

Figure 1. A sketch of a typical steel mold for producing plastic pistol cases.

“Gutta Percha” Pistol Cases

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Today most of us are familiar with the phrase “buy it with plastic.” In a somewhat different sense, this was also possible in the 1860s if you were purchasing certain small American cartridge revolvers: a decorative natural plastic case could be obtained as an accessory for the pistol if you desired. Today firearms collectors often refer to these as “gutta percha” pistol cases, although we’ll see that they were actually made of another material.

Introduction and Background

It appears that a surgeon from Singapore named William Montgomerie first told the western world about gutta percha and the molding of natural plastics^{1, 2}. He observed Malayan natives molding knife handles of this material around 1842. Gutta, which means “gum” in the Malayan language, was extracted from the percha or similar trees growing on the Malay Peninsula. The natives softened this natural thermoplastic material in hot water and shaped it by hand into the desired implement handles. Gutta percha is similar to rubber, except its structure contains oxygen. Scientist Michael Faraday found the material had excellent electrical insulation properties even under water, which led to its use for insulating the first telegraph cable laid across the Hudson River at Fort Lee in 1849 for the Morse Telegraph Company³. Through the years (the US still imported over a half-million pounds a year in the 1950s) gutta percha has been used in dentistry and to make decorative molded parts, billiard balls, combs, buttons, piano parts, golf ball covers, and tubing, to name a few items. Because of its early and widespread use and popularity, it is not surprising that the name gutta percha at times has been synonymous with “molded plastic.”

In the 1850s, however, another natural shellac-based thermoplastic made its appearance in the United States, and it was this material that was actually used to make the pistol cases we will be discussing. Shellac is a purified product of the resinous secretion (lac) of an insect found in India, Burma, and Thailand.

Samuel Peck of New Haven, Connecticut, the first known molder of thermoplastics in the US, began making cases to hold daguerreotypes around 1852³, using a shellac-based compound. Peck didn’t claim invention of this material but does describe it in his patent No. 11758 of October 3, 1854, for the improvement of daguerreotype cases. Peck states, “the material of which the main body



of the case is made and to which my invention is applicable is composed of gum shellac and woody fibers or other suitable fibrous material dyed to the color that may be required . . .” Mark Tomlinson of Birmingham, Connecticut, did patent a similar shellac-based material a few years later: no. 21285 dated August 24, 1858.

Case Manufacture

The manufacture of the thermoplastic daguerreotype case, which was called the Union case, is of prime interest since the pistol cases evolved directly from this technology.

To manufacture a case, a steel mold first had to be produced in which to mold each case half. These molds were constructed from multiple-layer steel frames which formed the inside and sides of the case half. A separate center die with the desired decoration cut into it was used to press the top design on the case. Figure 1 provides a sketch of a typical cross-section of such a mold. A measured amount of premixed shellac compound was put into the heated mold cavity, the top die inserted and pressed to form the case. Removal of the top die then allowed the case to be pushed out by an ejector plate.

The decorative steel dies that were used are themselves a fascinating subject. Highly sophisticated designs were “sunk” or cut in reverse in soft steel by a die sinker or engraver, then the steel die was heat treated to harden it for use. Figure 2 shows the original Littlefield, Parsons top pistol case steel die for the Smith & Wesson Flag case. This was discovered in a dark and dusty hiding spot recently, with the corresponding case bottom die, some 129 years after their first use for production of this S &

W case. The shellac-based composition pressed into the resulting die conformed extremely well to the die and allowed very ornate and intricate designs to be precisely reproduced. This is evident when the pistol or daguerreotype cases are examined closely. The Tomlinson patent indicates that the shellac-based materials were ground with a coloring agent and the filler, heated into a “pasty mass,” and then molded in a press with the dies heated to around 325 degrees Fahrenheit. Mechanical presses were first used; later hydraulic pressure was substituted.

Littlefield, Parsons & Co.

Several companies existed in the 1850s and '60s which produced the thermoplastic photo case: one of these appears to have produced all of the pistol cases.

Alfred P. Critchlow, who started this company, was born in Nottingham, England in 1813. He apprenticed to a die sinker for seven years and moved to the United States in 1843⁴. Around 1846 he moved to Florence, Massachusetts and began making wooden buttons. In 1854, Isaac S. Parsons and Samuel L. Hill joined Critchlow to form A.P. Critchlow & Co. which manufactured daguerreotype cases, buttons and frames from its own shellac-based material, which later became known as the “Florence composition.”

In 1857 Daniel G. Littlefield became a partner⁵. In 1858, Alfred P. sold out and the company became known as Littlefield, Parson and Company. The company has undergone several name changes (see box) but is still in existence today. An early photo of the factory is shown in figure 3 and the same building, today, in figure 4, with the tower removed above the arched windows.

