The Civil War Issue Canteens: Patterns of 1858 and 1862

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BETWEEN 1861 and 1865 virtually every Union soldier received and carried a tin canteen, making it one of the most readily identifiable artifacts of the American Civil War. This universal issue also accounts for the numerous examples available on today's collector market. At first glance these canteens may all appear to be exactly the same. Certainly the size and shape vary so little from a standard that the casual observer may notice no difference. But important differences do exist, and it is the purpose of this article to detail, date and, where possible, explain the variations which may be encountered.

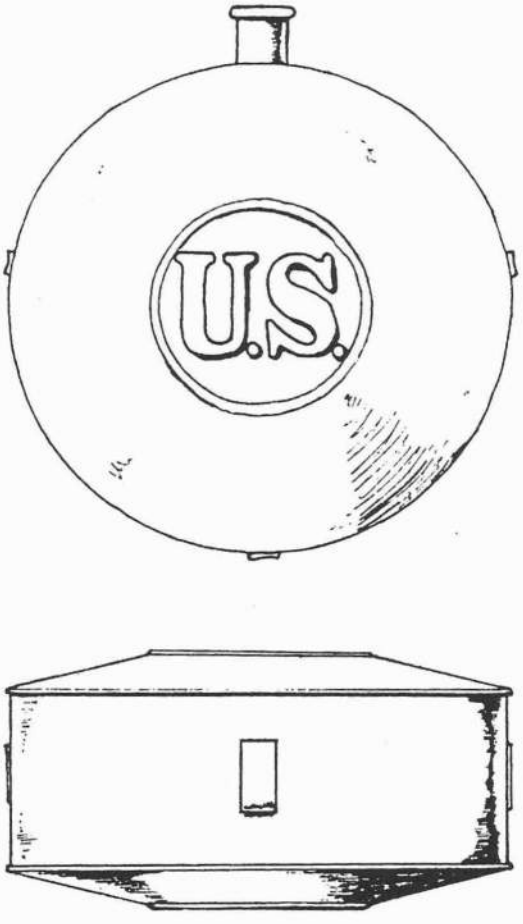


FIG 1. Mexican War era drum canteen in the collection of the West Point Museum (#19,554). This style of canteen came in two sizes, and was first contracted for in 1836. Drawing courtesy Mike McAfee.

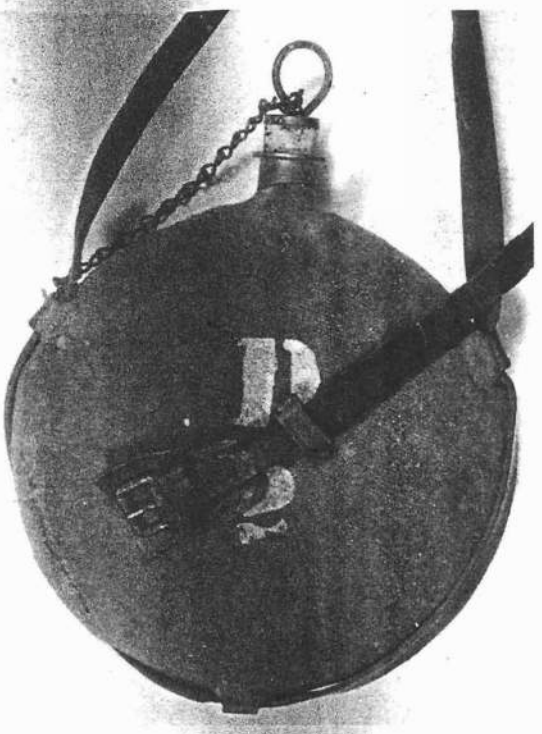


FIG 2. Leather straps ⅝ inch wide had been used by the U. S. Army since at least the War of 1812. However, they would be discontinued by the winter of 1862/63.

At the outbreak of the Civil War in 1861, the U. S. Army Quartermaster Department (QMD) had decades of experience in the manufacture and procurement of uniforms and equipage. This was a thoroughly professional organization that knew what it wanted, and usually got it. They were no strangers to innovation, and often experimented with new products from the civilian market. They set high standards for items to be issued by them to the Regular Army. They also knew that, in an emergency, substitution and deviation from the standard was often necessary. As long as the end product met the needs of the soldier, set standards would at times have to take a back seat to necessity. The tin canteens procured and issued by the QMD's Office of Clothing & Equipage between 1861 and 1865 would be the embodiment of all of the above.

The tin-plated, oblate spheroid canteen was the result of a long series of tests and experiments with various designs and materials. The most extensive material tested was tin-plated sheet iron. Tin had replaced cedar as the material of choice for canteens in the 1840s; however, complaints about how it

FIG 3. The most common cloth strap is illustrated here, of cotton drilling, often found knotted to shorten its length. Note the uncommon satinette cover on this example; mothing has revealed the cotton warp threads.

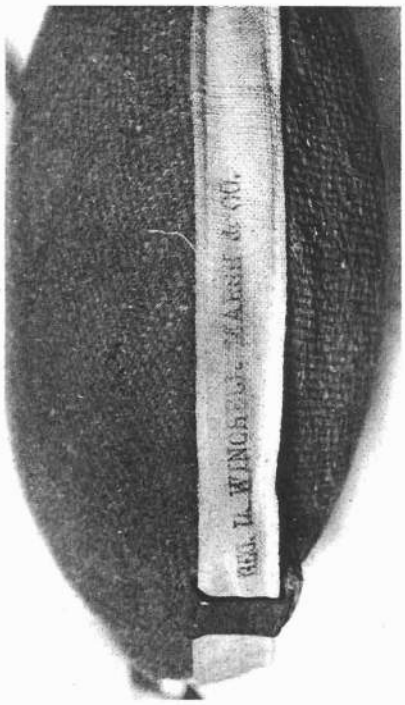


FIG 4. A cotton duck strap on a Cincinnati Depot, tin spouted example made by the firm of Geo. D. Winchell, Marsh & Co. The cover is jean cloth.

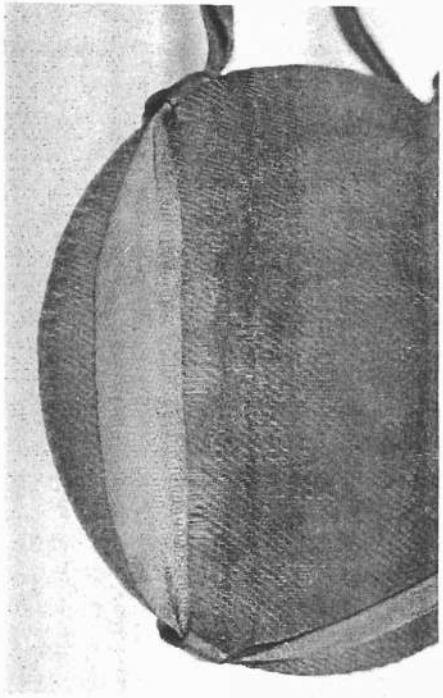


FIG 5. This Gratz-made corrugated canteen has the five panel web strap. The panels are separated by a narrow "beaded" design woven into the strapping. The cover on this example is also of jean cloth. Fred Gaede collection.

