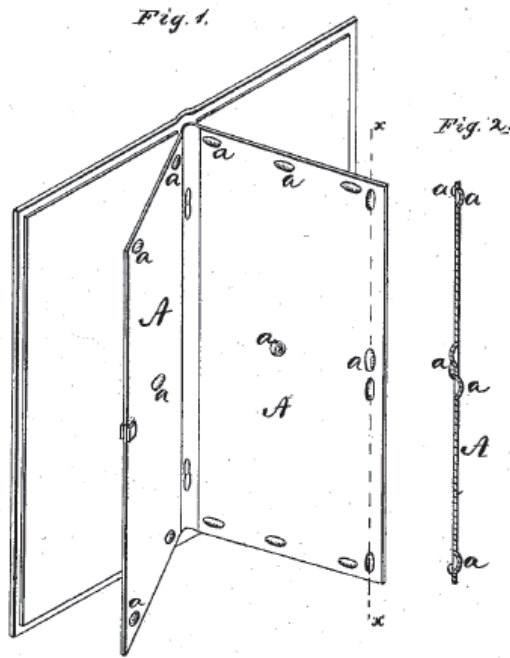
MICHAEL RYAN,
FRED. HAYNES.

APPENDIX D
UNITED STATES PATENT OFFICE: IMPROVEMENT IN
ERASIVE TABLETS

C. N. BROWN.
Erasive Tablets.

No. 147,597.

Patented Feb. 17, 1874.



WITNESSES.

Henry N. Miller
C. C. Evertson

By

INVENTOR.

Charles N. Brown
Alexander M. Atter

Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES N. BROWN, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN ERASIVE TABLETS.

Specification forming part of Letters Patent No. 147,597, dated February 17, 1874; application filed January 23, 1874.

To all whom it may concern:

Be it known that I, C. N. BROWN, of Providence, in the county of Providence and in the State of Rhode Island, have invented certain new and useful Improvements in Erasive Tablets and Silicate Slate; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My present invention is intended as an improvement upon the writing-tablet for which Letters Patent No. 144,950 were granted to me November 25, 1873. In this patent I claimed ribs raised on or attached to the leaves of an erasive tablet; but I find, by experiment, that small projections formed on or attached to the leaves of the tablet will answer the same purpose as the ribs extending entirely across the leaf, and that such projections may be formed on or attached to silicate slate, as well as to the ordinary erasive tablet. The nature of my invention, therefore, consists in a silicate slate or erasive tablet provided with projections attached to or formed in the leaves thereof, for the purpose of preventing the rubbing together of the writing-surfaces and consequent blurring of the writing, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a perspective view of a silicate slate or erasive tablet embodying my invention, and Fig. 2 is

a section through the line *x x* of one of the leaves.

A A represent the leaves of a silicate slate or erasive tablet. Each leaf A is provided with a suitable number of small projections, *aa*, which, when the leaves are closed, will prevent the writing-surfaces from rubbing together and obliterating or blurring the writing. These projections may be raised upon one side of the leaf by impressing or indenting the other side by means of dies fitted for the purpose; or they may be formed in or of the material of which the leaves are made; or the projections may be made separate, of wood, metal, or any other suitable material, and attached in any convenient manner to the leaves; or drops of glue or wax prepared for the purpose may be deposited on the leaves, and answer the same object.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An erasive or silicate-slate tablet provided with projections *aa*, attached to or formed in the leaves thereof, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 30th day of December, 1873.

CHARLES N. BROWN.

Witnesses:

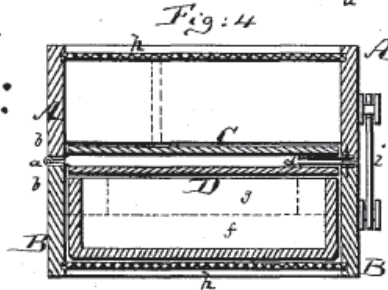
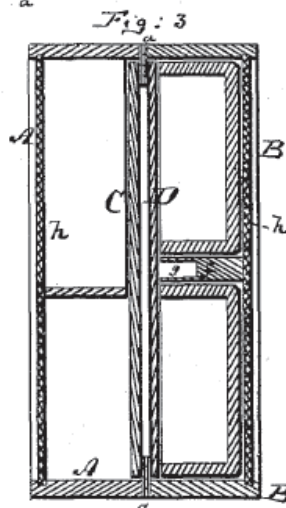
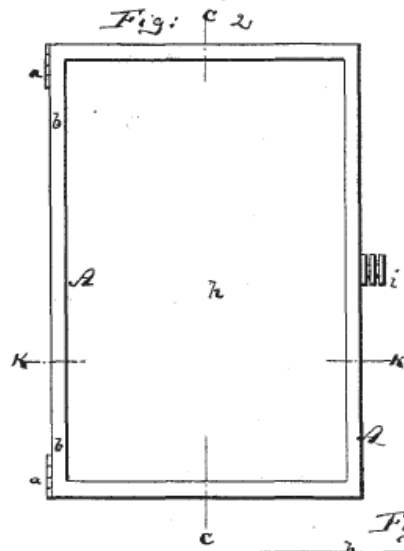
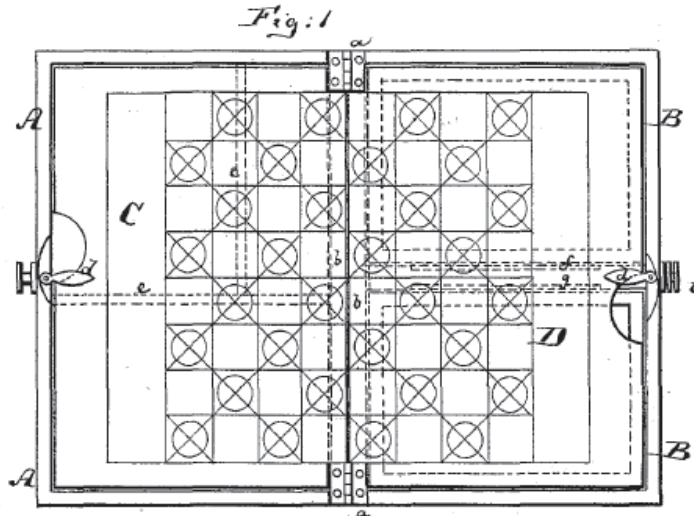
ALFRED RICKARD,
WILLIAM W. RICKARD.

APPENDIX E
UNITED STATES PATENT OFFICE: IMPROVEMENTS IN
GAME-BOARDS

A. HERZOG.
Game-Board.

No. 166,776.

Patented Aug. 17, 1875.



Witnesses:

A. Moraga.
C. A. Westner.

Inventor:

A. Herzog
by his attorney
A. B. Bissell

UNITED STATES PATENT OFFICE.

AUGUST HERZOG, OF GUTTENBERG, NEW JERSEY.

IMPROVEMENT IN GAME-BOARDS.

Specification forming part of Letters Patent No. **166,776**, dated August 17, 1875; application filed July 12, 1875.

To all whom it may concern:

Be it known that I, AUGUST HERZOG, of Guttenberg, Hudson county, New Jersey, have invented an Improved Game-Box, of which the following is a specification:

Figure 1 is a plan view of my improved box, showing it opened. Fig. 2 is a plan view of the same, showing it closed. Fig. 3 is a vertical longitudinal section on the line *c c*, Fig. 2; and Fig. 4, a vertical cross-section on the line *k k*, Fig. 2.

Similar letters of reference indicate corresponding parts in all figures.

This invention relates to a new box, which is to be used as a receptacle for the pieces employed in various games, such as the games of chess, checkers, cards, and others, and which will also contain the necessary boards or diagrams required in such games, and a writing-surface to keep the requisite account of the standing of each player.

My invention consists of the peculiar construction and arrangement of box hereinafter more fully described.

In the drawing, the letter A represents one-half, and the letter B the other half, of my improved box. These two halves or receptacles are joined by hinges *a a*, so that they can be folded together, as in Fig. 4, or unfolded, as in Fig. 1. C and D are the covers for the halves A and B of the box, respectively, each cover being hinged by a flexible band or otherwise to the edge of that side *b* of each half-box that receives the hinges *a*, as shown. When the box is opened the covers C D constitute, in connection with the intervening edges *b b*, one continuous surface, which may be subdivided or marked to constitute the game-board. Thus it is in the drawing shown as constituting a chess-board. The folding game-board C D and the cover is kept in line on the opened box, and properly closed on the closed box by catches *d d*, which are indicated in the drawing, and each cover serves thus to

confine within its half of the box the figures or pieces which the same is designed to contain. The half A of the box is shown to be divided by fixed partitions *e e*, which are indicated by dotted lines in Fig. 1 into three compartments, of which one may contain playing-cards, another chess-men, the third a sponge for cleaning the marking-slate. But the division into compartments may be varied, and separate boxes may be placed within the half A, or there may be no partitions at all in one or both halves of the box. The half B of the box is shown to be divided into two equal parts by a partition, *f*, each part receiving a box that contains pieces used in various games, or there may be more or less such subdivisions in the half B of the box. The upper edge of the partition *f* is grooved to constitute a slate-pencil receptacle, *g*; but such receptacle may be formed within the half B or A of the box in other equivalent manner. The back *h* of each half of the box is made of slate, or covered on the outside with a composition that will render it a writing-tablet. The whole box, when closed, can be locked by a suitable catch or clasp, *i*.

The advantages of this box are, chiefly, that it will constitute a game-board, and at the same time a receptacle for other games that are not used on such game-board; and, secondly, that it also constitutes a writing-tablet and a receptacle for writing material to be used in games of cards, and at other games that can be played while the box is closed.