It appears that the Littlefield, Parsons era of the company produced the pistol cases. The only company “record” found to date which mentions the pistol case comes from a 1916 company publication⁶: a portion of one of the pages from this publication, shown in Figure 5, specifically mentions the revolver cases.

Attacking the question from the other side of the coin — the customer side — shows that Smith & Wesson of Springfield, Massachusetts⁷, began purchasing “pistol cases” from Littlefield, Parsons as early as August, 1858⁸.

No other records from other revolver manufacturers have been found so far to substantiate that L-P also made their pistol cases. It would be of great interest to this study if such records from Allen, Warner, Sharps or others could be located.

However, we know from the company history book that Littlefield, Parsons made thermoplastic revolver cases and we know S & W bought their cases from 1858 to 1862⁸. It is also evident that the total pistol case market was quite small and probably would not have supported other manufacturers. Two other observations also provide circumstantial evidence that Littlefield, Parsons & Co. was the only producer.

A.P. Critchlow’s patent No. 15915, dated October 14, 1856, Figure 6, covered an improved “embracing” hinge (a traditionally weak part of the fragile Union photo case). This type of hinge always was used on Critchlow (Littlefield, Parsons, etc.) daguerreotype cases and is also found on all of the pistol case configurations of which I am aware. Figure 7 pictures a label from one of the Littlefield, Parsons photo cases which names the

Company	Period	Product Examples
Alfred P. Critchlow	Circa 1846 -1854	Wooden buttons
A.P. Critchlow & Co.	1854-1858	Daguerreotype cases, buttons, photo frames
Littlefield, Parsons & Co.	1858-1866	Dag cases, buttons, cigar, watch, jewel and pistol cases
Florence Manufacturing Co.	1866-1923	Brushes (hair, toilet, tooth), hand mirrors, door knobs, photo frames, umbrella handles
Pro-phy-lac-tic Brush Co.	1923-1967	
Pro Brush Div. of Vistron	1967-1980	
Pro Corporation	1980-	

Alfred P. Critchlow, case manufacturer, and successors.

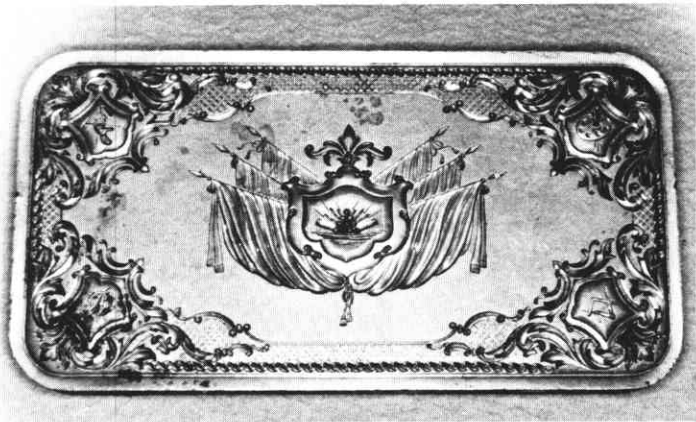


Figure 2. Original Littlefield, Parsons & Co. steel die for the Smith & Wesson Flag case top.

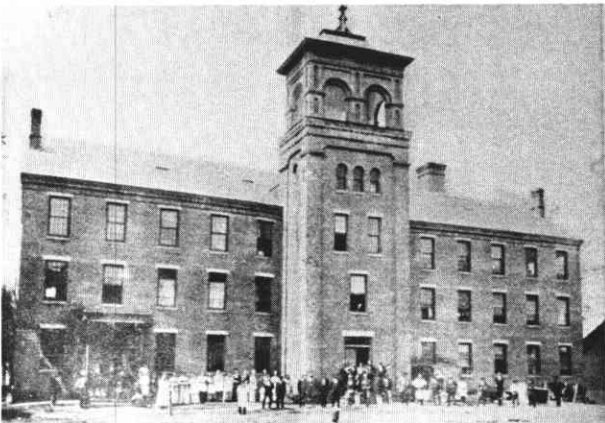


Figure 3. Florence Manufacturing Co. (formerly Littlefield, Parsons & Co.) circa 1866.



Figure 4. Pro Corporation today, showing original factory section.

FLORENCE Composition had been made before, in another factory near the site of the present large establishment of the Florence Manufacturing Company. Early in 1866, in response to the call of industrial development that followed the Civil War, George A. Burr, Isaac S. Parsons and D. G. Littlefield organized the Florence Manufacturing Company and began the manufacture of buttons, jewel and revolver boxes, medallion and daguerreotype cases. Here is the type of revolver for which these cases were made. It was not long before these men realized that the daguerreotype case business would not last forever—or even much longer. So they began to talk about what else they could make. Just as an experiment a small oval medallion

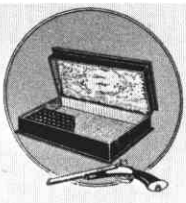


Figure 5. Portion of a page from 1916 company history discussing pistol case manufacture.

