E. VIERTELS.

TIP FASTENER FOR SHOE LACES.

APPLICATION FILED MAR. 6, 1917.

1,231,103. Patented June 26, 1917.

Fig:1.

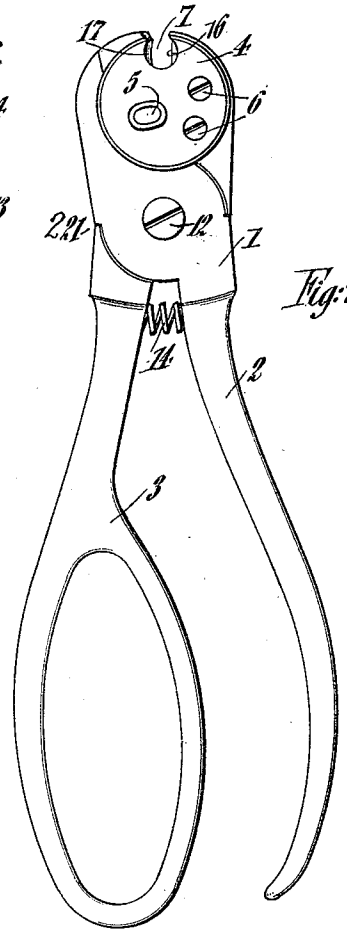


Fig:6.

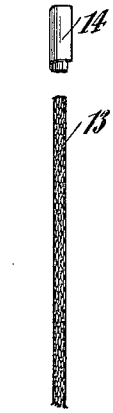


Fig:7.

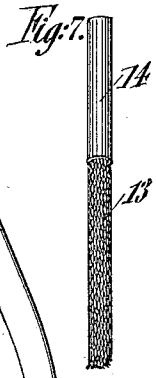


Fig:2.

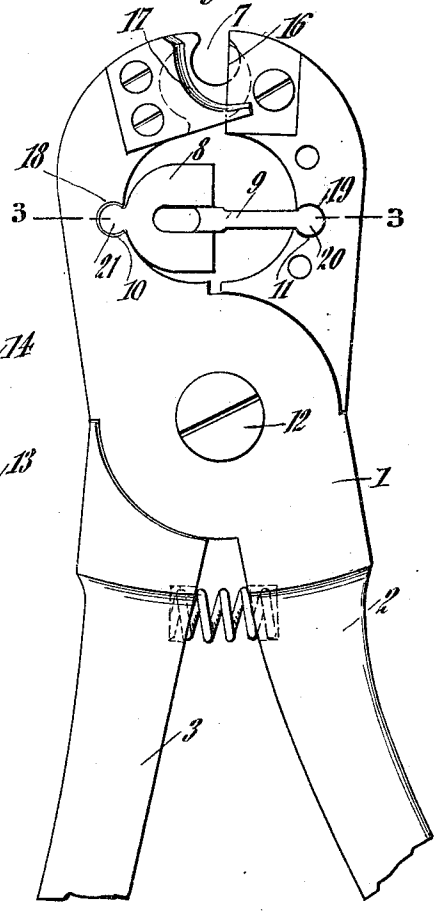


Fig:3.

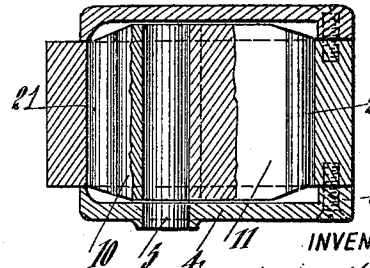


Fig:4.

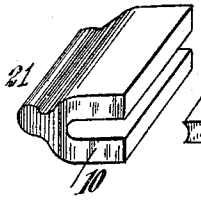
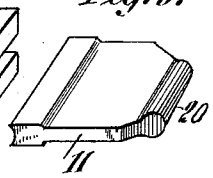


Fig:5.



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UNITED STATES PATENT OFFICE.

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TIP-FASTENER FOR SHOE-LACES.

1,231,103. Specification of Letters Patent. **Patented June 26, 1917.**

Application filed March 6, 1917. Serial No. 152,805.

To all whom it may concern:

Be it known that I, EPHRAIM VIERTELS, a citizen of the United States, and residing in the borough and county of Bronx, city and State of New York, have invented certain new and useful Improvements in Tip-Fasteners for Shoe-Laces, of which the following is a full and complete specification.

Shoe laces, provided with customary metal tips, have the defect that these tips frequently fall off, or are twisted off, which causes the tip of the shoe lace to become frayed and give an untidy impression.

The object of my invention is to provide a cheap, simple, and reliable fastener for the tips of shoe laces, which can be manipulated by the hand of the operator, so as to replace missing tips. The tool is also intended for the use of workmen who fasten the tips on the shoe laces in the factory in which they are manufactured.