I claim as my invention—

The box consisting of two hinged receptacles, A B, provided with the interior hinged covers C D, forming a game-board, substantially as herein shown and described.

AUGUST HERZOG.

Witnesses:

E. CARLETON WEBB,
F. V. BRIESEN.

APPENDIX F
UNITED STATES PATENT OFFICE: ROLLING POCKET-
TABLET

H. T. CUSHMAN.
Rolling Pocket-Tablets.

No. 8,875.

Reissued Sept. 2, 1879.

Fig. 1.

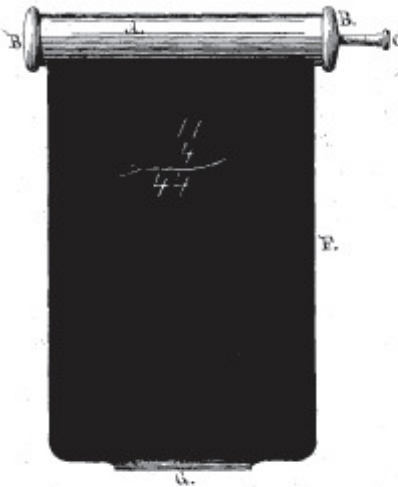
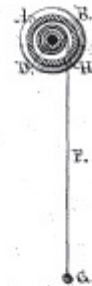


Fig. 2.



Fig. 3.



WITNESSES:

J. A. Miller Jr.
William L. Coe.

INVENTOR:

Henry T. Cushman
by Joseph A. Miller
Attorney

UNITED STATES PATENT OFFICE.

HENRY T. CUSHMAN, OF NORTH BENNINGTON, VERMONT.

IMPROVEMENT IN ROLLING POCKET-TABLETS.

Specification forming part of Letters Patent No. 196,636, dated October 30, 1877; Reissue No. 8,875, dated September 2, 1879; application filed May 5, 1879.

To all whom it may concern:

Be it known that I, HENRY T. CUSHMAN, of North Bennington, in the county of Bennington and State of Vermont, have invented an Improved Rolling Pocket-Tablet; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to construct a slate of moderate dimensions of flexible material, adapted to be rolled or coiled in a tubular case, which case is of such limited dimensions that it may be conveniently carried in the pocket.

Figure 1 is a view of my improved slate, showing the slate-tablet unrolled and figures marked on the black slate with a slate-pencil, showing white figures on a black ground. Fig. 2 is a sectional view of the case into which the flexible slate is rolled, and by which the same is protected. It also shows the central roller provided with a receptacle for a pencil and the pencil. Fig. 3 is a cross-section at right angle with the axis of the case, showing the slate partially unrolled.

In the drawings, A is a tubular cylinder, made from any suitable material, having each end thereof closed by a loose head, B. One of the heads B B is firmly attached to each end of the roller D, which passes through the center of the cylinder A, and to which the flexible slate, cloth, or tablet is securely attached. The inner faces or sides of the heads B B are provided with annular grooves to receive the annular shoulder-projections of cylinder A, which are respectively so adapted to each other that when rotated the roller shall maintain a central position, and the cylinder be so protected or shielded at its ends as not to be easily crushed. This may be accomplished in the manner shown in Fig. 2, or in any other convenient way.

The central portion or core of the roller is bored or chambered out, so as to make a pocket, E, for the reception of the pencil C. (Shown in Figs. 1 and 2.) The slate-cloth F, being attached by one end thereof to the roller D, runs in and out of the case A through a longitudinal slot, H, Figs. 1 and 3, provided therefor, and has a small fillet of wood, G, or

any other suitable substitute, attached to the outer or free end thereof, which may be grasped to draw out or unroll the slate, and which also prevents the outer end of the slate from being entirely drawn into the case in process of rolling up.

The pencil C is provided with a small flanged cap or shield, which forms a head thereto, the neck of which is made slightly tapering, as shown, which prevents its being easily displaced from its pocket E when not in use.

Work remaining on either or both sides of the slate may be rolled into the case without danger of erasure.

I am aware that curtains have before my present invention been made to roll into a tubular case. I am also aware that stamp-sheets and similar articles have been heretofore rolled into sheets, and I lay no claim to the invention of the flexible slate; but by combining a tubular case provided with a longitudinal slit with a central roller, the ends of which are provided with rounded heads having annular grooves to receive the tubular case, with a flexible prepared slate, on which writing and figuring can be done with a slate-pencil, which can be easily erased, a new, convenient, and desirable article is produced, which can be carried in a pocket, and which will protect the easily-erasible marks or figures of a slate-pencil better than slates as heretofore constructed.

The invention is conveniently portable, durable, and possesses one characteristic which especially commends its use in schools—namely, of being absolutely noiseless when in use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pocket-slate consisting, essentially, in the combination, with a tubular case and a roller located therein, of a flexible slate secured at one end to the roller and adapted to be rolled up within the tubular case, substantially as set forth.

2. The combination, with a tubular case provided with a longitudinal slot, a roller located within said case, and heads secured to the opposite ends of the roller, (said heads furnished with grooves to receive the opposite ends of the tubular case,) of a flexible slate secured at

one end to the roller and adapted to be rolled up within the tubular case, substantially as set forth.

3. The roller D, constructed with pencil-pocket, in combination with case A and flexible slate F, all as shown and specified.

4. As an article of manufacture, a flexible slate mounted upon a roller, provided with a

pencil-pocket, and adapted to be rolled or coiled for protection and transportation into a tubular case, substantially as described and set forth.

HENRY T. CUSHMAN.

Witnesses:

FRANKLIN SCOTT,
F. R. HUDSON.

APPENDIX G
UNITED STATES PATENT OFFICE: KNIFE BLADE
ATTACHMENT FOR SLATE FRAMES

(No Model.)

J. FIELD.

KNIFE BLADE ATTACHMENT FOR SLATE FRAMES.

No. 354,544.

Patented Dec. 21, 1886.

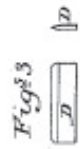


Fig. 4.

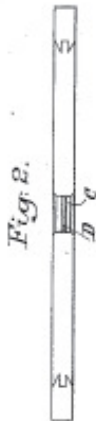
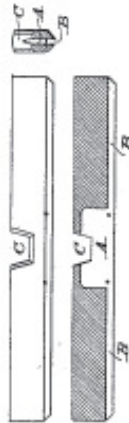
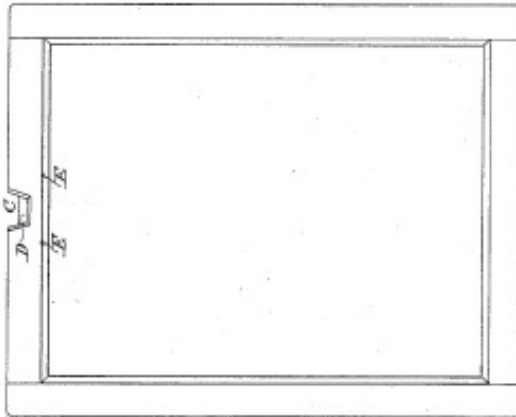


Fig. 1.



Witnesses.
E. C. Newman.
C. M. Newman.

Inventor.
James Field
By Atty. - Galvan, Hopkins & Weston.

A. F. COE, Print. & Engr. Washg., D. C.

UNITED STATES PATENT OFFICE.

JAMES FIELD, OF RUSSELL'S FLAT, MALVERN, CANTERBURY, NEW ZEALAND.

KNIFE-BLADE ATTACHMENT FOR SLATE-FRAMES.

SPECIFICATION forming part of Letters Patent No. 354,544, dated December 21, 1886.

Application filed August 7, 1881. Serial No. 210,322. (No model.)

To all whom it may concern:

Be it known that I, JAMES FIELD, a British subject, residing at Russell's Flat, Malvern, Canterbury, New Zealand, have invented certain new and useful Improvements in Writing-Slates, of which the following is a specification.

This invention relates to an improvement in slates of the class which have knife-blades for sharpening pencils fixed in their frames.

In accordance with my improvement a recess in the form of the knife-blade is made in the frame by deepening the groove or rabbet into which the edge of the slate-slab is received. The knife is narrower than the width of the frame, and the portion of the edge of the knife required for use is exposed by notching away the frame on the outer side until the recess in which the knife is deposited is reached. The outer notch is shorter than that containing the knife. The portion of the edge within the notch is exposed sufficiently to admit the point of a pencil being sharpened thereon. In this way the knife-blade is easily and conveniently fixed, and its edge is shielded, so that the hands of the user cannot be injured by it.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

Figure 1 is a plan of a slate with a knife-blade combined with it in accordance with my invention, Fig. 2 is an edge view of the same.

Fig. 3 shows the knife-blade separately; and Fig. 4 shows the top rail of the frame, which is recessed to receive the knife-blade.

The inner notch or knife-containing recess (marked A) consists of a deepening of the groove or rabbet B at the inner edge of the rail, into which the edge of the slate-slab is received.

C is the shorter notch on the outer side of the rail, which intersects the inner notch, A, to expose the knife-edge.

D is the knife-blade, and E E are pins driven into the frame beneath the inner edge of the knife-blade, to keep the blade in place.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The combination, with the slate-frame having the inner notch, A, formed by deepening the rabbet B, into which the edge of the slate-slab is received, and the shorter outer notch, C, extending inward from the outer edge of the rail and intersecting the inner notch, A, of the knife-blade D, fixed in the inner notch, with a portion of its edge exposed by the outer notch, as and for the purpose set forth.

JAMES FIELD.

Witnesses:

J. F. WARD,

U. S. Consular Agent.

W. CHARTERS,

Clerk.

UNITED STATES PATENT OFFICE.

JAMES FIELD, OF RUSSELL'S FLAT, MALVERN, CANTERBURY, NEW ZEALAND.