FIG 6. A four-panel, double chevron 1"-wide web strap on a corrugated example by Hadden, Porter & Booth. Note the cotton, upholstery fabric cover.

heated the canteens' contents during the Mexican War had resulted in the search for a better material after that war. Both leather and gutta percha were tried, but, when all the evaluations were in, nothing was considered more suitable than tin.[1] A mitigating solution to the heat problem was thought to have been found by simply covering the canteen with cloth.

By April 1857 the QMD had decided on a new pattern of tin canteen, cloth covered and designed to hold three pints of water. The canteen was to have a "sharp" edge, as opposed to the wide, flat circumference of the "drum" canteen (FIG 1) that had been issued in the 1840s. It was to be made of two "semi-spherical plates" soldered together to form what is technically known as an oblate spheroid.[2] The new shape would be much less bulky, and certainly easier to cover with cloth. Interestingly, it appears the shape was an entirely original, American idea, and not an adaptation of a European one, which the United States had been fond of doing throughout the 19th century.

Another interesting change in the design of the canteen was the omission of the letters "US" on the sides. The drum pattern had been reverse stamped on both sides with those letters within a circle raised in the tin. The half dozen surviving examples, while all different, are similar in the design of this marking. During the experimental stage of the oblate spheroid canteen's evolution, at least two models were constructed which retained the US stamped in the sides, one with and one without a circle. However, correspondence with the QMD in April 1857 definitely states that the new canteen differs from the old by the lack of the US letters. Thus, as the cloth covered, smooth sided oblate spheroid canteen was cited in official

FIG 7. A corrugated example, which has lost its cover, but which retains its 1½-inch wide, four-panel web strap and cord stopper retainer.

correspondence in 1857, a case could be made that it more correctly should be referred to as the "Pattern 1857."

However, it is obvious that only a few, possibly just prototype pieces, were made up in late 1857, or possibly not until early 1858. One of these new canteens was included in the "Danish Exchange," the items of which arrived in Denmark in July 1858. Despite the advertisement in late 1857 for "12,000 tin canteens (3 pints, weight 11½ ounces), with stoppers"[3] and the example sent to Denmark, it appears that it was not until the fall of 1858 that the first significant contracts for the new pattern canteen were given to Albert Dorff of Philadelphia. With all this in mind and given the lack of a specific, quotable Secretary of War approval of the new style, the designation of "Pattern 1858," already in general use by collectors (but never used in any official capacity by the QMD) has been retained for use in this article.

The initial contract of 16 September 1858 was only for 725 pieces, but was quickly followed by another for 837 canteens on 23 September. A third contract with Dorff for 3,000 of them was concluded on 23 October 1858. By 22 June of the following year the number received from Dorff had risen to 21,320, and the Pattern 1858 would soon be in general use. The basic design would remain unchanged during over 50 years of use by the U. S. Army.[4]

It is important to note that, initially, canteens purchased

PROPOSALS.

OFFICE CLOTHING AND EQUIPAGE,
CINCINNATI, O., July 21st, 1863.

SEALED PROPOSALS ARE INVITED BY THE undersigned, for the following supplies, viz:

Uniform Jackets, Lt. Artillery Privates;
Do Cavalry do
Trousers, Foot;
Do Mounted;
Drawers, Canton Flannel;
Shirts, Grey Woolen;
Blankets, Woolen;
Do Rubber Poncho Tent;
Blouses, Lined;
Do Unlined;
Bootees, Pegged and Sewed;
Stockings;
Uniform Hats;
Haversacks;
Canteens, (complete;)
Camp Kettles;
Mess Pans;
Forage Caps;
Cap Covers;
Kerseys (standard;)
Thread, Dark Blue, Nos 30 and 35;
Storm Flags;
Do Halliards;
Regimental Colors;
Cavalry Standards;
Do Guidons;
Basting Cotton;
Plaid Linseys;
Brown Drills, (standard.)

Each proposal must be accompanied by a guarantee signed by two responsible parties—(Guarantors must sign their own names)—agreeing that the party making the proposal will enter into a contract, if the award is made to him, and the bids must state explicitly the quantity to be furnished and the time of delivery. In all cases, samples must accompany the bid, unless it is distinctly stated that the proposal is on standard regulation goods.

The supplies must be delivered in good, new packages, containing such quantities as may be directed, free of charge, at the U. S. Inspection Warehouses in this city.

Written contracts (of which this advertisement shall be made a part,) will be entered into with parties to whom awards are made, and bonds required of them, in sums equal to one-fourth the value of the goods contracted for

The attention of bidders, is called to the following extracts from the Act of Congress of July 17th, 1862:

SEC. 14 And be it further enacted, That no contract or order, or any interest therein, shall be transferred by the party or parties to whom such contract or order may be given to any other party or parties, and that any such transfer shall cause the annullment of the contract or order transferred, so far as the United States are concerned; Provided, That all rights of action are hereby reserved to the United States, for any breach of such contract by the contracting party or parties.

SEC. 15. And be it further enacted, That any person who shall furnish supplies of any kind to the Army or Navy, shall be required to mark or distinguish the same, with the name or names of the contractors so furnishing said supplies, in such manner as the Secretary of War and the Secretary of the Navy may respectively direct, and no supplies of any kind shall be received, unless so marked and distinguished.

SEC. 16. And be it further enacted, That whenever any contractor for Subsistence, Clothing, and Ammunition, Munitions of War, and for every description of supplies for the Army and Navy of the United States, shall be found guilty by a Courtmartial of fraud or willful neglect of duty, he shall be punished by fine, imprisonment, or such other punishment as the Courtmartial shall adjudge, and any person who shall contract to furnish supplies of any kind or description for the Army or Navy, he shall be deemed and taken as a part of the Land or Naval forces of the United States, for which he shall contract to furnish said supplies, and be subject to the rules and regulations for the Government of the Land and Naval forces of the United States.

Proposals will be received until SATURDAY, 12 o'clock noon, August 1st, 1863.

The right to reject any bids deemed unreasonable, is reserved.

Bids should be indorsed "Proposals for Clothing," and addressed to the undersigned.

By order, Col. THOS. SWORDS, A. Q. M. General.
C. W. MOULTON,
jy20 Capt. and A. Q. M.

