Feb. 9, 1943. E. L. BECKWITH ET AL 2,310,204

SCABBARD

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Fig. 1.

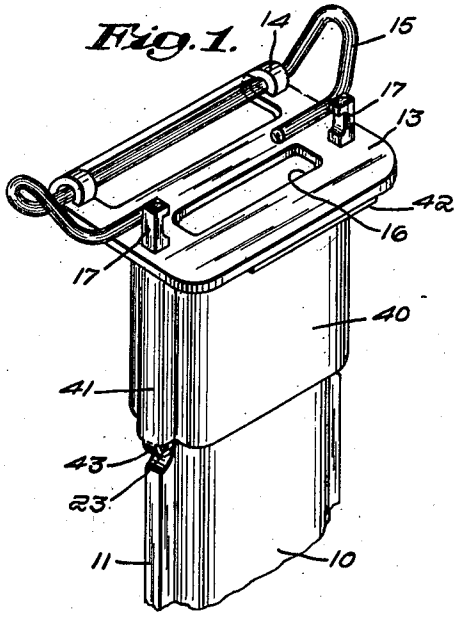


Fig. 2.

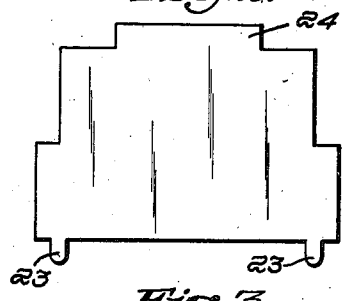


Fig. 3.

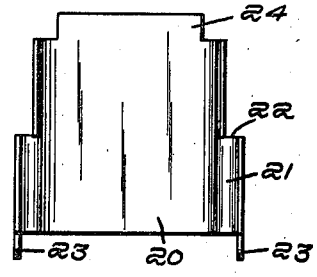


Fig. 4.

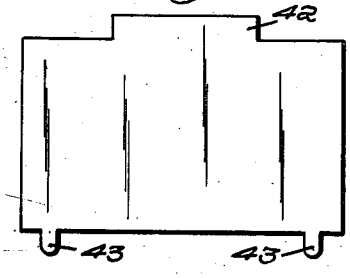


Fig. 5.

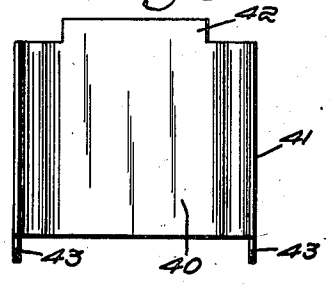
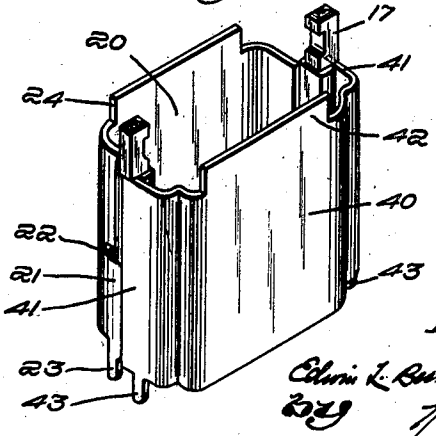


Fig. 6.



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Fig. 7.

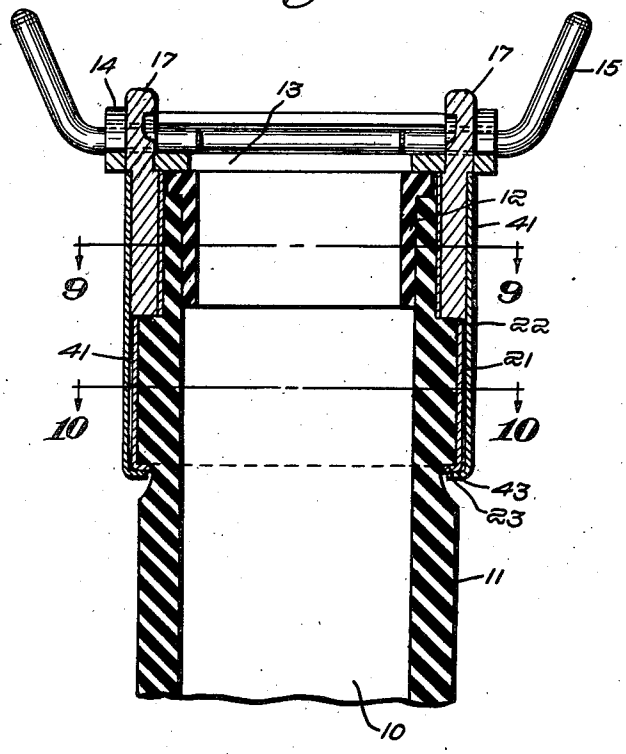


Fig. 8.

