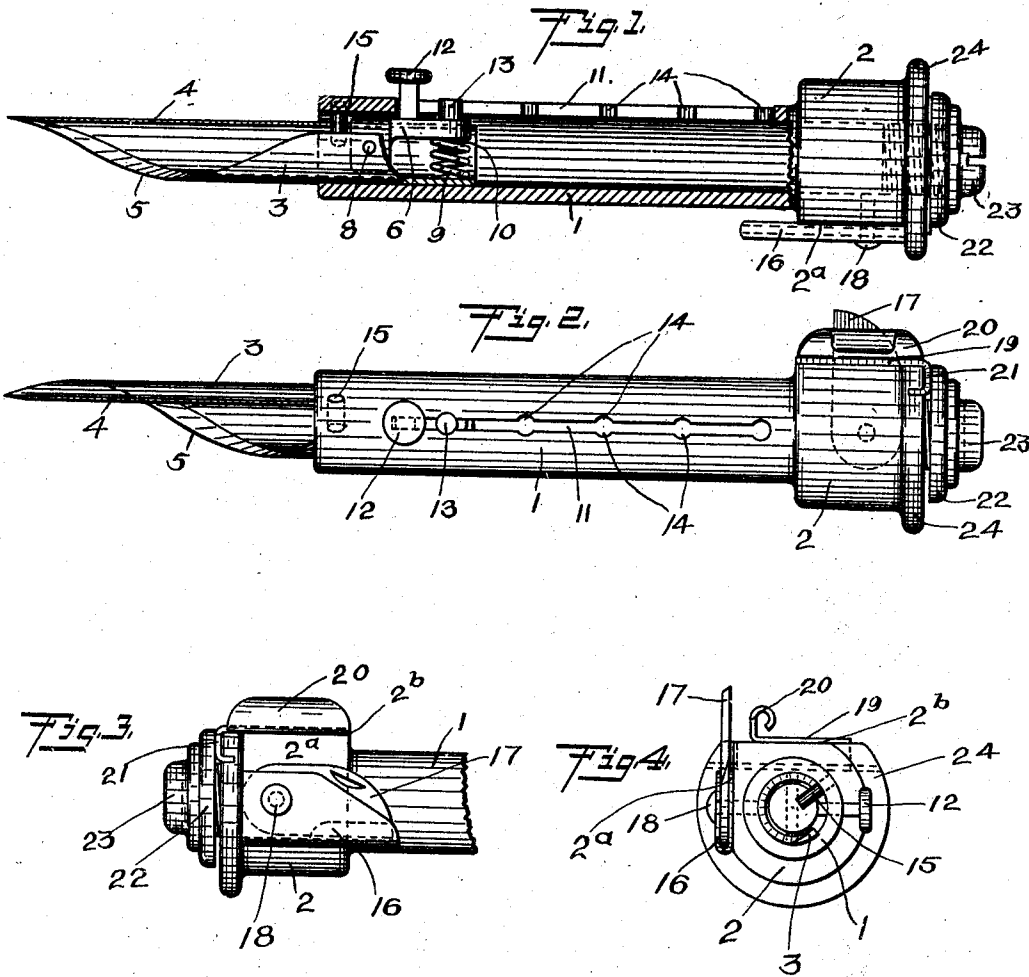


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PATENTED DEC. 5, 1905.

W. L. FOLDEN.
BELT PUNCH AND LACE CUTTER.
APPLICATION FILED SEPT. 26, 1905.



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Witnesses

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TO WILLIAM M. KING, OF LINCOLN, NEBRASKA.

BELT-PUNCH AND LACE-CUTTER.

No. 806,333.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed September 26, 1905. Serial No. 280,185.

To all whom it may concern:

Be it known that I, WARNER L. FOLDEN, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Belt-Punches and Lace-Cutters, of which the following is a specification.

My invention relates to belt-punches and belt-lace cutters; and it is the object thereof to provide a strong, simple, and convenient combination-tool for these purposes.

My invention consists in the particular combinations and arrangements of parts herein-after described in detail and shown in the accompanying drawings, forming a part hereof.

In the drawings, Figure 1 is a side elevation, partly sectional, of a tool embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail side view of the head, showing the lace-cutting blade folded into its sheath; and Fig. 4 is an end view of the tool.