FIG 8. Copy of an advertisement dated 21 July 1863 for "Canteens, complete" to be delivered to the Cincinnati Depot, found in NARS, RG217, e236, Box 21 (1863). Many of the canteens delivered in response to this ad would have tin spouts.

under contract were to be delivered without cover or strap. This had been the standard procedure for a number of years prior to Dorff's large contracts, and with some exceptions would remain the preferred procedure throughout the coming War. This practice made the canteen easy to inspect and nearly

eliminated the possibility of fraud. The process of inspection was both simple and effective. The nozzle of a specially made bellows was inserted into the mouth of the canteen, which was then submerged in a barrel of water. Air bubbles resulting from pressure applied to the bellows would quickly reveal any leaks.[5] If air tight, the canteen would then be weighed on a counter scale to assure the proper weight tin had been used.[6] A visual inspection would follow and, if all was satisfactory, the canteen would be sent for covering by women employed at the facility.[7] The requisite leather straps were made by separate workmen and added after the covering was complete.

The rates of delivery and inspection were phenomenal during the War. Many contracts had delivery rates of 1,000 and 2,000 per day after a set-up period of a week or so. A report from Inspector Gilbert at the Philadelphia Depot, dated 15 July 1862, states that, since the previous December, he had inspected 50,000 canteens! Since the inspection required weighing, "blowing" and a visual once-over, Mr. Gilbert was obviously a busy man, even with assistants' help![8]

Once completed with cover, strap and stopper retaining cord, the canteens would be sent for crating and shipping. Canteens were packaged 200 to a crate, which regulations specified would measure 40" long by 31" wide by 34" deep.[9] No surviving canteen packing crate of this period is known to the author. During peacetime the crate would be sent directly to a post or regimental quartermaster. During war it would most likely go to an advance depot for general issue in the field, or to a point of rendezvous for issue to newly formed companies.

The process detailed above describes the Standard Operating Procedure (SOP) for the Philadelphia Depot at Schuylkill Arsenal, near Philadelphia, Pennsylvania. When the initial contracts for Pattern 1858 canteens were made, this facility was the sole supplier of clothing and equipage to the U. S. Army. An elaborate and well organized system of both contract and in-house manufacture, as well as an efficient transportation network, made one centralized source possible. However, wartime pressure would cause radical changes at all levels of supply.

It is relevant at this point to mention the most significant change brought about by the Civil War. Rapid expansion of the Army to previously unheard of numbers made the expansion or opening of three additional major depots and several branch depots an absolute necessity. The new major facilities were located in New York City, Cincinnati and St. Louis. Two of the three, Cincinnati and St. Louis, would operate in a manner similar to Philadelphia, with both in-house manufacturing capability as well as contracting authority. New York City, on the other hand, was unique in being strictly a contracting depot, as it had been for years prior to the opening of hostilities. Numerous branch depots would operate as adjuncts to the larger facilities. As will become clear later in this article, the method of operation which called for interlocking yet independent operations will enrich the story of the Federal issue canteen, Patterns of 1858 and 1862.

To simplify the explanation of the variations that can be encountered, it will be necessary to look at each component part of the canteen separately. The parts to be examined are

FIG 9. The maker's mark of "O. HOLDEN & CO." is clearly visible on this Cincinnati Depot example with a tin spout, ca. 1863. Fred Gaede collection.

FIG 10. Closeup of the spout of the example shown in the previous illustration, showing the rolled lip and soldered seam. The characteristic twill weave of a jean cloth cover is clear.

strap, body, cover, and stopper and cord (or chain).

Strap

The original standard for the Pattern 1858 canteen called for an adjustable leather strap utilizing a small roller buckle. The canteen now residing in the Tøhjusmuseet in Denmark has such a strap, as does one in the National Park Service's collection at Gettysburg, Pennsylvania. The canteen illustrated in FIG 2 is one of the few known in private collections. The strap on the latter example measures about 73 inches long and ⅝ inch wide. A triangular piece of leather is attached behind the roller buckle to prevent its rubbing the uniform. The color may have originally been russet, which has darkened with age, or it may have been originally dyed its current dark brown color. This type of strap, which was manufactured at the Philadelphia Depot and certainly used on all the pre-War Dorff contract canteens, technically remained a standard to the end of the War, being mentioned in the 1865 "Quartermaster's Manual." However, it appears to have been discontinued in use after 1862.

One of the other standard straps mentioned in the 1865 "Manual" was the cloth strap, generally either a plain woven cotton duck or twill woven cotton drilling (FIGs 3, 4). Beginning in May 1861 several large canteen contracts were let with Philadelphia-based firms. In addition to Albert Dorff, canteens were received from D. & S. Simmons; Code, Hopper & Gratz; and Hadden, Porter & Booth.[10] It was at this point that the first deviations from the pre-War standards occurred. Code, Hopper & Gratz, as well as Hadden, Porter & Booth, were allowed to deliver canteens "complete," with straps of cotton duck (and covers) already in place.[11] No documentation was found for this change, but economy and expediency most certainly came into play. The delivery of pre-strapped canteens was short lived, and it is evident that the Philadelphia Depot attempted to continue the use of leather straps. A letter from this facility dated 14 March 1862 reports 17,000 canteens on hand with leather straps. A second report sent 25 June 1862 records that 127,141 canteens with leather straps had been shipped since the first of May.[12]

The practice at Philadelphia may have continued into July 1862. However, in August a major change occurred. On 1 August 1862 the Military Storekeeper at the depot sent a letter to Colonel George H. Crosman, in command of the entire Philadelphia operation. In the letter he suggested the use of one inch wide cotton webbing for canteen straps, and enclosed a sample which has remained with the letter.[13] The sample is a herringbone twill weave web, nearly identical to "engineer tape" in use today, although a bit heavier. This type of web had been used prior to the War to tie the doors on Sibley tents.[14] The idea was immediately accepted, for on 7 September the military storekeeper reported 75,408 yards of one inch and 142,452 yards of one and one-half inch webbing on hand, plus two cases containing an additional 14,000 yards of unspecified width "sufficient for 116,000 canteens." He also reported a need for an additional 100,000 gross yards.[15]

Existing examples of canteens show a variety of twill webbing patterns were used during the War. An order from the Philadelphia Depot to Charles B. Mount, a Philadelphia contractor, dated 1 November 1862 was for "1 inch colored cotton webbing."[16] The two patterns, which have survived in greatest numbers, though still relatively scarce, are shown in FIGs 5, 6. There is no doubt that this depot continued to use webbing for canteen straps throughout the War, with a final order for 200,000 yards of one inch wide canteen webbing dated 19 January 1865 confirming the practice.[17]

Extant examples reveal that Philadelphia did use double folded linen or cotton straps, with machine sewn edges, at times. However, use of this type of strap, while the norm at the Cincinnati and New York Depots (and probably St. Louis), was likely the exception on canteens finished at Philadelphia after the fall of 1862.