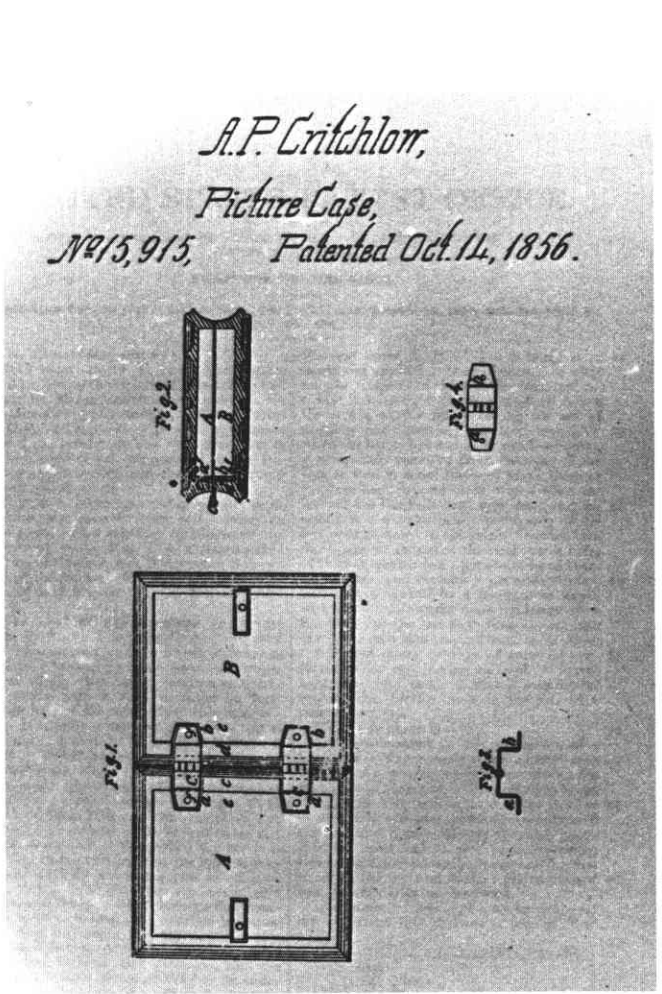


Figure 6. Alfred P. Critchlow patent drawing for the "embracing" hinge.

LITTLEFIELD, PARSONS & CO.,
 (Successors to A. P. Critchlow & Co.)
 —MANUFACTURERS OF—
Daguerreotype Cases.
 L., P. & CO.
 Are the sole Proprietors and only legal
 Manufacturers of
Union Cases,
 With the **Embracing Riveted Hinge.**
Patented
Oct. 14, 1856, & April 21, 1857.

Figure 7. Label from a Littlefield, Parsons & Co. photo case.

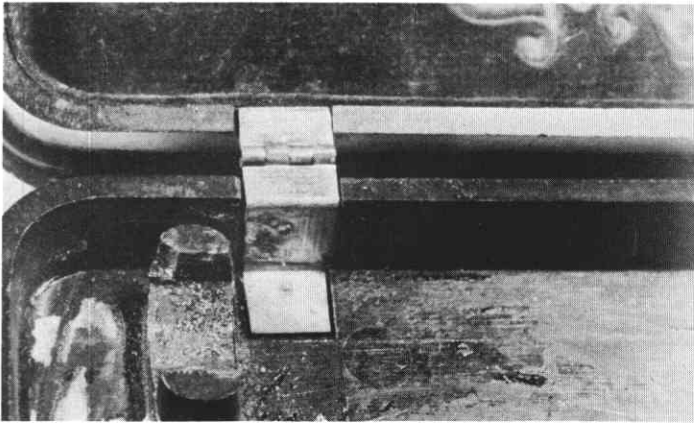


Figure 8. Embracing hinge use on a S & W pistol case

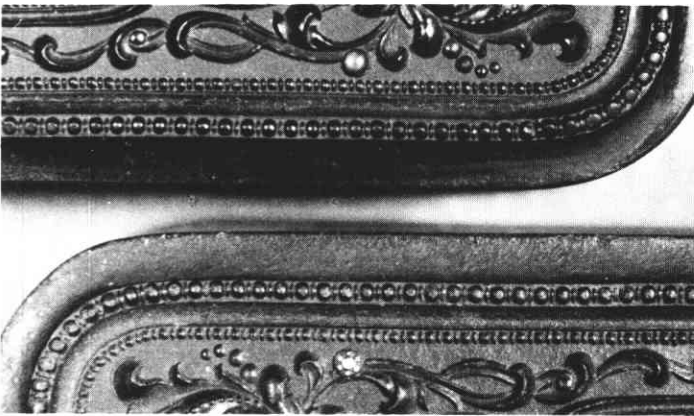


Figure 9. Use of the rosette rivet on an Allen & Wheelock case (lower case).