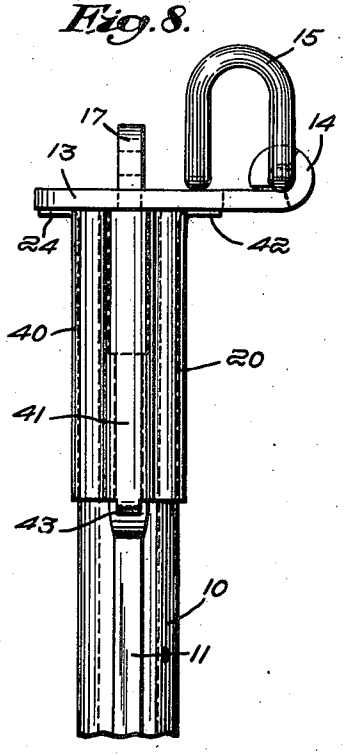


Fig. 9.

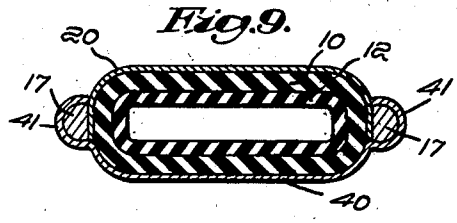
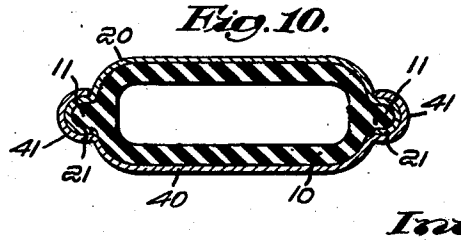


Fig. 10.



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UNITED STATES PATENT OFFICE

2,310,204

SCABBARD

Edwin L. Beckwith, Brookline, and Charles P. MacIver, Newton, Mass., assignors to Beckwith Manufacturing Company, Dover, N. H., a corporation of New Hampshire

Application September 13, 1940, Serial No. 356,638

7 Claims. (Cl. 224—2)

The present invention relates to scabbards for bayonets or the like and consists in an improved metal fitting for the open end of the scabbard and an improved joint construction whereby the fitting is secured to the body of the scabbard.

Heretofore scabbard fittings have been milled or otherwise machined from solid steel forgings, an operation requiring a great amount of time and skill on the part of the machinist as well as the employment of expensive machine tools. Moreover, a high percentage of waste has resulted on account of flaws in the forgings uncovered in the machining operations.

The object of the present invention is to provide a bayonet fitting comprising essentially sheet steel parts which may be punched and formed at a high rate of speed with the greatest accuracy and uniformity of quality from selected sheet steel. The fitting of our invention comprises a plurality of such sheet steel blanks, all of simple shape which lend themselves to high speed punching and which may be easily formed in dies by bending, and then crimped or swaged and spot-welded in a rigid assembly. Included with the principal sheet metal parts of the fitting are hooks which may be of high grade tool steel. These are small in themselves and can also be produced at high speed from strip stock of small dimensions and are permanently and securely incorporated into the fitting as rigidly and securely as if they were an integral part of the same.

In general we have succeeded in designing a scabbard fitting for high speed production on a mill basis as distinguished from the prior production of what amounts to hand-wrought fittings considered a necessity heretofore. We have, moreover, made this quantity production possible without in any way sacrificing the necessary strength of the fitting or otherwise impairing its efficiency and reliability in the most exacting conditions of use.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings in which,

Fig. 1 is a view in perspective showing a full size fitting assembled upon the open end of a scabbard,

Fig. 2 is a plan view of the sheet metal blank from which the inside plate of the fitting is made,

Fig. 3 is a view in elevation of the inside plate as formed ready for the assembling operation,

Figs. 4 and 5 are corresponding views of the outside plate,

Fig. 6 is a view in perspective of the two plates brought together with the hooks preparatory to the assembling operation,

Fig. 7 is a view in longitudinal section through the fitting and the open end of the scabbard, on an enlarged scale,

Fig. 8 is a similar view in side elevation,

Fig. 9 is a view in cross section on the line 9—9 of Fig. 7, and

Fig. 10 is a fragmentary view in cross section on the line 10—10 of Fig. 7.