Until this point we have only really considered one facility's product, that of the the well-established Philadelphia Depot. As previously stated, the New York Depot had no manufacturing capability. New York contracts were let for canteens covered and strapped, i.e., "complete." In keeping with established inspection procedures, however, they were to be first delivered uncovered. After an inspection the canteen bodies were returned to the manufacturers for finishing. Early examples of New York Depot contract canteens exist with leather straps, an obvious attempt to meet the early QMD standards. Later examples show exclusive use of the folded and sewn cloth strap. Because contractors were rarely allowed the latitude of the Government manufacturing depots, it is safe to assume that the switch to cotton strapping was made in late 1862. This, of course, was after the decision to change to webbing was made in Philadelphia.

There is no solid evidence to suggest that either St. Louis or Cincinnati ever used anything but sewn cotton (or linen) straps, and three documented Cincinnati Depot examples do retain sewn cotton straps. Both of those locations had manufacturing capability, which included sewing machine operators. No contract has been noted for delivery of canteen webbing at either of these depots.

There was one interesting contract for 10,000 canteens let by the adjacent facility in Indianapolis which specified leather straps. This contract was with a Jacob Voegtle of the same city and is dated 15 August 1862, within the established leather strap period.[18] No known example of this manufacturer's product has been observed.

Body

The body of the Pattern 1858 canteen includes: two side pieces, which were soldered together; the mouthpiece, or spout, and reinforcement; and the three loops through which the strap passes. Of these three aspects, the loops exhibit almost no change throughout the War, except for some minor variations in width. An exception is those on canteens procured through the New York Depot. Canteens from this depot only show a neat, small diameter hole punched in one of the

FIG 11. Horstmann Brothers & Company accepted only one contract to provide canteens, dated 24 April 1863 for 67,500 corrugated pieces at 24 cents each, to be delivered to the Philadelphia Depot. To whom they subcontracted the order is unknown. With the smooth-sided example of FIGs 14, 15 probably dating from the fall of 1862, and this example from the summer of 1863, we have a rough bracket when Philadelphia was forced to use upholstery fabric to cover canteens.

upper loops (FIG 16), to facilitate the attachment of a chain to the stopper (discussed below). The hole is very clean, and was probably made with a hole punch before the loop was soldered to the canteen.

The side pieces of canteens contracted for by the Philadelphia Depot underwent a major change that began in July 1862.[19] At that time this depot decided to go from a smooth side body to a corrugated body. This was the birth of the canteen with a series of concentric rings, which somewhat resemble a bullseye target, hence this pattern's popular name among collectors (FIGs 7, 17). This change can be considered the "Pattern 1862," although the designation was never adopted or used by the QMD.

The first mention found of this alteration is in a letter to the contracting firm of Paul J. Field. Dated 15 July 1862, the letter from Colonel Crosman asks that the 5,000 smooth sided canteens already contracted for at 17 cents each be delivered corrugated, if possible. Crosman wished that the canteens be "like the sample exhibited at this office except the canteens are to be corrugated with six circular indentations on each side to stiffen and prevent the canteens from [bru?]ising."[20]

Changing to the concentric ring pattern in 1862 obviously required new dies to be cut and placed on the "hammer" for stamping. The fact that this apparently posed no real problem for 19th century manufacturers is evident in Field's response to Crosman on 16 July. While he was unable to comply with Crosman's request on the current order as his production was nearly complete, "[I] will alter my dies to suit you"[21] for subsequent orders. Hereafter contracts for delivery in Philadelphia would specify corrugation. The apparent ease in making this change leaves open one of the basic questions relating to the Pattern 1862 canteen: why did only the Philadelphia Depot require the change during the entire War? The reason for the lack of contracts for this pattern by the other depots has not been found either in correspondence between depots, or in orders from the QMD.

The first contract to specify corrugation was with the Philadelphia firm of Hadden, Porter & Booth. It, too, is dated 15 July 1862, and is for 10,000 canteens at 17 cents each.[22] The following day newspaper ads appeared in Philadelphia asking

FIG 12. Closeup of the same canteen shown in FIG 7, which came from the Philadelphia Depot.

for bids on the production of "30,000 canteens, tin corrugated, Army Standard."[23] Nevertheless, the Philadelphia Depot would let contracts into September for smooth side canteens. After that date all contracts found from that location call for corrugation. They usually do not specify the number of indentations, or rings, and the number varies on extant examples. They generally have 5 to 7 rings, although up to 11 have been observed. This pattern evidently proved itself in field use, for the 1865 "Quartermaster's Manual" calls for this as the Army's standard body design, even though, as noted, only Philadelphia received canteens of that design during the War.[24]

Different shapes for the "white metal" spouts, or necks, of oblate spheroid canteens have been noted. The only conclusion drawn from these obvious variations is a difference in molds used by the various contractors. One general observation may be valid: those canteens with noticeably narrow mouths and smaller lips often appear to exhibit characteristics of early-War manufacture. For the latter detail, compare the lip on a spout from a pre-September 1862, Philadelphia Depot smooth sided canteen with one on a New York Depot example from an 1865 contract (FIGs 15 and 16, respectively).

One of the most important and significant variations in Federal issue canteens is the appearance of some with tin

spouts. These canteens have served to confuse collectors as to their point of origin. The answer lies in several contracts let only by the Cincinnati Depot. The first of those which specify a "tin mouthpiece" is dated 13 April 1863 with the Cincinnati firm of George D. Winchell, Marsh & Co. An extant example with that maker's mark stamped on the sewn cotton duck strap is known (FIG 4). This contract was immediately followed by another with Evans & Hassell of Philadelphia. Both were for 25,000 canteens, to be delivered in Cincinnati.[25] Following these were other sizable contracts in 1863 from this depot, specifying the tin spout variation. The "O. HOLDEN & CO." marked canteen in FIGs 9, 10, for example, is also an 1863 Cincinnati Depot contract piece.

Another example with a maker's mark thought to be "Morris & Co." recently came to the author's attention. Upon closer examination, it was determined to be an example of one made by "Holenshade, Morris & Co.," with the complete stamping on the cloth strap lost in the marking process due to a fold in the strap. This firm only had two contracts for canteens, both for delivery at the Cincinnati Depot, dated April and May 1864, for a total of 270,000 canteens. Of as much interest is the presence on the folded and sewn strap of an inspector's stamp, that of "A. G. Spencer," known as a canteen and metalware inspector at Cincinnati Depot from 14 August 1863 until his discharge on 15 May 1865.[26]

The reason for the deviation from the Army standard, without apparent authorization, is unclear. There seems to have been no real cost saving and no physical advantage. Nor have similar contracts from any other depot been noted. These factors may have led to the eventual demise of the change, as no contracts for delivery in Cincinnati with this variation specified in them are known after the summer of 1864.[27] Despite the large number of delivered canteens, the variation remains relatively scarce today.

