

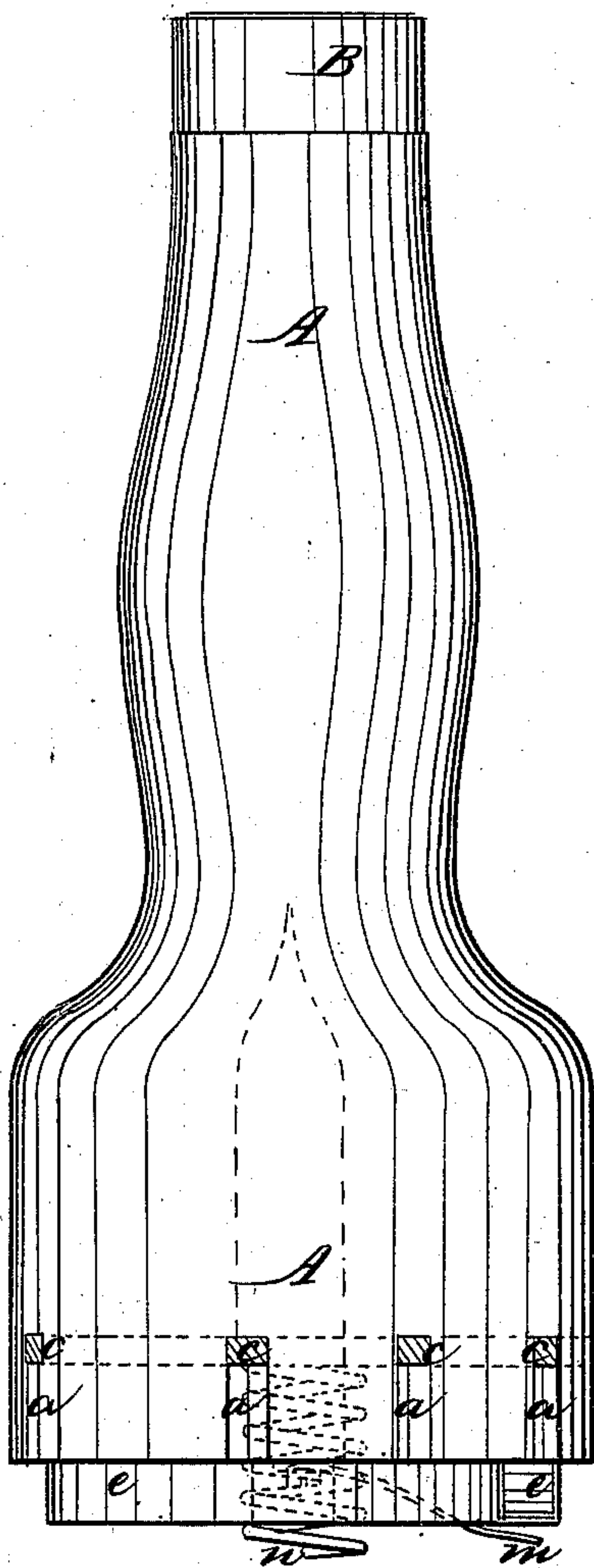
J. H. Walker,

Cutting Leather.

N^o 43,356.

Patented June 28, 1864.

Fig. 1.



Witnesses
A. Moore
N. W. Heilbron

Fig. 2.