For purposes of illustration the fitting of our invention is disclosed in its adaptation to such a scabbard as that shown in our prior application Ser. No. 312,192 filed January 3, 1940. The body of that scabbard comprises a water-proof sheath 10 of thermoplastic material molded to shape and including plies of canvas or other tough textile fabric to give the scabbard high tensile strength and toughness. The side faces of the scabbard are flat terminating in rounded shoulders which merge into integral longitudinal edge ribs 11. The body of the scabbard as shown in Fig. 7 includes a plastic insert in the form of a flanged collar 12. This is inserted within the scabbard after the molding operation and is flanged outwardly over the outer end of the scabbard and beneath the top plate of the fitting as will be presently described.

The fitting itself comprises three members which are stamped as flat blanks out of sheet steel, two hooks shaped from bar stock of tool steel or the like, and a wire loop which is formed readily from a steel wire blank.

The top plate 13 of the fitting may be stamped out of mild sheet steel about $\frac{3}{32}$ inch in thickness or thereabouts. The plate is generally rectangular in contour with rounded corners and rearwardly extending ears 14 which are bent upwardly and forwardly to form bearings for the wire loop 15 by which the scabbard is attached to the belt of the user. The top plate is provided with an elongated slot 16 to receive the blade of the bayonet and with square apertures to receive the hooks 17, one located adjacent to each end of the slot 16.

Beneath the top plate 13 of the fitting is a sleeve portion which includes an inner plate 20 originally stamped out of mild sheet steel about .03 inch in thickness or thereabouts in substantially the shape of the blank shown in Fig. 2. The blank is generally rectangular having two right angle shoulders or steps in its side edges

and two downwardly projecting tongues 23 spaced from each other in its bottom edge. The flat bank is preliminarily shaped as shown in Fig. 3 by having its side portions bent forwardly in a rounded turn into substantial parallel relation. Each side wall therefore includes a lower wing 21 terminating in a shoulder 22 and each has a downwardly extending tongue 23. Each side is terminated at its upper end by the second shoulder and these upper shoulders define an upwardly projecting intermediate portion 24 in the body of the plate.

The outer plate 40 may similarly be formed from a generally rectangular flat bank of sheet steel as shown in Fig. 4 and again this blank is preliminarily shaped by having its side portions 41 bent forwardly into parallel relation but with slightly wider spacing than the corresponding wings of the inner plate. Shoulders in the side walls define a projecting central portion 42 in the body of the plate and a tongue 43 projects downwardly from each of its side walls.

The hooks 17, which in the finished scabbard make detachable connection with a catch on the bayonet itself, are swaged from straight bar stock of substantially square or half-round cross section and each is formed with an outwardly offset notched head providing an outwardly projecting shoulder under its head and an outwardly projecting shoulder in the inner wall of the body of the hook as shown in Fig. 7.

The inner and outer plates are assembled to make the sleeve portion of the fitting, together with the hooks 17 which are located as suggested in Fig. 6, that is to say, the side walls of the outer plate 40 embrace or overlap the side walls of the inner plate 20 and the hooks 17 rest at their lower ends upon the shoulders 22 of the wings 21 of the inner plate. Moreover, the outwardly projecting shoulders of the hooks themselves rest upon the upper edge of the side walls 41 of the outer plate 40 because the length of each hook below its shoulder corresponds exactly to the length of the second step in the edge of the inner plate. At the inner sides of the posts the shoulders are caught beneath the top plate 13.

Having assembled the parts loosely in this relation they are forced together by suitable swaging dies and their side walls crimped upon each other and upon the bodies or shanks of the hooks 17. The wings 21 of the inner plate are rolled into a rib of substantially semi-circular cross section as shown in Fig. 10 so that the shoulder 22 is fully effective to support the end of one of the hooks 17. Above the shoulder 22 the side wall of the inner plate passes inside the shank of the hooks 17, as shown in Fig. 9. The side walls of the outer plate 40 are formed into longitudinal ribs also substantially semi-circular in cross section. These ribs in their upper part enclose the hooks 17 and in their lower part conform exactly to the smaller ribs formed in the inner plate as shown in Fig. 10. In this operation the tongues 23 and 43 of the two plates are brought into substantial superposed relation. The projecting portions 24 and 42 of the inner and outer plates respectively are flanged outwardly in a common plane as best shown in Fig. 8 to underlie the top plate and the parts of the fitting are positively secured in the relationship thus established by spot welding these outturned flanges of the inner and outer plates to the under face of the top plate 13. It will be seen that the top plate 13 overlies the inwardly projecting shoulders of the hooks 17, and, accordingly, when the top plate is welded in place on the sleeve formed by the plates 20 and 40 the hooks are rigidly and permanently interlocked in the fitting against all possibility of being withdrawn.

