(No Model.)

E. MANSFIELD.

METHOD OF MAKING FERRULES FOR CANT HOOKS.

No. 442,813. Patented Dec. 16. 1890.

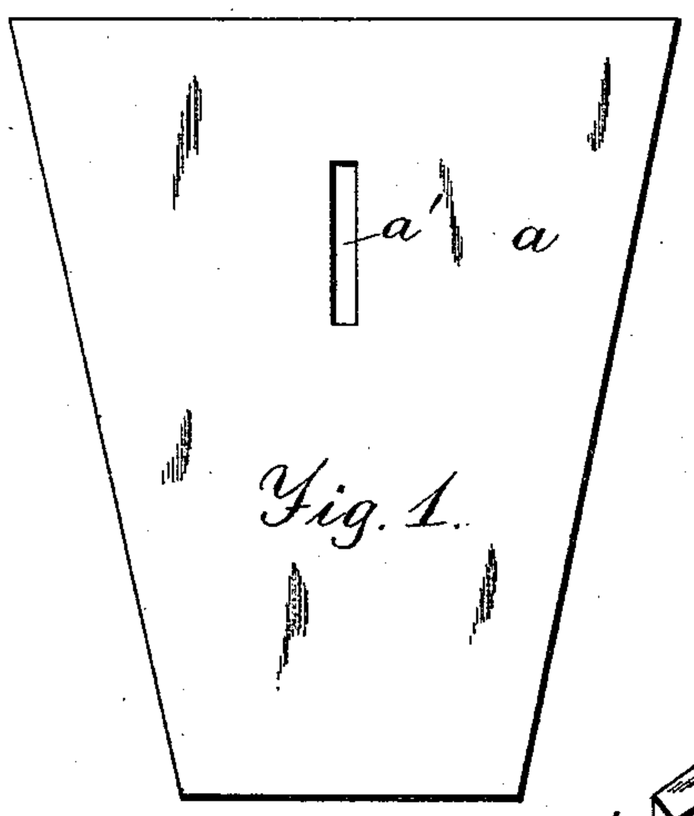

Fig. 1.