1859		1859		1861	
Month	Day	Amount	Month	Day	Amount
Aug	24		Aug	24	By Merdie
Sept	6	9 124.96	Sept	9	" "
Oct	1	24 125.15	Oct	4	" "
"	10	28 108.00	"	11	" "
"	11	29 87.75	"	28	" "
"	31	38 108.00	Nov	7	" "
Nov	26	54 108.00	"	30	" "
Dec	15	63 108.00	Dec	20	" "
Jan	20	80 108.00	Jan	31	" "
Feb	6	84 108.00	Feb	20	" "
Apr	11	111 93.75	Apr	12	Merdie
"	16	114 100.00	"	17	Merdie
May	12	141 100.00	May	13	Merdie
July	5	152 100.00	July	7	Merdie
"	11	154 100.00	"	16	Merdie
Aug	0	172 100.00	"	24	Merdie
Sept	28	201 100.00	Aug	10	Merdie
Nov	2	222 100.00	Oct	1	Merdie
"	8	224 100.00	Nov	2	Merdie
		Balance	108.00	12	Merdie
1861		197.96			197.96
Jan	1	By Balance	100.00		
"	10	264 100.00	Jan	12	Merdie
Mar	30	307 100.00	Apr	1	Merdie
May	16	336 100.00			
		Balance	480.00		480.00

Figure 11. S & W ledger page for the Littlefield, Parsons Company, showing pistol case purchases (Roy G. Jinks collection).

“embracing” hinge. Figure 8 shows such a hinge used on a S & W pistol case.

The last small clue: close examination of Littlefield, Parsons & Co. daguerreotype cases often will show the use of a rivet with a rosette head to attach the hinges and latches⁹. This rivet head appears to have been an exclusive L-P configuration. Figure 9 shows two pistol cases (Allen), one with this same rosette rivet and one with a plain rivet. Examination of the other pistol case types has shown that this rosette rivet has been used intermittently on all of them.

Other similar-sized cases also exist which may have been produced in Florence, Massachusetts. The playing card or cribbage case is one that was undoubtedly produced by Littlefield, Parsons & Co. This case is the same size as the S & W pistol case and there is at least one example which appears legitimate and which has the same bottom design as the S & W box.

Pistol Cases

With the lack of company records except for S & W, cataloging the cases poses a problem: a “guilt-by-association” method is used here, naming cases for the manufacturers of the type of pistol most often found in the cases today. Therefore, Allen & Wheelock, Sharps, Smith & Wesson and Warner become our major case categories. Five major case variations (Figure 10) are shown on the back cover. The tops of the boxes were decorated as shown, while the bottoms of the cases were generally plain.

The only subcategorization in this study will be to identify variations in the molded cases themselves; it is recognized that a much larger number of variations could be defined if the color of the case material or the interior cloth color or design were also used.

From the 1854 Peck patent we read that the shellac-based thermoplastic could be “dyed to the color that may be required.” The pistol cases range from a fairly light brown to black. From the S & W ledgers, it does not appear that they specified the case color; one page of these ledgers is shown in Figure 11.

The interior cloth colors varied widely. The interior of the top lid was covered with a silk cut-pile velvet which has a stamped design similar to the period daguerreotype cases. The design was placed on the velvet by hot stamping¹⁰. Several different designs are used in the various cases, even in the same basic case type. Again the S & W records do not indicate that this was a choice they made. In fact, the same design is found in cases made for different revolver manufacturers. Certain repetitive portions arranged in different patterns on some of these designs suggest that a segmented flat die may have been used to press or stamp the velvet. It is likely that the

cloth was purchased by Littlefield, Parsons already stamped. The case bottom interior is covered with a shorter cut pile velvet also made of silk¹⁰. The color here is often a red or wine color. The sides are covered with a velvet material laminated to a cardboard backing; it is usually of a darker color, such as brown.

Smith & Wesson Cases

From the company records, Smith & Wesson appears to have been an early and major customer of Littlefield, Parsons & Co. Two types of S & W cases are known and a third reported.