KNIFE-BLADE ATTACHMENT FOR SLATE-FRAMES.

SPECIFICATION forming part of Letters Patent No. 354,544, dated December 21, 1896.

Application filed August 7, 1891. Serial No. 210,322. (No model.)

To all whom it may concern:

Be it known that I, JAMES FIELD, a British subject, residing at Russell's Flat, Malvern, Canterbury, New Zealand, have invented certain new and useful Improvements in Writing-Slates, of which the following is a specification.

This invention relates to an improvement in slates of the class which have knife-blades for sharpening pencils fixed in their frames.

In accordance with my improvement a recess in the form of the knife-blade is made in the frame by deepening the groove or rabbet into which the edge of the slate-slab is received. The knife is narrower than the width of the frame, and the portion of the edge of the knife required for use is exposed by notching away the frame on the outer side until the recess in which the knife is deposited is reached. The outer notch is shorter than that containing the knife. The portion of the edge within the notch is exposed sufficiently to admit the point of a pencil being sharpened thereon. In this way the knife-blade is easily and conveniently fixed, and its edge is shielded, so that the hands of the user cannot be injured by it.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

Figure 1 is a plan of a slate with a knife-blade combined with it in accordance with my invention, Fig. 2 is an edge view of the same.

Fig. 3 shows the knife-blade separately; and Fig. 4 shows the top rail of the frame, which is recessed to receive the knife-blade.

The inner notch or knife-containing recess (marked A) consists of a deepening of the groove or rabbet B at the inner edge of the rail, into which the edge of the slate-slab is received.

C is the shorter notch on the outer side of the rail, which intersects the inner notch, A, to expose the knife-edge.

D is the knife-blade, and E E are pins driven into the frame beneath the inner edge of the knife-blade, to keep the blade in place.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The combination, with the slate-frame having the inner notch, A, formed by deepening the rabbet B, into which the edge of the slate-slab is received, and the shorter outer notch, C, extending inward from the outer edge of the rail and intersecting the inner notch, A, of the knife-blade D, fixed in the inner notch, with a portion of its edge exposed by the outer notch, as and for the purpose set forth.

JAMES FIELD.

Witnesses:

J. F. WARD,

U. S. Consular Agent.

W. CHARTERS,
Clerk.

(No Model.)

G. L. GARRIGUES.
Writing Tablet.

No. 237,513.

Patented Feb. 8, 1881.

Fig. 1.

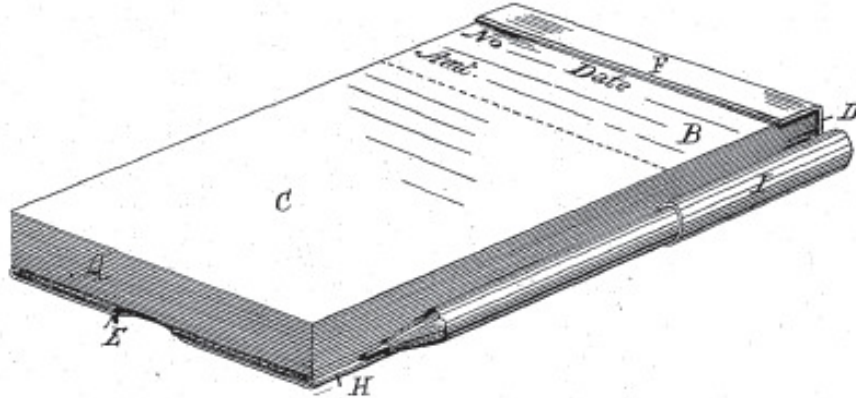


Fig. 2.

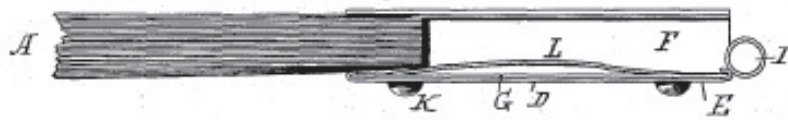
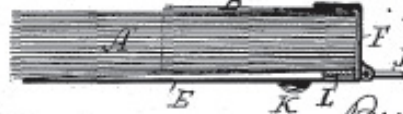


Fig. 3.



Fig. 4.



Attest
John Doleys
Atty. & Coun.

Geo. L. Garrigues
 Inventor;
 By his Attorneys,
W. C. Strawbridge
W. Borsall Taylor.

UNITED STATES PATENT OFFICE.

GEORGE L. GARRIGUES, OF PHILADELPHIA, PENNSYLVANIA.

WRITING-TABLET.

SPECIFICATION forming part of Letters Patent No. 237,513, dated February 8, 1881.

Application filed September 25, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. GARRIGUES, of Philadelphia, Pennsylvania, have invented an Improved Writing-Tablet, of which the following is a specification.

My invention relates generally to what are known as paper pads or blanks, which consist of many sheets of paper of equal size superimposed and compacted one upon another or stitched together, so as to form a solid tablet, of which the sheets, when used, can be successively removed; and it relates more specifically to the construction of a temporary binder for the same, whereby several pads can be successively employed without danger during their employment of the loss of the stubs or vouchers printed upon such pads.

My binder is designed to readily and easily engage and retain removable pads, and to support them in use, and is designed, also, to provide, in connection with the binder proper, a memorandum slate or tablet.

My invention consists in a combined binder, tablet, and slate of the construction herein-after fully set forth.

My invention being designed especially for use by clerks in retail stores, the slate is applied to facilitate rapid calculations in the selling of goods.

In the accompanying drawings, Figure 1 is a view, in perspective, of a binder embodying my invention, with the pad in place thereupon, and with a pencil in a pencil-holder applied thereto. Fig. 2 is an end view of the same, indicating the manner of insertion of the pad; Fig. 3, a longitudinal central sectional view from the side, showing the position of the pad when in place, and also indicating the location of the slate; Fig. 4, a similar view of the same with the slate removed.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the pad, B the stubs, and C the detachable blanks.

D is the pad-holder or binder proper, which consists of a backing-piece, E, of about the size of the pad, having at one extremity a head or retaining device, F, within which the pad is secured, and by means of which the stubs are fixedly retained.

G is a writing-tablet, formed either of slate or other proper substance, for either slate or

lead pencil, from which marks may be readily erased, and which is best secured upon the upper face of the backing-piece, beneath the pad, by lapping over thereupon the edges H of the backing-piece.

I is a pencil-holder containing a suitable pencil.

J is a ring to secure the binder to the person of the user.

K K are studs or knobs upon which the tablet is rested in its use upon a flat surface.

In the making of my binder I prefer to employ thin or light sheet metal, and so to stamp it in the blank that it can be bent upon itself to form the head and, if desired, the pencil-holder, and also so as to form the binding-edge H, which retains the slate. This latter, however, may be otherwise secured, as by cementation or like method.

L is a spring, one end of which is securely fastened to the back portion of the backing-piece of the binder, beneath the head, by soldering, riveting, or the like, which is belled out in the form shown in Fig. 2, between its two extremities, while its other end is left free to move upon the surface of the backing-piece as the pad is forced into the head from the side.

The pad, which is, as stated, secured together along its stub end, is introduced sidewise within the head of the holder, being slid thereinto, and is retained by the pressure which the compressed spring exerts upon it. The tablet is removed by drawing it out to the side in the reverse manner to that in which it was entered. The spring is the retaining device proper.

In the use of the slate or writing-tablet the blanks of the pad are raised, the only point of their attachment being within the head.

It is obvious that the binder is adapted for use with many pads, the filled stub portions being removed together and intact when the blanks have been consumed. It will also be understood that the sides and opposite end of the pad are best left unglued, unstitched, and separate.

The backing-piece insures the necessary stiffness to the pad in use, and dispenses with the ordinary pasteboard backing, thereby cheapening the pads.

Having thus described my invention, I claim

and desire to secure by Letters Patent of the United States—

As a device for retaining a tearing-off pad removably in place upon a backing-piece, the head F, constructed as shown and described, in combination with the spring L, secured at one end within the head, free to slide at the other end, and bellied out between its ends, so

as to press against the pad and retain the latter in place, substantially as set forth. 10

In testimony whereof I have hereunto signed my name this 25th day of June, 1880.

GEO. L. GARRIGUES.

In presence of—

JOHN JOLLEY, Jr.,
W. C. STRAWBRIDGE.

APPENDIX I
UNITED STATES PATENT OFFICE: SLATE CLEANER

(No Model.)

O. BUSHNELL.
SLATE CLEANER.

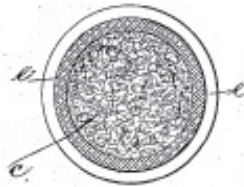
No. 284,537.

Patented Sept. 4, 1883.

Fig. 1.



Fig. 2.



Witnesses

Harold Correll
Charles Smith

Inventor

Orsamus Bushnell
per Lemuel W. Correll
att.

UNITED STATES PATENT OFFICE.

ORSAMUS BUSHNELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF
AND FRANK OVERBURY, OF SAME PLACE.

SLATE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 284,537, dated September 4, 1883.

Application filed December 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, ORSAMUS BUSHNELL, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Cleaners for Slates and other Articles; and the following is declared to be a description of the same.

In cleaning school-slates it is usual to employ a wet sponge for erasing the figures or writing and a dry cloth for drying the slate. In cleaning the chalk-marks from a blackboard a holder faced with sheep-skin is generally used. In erasing pencil-marks from paper a solid or porous rubber is the article generally employed.