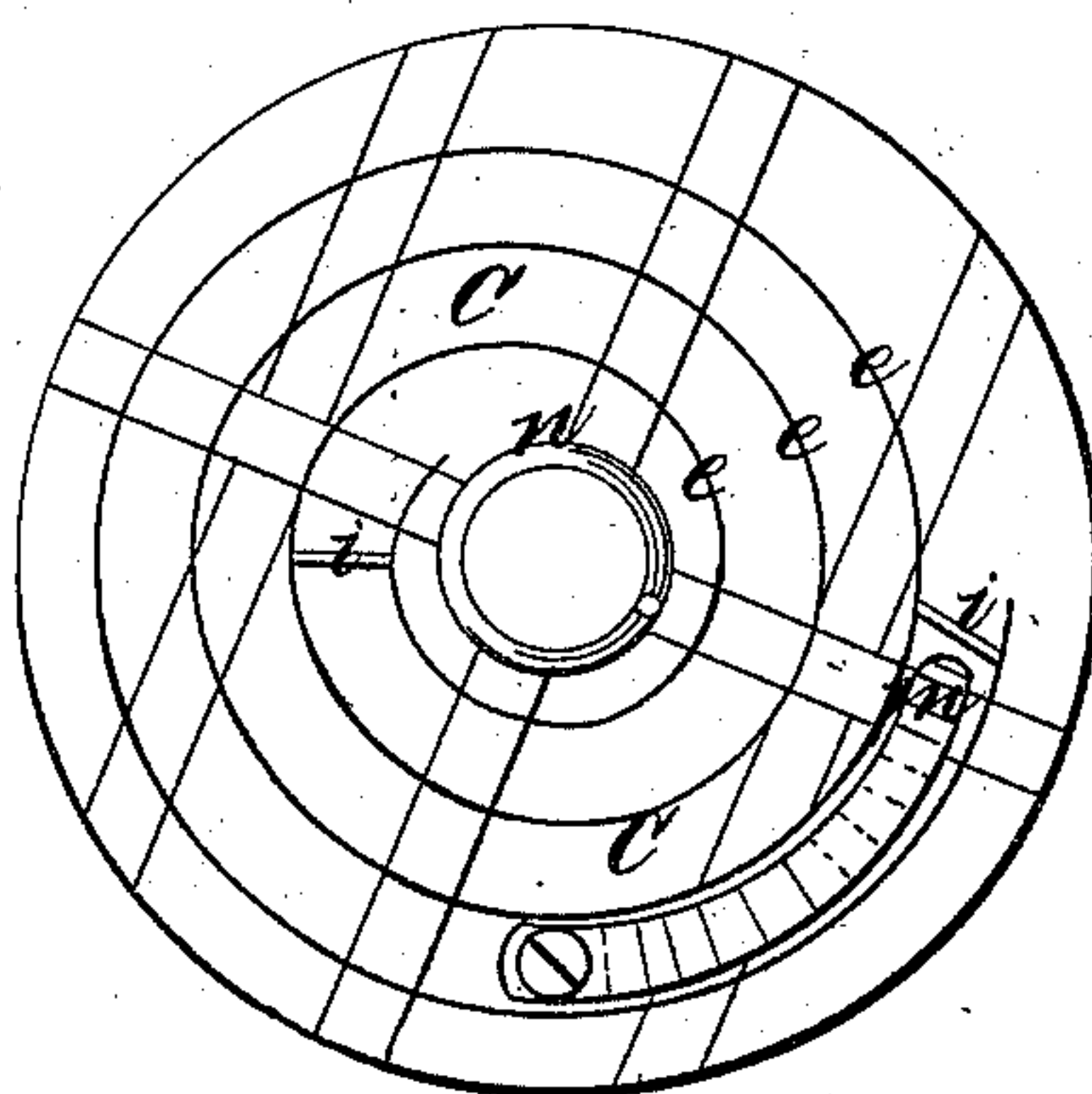