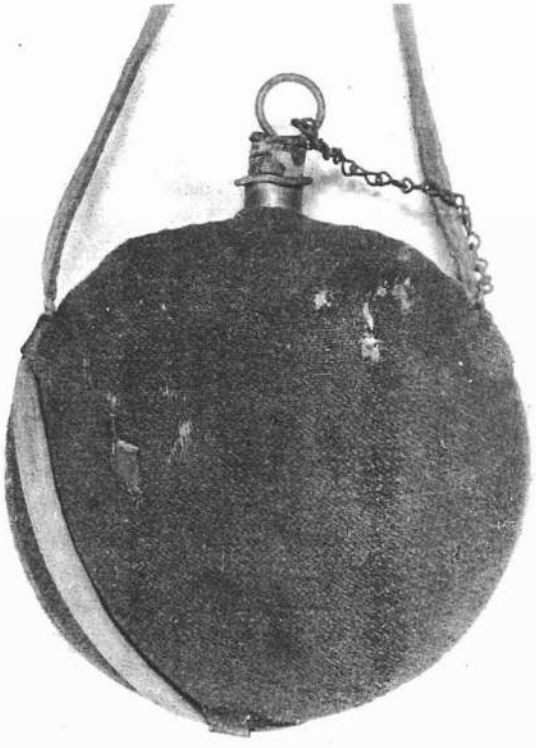


FIG 13. A New York Depot example with chain stopper retainer, evidencing an unusually large spout reinforcement beneath the jean cloth cover.

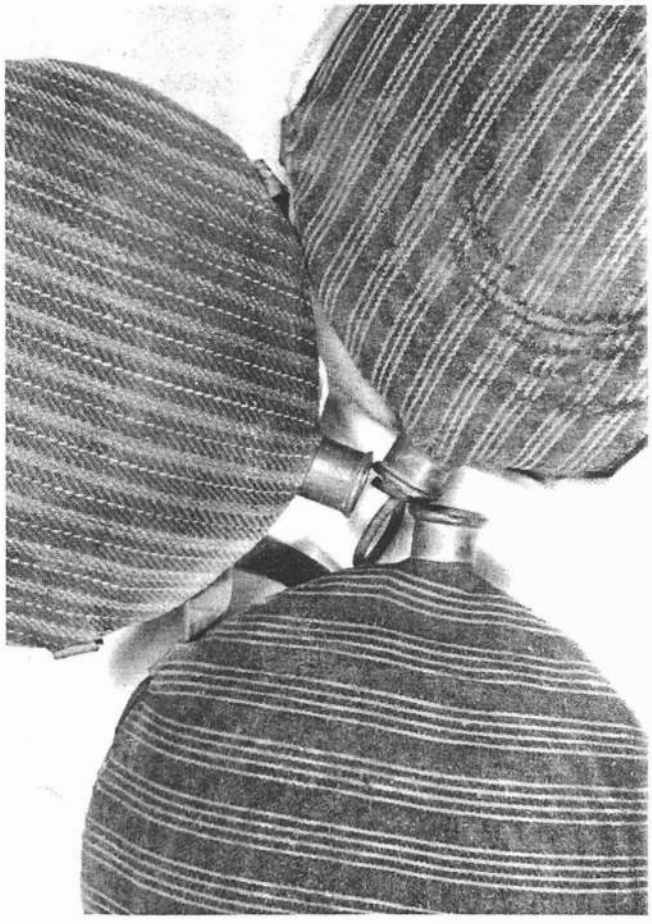


FIG 14. A smooth sided and two corrugated examples, all issued from the Philadelphia Depot with different patterns of upholstery fabric covers. See the note to FIG 11.

Another significant point to be discussed in this section is the contractor identification marks found on mouthpieces of many existing Pattern 1858 canteens. The early examples of this canteen, that is, those produced between 1857 and August 1862, will be found with no contractor markings. It should be noted some markings were very lightly impressed, and could easily have been worn off. And other canteens had the makers' names stamped on the strap. So one should look at all of the characteristics of an "unmarked" canteen before automatically assuming it to be pre- or early War. All Pattern 1862 canteens were made after the revised marking requirements, and appear to have been marked on the spout.

On 31 August 1862 the first contracts which specify markings were let. One of the first was with Horstman, Bros.

& Co., which required them to "put your initials on the canteens."[28] Two examples have been noted that are marked *H.B. & Co. Phila.*, both being eight ring corrugated models [FIG 11]. Contracts immediately following this called for the *full name* of the contractor to be placed upon the canteen. To take marking one step further, beginning 8 May 1864 the QMD began requiring the full name of the contractor, along with the *contract date*, to be placed on all items of clothing and equipage received. Canteens were no exception, as the numerous dated, late War examples found today will attest. The collector should remember that if a date exists and is unreadable, the canteen dates from either 1864 or 1865.

Another detail on body construction. Generally the spout was further secured to the body of the canteen by a small tin reinforcement piece (FIG 12). It lies so close to the body of the canteen that it is hardly noticeable, if at all, through the covering material. However, some New York Depot canteens will be found with an extra large spout reinforcement piece, which makes them appear a bit 'humpbacked' through the covering material (FIG 13). At first glance the spouts appear to be pushed down into the body, as though they are damaged. These canteens appear to be unmarked, so they are assumed to be products of one contractor and received early in the war, when variations were generally accepted as long as the items were otherwise serviceable.

The production of canteen bodies provides another interesting glimpse into mid-19th-century manufacturing. The body halves were produced by placing precut flat pieces of tinned iron in a drop press. The emphasis was on production,

FIG 15. The opposite side of the smooth-sided example from FIG 14, showing the tack threads used to keep one side of the cover in place before the other side was whip-stitched to it. Most covers involved were machine sewn first, slipped over the canteen body, and finished by hand.

FIG 16. Detail of a typical New York Depot chain arrangement. Note the cover on this late War (February 1865 contract) contains a large amount of shoddy in the jean cloth.

and concern for the safety of the worker was a much lower priority, as indicated in the following letter:

Philadelphia
Sept. 18, 1862

Col. G.H. Crosman
Deputy Q.M. Genl.
Phila.

Sir:

Two of our best and oldest hands on the "drop presses" have met with serious accidents, one last night; and one this morning had his hand taken off by the "hammer," this together with fright to others on the same work will lessen our deliveries of canteens for a few days. Our best endeavors shall be used to increase our deliveries and a gang is now organized to work night, as well as day.