My device is a combined eraser or cleaner that is equally adapted for use, according to its various sizes, as a slate-cleaner, blackboard-eraser, pencil-eraser, window-cleaner, floor-cleaner, &c.; and it consists of a main body, preferably of wood, formed with a handle and cup portions. Into the cup portion I insert compressed sponge or fibrous bark, (what is known as "California bark,") and secure the same in place by glue, or otherwise, as may be preferable. Around the outside of the cup portion and the sponge I place a piece or section of rubber tubing, and the same is stretched into place, and the end of said rubber tube comes flush with the end of the sponge or similar material.

In the drawings, Figure 1 is a vertical section of the cleaner, and Fig. 2 is a sectional plan of the same at the line *x x*.

The main body portion is composed of the handle *a* and inverted cup *b*, and it is made of wood, by preference, on account of cheapness, although it may be made of other material. The compressed sponge or bark *c* is securely

glued or otherwise fastened in the inverted cup *b* at *d*, and about half its length is contained within said cup. The india-rubber band or sectional tubing *e* surrounds the inverted cup *b*, and also the extended end of sponge or bark, and the outer edge of said rubber tubing is flush with the surface of sponge or bark, so that in use the two materials act together as an eraser.

When employed as a slate-cleaner, pencil-eraser, or blackboard-rubber, this device should be used dry; but when employed as a window-cleaner or floor-cleaner it should be moistened.

The cleaner can be adapted for polishing metal and other substances, for surfacing wood, and reducing or finishing various surfaces, by the introduction into or impregnation of the sponge with such substances as sand, emery, silicon, brick-dust, &c., and in this form it will effect the same objects as sand-paper, emery-paper, and cloth, &c., and in a superior manner. The sponges can also be saturated with acids for cleaning purposes.

This cleaner or eraser can be made of any desired size or shape in adapting it to the various uses to which it may be put.

I claim as my invention—

The cleaner or eraser composed of the handle *a* and inverted cup *b*, the sponge or bark filling *c*, and the rubber tubing *d*, surrounding the filling and cup, substantially as set forth.

Signed by me this 15th day of December A. D. 1882.

ORSAMUS BUSHNELL.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.

APPENDIX J
UNITED STATES PATENT OFFICE: SCHOOL-SLATE

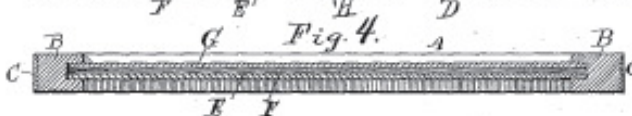
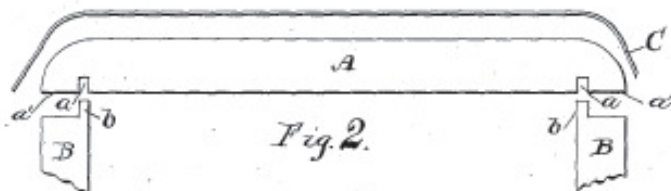
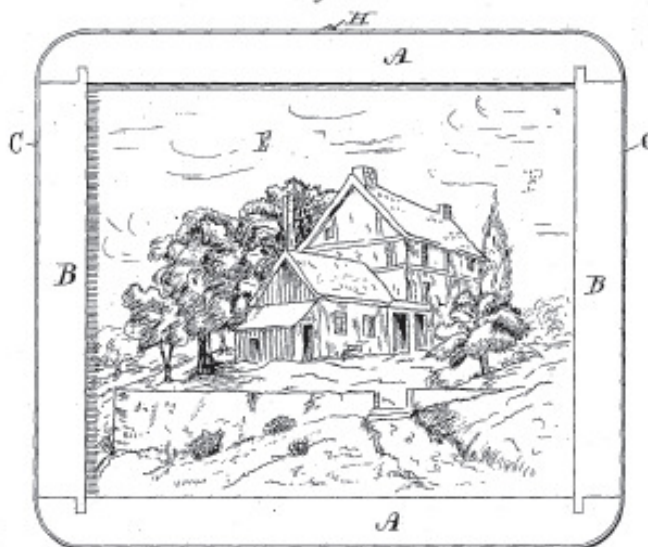
(No Model.)

E. J. STEWART.
SCHOOL SLATE.

No. 333,483.

Patented Dec. 29, 1885.

Fig. 1.



Witnesses:

E. D. Smith

L. L. R. [Signature]

Inventor:

Edward J. Stewart

by [Signature] Atty.

UNITED STATES PATENT OFFICE.

EDWARD J. STEWART, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
ROBERT A. WOOD, OF NEWARK, NEW JERSEY.

SCHOOL-SLATE.

SPECIFICATION forming part of Letters Patent No. 333,483, dated December 29, 1885.

Application filed December 16, 1884. Serial No. 150,479. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. STEWART, a citizen of the United States, residing at New York, in the county of New York and State
5 of New York, have invented certain new and useful Improvements in Slates, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide
10 slates of such construction that while they may be very cheaply manufactured they will be neat and attractive in appearance and comparatively strong, and also to furnish slates of the character above indicated which are
15 adapted for use both as transparent or tracing slates and as ordinary writing-slates.

In the drawings forming part of this specification, Figure 1 is a plan view of a slate embodying my invention. Fig. 2 is a detached
20 view of a part of the frame, showing the construction by which the corners thereof are joined. Fig. 3 is an edge view, and Fig. 4 a longitudinal section, of my improved slate.

The frame of my slate is composed of the
25 side pieces, A, and the end pieces, B, these pieces being joined at the corners of the frame by the tenons *b*, formed on the inner sides of the end pieces, entering mortises *a* on the inner sides of the side pieces. The tenons *b*, being
30 on one side of the said end pieces, are easily formed by cutting away the material on one side thereof only, and their position is such that the mortises *a*, into which they fit, are as far removed as possible from the ends of the side
35 pieces, thus leaving the portions *a'* of wood outside of the said mortises of such a length that the corners of the frame will be but little weakened by the mortises. The side and end
40 pieces of the frame, joined as above indicated, are secured together by glue, in the usual manner. The corners of the frame are rounded, as shown, and a band, C, of veneer, preferably of some hard and ornamental wood, is then glued to the edge of the frame, said band
45 being neatly joined at its ends, so as to leave a smooth outer surface to the frame. This band of veneer, besides giving an attractive finish to the frame, serves to strengthen the same, as will be obvious.

To contribute to cheapness and lightness, an
artificial slate or tablet is preferably used for the writing-slate, said artificial slate having
55 silicate or slightly-roughened surfaces, which are impervious to moisture, on a backing of pasteboard or card-board, and these surfaces may be either black or white, according to
whether it is desired to adapt them to be written on with a slate-pencil or a lead-pencil. By making one surface white and the other
60 black the same tablet will be adapted for use with both kinds of pencils.

In constructing my slate for a combined transparent or tracing and writing slate, a
65 slotted opening or mortise, D, is made through one of the side or end pieces of the frame, said mortise extending the entire length of such side or end piece, so that the ground
glass or transparent tablet E, the picture-sheets F, (to be traced,) and the writing slate
70 or tablet G may be inserted through said mortise or removed from the frame through the same at will. A fastening device, preferably consisting of a turn-button, H, serves to
75 secure the said glass, picture-sheets, and slate or tablet in place in the frame. The writing slate or tablet G thus makes a backing for the picture-sheets, and when formed of artificial
80 slate, as above indicated, a very cheap and light combination-slate is secured.

Instead of forming the tenons *b* on the end
85 pieces of the frame and the mortises *a* on the side pieces thereof, it will be obvious that this construction may be reversed; but that which is shown is deemed preferable.

It will also be obvious that parts of my
90 invention may be used without the other features thereof. For example, the frame having the veneer binding may be used as an ordinary writing-slate frame.

Having thus described my invention, I claim
95 and desire to secure by Letters Patent—

1. A transparent and writing slate consisting of a frame having a mortise through one edge and an encircling band of veneer, transparent and writing slates and picture-sheets
95 adapted to be passed through said opening, and a fastening device for securing said slates and sheets in place, substantially as set forth.

2. A transparent and writing slate consist-
ing of a frame having mortise-and-tenon joints
near its corners on its inner side, a mortise
through one edge, and an encircling band of
5 veneer, transparent and writing slates and
picture-sheets adapted to be passed through
said opening, and a fastening device for se-
curing said slates and sheets in place, all sub-
stantially as hereinbefore set forth.

In testimony whereof I affix my signature to
in presence of two witnesses.

EDWARD J. STEWART.

Witnesses:

CHARLES A. STEWART,
THOS. H. STEWART.