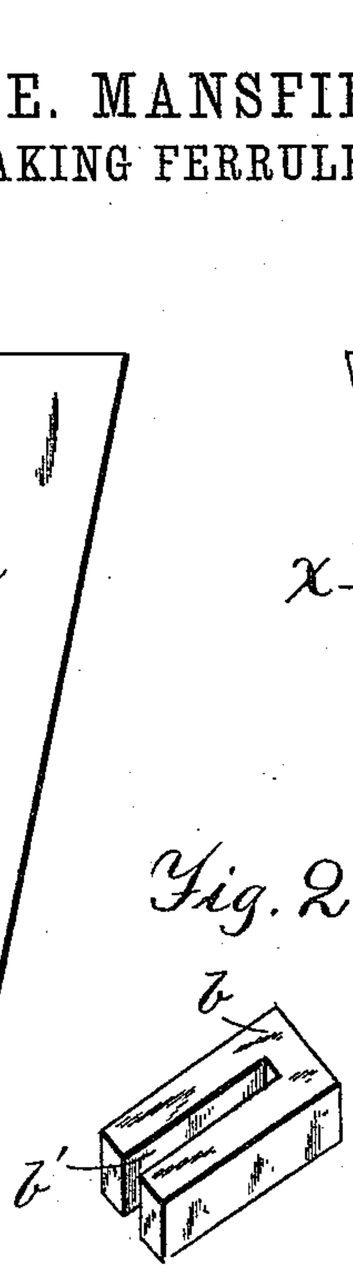

Fig. 2

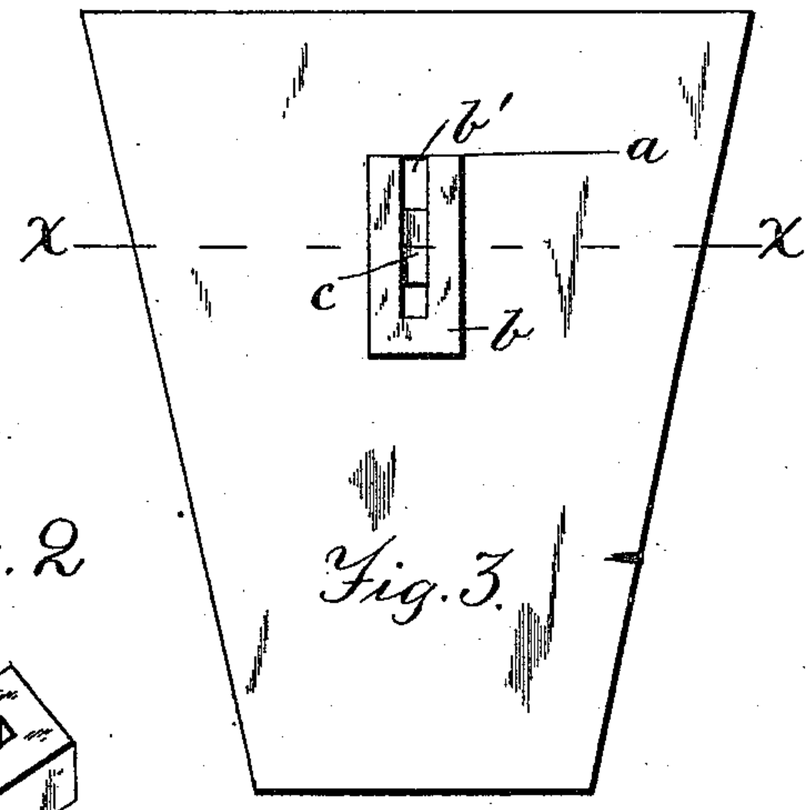

Fig. 3.

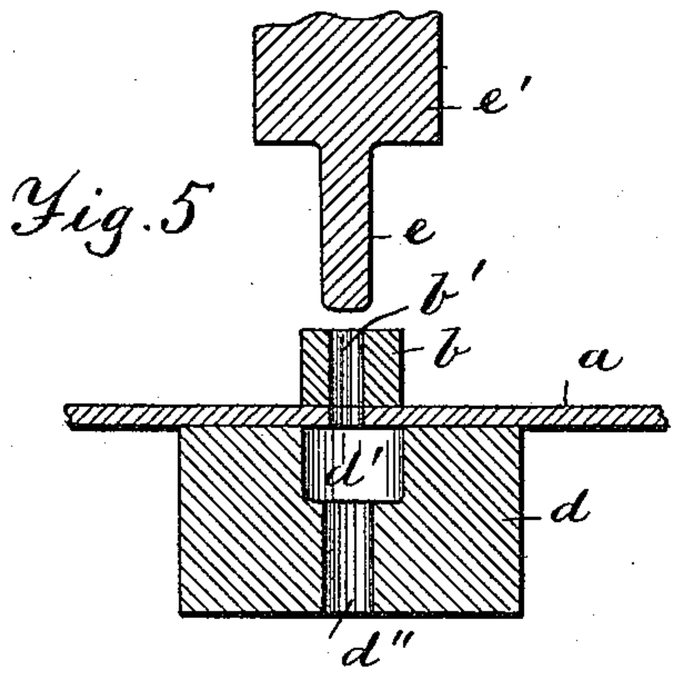

Fig. 5

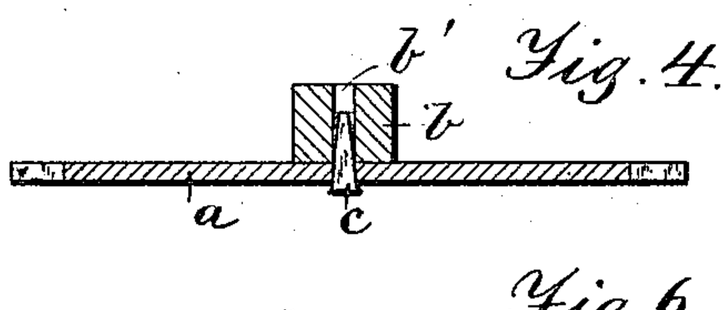

Fig. 4.

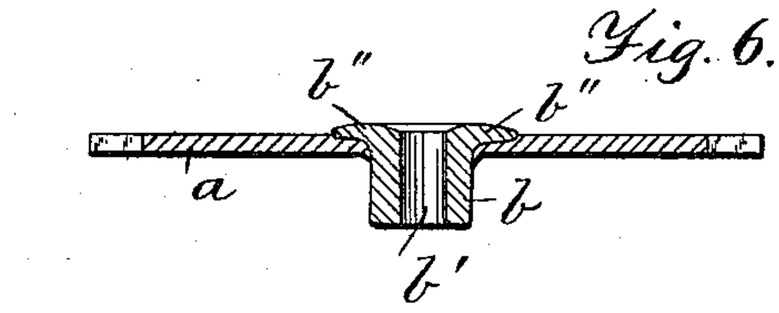

Fig. 6.

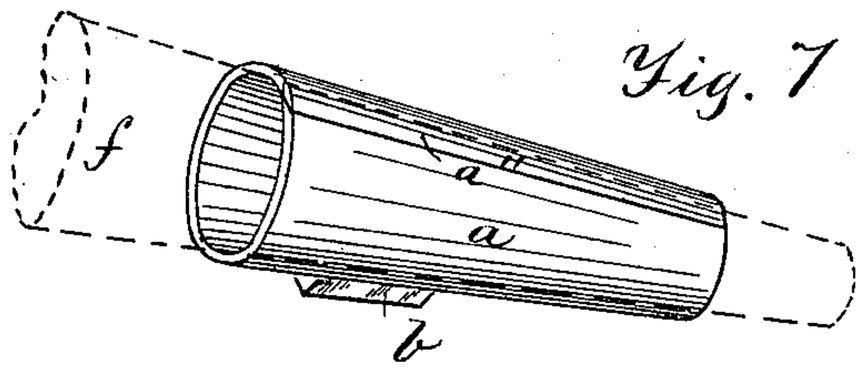

Fig. 7

Fig. 8.