Yours truly,
R.H. Gratz & Co.[29]

Cover

The most immediately noticeable feature of any Pattern 1858 canteen is the cloth cover. Early examples were covered in either light blue or gray woolen, or satinette, cloth. The purpose of the cover was to keep the contents of the canteen as cool as possible. In the period from 1858 to 1861 the covering material was purchased from the Utica Steam Woolen Co. of Utica, New York. Contracts for this material simply refer to it as "canteen cloth," with no specifications given. However, there is no reason to conclude it was anything but a cheap wool or satinette (a cotton warp and woolen weft fabric that appears only on one side to be a woolen broadcloth when finished [FIG 3]) material. It may well have varied in color, being any of several shades of light blue or gray, depending on the dye lots available at the time of purchase.

It should be remembered that the canteen was a utilitarian item. We should be careful not to apply our 20th-century standards of uniformity for military items to the 19th-century

industrial base with which Meigs, Crosman and the other quartermaster personnel had to work. While uniformity of cover color was desirable, unlike uniform fabrics it in no way entered the inspection process.

The lack of concern for uniform canteen covers is best illustrated by the action of the Philadelphia Depot once the War began in earnest. With substantial numbers of canteens being contracted for by this depot, it literally turned to the scrap pile for covering material. Any suitable fabric was fair game. As the War progressed this came to include salvaged greatcoats and blankets, along with anything of a similar texture that could be recycled or purchased on the open market. Several canteens examined for this article that clearly went through the Philadelphia Depot are covered in similar tightly woven, striped cotton upholstery fabric that had to have been purchased on the open market, just to get the canteens completed and ready for issue (FIG 14). It might be noted this material, as expected, wore well, with few holes through the fabric in otherwise well used canteens.

As an example of other such purchases, the following is an order from the Philadelphia Depot:

Aug. 9, 1862

Wm. Divine & Sons
Phila.

You are authorized to deliver at the Schuylkill Arsenal the following goods for linings for Great coats,

813½	yards	Brown Kentucky Jeans	@ .40c yd.	like	sample	860
834¼	"	Cadet Ky. Jeans	@ .40c yd.	"	"	862
922	"	Cadet Ky. Jeans	@ .40c yd.	"	"	859
1016¼	"	Drab Ky. Jeans	@ .40c yd.	"	"	280
259¾	"	Union Cadet Cassimere	@ .40c yd.			
414¼	"	Buffalo Cassimere	@ .40c yd.	"	"	536
324½	"	" "	"	"	"	3

For lining Great coats or covering canteens.

Geo. H. Crosman[30]

At this point the variations attributed to the independent depots once again comes into play. Canteens examined from the New York and Cincinnati Depots are generally covered with a coarse material (usually jean [cotton warp and woolen weft, twill woven with both sides of the goods appearing the same], such as FIG 5) that is now brown in color. From the sample of about 50 canteens examined for this article, either few were covered in sky blue kersey (woolen warp and weft, twill woven), or have survived with that covering material. Several examples were noted with sky blue jean covers, with what is now a brown warp and indigo dyed, sky blue weft yarns. As noted above with the upholstery fabric, it appears that the main depot at Philadelphia deviated the most from any standards for covering material, in the interest of expediency.

The fact that most Cincinnati and New York Depot contracted canteen covers are now brown may make a strong case that their original color was gray. Although no dye analyses were done in conjunction with this article, the cheap material could have been dyed with inexpensive logwood dye to achieve the gray color. Today's students of 19th-century textiles are very familiar with the almost universal tendency of

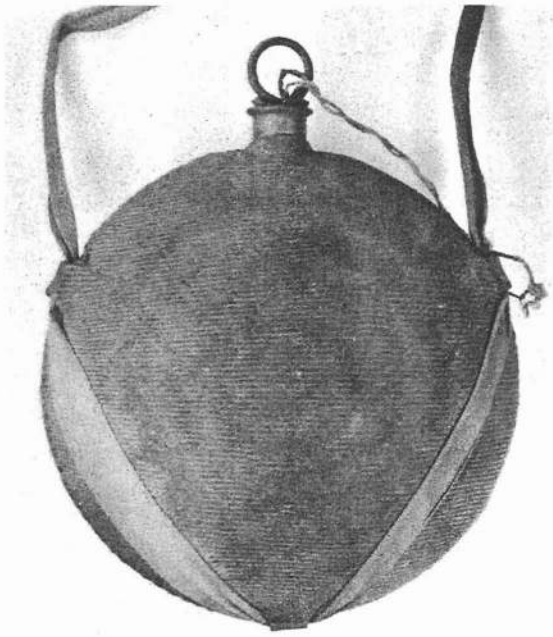


FIG 17. Typical Philadelphia Depot corrugated example with web strap and original twine stopper retainer.

logwood dyed fabric to oxidize to a brown color from its original black or gray.[31]

One additional detail relating to canteen covers should be noted. Research for this article has taken place over a number of years, as part of an overall study of uniforms and equipage of the Federal Army. During the research, one of the "footnotes to history" that revealed itself was the use of sewing machines at the various clothing depots. Although it may seem beyond the scope of this study, it is mentioned here because of its relevance to covers.

In general the covers on canteens examined by the author are machine sewn on the lower half (that is, the area below the two side strap loops). The remainder of the cover is hand stitched with an overcast stitch to complete the cover. This detail takes on particular importance on canteens from the Philadelphia Depot. Students of Civil War uniforms often question the role of the sewing machine in uniform manufacture. It has even been stated that sewing machines were not used in the production of clothing during the War.[32]

This is true only as it relates to uniforms from the Philadelphia Depot. As we have seen, this facility tended to make its own rules. Sewing machines were employed there only for canteen covers and straps, chevrons and forage caps. The work was done in-house on Government-owned machines. Other sewing, primarily on uniform items, was done by hand in the homes of women hired by the depot. It was looked upon as a form of welfare for soldiers' widows and dependents. Since these women were paid by the piece, it was felt that the use of machines by some, when others could not afford them, constituted an unfair advantage. So all sewing had to be done

FIG 18. Detail of the cotton drilling strap from the canteen shown in FIG 16, showing a double stamp of Bayles' inspection mark.

by hand. The fact that the QMD had no basic problem with machine sewn clothing is born out by the fact that the other major depots all supplied machine sewn uniform pieces, either sewn in-house or supplied by contractors.

