F. A. TAYLOR.

DIE SUPPORT.

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1,309,970.

Patented July 15, 1919.

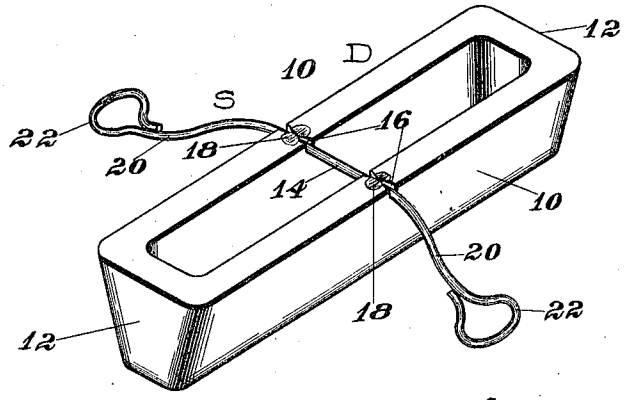


Fig. 1.

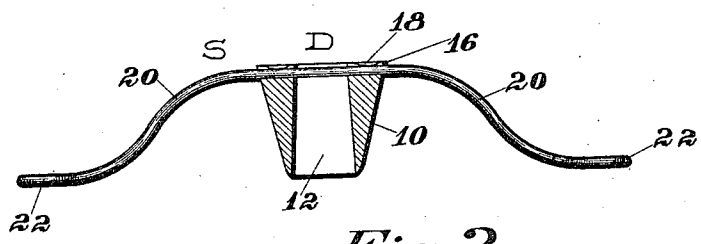


Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANK A. TAYLOR, OF BEVERLY, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

DIE-SUPPORT.

1,309,970. Specification of Letters Patent. **Patented July 15, 1919.**

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To all whom it may concern:

Be it known that I, FRANK A. TAYLOR, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Die-Supports, 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 dies and particularly to those of elongated form relatively narrow in their transverse dimensions.

Some clicking dies, such as those employed in cutting the backstays of the uppers of shoes, are unstable when set upon the stock, tending to tip over upon their sides before they can be struck to produce a cut.

An object of the invention is to provide a support for such a die, which, without interfering with its use, shall positively prevent it from tipping.

For the accomplishment of this object, a feature of the invention consists of a supporting member projecting outwardly from the top of the die into proximity with the plane of the operating portion or cutting edge.

In accordance with another feature of the invention, the supporting member is made flexible so that it does not resist the cutting movement of the die.

Still another feature of the invention concerns the form of the extremity of the supporting member, said extremity being arranged for effective engagement with the stock and providing a portion by which the die may be handled conveniently.

A further feature is found in the novel mounting of the supporting member so that it is both securely attached and will not contact with the pressure member which strikes the die.

In the accompanying drawing,—

Figure 1 is a perspective view of one embodiment of the invention, and

Fig. 2 is a transverse section taken adjacent to the supporting member.

I have illustrated a backstay die D, the cutting edge of which is of generally rectangular form, the sides 10 being long as compared with the sides or end portions 12. In the absence of my improved support, when the transverse dimension is so narrow it has been found that after the die has been placed upon the stock to be cut and before it is struck, as by the beam of a clicking press or the mallet of the operator, it may fall over upon one of its long sides, delaying the operation and perhaps injuring the stock as a result of the die being struck in this position. A means for preventing this is shown at S, this, in the present instance, consisting of a wire of spring metal having a horizontal portion 14 seated in alined grooves 16, 16 formed across the upper edges or pressure faces of the sides 10, 10 of the die near the centers thereof. The member S is secured in these depressions in some such manner as by upsetting the material at each side of the groove 16, as appears at 18. To further secure the member from turning in the depressions it may be also fastened by sweating. From the wall of the die a supporting arm 20, 20, continuing the horizontal portion 14 of the member at each side, extends outwardly and downwardly into proximity with the plane of the cutting edge of the die, the amount of lateral extension being such that the die cannot be overturned in this direction. A suitable form for the arms 20 is in the reverse curve illustrated, the lower extremity of each arm after its curvature lying horizontally and having an enlargement, preferably provided by a loop 22, formed in the end of the wire. This enlargement gives a contact surface for engagement with the stock, which is of sufficient extent to furnish effective support and which is also free from rough portions which might injure the material to be cut. It further provides a hand-hold convenient in manipulating the die.

It will be seen that a die supported as described will have substantially as great a lateral stability as though its widths were equal to the distance between the ends of the arms and that in spite of this the resiliency of the arms allows the die to be forced into the material without substantial resistance to its movement. The supporting member is also entirely below the surface with which the pressure member for operating the die contacts, thus avoiding interference in this respect.

Having thus described my invention,

what I claim as new and desire to secure by Letters Patent of the United States is:

1. The combination with a die, of a supporting arm fixed to and projecting outwardly from the die into proximity with the plane of the operating portion thereof.

2. The combination with a die, of a flexible supporting arm fixed to and projecting outwardly from the die into proximity with the plane of the operating portion thereof.

3. The combination with a die, of a supporting arm fixed to and projecting outwardly from the die into proximity with the plane of the operating portion thereof and being provided at its extremity with an enlargement.

4. The combination with a die, of a supporting arm projecting outwardly from the die into proximity with the plane of the operating portion thereof and being provided at its extremity with an enlargement extending substantially in the plane of said operating portion of the die.

5. The combination with an elongated die relatively narrow in its transverse dimension, of a supporting member secured at the top of the die and extending transversely thereof outwardly and toward the plane of the cutting edge.

6. The combination with an elongated die relatively narrow in its transverse dimension, of a supporting member secured to the top of the die and extending transversely thereof outwardly and toward the plane of the cutting edge, said member being provided at each extremity with a looped portion.

7. A clicking die provided at its top with a depression, and a member secured in the depression and extending outwardly from the die and into the plane of the cutting edge thereof.

8. A clicking die provided at its top with a depression, and a member seated in the depression and extending outwardly from the die into the plane of the cutting edge and secured in place by the material of the die extending over the member at each side of the depression.

9. A clicking die provided in its opposite upper edges with alined depressions, and a member secured in the depressions and furnishing oppositely extending supporting arms.

10. In combination, a die relatively narrow in one dimension and provided with a cutting edge to rest upon the work, and means projecting from the die at a point removed from the cutting edge and arranged for contact with the work to hold the cutting edge in operative contact therewith.

11. In combination, a die provided with a cutting edge arranged to rest upon the work and support the die thereon, and an arm secured to said die at a point removed from the cutting edge and extending outwardly and into proximity with the plane of the work to further support the die.

12. In combination, a die provided with a pressure-applying surface and an opposite cutting edge, and an arm secured to the die at the pressure-applying surface and extending therefrom outwardly and being inclined toward the plane of the cutting edge.

13. In combination, a die provided with a pressure-applying surface and an opposite cutting edge, and an arm secured to the die at the pressure-applying surface and extending therefrom outwardly and being inclined toward the plane of the cutting edge, said arm having an end portion parallel to the plane of the cutting edge.

14. In combination, a die provided with a pressure-applying surface and an opposite cutting edge, and a member lying transversely of said die at the pressure-applying surface and extending outwardly and in an inclined direction at both sides of the die into proximity with the plane of the cutting edge.

15. In combination, a die provided with a pressure-applying surface and an opposite cutting edge, and a wire lying transversely of said die at the pressure-applying surface and extending outwardlly and in an inclined direction at both sides of the die into proximity with the plane of the cutting edge, the wire having at each extremity a loop.

In testimony whereof I have signed my name to this specification.

FRANK A. TAYLOR.

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