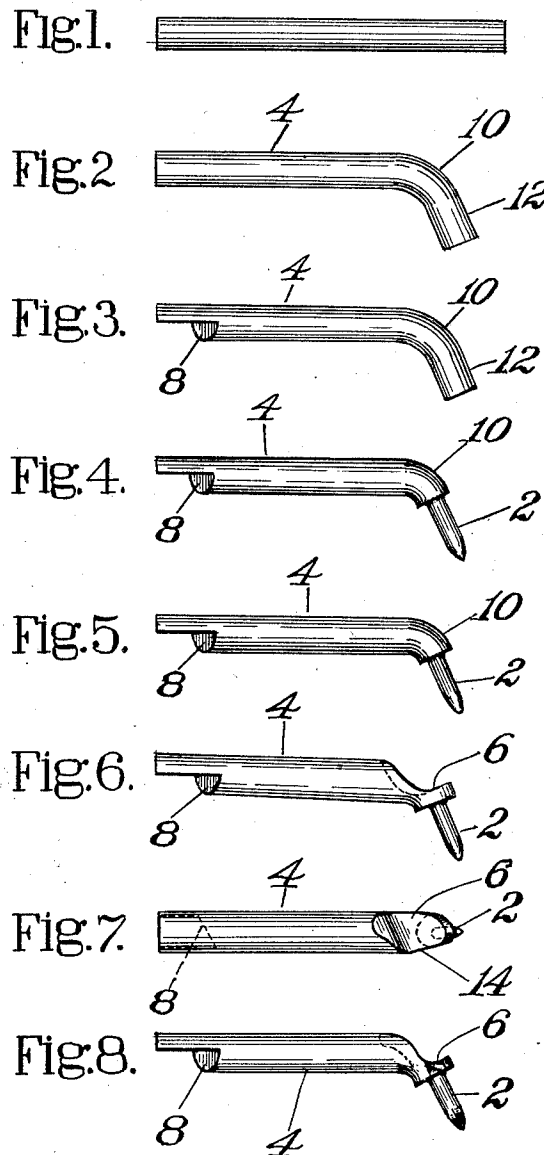


L. A. CASGRAIN.
METHOD OF MAKING AWLS.
APPLICATION FILED AUG. 19, 1909.

997,238.

Patented July 4, 1911.



WITNESSES.

Edith C. Holbrook
Bertha M. Hutchinson

INVENTOR.

Louis A. Casgrain
By *Wm. H. H. H. H.*
Nelson M. Howard

UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

METHOD OF MAKING AWLS.

997,238.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed August 19, 1909. Serial No. 513,615.

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Methods of Making Awls, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to methods of making awls, and particularly to a method of making awls of the type employed in the machine for inserting fastenings which constitutes the subject-matter of my co-pending application for Letters Patent, Serial No. 452,755, filed September 12, 1908. In the said co-pending application is disclosed a novel form of awl comprising a work penetrating portion, an offset stem and an impact-receiving ledge in line with the work penetrating portion, said ledge receiving the impact of the inserting mechanism whereby the awl is forced into the work. To meet the peculiar conditions presented by the position of the awl in the machine the stem is preferably offset from the work penetrating portion and is obliquely positioned with respect to the direction of the work feed. Furthermore the stem is preferably provided with an alining shoulder to permit the convenient adjustment of the awl into correct position as it is placed in its holder, and owing to the peculiar position of the awl in the machine this shoulder and the impact-receiving ledge will each be formed at an oblique angle to the axis of the stem.

It will be observed from the foregoing description that the position of the awl in the machine and the peculiar manner in which it is operated cause it to assume a form which presents rather perplexing problems of manufacture, especially in view of the fact that awls constitute the parts of machines for inserting fastenings which are most liable to breakage and which must therefore be manufactured so that they can be replaced at small cost.

A particular object of the present invention, therefore, is to provide a method of manufacturing awls having some, all, or different combinations of the features and characteristics above enumerated, by which

such awls of good quality and of the above described construction can be manufactured at comparatively small cost.

With the foregoing and other objects in view the method of this invention has been devised, and this method will now be particularly described with especial reference to its employment in the manufacture of awls like that disclosed in the co-pending application above referred to.

In Figure 8 of the accompanying drawings is shown a completed awl. This awl comprises the work penetrating portion 2, the offset stem 4, the impact-receiving ledge or seat 6, and the alining shoulder 8.

The material from which the awls are to be made may come in the form of wire or rods of steel of the proper composition and temper, and is preferably circular in cross-section. The material may first be cut into proper lengths, or the first step in the formation of the awl, namely the bending, may be performed before the part which is to form the awl is cut off from the rest of the material.

In Fig. 1 is shown a piece of material which has been cut to the proper length to form an awl.

In Fig. 2 is illustrated the first or bending step in the manufacture of the awl. The bend 10 is made near one end of the piece from which the awl is to be formed, and the angle between the two parts upon the two sides of the bend is the angle which the work penetrating portion 2 of the awl makes to the stem 4. The bending is preferably performed without heating the material.

In Fig. 3 is shown what may constitute the next step in the manufacture of the awl, namely the formation of an alining shoulder 8 by milling away a portion at the rear end of the stem 4, although it will be understood that the order of several of the steps in the method is not fixed. After the alining shoulder has been milled upon the stem, the short section 12 upon the other side of the bend is hollow milled, as shown in Fig. 4 to form the work penetrating portion 2. If the bend has not been so accurately made that the hollow milling results in the formation of a work penetrating portion of the desired length, this portion may now be cut to the proper length, as shown in Fig. 5.

The ledge or seat 6 which is to receive the

impact from the fastening inserting mechanism is now milled, this ledge being formed by cutting out some of the material in the bend 10. It will be noted, as hereinabove suggested, that both the fastening alining shoulder and the impact-receiving ledge are milled at oblique angles to the axis of the stem. The ledge forming step is illustrated in Fig. 6.

10 In the machine disclosed in the co-pending application above referred to, the fastening is inserted through a feed plate which serves to guide the fastening during the inserting operation and to feed the work by engagement with the partially inserted fastening. The awl is positioned in the machine so that it is separated from the opening in the feed plate a distance equal to the distance apart it is desired to have the inserted fastenings. As this distance is never very great, and as the movement of the awl into and out of operative position beneath the inserting mechanism is at right angles to the direction of the work feed and therefore at an oblique angle to the axis of the stem 4 it is desirable to form a clearance upon the side of the seat adjacent to the feed plate.

A succeeding step in the manufacture of

the awl therefore is that illustrated in Fig. 30 7, namely, the milling of the clearance 14.

A final step in the shaping of the awl will be the sharpening operation, this operation being necessary only if it is desired to have a diamond point on the awl. After the 35 shaping of the awl has been completed it will be hardened, tempered and polished.

Having described my invention what I claim as new and desire to secure by Letters Patent of the United States is:— 40

The method of making an awl having a stem offset from its work penetrating portion and an impact-receiving ledge or seat in line with said work penetrating portion, which consists in bending, while cold, to the 45 angle between the work penetrating portion and the offset stem material having the cross-section of the stem, milling the work penetrating portion upon a part upon one side of the bend and milling the impact- 50 receiving ledge or seat out of said bend.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS A. CASGRAIN.

Witnesses:

H. DORSEY SPENCER,
LEONARD M. JOHNSON.