Flag or "Dag" case

Presumably the first of the cases made for S & W were the so-called flag or "dag" case¹¹; the term "dag" probably came from "daguerreotype," since this case, Figure 12, has a draped-flag design reminiscent of the photo case designs. Figures 13 and 14 show a typical interior without and with an S & W Model 1, First Issue .22 caliber revolver (produced from May, 1857 to January, 1860).

Since the records show the first cases were purchased in August, 1858, the cases were obviously made for this pistol (the 1st-1st). The hammers on the earliest versions of the Model 1, First Issue, were too high and will hit the edge of the case. Later 1st-1sts are seen with the hammer spur curled down slightly, either to allow a



Figure 12. Smith & Wesson Flag case top.



Figure 15. S & W case bottom design.



Figure 13. Interior of a S & W Flag case.



Figure 14. Interior of a S & W Flag case with a Model 1, First Issue pistol.

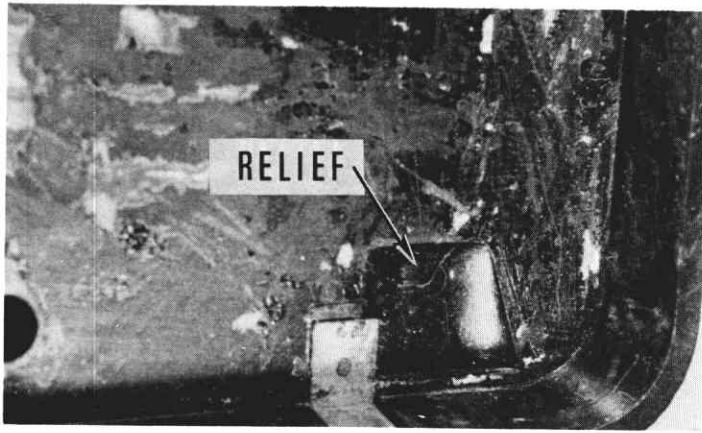


Figure 17. Butt relief in the S & W pistol case.

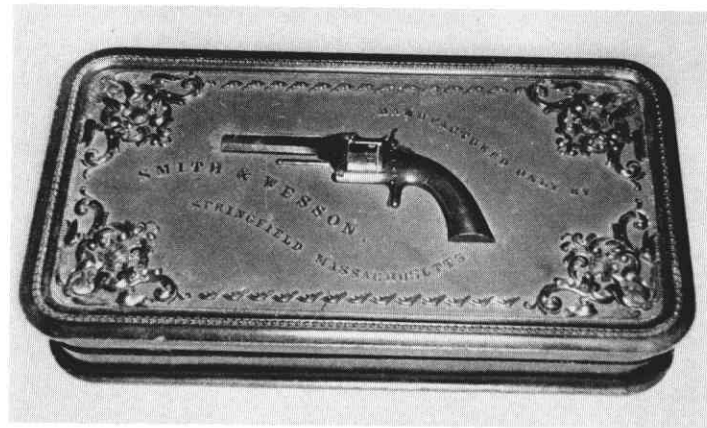


Figure 18. Smith & Wesson "Pistol" case top design.



Figure 19. S & W "Pistol" case interior. (Roy G. Jinks collection)



Figure 20. S & W "Pistol" case interior with a Model 1, Second Issue revolver. (Peter L. DeRose collection)

CASE	CARTRIDGE BLOCK			BOTTOM RELIEF	APPROXIMATE OUTSIDE DIMENSIONS		
	Caliber	No. of Bullets	Rows		Length	Width	Height
S & W "Flag"	.22	56	6	butt	7.9"	4.1"	1.5"
S & W "Pistol"	.22	56	6	butt	7.9"	4.1"	1.5"
Sharps (Type A & B)	.22	32	5	none	6. "	4. "	1.5"
Allen & Wheelock	.22	52	6	none	7.1"	4. "	1.5"
Type A				none			
Type B				cylinder			
Warner	.30	30	5		8.0"	4.4"	1.6"
Type A				cylinder			
Type B				butt and cylinder			

Figure 16. Size and characteristics of the pistol cases.

better case fit or for some other unknown reason. The S & W "flag" case is believed to have been produced to about August, 1859, except for an order of 300 in 1862.⁸

As stated earlier, the case bottom design for all the pistol cases is plain and generally uses the same outer edge design as the top of the case. Figure 15 shows the bottom of a S & W flag case. This case is a slight exception to the "generally" statement, since the bottom design here uses a border row of tiny S & W 1st-1st pistols not found on the top of the flag case. This edge design was also carried over to the bottoms of the second type S & W case.

Figure 16 summarizes the physical features of the S & W and other cases, gives approximate overall dimension, cartridge block characteristics and bottom reliefs. Most of the cases had small reliefs or cavities molded into the bottom interior to provide room for some portion of the revolver (like the butt, Figure 17).