The complete fitting is now assembled upon the scabbard and for this purpose the longitudinal ribs 11 of the scabbard are cut away at the upper end of the scabbard for a distance sufficient to clear the enclosed shank of the hook 17 and the side wall of the inner plate 20 which lies inside the shank. The shank and this inner wall form in effect, an obstruction to the open channel formed in the lower part of the sleeve of the fitting which is shaped to receive the rib 11 of the scabbard. The ribs of the scabbard thus fit into the lower part of the sleeve up to the lower ends of the hooks. Square shouldered notches are cut in the ribs at a distance lower down the scabbard corresponding to the length of the wings 21 of the inner plate or on a line corresponding to the lower edge of the sleeve. The fitting is finally secured in place by bending inwardly the superposed tongues 23 and 43 into each of these notches forming a double-ply hook as shown in Fig. 7 and in this manner a very strong union is effected between the fitting and the scabbard all without the formation of projecting angles or corners which might catch and disturb the connection in use.

It will be understood that the employment of the flanged collar 12 is optional and that where this is used the dimensions given include the thickness of the flange of this insert, but if the insert is not used the top plate 13 would fit directly against the end of the scabbard.

Having thus disclosed our invention and described in detail one embodiment thereof for purposes of illustration, but with no intention of limiting the invention thereto, we claim as new and desire to secure by Letters Patent:

1. A scabbard having a longitudinally ribbed body of plastic material, in combination with a metal fitting comprising an apertured top plate and a sleeve portion attached thereto, the said sleeve portion including in its structure inner and outer sheet steel walls overlapping and rolled together and providing internal channels of predetermined length beneath the top plate interrupted by shoulders in the said walls, hook posts fitting in said channels, having shoulders beneath the top plate and being of such length as to rest on the shoulders in the said walls, and overlapping tongues projecting into the body of the scabbard in overlapping relation from the lower edges of the said walls.

2. A scabbard fitting comprising a top plate having a bayonet receiving opening therein, an inner plate of concave shape having a projecting shoulder at each side, an outer plate also of concave shape with its edges overlapping and spaced in part from the edges of the inner plate, and hook posts enclosed in the space between the edges of the inner and outer plates, supported upon said shoulders and projecting through the top plate, the inner and outer plates being permanently secured to said top plate and the hooks having an interlocking connection with the top plate positively preventing their withdrawal.

3. A scabbard fitting comprising a permanent assembly of sheet steel parts including a top plate having a bayonet receiving opening therein, an inner plate of concave shape transversely flanged at its upper edge, an outer plate also of concave shape with its edges overlapping and

spaced in part from the edges of the inner plate and also transversely flanged at its upper edge, and hook posts enclosed in the space between the edge portions of the inner and outer plates and projecting above the top plate, the flanges of the said inner and outer plates being secured to the under face of said top plate and their longitudinal edges being crimped upon the bodies of the hooks thus holding the hooks in place.

4. A scabbard fitting comprising a top plate having an opening therein, and a sleeve projecting at right angles to the top plate, the sleeve comprising two sheet metal plates with their side edges overlapping and crimped together and their top edges flanged outwardly and welded to the under surface of the top plate, and hook posts projecting at their upper ends above the top plate, having their lower portions enclosed in spaces formed adjacent to the overlapping side edges of said plates, and having transversely projecting shoulders positively engaged beneath the top plate.

5. A scabbard fitting comprising a top plate having an opening and hook-receiving apertures therein, and a sleeve secured to the top plate and projecting at right angles thereto, the sleeve comprising two sheet metal plates with side walls curved and overlapping in such manner as to present an external rib and an internal channel, and hooks enclosed in the channel and projecting through the apertures of the top plate, the edges of the said sheet metal plates being crimped upon the bodies of the hooks and thus holding them in place in the fitting.

6. A scabbard having a longitudinally ribbed body, in combination with a fitting comprising a top plate located at the open end of the scabbard and having a sleeve portion with overlapping side walls of sheet metal shaped to provide longitudinal channels, hooks having downwardly extending shanks occupying the upper portions of said channels and projecting through the top plate and interlocking therewith, the lower portions of the channels being filled by the ribs of the scabbard, and the sleeve having tongues which are embedded in the said ribs.

7. A scabbard fitting comprising a top plate having a bayonet receiving opening therein and also distinct small apertures, a sheet metal sleeve secured at one end to the top plate, being shaped to embrace the body of the scabbard and folded in each of its sides into an elongated chamber, and hook posts enclosed in said chambers, projecting up through the apertures of the top plate and shouldered to make interlocking engagement with the said top plate and with edges presented by parts of the sleeve.

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