I have disclosed a preferred embodiment of my invention in the following description and drawings, in which—

Figure 1 is a side view;

Fig. 2 is a side view on an enlarged scale, the face plate being omitted;

Fig. 3 is a section through the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of the female die;

Fig. 5 is a perspective view of the male die;

Fig. 6 is a view of the shoe lace and of the metal blank of which the tip of the shoe lace is formed;

Fig. 7 is a view of the shoe lace having the tip fastened thereto.

The tool 1 has the general appearance of a pair of pincers or scissors. It is provided with limbs 2 and 3, pivoted on the screw or equivalent member 12, and normally separated by the spring 14.

The tops of the limbs 2 and 3 have cutting members as at 16 and 17 fastened thereto by screws, and notches as at 18 and 19, and are covered by a face plate 4, which is fastened in position by means of screws or members 6 to the top of limb 3, and has an opening 5 at the level of the notches 18 and 19. It also has an opening 7 at the level of the cutting members 16 and 17.

The male die 11 and the female die 10 have heads or extensions 20 and 21, which fit loosely in the notches 18 and 19, so that the female die 10 and the male die 11 have a certain free but limited rotary movement in their respective notches, and they can also be withdrawn longitudinally from their respective notches for replacing, repair, or the like. The limited movement of the dies 10 and 11 is caused by the configuration of their outermost surfaces, and the configuration of the adjacent surfaces of the limbs 2 and 3. When the limbs 2 and 3 are separated by the spring 14 to the position shown in Fig. 1 (beyond which the limbs cannot be separated because of the shoulder 221) the dies are in the position shown in Fig. 2, that is, telescoped one within the other.

The blanks 14 for the shoe laces 13 are of such size that they can be inserted between the female die 10 and the male die 11, through the opening 5. The faces of the dies are so shaped that when they press upon the blank 14, the separated edges thereof are caused to overlap, and then further pressure pinches or clamps the overlapping edges together, as shown in Fig. 7.

The operation of my device is as follows: The end of the shoe lace is trimmed off if necessary, by inserting it through the opening 7 between the cutting members 16 and 17, and pressing together the limbs 2 and 3.

The blank 14 of any desired shape, so as to make a tip of any desired shape or contour, cylindrical, conical, corrugated or the like, is then placed upon the end of the shoe lace and is thrust through the opening 5, between the dies 10 and 11. The limbs 2 and 3 are then pressed together again. The dies 10 and 11 always remain in perfect alinement and move freely within each other, because as they have a limited freedom of movement in the notches 18 and 19, their rectilinear reciprocation is not affected by the rotary movement of the limbs. The action of the dies 10 and 11 causes the edge of the blank 14 to first overlap and then be clamped together. The spring 14 maintains the parts normally in the position shown in Figs. 1 and 2, with the male die 11 within the female die 10.

I have described a preferred embodiment of my invention, but I do not wish to limit myself thereto, as some of the details herein set forth could be omitted, and numerous changes made, without departing from the spirit of my invention.

Thus, the device may be used for other

purposes besides tipping shoelaces, as many other purposes would readily suggest themselves to skilled persons.

I claim:

1. In combination, a male die and a female die adapted to coöperate so as to close a metal blank into the form of a cylinder, and actuating members for actuating said dies, each of said dies being movable in a direction lateral to the direction of movement of said actuating members, the distance of movement of said actuating members being so limited, and the length of the said dies being such, that the said dies always remain telescoped with respect to each other.

2. In combination, a male die and a female die adapted to coöperate so as to close a metal blank into the form of a cylinder, movable supports for said dies mounted upon a pivot, each of said dies being movable in a direction lateral to the direction of movement of said pivoted supports, the length of said dies and the range of movement of said supports being such that the said dies always remain telescoped with respect to each other.

3. In combination, a male die and a female die adapted to coöperate so as to close a metal blank into the form of a cylinder, and movable supports for said dies, each of said dies being capable of a movement of oscillation only with respect to their respective supports, the direction of said oscillation being lateral to the direction of movement of said supports, the length of said dies and the range of movement of said supports being such that the said dies always remain telescoped with respect to each other.

4. In combination, a male die and a female die adapted to coöperate so as to close a metal blank in the form of a cylinder, movable supports for said dies mounted on a common pivot, said supports having notches in their adjacent faces, the said dies having heads adapted to fit within the said notches, the configuration of said notches and the adjacent surface of said dies being such as to permit a limited movement of oscillation only of said dies with respect to their said supports, the length of said dies and the range of movement of said supports being such that the said dies always remain telescoped with respect to each other.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

EPHRAIM VIERTELS.

Witnesses:

D. LEWIS MATTERN,

MOE M. WEINBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."