It was noted above that generally the lower half of the cover pieces was sewn together by machine, slid over the body of the canteen and closed by hand. However, during conservation of a Pattern 1858 canteen with an upholstery cover, it was noticed that one half of the cover was placed on the body and retained in place by long threads from side to side (FIG 15). The other half had an edge turned under, and was then whip stitched to the first half at the circumference of the canteen, resulting in a rather uneven seam around the canteen. An examination of several similarly covered canteens, all Pattern 1862s, revealed the same cover attachment method.

Stopper and Cord, or Chain

The importance of the stopper to the canteen is obvious. Without it the soldier would soon lose most of the contents contained therein, which was not always water. The cord, or chain, was in turn necessary to prevent the loss of the stopper. The two items are described in detail in the specifications extracted from the 1865 "Quartermaster's Manual" given at the end of this article.

The most interesting discovery made in this study relating to these two components was the use of chain as an attachment method only by one depot, New York (FIGs 13, 16). As previously mentioned, the chain was attached by opening one of the links, passing the open end through a small hole in one of the upper strap loops and then reclosing the link. The other end was passed through the stopper ring, doubled back on itself and the end passed through a closed link. Just enough chain was used to snugly grasp the stopper loop. No correspondence has been found to explain this deviation only by the New York Depot. Although the chain was obviously a more secure and permanent attachment, it was not adopted by any of the other depots.

Contracts for linen and cotton canteen twine are extensive for the Philadelphia Depot throughout the War (FIG 17).[33] Cincinnati contracts usually included the stopper and never call for a chain attachment. No identifiable Cincinnati contracted canteen has been found with a chain attachment, and the three examples noted above have or had twine retainers for their stoppers. The cord or chain both used one of the upper strap loops as a place of attachment. The cord was first tied into a loop, and then the doubled cord passed through itself to attach it to both the stopper, first, and then the tin strap loop.

If a chain is present, and is the original attachment mode, the canteen originally passed through the New York Depot. However, canteens have been observed that used a chain threaded *through* the strap loop. This could be either a valid variation by a contractor to the New York Depot, or it could be a later replacement of a broken cord. If this is found on a corrugated canteen, it is definitely a replacement chain, pos-

FIG 19. An unusual gutta percha or india rubber strap on a canteen with an extra long stopper. The soldered chain could be an unusual New York Depot variation, or repair to another depot product.

sibly even post-War, as will be further discussed below. One example was observed with the chain soldered to the strap loop, and others have been observed with a hole punched through the strap loop to attach the chain. Both of these variations could represent soldier's field repairs.

Conclusions Regarding the Pattern 1862 Canteen

The reader will remember in the section above discussing "Body" types it was stated that only Philadelphia contracted for the corrugated canteen pattern. In the last section it has been established that this depot used nothing but cord attachments for the stopper. And the first section points to the fact that Philadelphia ordered large amounts of webbing for straps. And, finally, in the third section the variety of covering material commonly used by Philadelphia is documented. With all of this taken into consideration, the typical Pattern 1862 canteen can be described as follows: corrugated with 5 or 6 rings, a cord tie for the stopper, a one or one and one-half inch web strap and a cover of almost any color, but predominantly sky blue or gray.

What about the St. Louis Depot?

To this point little has been said about canteens issued by this depot. The reasons for this cursory treatment are twofold. First, St. Louis received all of its canteens from contracts with eastern manufacturers,[34] or from requisitions made on the other depots. Second, no mention has been found of materials for canteen covers being used at St. Louis. This depot did, however, have a very well established sewing hall, using sewing machines to manufacture uniforms. They may very well have covered canteens received directly through contract, and could easily have sewn straps like those used by Cincinnati. Until an example of a canteen with a St. Louis inspector-marked strap is found the canteen issued from this depot will remain something of an enigma. It is safe to say they differed little from the standard Philadelphia Depot Pattern 1858 canteen, except for the exclusive use of a cloth strap.

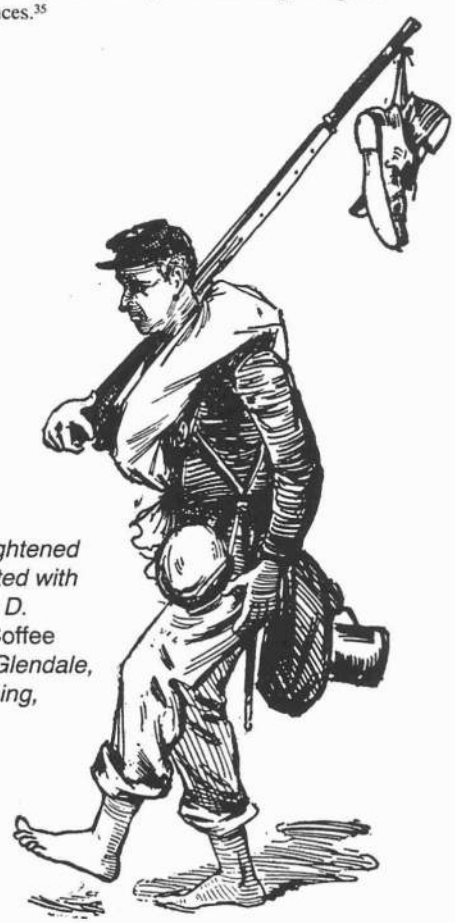
It is hoped this article has added some insights into an often overlooked, but very important part of the Union soldier's equipage. If such knowledge will help the collector or curator date an item in their collection, or the living historian add to the authenticity of his kit, the hours spent in research and preparation will be well worth the effort.

The author would like to express his sincere appreciation to John Henry Kurtz for the extraordinary access to his extensive collection of canteens. Being able to examine them over an extended period of time significantly added to the ability to reach many of the conclusions presented in this article. Thanks are due also to Michael O'Donnell for devoting many hours necessary to take the photographs used throughout the article. Last, thanks to Editor Fred Gaede for keeping after me to complete the article, and helping in so other many ways to get this material in print.

Addendum: Canteen Specifications from the 1865 "Quartermaster's Manual"

It is important to note that these specifications reflect what was being done at the Philadelphia Depot at the end of the War, and what Meigs and Crosman hoped would be Army-wide standards had the War continued. It is not what the various depots actually did during the War; their activities resulted in the variations described in this article.