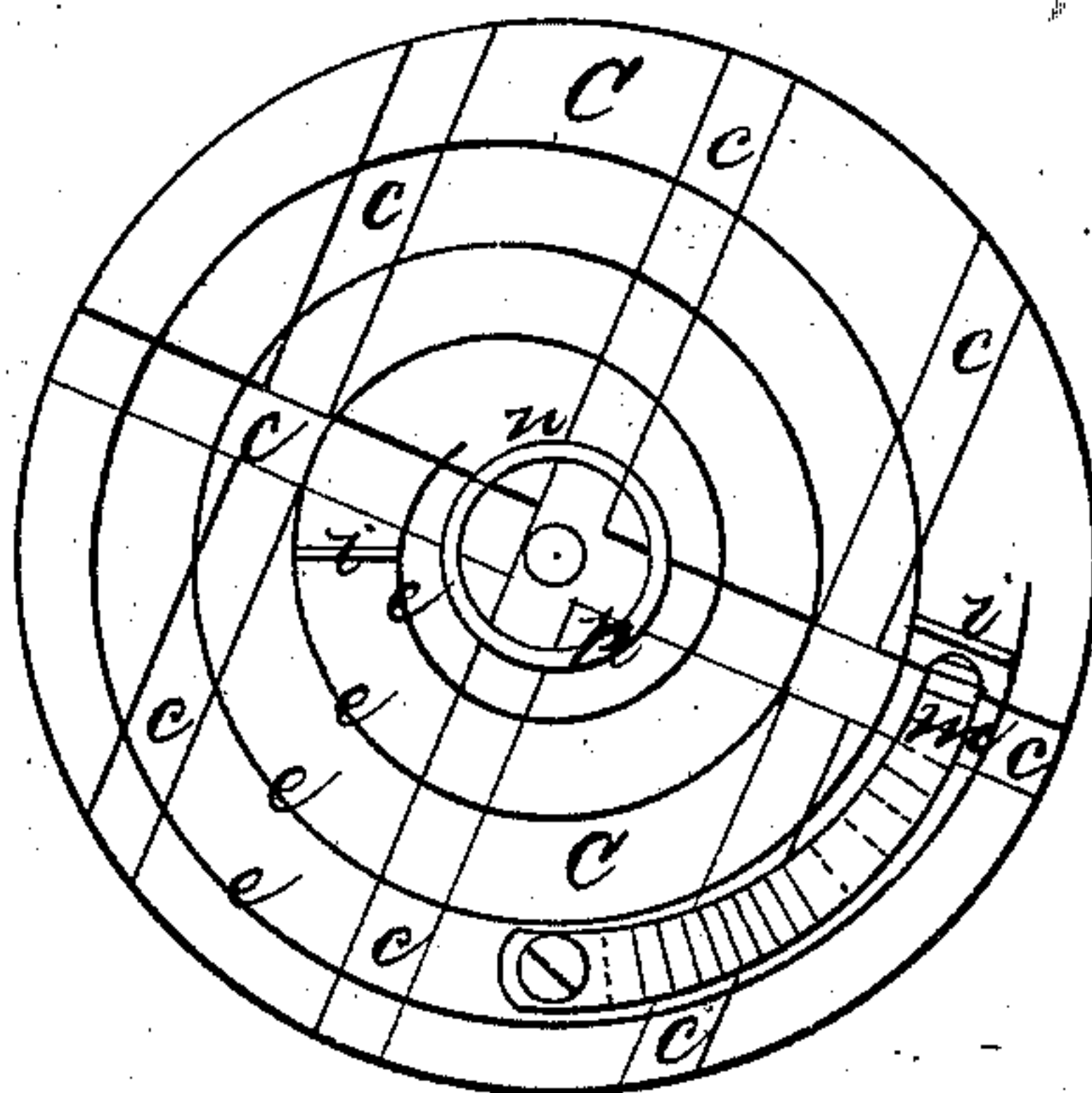