Pistol Case

This appears to be the only case design specifically designating a revolver and its manufacturer: figure 18 shows this case top with its S & W Model 1, first issue, revolver and the inscription "Manufactured only by / Smith & Wesson / Springfield, Massachusetts."

Figures 19 and 20 again show the interior. This time the revolver in the box is the Model 1, Second Issue, which was produced from 1860 to 1868. Note the different cloth stampings used for the two cases shown in these figures.

All of the cases have some type of internal rests for the pistol barrel and frame. Today these are often broken, due to the fragile nature of the shellac-based plastics.

No. 2 Army Case

This case has not been located, but it is known: one was seen many years ago in a display in a Springfield, Massachusetts, restaurant¹¹. The .32 caliber No. 2 Army revolver was manufactured from 1861 to 1872, which fits the case manufacturing era.

Allen & Wheelock Case

This case, Figure 21, is most often seen with the Allen & Wheelock Sidehammer. 22 caliber revolver which was made circa 1858 to 1862, or a later variation of the same model made by E. Allen & Co. (the company name from 1865 to 1871). Occasionally a Forehand & Wadsworth pistol (1870s) is seen in this box but this is probably too late to have been originally sold in this case.

Figure 22 shows the case interior and Figure 23 the interior with an Allen & Wheelock Sidehammer revolver (First Issue). The simple bottom design is shown in Figure 24.

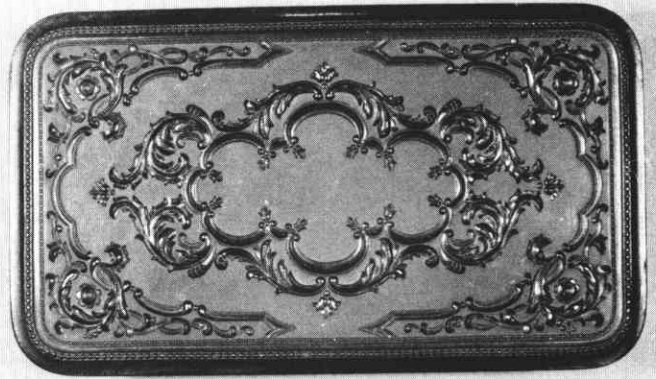


Figure 21. Allen & Wheelock pistol case.



Figure 22. Allen & Wheelock case interior (Kenneth N. Connaughton collection)

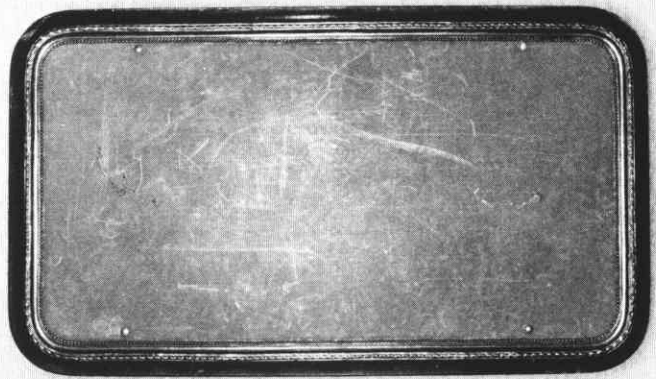


Figure 24. Allen & Wheelock case bottom design.



Figure 23. Allen & Wheellock case with the early model side-hammer revolver.

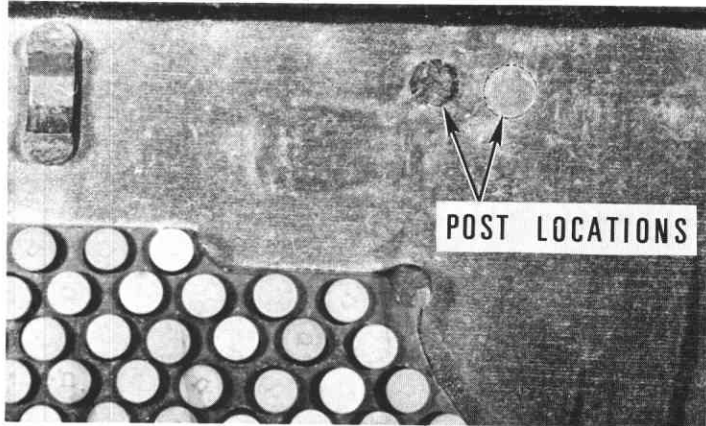


Figure 25. Shift in hammer support location, Allen & Wheellock case.