> *Canteens*, to be made with two semi-spherical plates of XX tin, corrugated, and strongly soldered together at their edges; 7⅝ inches in diameter; 3 tin loops, 1 inch wide and ¼ inch deep, well and securely soldered on edge of canteen, for the carrying strap to pass through; one of these loops fixed to the bottom, and the other two at a distance of 4 inches each, measured from the outside of mouth-piece, or nozzle; mouth-piece cylindrical, of hard white metal, ⅞ of an inch diameter, edged over at top, strongly soldered on and secured to the canteen by a tin apron, which is also soldered on to the canteen; velvet cork, 1¼ inches long, to fit the mouth-piece, and capped on top with tin, through the centre of which extends a galvanized iron wire, ⅛ of an inch diameter, with a loop at top, ⅞ of an inch diameter (inside,) secured at bottom of the cork by a galvanized iron or white metal washer and screw-nut. Attached to the loop of the cork wire and to one of the loops on the canteen, should be a strong piece of cotton or linen twine, made with 4 threads, hard twisted, 20 inches long, and doubled together, to prevent the loss of the cork; the canteen to be covered with a coarse cheap woolen, or woolen and cotton fabric, and to contain 3 pints. Strap to carry the canteen, to be of leather, with a buckle; or made of linen or cotton, doubled and seamed on the edges; or else of cotton or linen webbing, ¾ of an inch wide, and 6 feet long. Weight of canteen, complete, 11 ounces.[35]



A FOOTSORE STRAGGLER.

FIG 20. As the recruit lightened his load, he seldom parted with his canteen. From John D. Billings, Hardtack and Coffee *(Boston, 1887; reprint, Glendale, NY: Benchmark Publishing, 1970), 343.*

Notes

A Note on Sources

All material for this article, unless otherwise cited, was found in various holdings of the National Archives and Records Service [NARS]. Specifically, entries in Record Group [RG] 92, the Office of the Quartermaster General, and RG 217, Treasury Records, provided the majority of the data. Regrettably, since beginning this long-term, detailed study over 20 years ago, many of these records have been moved from Washington, D.C. to various branch archival sites, primarily in Philadelphia. However, the entry numbers and citations have remained the same. A few, notably Entry [e] 225 in RG92, the "Consolidated Correspondence Files," are being reboxed (and renumbered) for improved security and preservation.

RG 92

Entry 225—Consolidated Correspondence Files
Entry 238—Reports of Persons and Articles Hired
Entry 1004—Office of Clothing and Equipage, 1821–1914, Letters Received
Entry 2118—Philadelphia Supply Agencies, 1795–1858; Correspondence, Reports, Returns, Bills, etc. (the "Coxe-Irvine Papers")
Entry 2172—Philadelphia Depot, QM Office, Press Copies of Letters Sent, Oct 1857–April 1907
Entry 2182—As above, Letters Received, 1850–1880
Entry 2195—As above, Press Copies of Letters Sent Relating to Orders, Purchases and Contracts, Aug 1861–Dec 1867

RG 217

Entry 236—2nd Controller's Office, QM Contracts, 1861–1865

1. Mike Worshner, "India-Rubber and Gutta-Percha Canteens," *MC&H*, XLV, 3 (Fall 1993): 98–103.
2. NARS, RG92, e2118, Reuben M. Potter, MSK, to E. B. Babbitt, AQMG, 16 April 1857.
3. *Charleston Mercury*, 17 December 1857, advertisement by AQM Henry C. Wayne.
4. The oblate spheroid remained in the US service until replaced in 1910 by the bottle shape, which had been adopted by the Infantry Board in 1909. No doubt one reason for its longevity was the substantial number on hand at the end of the Civil War, 544,764 according to a report to Secretary of War Stanton dated 22 September 1865 (NARS, RG92, e225, CCF, "Knapsacks"). See also William G. Phillips and Carter Rila, "Oblate Spheroid Canteens, 1858–1916: A Standard Pattern Recognition Guide," *MC&H*, XLI, 2 (Summer 1989): 66–78.
5. NARS, RG92, e2182, box 1, George W. Martin, MSK, to Col. G.H. Crosman, 15 August 1862. See also NARS, RG92, e2195, 2 May 1862; letter refers to a bellows for "blowing canteens."
6. NARS, RG92, e2195, 6 October 1862; letter refers to counter scales for Philadelphia "to weigh canteens, sufficiently large to weigh 11¼ oz."
7. NARS, RG92, e2182, box 74, Thomas Duffield, Superintendent Manufacturing Establishment, Philadelphia Depot, to Col. G. H. Crosman, 25 November 1863.
8. NARS, RG92, e2172, book 27.
9. NARS, RG92, e2182, box 59, Joseph French, Inspector, to Capt. H. W. James, AQM, 9 December 1864. See also "Quartermaster's Manual" (Washington: GPO, 1865), 31 (hereafter cited as "Quartermaster's Manual").
10. NARS, RG92, e1239. See also NARS, RG217, e236, 1861.
11. Ibid.
12. NARS, RG92, e2182, box 32, G. W. Martin, MSK, to Col. G. H. Crosman. See also NARS, RG92, e225, CCF, box 1009.
13. NARS, RG92, e2182, box 16, G.W. Martin to Crosman, 1 August 1862.
14. NARS, RG92, e2118, LSB vol.17, 117-119. This listing of "Equipage Now Furnished to the Army under the Direction of the QM General" lists canteens "to weigh 11½ oz covered with Grey or Sky-blue Kersey."
15. NARS, RG92, e2182, Folder 4, 25.
16. NARS, RG92, e2195.
17. Ibid. The Pattern 1862 canteen shown in the 1866 QMD photographs, taken in Philadelphia, has a web strap; see Stephen E. Osman, "Potter's Patented Haversack and Knapsack Paint, 1864," *MC&H,* XLVI, 2 (Summer 1994): 64.
18. NARS, RG217, e236, 1862.
19. NARS, RG92, e2172, Crosman to Vinton, 10 July 1862.
20. NARS, RG92, e2182, Box 26.
21. Ibid.
22. NARS, RG92, e2195. See also NARS, RG217, e236, 1862.
23. NARS, RG92, e2172. The newspaper ads in Philadelphia papers for 16 July 1862 request bids for "80,000 canteens, tin corrugated, Army Standard."
24. "Quartermaster's Manual," 41-42.
25. NARS, RG92, e1004. See also NARS, RG217, e236, 1863.
26. NARS, RG92, e238.
27. NARS, RG217, e236, 1864.
28. NARS, RG92, e2195.
29. NARS, RG92, e2182, box 17.
30. NARS, RG92, e2195.
31. Earl J. Coates, "Brown Thread, A Civil War Myth," *North-South Trader*, V, no. 5 (1978): 19–38. See also Ann E. Cordy and Kwan-nan Yeh, "Investigation of Thread Colour Change in United States Army Uniforms," *Textile History*, 17(1) (1986): 91–98. Recent tests on yarns from Federal issue blankets support the contention that logwood dyes, cheap but notoriously unstable, saw extensive use in military contexts.
32. Erna Risch, *Quartermaster Support of the Army, A History of the Corps, 1775–1939* (Washington, DC: GPO, 1989), 348.
33. NARS, RG217, e236, 1861–1865.
34. Ibid.
35. "Quartermaster's Manual," 41–42.