Witnesses.
Irving W. Gay.
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by Alban Andrén. his atty.

UNITED STATES PATENT OFFICE.

EDWARD MANSFIELD, OF ORONO, MAINE.

METHOD OF MAKING FERRULES FOR CANT-HOOKS.

SPECIFICATION forming part of Letters Patent No. 442,813, dated December 16, 1890.

Application filed September 22, 1890. Serial No. 365,725. (No model.)

To all whom it may concern:

Be it known that I, EDWARD MANSFIELD, a citizen of the United States, and a resident of Orono, in the county of Penobscot and State of Maine, have invented new and useful Improvements in the Method of Making Ferrules for Cant-Hooks, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements on the patent granted to me January 31, 1888, No. 377,038, for a method of making ferrules for cant-hooks, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a plan view of the metal plate from which the ferrule is made. Fig. 2 represents a perspective view of the blank from which the staple is formed. Fig. 3 represents such staple-blank temporarily attached to the ferrule-plate previous to and during the operation of welding such parts together. Fig. 4 represents a cross-section on the line X X, shown in Fig. 3. Fig. 5 represents a sectional view showing the punch and die for welding the ferrule-plate and staple together. Fig. 6 represents a sectional view showing said ferrule-plate and staple after being welded together. Fig. 7 represents a perspective view of the ferrule after being closed and welded together, and Fig. 8 represents a central longitudinal section of the finished ferrule with its wooden handle and the cant-hook pivoted to the staple of said ferrule.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In carrying out my invention I proceed as follows: I first cut or punch out from weld-steel or suitable forged or wrought metal a plate or ferrule-blank *a*, through which I make slotted perforation *a'*, as shown in Fig. 1. *b* in Fig. 2 is the staple-blank, which is also preferably made from weld-steel, and provided with a vertical slit *b'*, which latter may be made, preferably, by means of a saw while the blank is heated. Said slitted staple-blank is then temporarily secured to the perforated portion of the ferrule-blank *a*, preferably by means of a metal wedge *c*, (shown in Figs. 3 and 4,) for the purpose of holding the staple-blank *b* in its proper position on the plate *a* during the process of heating and welding together said parts. After the staple-blank *b* and the plate *a* have been heated to a welding heat I place the plate *a* on top of a die-block *d*, Fig. 5, having a recess *d'* corresponding to the exterior form and size to be given to the staple and having a perforation *d''*, adapted to receive the punch *e*, which is of a size and form equal to the opening desired to receive the eye of the cant-hook. The punch *e* is attached to or forms a part of a plunger *e'*, as is common in drop forging or welding machines. During this welding operation the plate *a* is placed upon the die-block *d*, with the staple-blank *b* projecting upward, as shown in Fig. 5. During the descent of the plunger *e'* the punch *e* enters the slit in the staple-blank and passes into the die-block perforation *d''*, and as the plunger *e'* continues to descend it causes the staple-blank to be forced into the recess *d'* on the opposite side of the plate *a*, leaving the now molded and welded staple projections on the outside of the ferrule-blank, as represented in Fig. 6. The advantage of this method over the one described in my above-mentioned patent is that the staple is more firmly welded to the plate *a*, causing a part of the staple to be lapped over or expanded on the inside of the plate *a* in the form of lips or flanges *b'' b''*, (shown in Fig. 6,) by which an increased welding-surface is obtained between the parts, and consequent increase of the strength at the welded joint. I also obtain a more even and finished appearance of the staple where it joins the exterior of the ferrule. After such parts are welded together I repeat them and bend the plate *a* around a conical mandrel *f* (shown in dotted lines in Fig. 7) and weld the overlapping edges of said ferrule at a^4, as shown in Fig. 7. The ferrule is now finished, and I drill or punch a hole through the staple *b* for the reception of the bolt or rivet *g*, to which the eye *h'* of the cant-hook *h* is pivoted, as shown in Fig. 8.

i is the wooden rod the end of which is driven into the ferrule, as is usual in devices of this kind.

What I wish to secure by Letters Patent, and claim, is—

The herein-described method of making cant-hook ferrules, consisting in first cutting or punching out a plate *a* and making a slit or perforation *a'* therein, then attaching a slitted staple-blank to the inside of said ferrule-plate, welding said parts together and forcing the staple during the welding operation to the opposite side or outside of the ferrule-plate, and finally bending the latter in the form of a conical tube and welding its abutting or overlapping edges together, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 12th day of September, A. D. 1890.

EDWARD MANSFIELD.

Witnesses:
ALBAN ANDRÉN,
JULIA RICHARDSON.