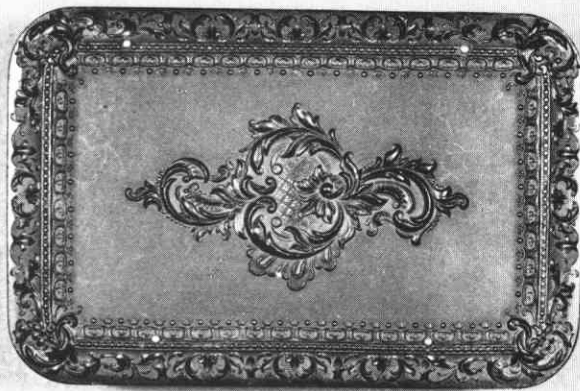


Figure 26. Sharps pistol case top design.

Two variations of this case have been noted. The first, above, will be called type A. A second type (B) exists which has a small relief in the side of the cartridge block at the top to accommodate the large retaining screw under the frame of the second issue revolver; it has the frame post moved 1/2 inch to the left. These later versions have the bottom cloth plugged or patched at the right-hand post position. (Figure 25).

Sharps Case

This case was made for the Sharps 4-shot pepperbox pistol, Model 1A¹², the production of which started in 1859. Figures 26, 27, and 28 show the top and interior of the Sharps box. The pistol is an unengraved Type 1A pepperbox. The plastic cases were no doubt generally sold with engraved versions of the 1A, as was possibly true of all gun box sales.

Two variations of this case are known: the one shown (A) and a second with a more "squared" cartridge block (B)¹³.

A case for a Model 4B Sharps pistol reported some years ago was in fact a standard case with the bottom replaced with a hand-carved block of wood¹³.

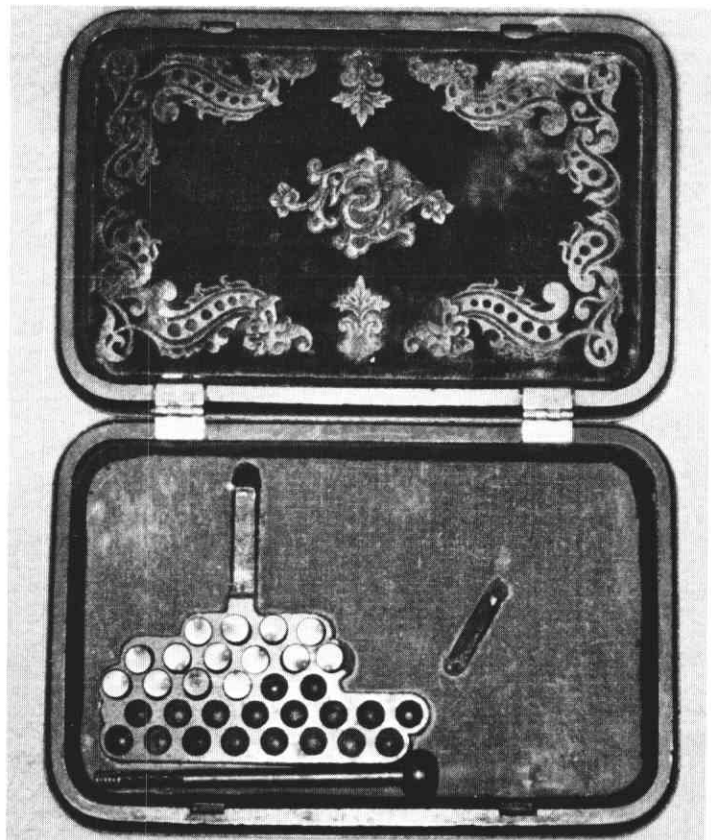


Figure 27. Sharps box interior. (Kenneth N. Connaughton collection)

Warner Case

This case was made for a .30 caliber revolver; the James Warner Pocket Revolver (believed to have been made in the early 1860s)¹³ is often found in this case, although the Springfield Arms Co. Pocket Revolver (also made by James Warner) is seen in this case configuration too. Since it appears that pistol case manufacture at Littlefield, Parsons & Co. occurred in the early 1860s, it would seem likely that the Warner boxes were initially made for the Warner Pocket revolver.

Two case variations have been noted. The first (A) has only a relief for the cylinder in the bottom of the case. The second (B) has a relief for both the cylinder and the butt. It is possible that the A-type is for the Warner Pocket revolver with its slightly flatter grip and the type-B for the Springfield Arms revolver.

Figure 29 shows the exterior top of this case and Figures 30, 31, and 32 the interior. The pistol shown in Figure 31 is the Springfield Arms revolver and that in Figure 32 is the James Warner Pocket Revolver. Note that the interior top velvet design is the same as the S & W boxes of Figures 13 and 19.



Figure 28. Interior of a Sharps pistol case with a Model 1A Pepperbox pistol. (Kenneth N. Connaughton collection)

Production Information

The shellac-based pistol cases are obviously quite fragile and therefore a low survival rate could be expected. Total quantities produced were probably low, are difficult to estimate due to the lack of Littlefield, Parsons & Co. or customer records.