APPENDIX K
UNITED STATES PATENT OFFICE: SYSTEM OF
COMMUNICATION WITH DIVERS

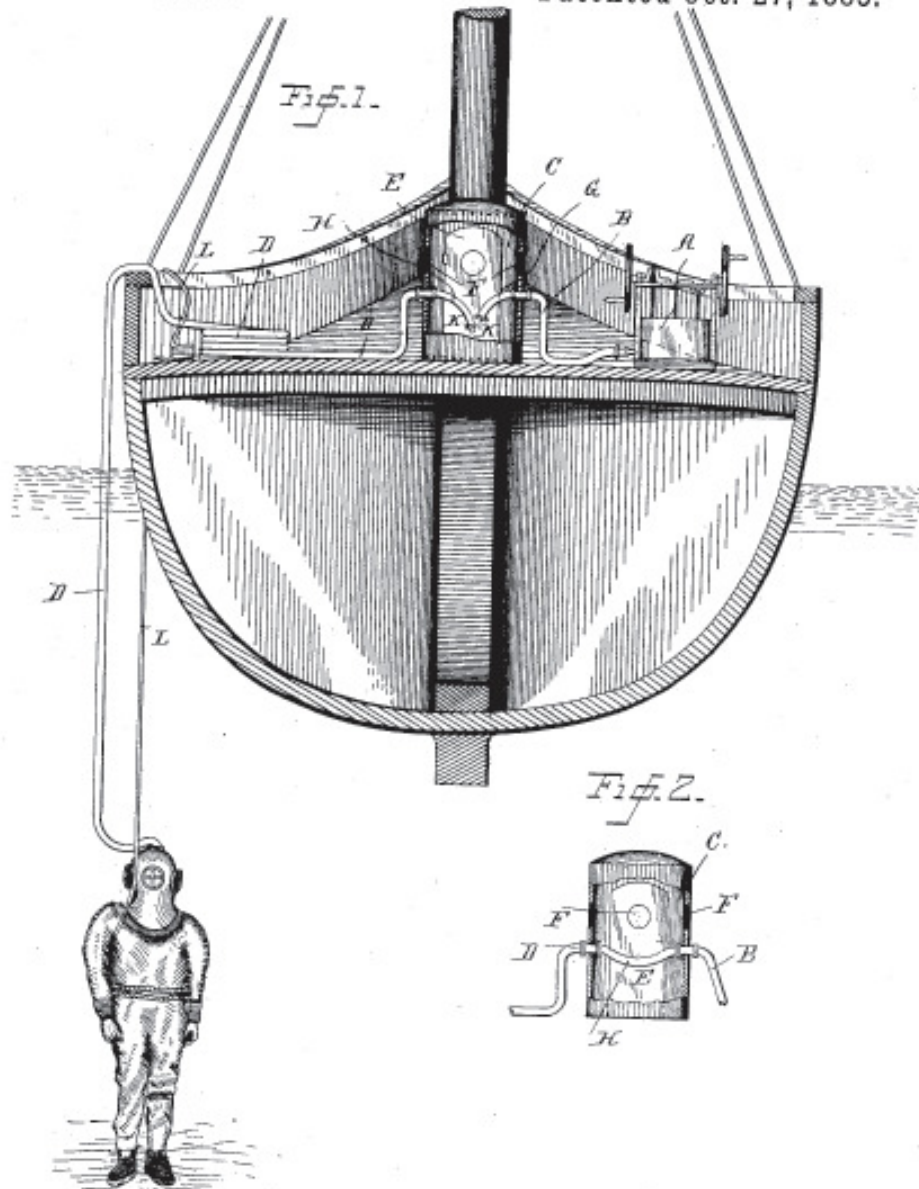
(No Model.)

P. HUNTLEY.

SYSTEM OF COMMUNICATION WITH DIVERS.

No. 329,391.

Patented Oct. 27, 1885.



Witnesses
W. A. Jones,
A. B. Fairchild.

Inventor
Perry Huntley
By J. A. M. Wooster
att'y.

H. PETERS, Photo-Lithographer, Washington, D.C.

UNITED STATES PATENT OFFICE.

PERRY HUNTLEY, OF BRIDGEPORT, CONNECTICUT.

SYSTEM OF COMMUNICATION WITH DIVERS.

SPECIFICATION forming part of Letters Patent No. 329,391, dated October 27, 1895.

Application filed March 19, 1895. Serial No. 159,435. (No model.)

To all whom it may concern:

Be it known that I, PERRY HUNTLEY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in a System of Communicating with Divers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce a means of communicating with divers when they are under water, by which conversation may be carried on without difficulty between the diver and a person above the surface. When working about sunken vessels or in a diving-bell, it is often a matter of vital importance to the diver that he should be able to communicate instantly and definitely with the persons managing the air-pump and the life-line. It is likewise many times essential for the person having charge of the operations to give directions to the diver without the necessity of his coming to the surface, which causes in the aggregate a serious loss of time, especially if a bell has to be raised. In the laying of submarine foundations it is necessary quite frequently to give directions to the diver, and in the placing of heavy stones, &c., by means of cranes much time can be saved by enabling the diver to give minute directions to the persons managing the crane. Heretofore for the most part the means of communication between the diver and those above the surface that have been found practicable have been a limited number of signals consisting of pulls upon the life-line. As this means of communication has been necessarily limited to a few easily-understood signals, it has resulted that the diver has been frequently compelled to come to the surface to give or receive directions. In deep-water diving this is a matter of considerable importance, on account of the delay which it occasions. By the use of my invention all difficulties of this nature are avoided, and constant communication may be kept up between the diver and a person above the surface.

In the accompanying drawings, forming part of this specification, Figure 1 shows my invention in use upon a small vessel, which

is shown in cross-section. It will of course be understood, however, that it may be used upon land as well as upon a vessel. Fig. 2 illustrates a slight modification.

A indicates an air-pump of any desired construction. For convenience in illustration, I have shown the ordinary three-cylinder pump. The particular style of air-pump used, however, is not material to the operation of my invention.

B is a pipe or tube leading from the air-pump and coupled to a hub projecting from an air-tight chamber, C.

D is a flexible pipe or tube coupled to a hub upon the opposite side of the chamber, and coupled at its other end to the helmet or any suitable part of the diver's armor, as commonly done heretofore. The air-chamber C is the essential feature of my invention. It may be made of metal or wood, but must necessarily be air-tight. It is provided with a door, E, which is so packed as to be air-tight, and with any desired number of windows, F, preferably made double or of heavy plate-glass.

G and H are two short flexible pipes within the chamber, which are coupled to hubs within the chamber corresponding to those to which pipes B and D are attached, pipe G being continuous with pipe B from the air-pump, and pipe H continuous with pipe D, which is connected to the diver's armor.

Pipes G and H are made sufficiently long to be joined together, and are provided at their inner ends, respectively, with the parts K K of an ordinary union, so that when desired the two pipes may be coupled together instantly. Chamber C may be of any desired size, but is preferably made just large enough to hold one person in a sitting position.

In use pipes G and H are left uncoupled, as shown in Fig. 1. The air-pump is operated in the usual manner, and forces air into the chamber through pipes B and G, and from the chamber through pipes D and H to the diver. The air within the chamber will of course be compressed to the density which it is desired to furnish to the diver—a matter to be regulated according to the depth of water in which the diver is working. The person within the chamber, by holding the end of pipe H near his ear, is able to hear not only

every word spoken, but every sound made by the diver, and the diver is able to hear with perfect ease conversation addressed to him by the person within the chamber, the end of pipe H being held near the mouth of the speaker, the same as in using an ordinary speaking-tube. I have found in practice that I am able to converse as readily through a long tube as through a short one, which is owing to the fact that the deeper the diver descends the greater must be the density of the air furnished to him through the pipe or tube attached to his armor.

The means of communication between the person within the air-chamber and persons outside is not of the essence of my invention. It will be noticed in the drawings that the chamber is amply provided with windows, through which any signs made by the person within may be readily seen outside, or writing upon a slate may be read through a window, and frequently conversation can be understood through the walls of the chamber.

When the person within the chamber desires to leave it, the ends of pipes G and H should of course be coupled together by union K K.

In the modification illustrated in Fig. 2 I have shown a single pipe only instead of two within the chamber, and have shown it connected at both ends, so that there is direct connection through the chamber between the air-pump and the diver.

L is the usual life-line, one end of which is fastened about the waist of the diver, the other end being held by an assistant above the surface.

I have not shown a diving-bell, as it forms no portion of my invention, and the use of the chamber is the same whether the diver is in a bell or suit.

Having thus described my invention, I claim—

1. The combination, with an air-pump and a diving-suit, of an intermediate air-tight chamber having a door and windows, a pipe or tube leading from the pump to said chamber, and a pipe or tube leading from said chamber and connected to the diving-suit.

2. The combination, with an air-pump, a diver's suit or armor, and an intermediate air-tight chamber, of pipes leading from said diver's suit or armor and coupled to the chamber, and a pipe or pipes within the chamber coupled thereto and connecting with the diver's pipe, whereby a person within the chamber is enabled to communicate with the diver through said pipe.

3. The air-pump, diver's suit, and an intermediate air-tight chamber having windows and a door, in combination with pipes leading from the air-pump and the diver's suit to said chamber, a pipe or pipes within said chamber, and a union, whereby direct connection may be established between the air-pump and the diver.

In testimony whereof I affix my signature in presence of two witnesses.

PERRY HUNTLEY.

Witnesses:

A. M. WOOSTER,
W. A. JONIE.

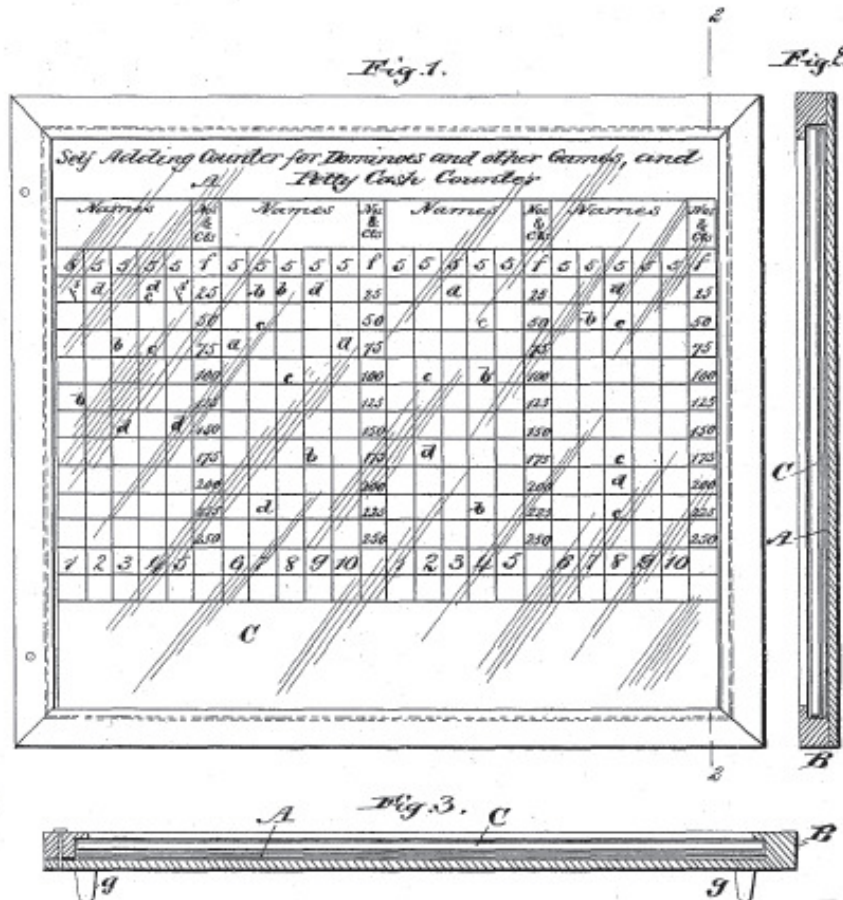
APPENDIX L
UNITED STATES PATENT OFFICE: GAME-COUNTER

(No Model.)