Fig. 3.



Inventor.

J. H. Walker
By atty A. B. Stoughton.

UNITED STATES PATENT OFFICE.

J. H. WALKER, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN PUNCHES FOR CUTTING OUT WELTS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **43,356**, dated June 28, 1864.

To all whom it may concern:

Be it known that I, J. H. WALKER, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Punches or Dies for Cutting out Welts for Boots and Shoes from Scraps of Leather or other Material; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an elevation of one of the punches or dies in question. Figs. 2 and 3 represent end views of the same.

I am aware that a spiral and volute shaped cutter has heretofore been used for cutting leather into strips, and these things I do not, therefore, lay any claim to. But as heretofore used no provision was made for cutting or squaring off the strip at its ends, nor for ejecting one end thereof to enable the user, without danger of cutting his fingers, to draw the severed and completed strip from between the coils of the cutter.

My invention consists, first, in the manner in which I hold and secure the coiled cutter to the punch or die; and, secondly, it consists in combining with the coiled or spiral cutter a cross-knife or cutter for cutting off or squaring one or both ends of the welt, so that it may come from the punch or die in a finished state; and, thirdly, it consists in combining with the punch or die, and at or near the outer end of the cut welt an ejector for throwing that end of the cut welt from the punch that the user may seize it to draw the welt from between the coils of the cutter.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a stock, by preference made of wood, its head B being banded or capped with metal to prevent it from being bruised by blows from the hammer or mallet when in use. In the face C of this wooden stock I cut a series of grooves, *a a a*, say, about half an inch (more or less) deep, into which grooves a frame-work of iron or other metal, *c c c*, is let; or, instead of a frame-work, they may be simply bars of metal, their object and purpose being to form a firm support for the cutter, which is made, for economy, of very thin steel,

somewhat like a clock-spring, and to prevent it from being driven into the wooden stock by the blows upon the punch or die, or the resistance that the cutter meets with in being driven through the scrap of leather from which the welt is to be cut. When the metallic or other resisting base *c* is thus introduced into the grooves, a thin spiral knife or cutter, *e*, is let or driven into the face of the stock far enough for its back to rest upon the metal or other resisting base or frame *c*, its edge projecting, say, one-quarter of an inch (more or less) from the face of the stock. The natural elasticity and compression of the wood will hold the coiled cutter in the stock, and the base or backing *c* will prevent it from being driven or forced into it any farther by the blows or force used to drive the cutter through the piece of leather. When the cutter is fixed in place, the grooves *a* may be plugged up with wood, as shown in Fig. 2. The punch or die, so far as above described, would simply cut a spiral strip with the core-piece fast to it at one end and the scrap or margin of the leather still clinging to the other end of it, which would require after separation.

To complete the welt at one operation being one of the leading objects of my invention, I arrange a cross knife or cutter, *i*, at or near one or both ends of the spiral knife, or at such distances along the spiral line as would make a welt of the proper length, which knives separate the welt from the core and margin refuse, and leave it ready to be used without any further trimming.

For the purpose of ejecting the core-refuse from the punch or die, I arrange a spiral spring, *n*, at the center of the punch, which will contract as the cutter is forced through the leather, and which, when the punch is raised up from the block or table, expands and throws out the refuse core-piece. This central ejector, I believe, has heretofore been used for a similar purpose. But in addition to the central ejector there is another operation quite as essential, if not more so—viz., something to eject a portion of severed strap from between the coils of the cutter, for being cut loose from the refuse leather it would remain in the space between the coils of the cutter. To accomplish this object, I arrange at or near the outer cross-knife a spring, *m*, which yields when the

welt is cut, and springs into the space between the coils of the spiral knife *e*; but when the punch is raised up from the block or table the spring *m* reacts or recoils, and throws out the outer end of the finished welt, so that the operator may seize it without danger of cutting his fingers, and draw the welt from the punch or die.

While I have described my invention as applied to a stock that is to be struck with a blow from a hammer, mallet, or their equivalents, it is obvious that without changing the character of the invention the punch or die may be forced through the leather by a lever, cam-screw, or any other well-known mechanical means; and for the sake of evasion of my whole invention one of the cross-knives may be omitted, and I do not, therefore, confine my invention to the use of both of the cross-knives, though I shall probably always use both in each punch.

Having thus fully described my invention,

what I claim therein as new, and desire to secure by Letters Patent, is—

1. In combination with a spiral or volute knife or cutter I set and held in a stock of wood, a metallic or other resisting back or base to prevent the cutter from being driven into the wood, by use or otherwise, beyond a given distance, substantially as and for the purpose described.

2. In combination with a volute or spiral cutter for cutting out straps or strips of leather, a cross knife or knives for separating said strip in part or in whole from the refuse, substantially as described.

3. In combination with a spiral or volute knife and a cross knife or knives, an ejector for throwing out the end of the cut strap, as and for the purpose described.

J. H. WALKER.

Witnesses:

C. JILLSON,

CHAS. M. RUGGLES.