Smith & Wesson records⁸ shed valuable light on purchases by that company. The following cases were purchased from Littlefield, Parsons & Co.:

- 1858 — 467 cases
- 1859 — 2553 cases
- 1860 — 1575 cases
- 1861 — 288 cases
- 1862 — 300 (Flag cases)

This gives a total of 5183 cases produced for Smith & Wesson.

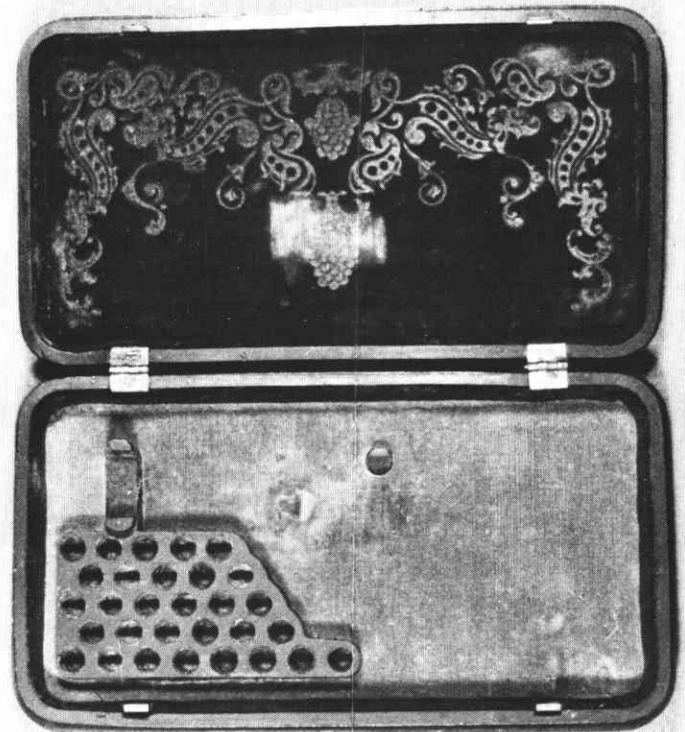


Figure 29. Warner pistol case top design and Warner case interior.

The records also show that S & W paid \$100 per gross for the "Pistol" cases and sold them for \$106 per gross or individually for \$1.25, while the earlier "dag" case was sold to dealers for 75 cents⁸.

As stated, the number of cases produced for the other manufacturers is not known. From the number of survivors, however, it would not seem that any other gun company purchased more cases than Smith & Wesson. Based on the relative survival rates and the known quantity of S & W cases, a rough estimate might be that 5000 Allen & Wheelock cases (A and B), 2000 Warner cases (A and B), and 1000 Sharps cases (A and B) were produced.

Other

This paper is an introductory effort and additional study and observation are needed to refine or expand on this subject. For instance, is there another Smith & Wesson No. 2 Army case hiding "out there" somewhere? Variations of the cases discussed here may have been produced that are not identified in this study. Any additional information on variations, other cases, or manufacturer or customer documentation will be welcomed.

References:

1. *Plastics* (Sixth Edition) J. Harry DuBois and Frederick W. John, Van Nostrand Reinhold Co. 1976, page 27
2. *S & W Collectors News*, Vol. 10, No. 1, 1978, page 25
3. *Plastics History USA*, J. Harry DuBois, Cahners Publishing Co. Inc., 1972, page 16.
4. *The Northampton Book, 1654-1954*, The Tercentenary History Committee, Northampton, MA., 1954, page 352.
5. *The History of Florence, 1681-1894*, Charles A. Sheffield, 1894, page 241.
6. *The Florence Manufacturing Company, 50th Anniversary, 1866-1916*.
7. S & W company records, Roy G. Jinks collection.
8. *S. & W. Collectors News*, Roy G. Jinks, January 12, 1970.
9. *American Miniature Case Art*, Floyd and Marion Rinhart, A.S. Barnes & Co., 1969, page 33.
10. Marianne Carlano, Curator of Costume and Textiles, Wadsworth Atheneum, Hartford, Connecticut, conversation, February 24, 1987; Letter, March 5, 1987.
11. Conversation with Roy G. Jinks, Smith & Wesson, December 22, 1986.
12. *Sharps Firearms*, Frank Sellers, Beinfeld Publications, Inc., 1978, page 137.
13. Conversation with Frank Sellers, March 21, 1987.



Figure 31. Warner case interior with a Springfield Arms Co. Pocket revolver. (Janice L. Terry collection)



Figure 32. Warner case with James Warner Pocket Revolver.