W. B. HERBERT.
GAME COUNTER.

No. 482,575.

Patented Sept. 13, 1892.



WITNESSES:

J. M. O'Connell
Co. Bedgwick

INVENTOR

W. B. Herbert

BY

Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM B. HERBERT, OF GALVESTON, TEXAS.

GAME-COUNTER.

SPECIFICATION forming part of Letters Patent No. 482,575, dated September 13, 1892.

Application filed June 4, 1892. Serial No. 435,544. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. HERBERT, of Galveston city, in the county of Galveston and State of Texas, have invented a new and useful Improvement in Counting Devices, of which the following is a full, clear, and exact description.

This invention consists in a tabular counting device of novel construction applicable to counting with great accuracy and exemption from dispute, together with a clear exhibit of progress and result, in the game of dominos and other games, such as whist, euchre, casino, &c., also applicable as a petty-cash counter, substantially as hereinafter described, and more specifically pointed out in the claims.

The invention, however, will here be more particularly described by way of illustration as a counter for the game of dominos.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a face view of my improved tabular counting device mounted in a glazed or other like frame embodying my invention. Fig. 2 is a section of the same upon the line 2-2 in Fig. 1, and Fig. 3 a section at right angles to Fig. 2.

The counting in a game of dominos has heretofore been generally done upon a slate or piece of paper. The game is one where each count makes five or a multiple of five, so that in making five a mark like this \setminus is made. When five more is made, it is noted like this X, and so on until the count reaches two hundred and fifty, or any number previously decided upon. By counting in this way a mistake can easily be made, and it is difficult to see at a glance at any time during the progress of the game the number of the counts up to that point. This is especially the case where children play the game, as such counting is not liable to be accurate. Such mode of counting also necessitates the finding of a slate or piece of paper and the ruling of the same to make the counting by symbols, as described, which makes it a tedious work.

My invention provides a special counter for such and other games which will obviate the above-named and other defects and will be found a great convenience. Thus the

counter as made for a game of dominos, for instance, consists mainly of a card or other tablet A of any suitable material ruled with perpendicular or upright lines *b* and horizontal or cross lines *c*, forming a series of rows of five horizontal squares or spaces *d*, arranged one row below and the other opposite—that is, to the left-hand side of a perpendicular or upright column *f* for each horizontal series of squares *d*, one row below the other, said column *f* being numbered in line with the succeeding horizontal rows of squares *d*, with successive numbers in a downward direction of twenty-five to two hundred and fifty, more or less—that is, with any number of multiples of five—so that each square in the horizontal rows of squares can be marked with a symbol thus \setminus to indicate each count made opposite in succession the numbers in the upright columns—as, for instance, a mark \setminus *s* made in the upper horizontal row of squares noted *d* will indicate that five has been scored in the play and another similar mark *s'* in the last square of the same horizontal row will indicate that a score of twenty additional has been made, and these combined counts will be noted by the number twenty-five at the top of the column *f*, and so on until the count has been completed throughout said column *f*.

In the old system of counting, as by marks X X X, it could not well be told how much was counted at any point of the game; but by this construction of counter and marking a person can see at any one time how many counts have been made, as the intervening square *d* left blank in each intervening square *d* will indicate it precisely. In this way the progress of the players, in case of dispute, can be traced throughout the entire game. A lower horizontal row of figures, numbered from one to ten, shows the number of games that have been played. This form of tabular counter, when designed to be used for more than one game, may be inclosed in a frame and be covered, either in part or in whole, with a plate C, of ground glass or other suitable transparent or translucent material, capable of being written upon with a lead or other pencil and admitting of such writing being readily expunged, so that the marks denoting the counts may be made on the glass instead of on the paper card or tablet A beneath, thus

making the tabular counter a perpetual one and enabling it to be kept clean. In such case only so much of the transparent plate intended to be marked upon may be made of
 5 ground glass and the remainder of it be left clear or plain; or the glass might altogether be dispensed with and the tabular counter be made of a material—such, for instance as silicate slate, black or white—that
 10 will admit of the counting marks being readily expunged; but for cheapness, cleanliness, and durability I prefer to make the counter of paper with a ground-glass facing-plate. When mounted in a frame, the latter may be
 15 provided with knobs or feet *g* to raise it from the table on which it rests, so that if used in beer-saloons the counter will not come in contact with a wet surface. It will be obvious, also, that the framed counter may have advertisements incorporated with it, in which
 20 case the frame should be constructed so that it may not readily be taken apart.

The invention is not restricted to any number of columns of successive horizontal rows of marking-squares *d* and columns *f*, denoting the aggregate counts for said horizontal rows of squares. This will largely depend upon the kind of game for which the counter is used and the number of players engaged in the game;
 30 but the counter may be used for another and different purpose, for any purpose, in fact, in which, for instance, five is the multiple of the count. Thus it may be used as a petty-cash counter, and the column *f* denotes cents. As such it would be found very useful in cigar-stores, restaurants, saloons, and other places. In such case the counter might be divided up into any number of columns of horizontal rows of marking-squares *d* and any
 40 number of columns *f*; but as here shown each column *f* would represent two hundred and fifty cents, or two dollars and a half. Consequently the four columns *f* would represent ten dollars. Should the cash sales amount to more than this, a mark may be made in the summing-up column or elsewhere on the counter to indicate each ten dollars counted and the counter be cleaned off to start upon a fresh count of ten. Thus four hundred dollars could be noted on the counter, divided
 50 as shown. In fact, by using the numbered spaces numbered at bottom of the counter from one up to ten to denote number of ten dollars counted—as, for instance, by marking the space marked one to denote that ten tens

had been counted, or marking the space marked two to denote that twenty tens had been counted, and so on throughout the several numbered lower spaces—the total count may be almost unlimited. 60

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A tabular counter for games, petty cash, and other purposes, consisting of a card, slate, 65 or tablet ruled on its face to form a series of horizontal rows of marking or counting squares, one row below the other and each containing a given number of such squares, and further provided with a perpendicular 70 column arranged by the side of such series of horizontal rows and numbered to form multiples in successive order of and opposite the aggregate counts or marks made in the marking-squares, substantially as herein described. 75

2. A tabular counter in which five is the multiple, consisting of a card, slate, or tablet A, having ruled perpendicular and horizontal lines *b c*, forming horizontal rows of marking 80 or counting squares *d*, one row below the other and each row containing five of such squares, also ruled to form a perpendicular column *f* by the side of each series of horizontal rows of said marking-squares, numbered successively in a downwardly direction 85 opposite the rows of marking-squares with increasing numbers, commencing with twenty-five at top and increasing by twenty-five additional each succeeding row of horizontal 90 squares, essentially as and for the purpose or purposes herein set forth.

3. In a tabular counter in which five is the multiple, made up of two or more series of horizontal rows of five marking-squares each, with 95 a perpendicular column by the side of each of said series, numbered consecutively with increasing numbers, commencing with twenty-five and increasing by twenty-five additional each succeeding row of horizontal 100 squares, the arrangement below each two series of the horizontal rows of marking-squares of a row of figures increasing from one to ten, substantially as and for the purposes specified.

WILLIAM B. HERBERT.

Witnesses:

FRED SCHNEIDER,
 WILL C. HILDENBRAND.

APPENDIX M
UNITED STATES PATENT OFFICE: SLATE

(No Model.)

B. F. E. JAHR & H. L. WEDEKIND.
SLATE.

No. 463,837.

Patented Nov. 24, 1891.

Fig. 1.

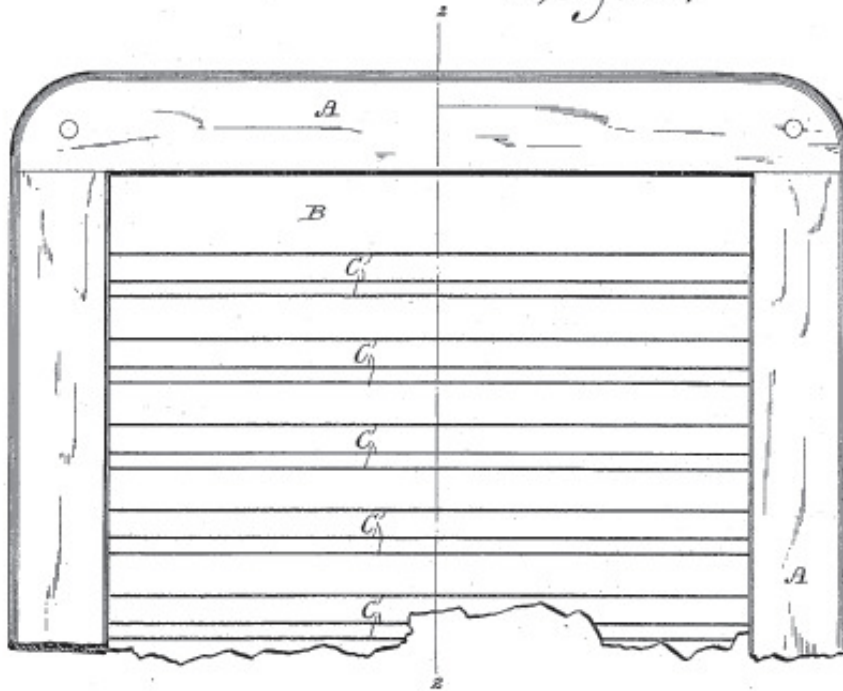


Fig. 2.