In the construction shown I provide a suitable tubular handle 1, having a head 2 at one end thereof. The cutting-blade 3 is transversely curved, so as to fit snugly within the bore of the handle, is longitudinally slidable within the handle, and is of a length such that it may be entirely inclosed by the handle or pushed out of the open end thereof, as shown in Figs. 1 and 2. The outer end of the blade is pointed, the back 4 of the blade being straight and the cutting edge 5 extending back from the point in the form of a helix, as is clearly shown in the drawings. Near the inner end of the cutting-blade the latch-lever 6 is pivotally connected therewith by a pin 8. A small coil-spring 9 is retained under the rear end of the lever by a pin 10, said spring normally holding the lever up against the inner surface of the handle 1. At about the center of the lever is an upwardly-extending stem, which passes through a slot 11 in the handle and has on the end thereof the thumb-knob 12. At the rear end of the lever is the upwardly-extending latch-pin 13, which is of a diameter greater than the width of the slot 11. Notches 14 are formed at suitable intervals along the sides of the said slot, enlarging the same so that at said notches the latch-pin may pass up through the same, said pin being normally held in one of said notches by the spring 9, and thereby preventing longitudinal movement of the cutting-blade. By pressing on

the thumb-knob 12 the rear end of the latch-lever may be depressed to release the latch-pin from the notch with which it is engaged and the cutting-blade may then be moved longitudinally to withdraw the same into the handle or to expose for use a suitable portion of the helical cutting edge, the latch-pin when released being held by the spring 9 in engagement with any one of the notches 14 along the slot.

In using the punch for perforating or forming holes in belting the handle is grasped by the operator, the thumb-knob depressed, the blade pushed out of the handle a suitable distance, and the thumb-knob released. The blade is then pushed through the belt as far as permitted by the handle, in so doing the helical cutting edge making a circular cut in the material. The blade is then twisted toward the cutting edge 5, being guided in a circular path on account of its transverse curvature and the circular cut already formed until a circular hole is formed in the material. To relieve the thumb-knob stem and latch-pin 13 from side stress during the twisting of the blade, I provide the stop-pin 15, which is fixed in the handle at the position shown and against which the back of the blade bears, as represented, so that said pin takes all the stress due to the twisting of the blade.

On the head 2 are the flat faces 2^a and 2^b. (Clearly shown in Fig. 4.) On the face 2^a the sheath 16 of the lace-cutting blade 17 is secured by a small rivet 18, the same serving also as a pivot-pin to retain the blade in the sheath. On the face 2^b is the sheet-metal gage-plate 19, having an upwardly-extending rolled edge 20 thereon parallel with and adjacent the face 2^a and a portion 21 extending down over the rear side of the head and entering a kerf formed therein, as shown. The gage-plate is adjustably held in position by the washer 22, which is pressed against the rear portion thereof, 21, by the screw 23, which passes through the washer and enters a threaded opening in the center of the head.

For use in cutting or trimming laces the blade 17 is turned upward out of the sheath to the position shown in Fig. 2, the back of the blade resting against the circular flange 24 on the head. The edge 20 of the gage-plate is then adjusted to a distance from the blade equal to the width of lace desired, and a straight edge of the material from which

the lace is to be formed is held against the gage edge 20 and the tool drawn along, the blade cutting the lace to the desired width.

It will be obvious that with the blade 17 5 folded into its sheath, as shown in Fig. 3, and the blade 3 withdrawn into the handle the tool may be safely carried in the pocket and furnishes a cheap and convenient device for the use of mechanics in repairing and installing 10 belted connections.

Now, having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A belt - punch comprising a handle, a 15 transversely-curved blade adjustably connected therewith, there being on the blade a straight back and a helical cutting edge, and a stop-pin on the handle engaging the back of the blade for the purpose set forth.

20 2. In a tool of the class described, a handle, a transversely-curved cutting-blade adjustably held therein, there being on the blade a straight back and a helical cutting edge, and a fixed pin carried by the handle and engaging 25 the back of the cutting-blade when the same is in any position to which it may be adjusted with relation to the handle.

3. In a tool of the class described, a tubular 30 handle, a transversely - curved cutting-blade having a straight back and a helical cut-

ting edge thereon, said blade fitting into the handle and being longitudinally slidable therein, and means for retaining the blade at adjusted positions with relation to the handle.

4. In a tool of the class described, a tubular 35 handle, a cutting-blade fitting into said handle and being longitudinally slidable therein, a spring-actuated latch-lever connected with the blade, there being in the handle a longitudinal slot having notches in the side thereof 40 adapted to be engaged by means carried by the latch-lever, and releasing means carried by the said lever and extending through the longitudinal slot in the handle.

5. In a tool of the class described, the combination 45 with a tubular handle having a head thereon and a lace-cutting blade and adjustable gage-plate carried on said head, of a transversely-curved blade fitting into said handle and being longitudinally slidable therein, there 50 being on said blade a helical cutting edge, and means for securing said blade in various adjusted positions with relation to the handle.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses. 55

WARNER L. FOLDEN.

Witnesses:

S. N. WHITE,
L. O. KING.