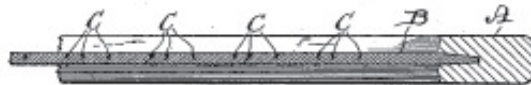
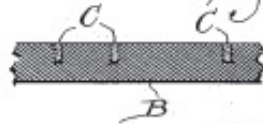


Fig. 3.



Witnesses
 Geo. W. Young,
 John E. Miles.

Inventors
 Bernhard F. E. Jahr,
 Henry L. Wedekind.
 By H. G. Underwood
 Attorney

THE MERRY PETERS CO., PHOTOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERNHARD F. E. JAHR AND HENRY L. WEDEKIND, OF MILWAUKEE,
WISCONSIN.

SLATE.

SPECIFICATION forming part of Letters Patent No. 463,837, dated November 24, 1891.

Application filed June 15, 1891. Serial No. 398,244. (No model.)

To all whom it may concern:

Be it known that we, BERNHARD F. E. JAHR and HENRY L. WEDEKIND, both citizens of the United States, and residents of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in School-Slates; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention relates to improvements in school-slates; and it consists in the matters hereinafter described, and pointed out in the appended claim.

In the accompanying drawings illustrating our invention, Figure 1 is a face view of a portion of a school-slate embodying our invention. Fig. 2 is a section of the same on line 2 2 of Fig. 1. Fig. 3 is an enlarged sectional view of a portion of the slate.

In said drawings, A indicates the frame of the slate.

B indicates the slate.

C C indicate colored lines upon the surface of the slate. These lines are made by engraving or cutting deeply into the body of the slate and then filling said engraved lines or cuts with any suitable coloring material—such as paint or enamel—so as to give a smooth and uniform surface to the slate.

We are aware that slates have been heretofore made with engraved lines and that colored lines have been made upon the surfaces of slates by means of chemicals; but neither of these forms of slates is satisfactory for the following reasons: When the lines are scratched or engraved in the substance of the slate, they leave the surface uneven, so that uniform and perfect writing cannot be done thereon. The lines, furthermore, soon become filled with dirt and become practically indistinguishable without a great strain upon the eyes of the children using the slates. Where the lines are formed by chemicals combined

with or precipitated in the slate itself only a surface stain is produced, or if sufficient of the chemical is applied to sink deeply into the substance of the slate it will necessarily spread so as to make the lines very broad and ragged. With our improvements, however, the lines may be cut as deeply as may be desired, and are preferably cut to or near the center of the body of the slate, and the lines being then filled with a suitable paint or enamel are of the same width from top to bottom of the grooves, and the lines may be made as fine as desired. With our improvements, also, the lines are rendered durable and are clear and distinct even after the slate has become greatly worn down, and the surface of the slate is always kept smooth from the fact that the slate itself and the material forming the lines are both worn down together by continued use of the slate.

If desired, any suitable figures or characters may be engraved in the slate and filled with coloring material in the manner above described.

Having described our invention, what we claim is—

As an improved article of manufacture, a school-slate having lines cut or engraved deeply into its substance from one or both surfaces, said lines being then filled with a coloring material, so as to give to the lines a distinctive color from the color of the slate, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

BERNHARD F. E. JAHR.
HENRY L. WEDEKIND.

Witnesses:

JOHN E. WILES,
N. E. OLIPHANT.

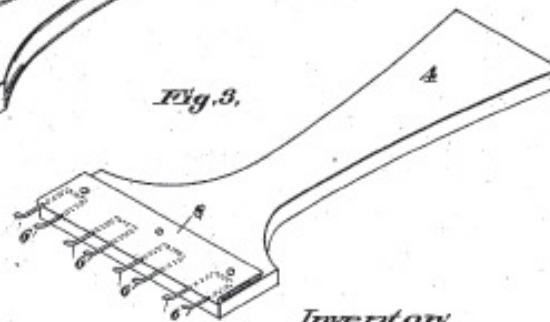
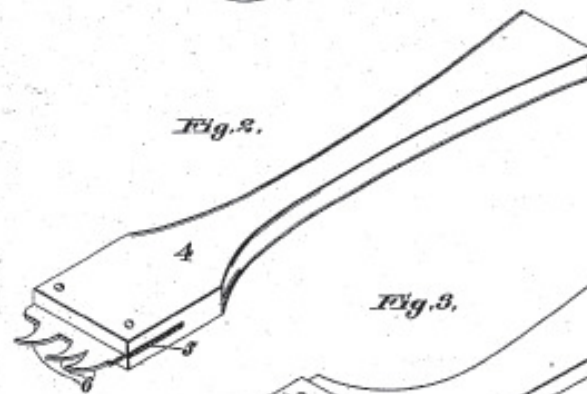
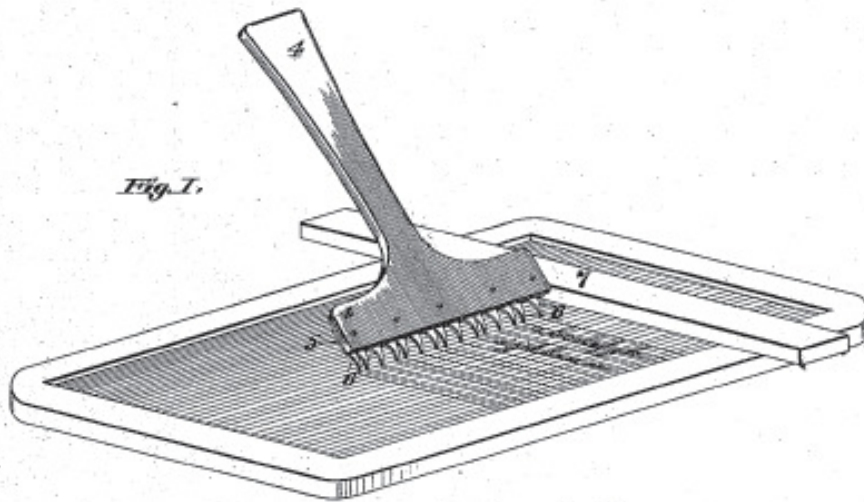
APPENDIX N
UNITED STATES PATENT OFFICE: RULING DEVICES FOR
SLATE, &C.

(No Model.)

A. G. W. WILL.
RULING DEVICE FOR SLATES, &c.

No. 413,591.

Patented Oct. 22, 1889.



Witnesses:
G. H. Hinckman Jr.
Charles Pickles.

Inventor
A. G. W. Will,
By Fowler & Fowler
Attorneys.

UNITED STATES PATENT OFFICE.

AUGUST G. W. WILL, OF ST. LOUIS, MISSOURI.

RULING DEVICE FOR SLATES, &c.

SPECIFICATION forming part of Letters Patent No. 413,591, dated October 22, 1889.

Application filed May 4, 1889. Serial No. 309,592. (No model.)

To all whom it may concern:

Be it known that I, AUGUST G. W. WILL, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Ruling Devices for Slates, &c., of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

In order to properly instruct the young in writing it is necessary to teach them the correct proportion of letters, and for this purpose parallel lines have to be drawn upon slates, which determine the proper height of the various letters. A teacher's valuable time is often taken up by having a great number of slates to rule for pupils. So, too, by the methods now employed, when the slates are ruled and the writing-matter rubbed out, the ruled lines are also rubbed out, and it is necessary to rule the slates again. This repeated ruling of slates by teachers draws heavily upon their time, which could otherwise be profitably employed. To obviate this I have devised a hand ruling device for slates which is of small cost, and which may be used by almost any one to rule slates in a more perfect manner than the methods now employed, and I construct this device so that it permanently abrades or cuts the surface of the slate, whereby when the slate is once ruled it need not be reruled. The abrading or cutting is not, however, of sufficient depth to seriously affect the continuity or smoothness of the surface of the slate.

The invention consists of one or more series of elastic cutting-points secured to a handle, each cutting-point being arranged at such necessary or customary distances apart as may be required, and being practically independent of the others, so that when inequalities in the surface of the slate are encountered the elasticity of said cutting-points or teeth will cause them to follow the configuration of such surfaces, so as each point will cut a continuous line of uniform appearance whether the surface of the slate be rough or smooth.

Figure 1 is a perspective of a slate being ruled with a hand ruling device embodying

one form of my invention. Fig. 2 is a perspective of a modification of my hand ruling device in which said device carries but one series of cutting-points or teeth. Fig. 3 is a perspective of a modified way of constructing the ruling device.

The same figures of reference indicate the same parts throughout the several views.

4 is a handle of any suitable proportion, preferably made of wood. To this handle is attached an elastic plate 5, which has a series of cutting-points 6 cut or stamped therein. Said plate is preferably made of thin sheet-steel, and the cutting-points or teeth 6 are slightly curved, so that lines may be ruled in the slate close up to the frame. The plate may be secured in any suitable manner to the handle, and should be very elastic, so that the cutting-points will be very sensitive to inequalities in the surface of the slate when ruling the same, and should also be of sufficient hardness to abrade the surface of the slate in order to leave a permanent mark upon the same.

The device shown in Fig. 1 has several series of cutting-points—that is to say, will produce several series of lines for writing purposes with one stroke of said device, each series of lines being adapted to receive one line of writing. To rule a slate with such a device a thick ruler, as 7, is employed to guide the same. After one stroke of the ruling device the ruler 7 is moved down so that its edge coincides with the last line cut in the surface of the slate, and another stroke is made with the device, which rules more series of lines parallel with the first set.

The ruling device may be made of sufficient width to rule the whole slate with one stroke, if necessary; or it may be made to rule the slate with one or more strokes of the same—that is, cut several series of lines at one and the same time; or it may be made to rule but one series of lines, and will then be constructed as shown in Fig. 2. In the latter instance the same method of ruling the slate would be followed as before mentioned; but only one series of lines would be ruled at one and the same time. The cutting-points may be formed by wires soldered or otherwise fastened to a plate secured to the handle, something after the construction shown in

Fig. 3. In this latter figure is shown a modified way of constructing the device. Here the cutting-points 6 are formed by wires, every other two cutting-points being formed
5 by a piece of wire bent upon itself and secured between the two parts of a soft-metal folded plate 8, that is provided with holes through which the free ends of the wire pass. The
10 folded plate 8 is secured to the handle 4 in any suitable manner. The free ends of the wires are flattened and curved, as shown, to facilitate ruling.

I am aware that hand ruling devices or pens for ruling paper having a multiplicity of ruling-points are not new; but in these devices
15 the points do not cut or abrade the surface. Said points merely supply ink to the paper. I am aware, also, that ruling-machines for slates have been patented heretofore; but, so
20 far as I am aware, I am the first to devise a hand device having cutting-points for abrading the surface of the slate, and especially having elastic cutting-points, whereby the
25 said cutting-points will follow the inequalities of the slate.

What I desire to claim and secure by Letters Patent of the United States as my invention is—

1. A hand ruling device for slates, consisting of a handle carrying one or more series of elastic cutting-points arranged at suitable
30 distances apart for abrading the surface of the slate.

2. A hand ruling device for slates, consisting of a handle 4, an elastic metallic plate 5
35 carried thereby, and one or more series of curved teeth or cutting-points 6, cut or stamped therein and arranged at suitable distances apart, for abrading the surface of the
40 slate.

In testimony whereof I have hereunto set my hand and affixed my seal, this 1st day of May, 1889, in the presence of the two subscribing witnesses.

AUGUST G. W. WILL. [L. S.]

Witnesses:

A. C. FOWLER,
M. S. REEDER.

APPENDIX O
UNITED STATES PATENT OFFICE: ATTACHMENT FOR
TELEPHONE DESKS

(No Model.)

B. SCHRAM.

ATTACHMENT FOR TELEPHONE DESKS.

No. 428,818.

Patented May 27, 1890.

Fig. 1.

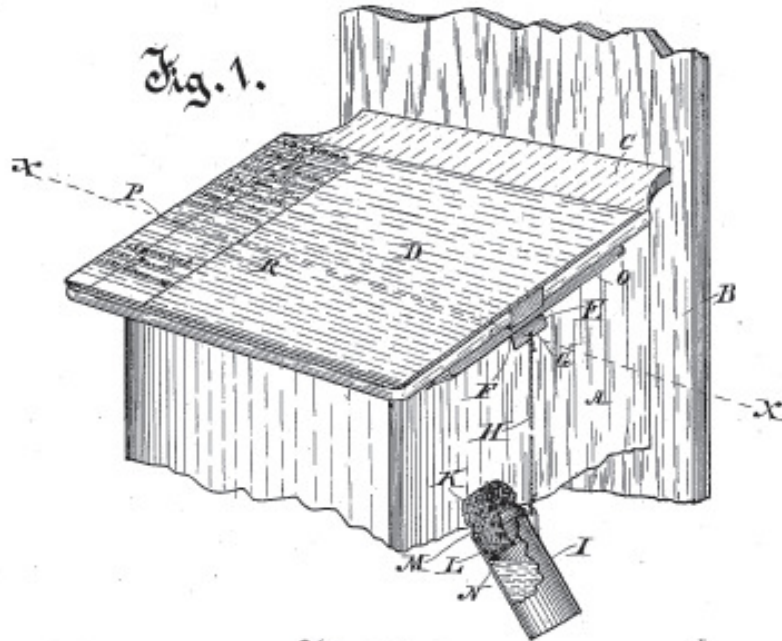


Fig. 2.

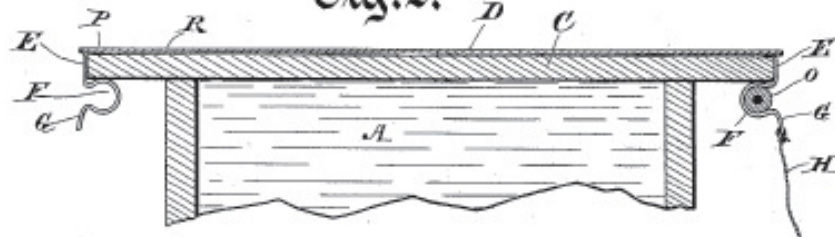
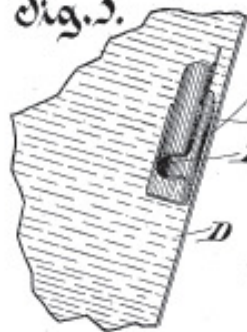


Fig. 3.



Witnesses.

C. N. Kennedy
Daisy A. Dadd

Inventor.

Berthold Schram

By Erwin & Bendish

Attorneys.

UNITED STATES PATENT OFFICE.

BERTHOLD SCHRAM, OF MILWAUKEE, WISCONSIN.

ATTACHMENT FOR TELEPHONE-DESKS.

SPECIFICATION forming part of Letters Patent No. 428,818, dated May 27, 1890.

Application filed December 17, 1888. Serial No. 289,872. (No model.)

To all whom it may concern:

Be it known that I, BERTHOLD SCHRAM, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Slate and Attachments for Telephone-Desks; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My newly-invented device is intended for use in connection with a telephone apparatus, and is adapted to be placed on a little desk that is the cover of the case that incloses the battery at the place of receiving or sending telephone-messages.

In the drawings, Figure 1 is a perspective view of my complete device located and supported on the desk or lid of a telephone-battery case. Fig. 2 is a transverse vertical section of my device on line X X of Fig. 1. Fig. 3 is a view from the under side of one of the clips of my device.

The battery-case A is affixed to the wall by means of a bracket B, to which the case is attached, and is provided with a top which is slightly inclined, so as to adapt it for, and is, a desk C.

My newly-invented device consists of a slate D, which may be of the ordinary slate-stone, though preferably a silica slate, and is of such size as to fit upon and just cover laterally the top of the desk C. The slate D is secured to the top of the desk C by means of two spring-metal clips E E, which are attached to the slate on the under side so as to leave the top of the slate entirely clear of any projections or other thing that would occupy any portion of its surface, so that there is nothing on the surface of the slate to interfere with the free movement of the hand over it, nor is there anything to occupy any part of its useful space, and thereby lessen the amount of available surface. These clips are turned downwardly and then inwardly, so as to clasp the edge of the desk C, as shown in Figs. 1 and 2, whereby the slate is held securely to the desk, and the clips then are turned outwardly, forming a recess F of a proper size and adapted for receiving and

holding therein a pencil or crayon, and are then turned downwardly, forming a short tang G, to which a cord II is attached, on which cord is suspended a small metal cup I, adapted to hold water, the cup being so suspended that by gravity the water is in the bottom part and holds the cup upright to such an extent that the water will not spill out when so suspended. A sponge K is secured in the top of a sponge-cup L, which has an inwardly-flaring top edge M and a perforated bottom N, this sponge-cup being fitted and adapted to enter the top of the cup I, in which it fits so snugly as to be retained therein, except by considerable force to remove it. This device, as will be understood by its construction, is intended and adapted for erasing any marks or writing upon the slate, the perforated bottom of the sponge-cup permitting a sufficient amount of water to run into the sponge when the cup I is inverted, to so wet the sponge that by rubbing it over the surface of the slate it will wash therefrom all marks or writing thereon.

The method of inserting and supporting the pencil O in the recess F is shown in Figs. 1 and 2, and it will be seen that the pencil is located below the desk and out of the way of the movements of the hand over the desk, and also in such position that it is more readily reached by the hand than if it were on top of the desk, at the top of the slate, or elsewhere. On the surface of the slate at the left hand I rule permanently two columns P and R, the left-hand column P being intended for inserting therein the number of a telephone call, and the upper part of the other column R being intended for inserting therein the name of the person or firm whose telephone number is inserted in the column P opposite thereto, this last being made up of those persons or firms who are most frequently called by the person having my slate in use, whereby the name of the person or firm and their telephone number are readily seen, and the lower part of the columns P and R below that part marked "Special" is intended and adapted for the entry therein by an office-boy or other person temporarily in charge of an office of the name and telephone number of any person or persons who may call by

telephone in the absence of the principal from the office, and who may desire to be called up when the principal returns.

5 What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the case of a telephone-battery, of a slate of such form and construction as to fit and rest on top of the case, and bear elastic clips secured to the slate
10 on the under side thereof, one at each lateral

edge, respectively, and adapted to slip over and engage the edge of the cover of the case, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

BERTHOLD SCHRAM.

Witnesses:

C. T. BENEDICT,
JAS. B. ERWIN.

