

Nov. 27, 1945.

H. J. SHIBOVICH

2,389,644

STOCK STRAIGHTENER

Filed Aug. 23, 1943

2 Sheets-Sheet 1

Fig. 1.

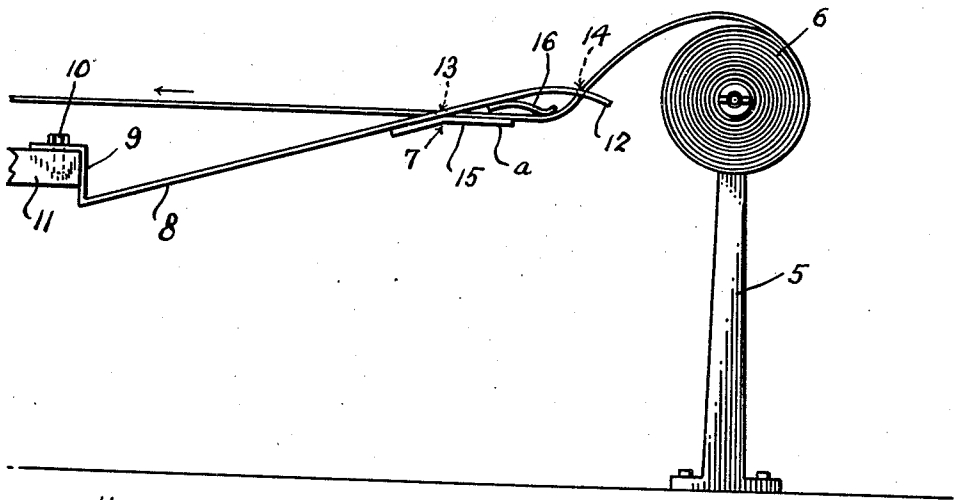


Fig. 2.

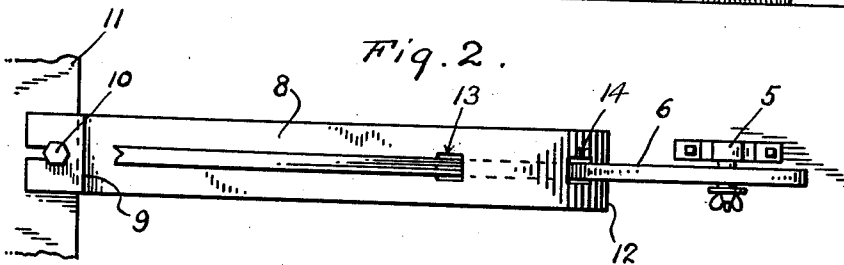
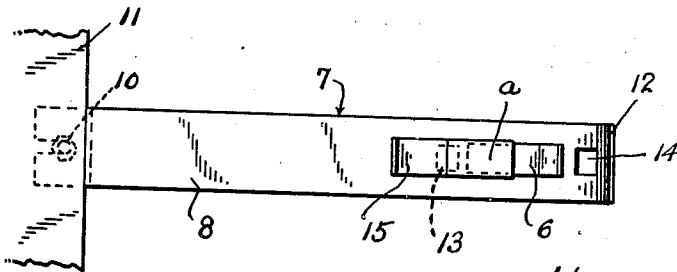


Fig. 3.



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Fig. 4.

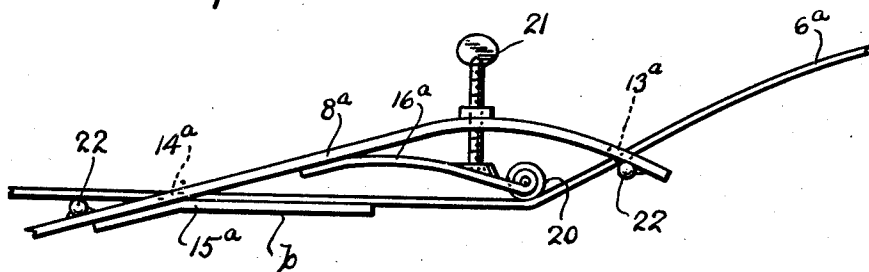


Fig. 5.

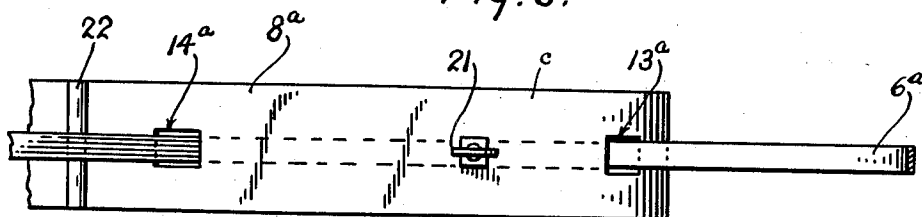


Fig. 6.

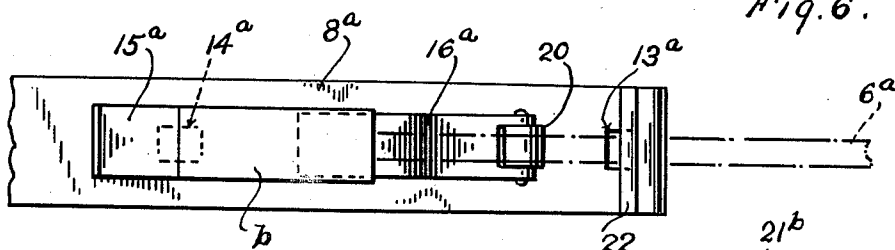


Fig. 7.

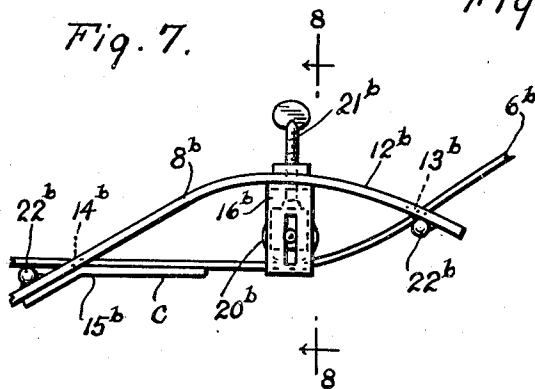
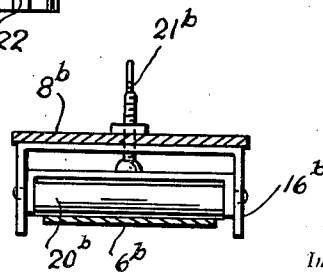


Fig. 8.



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UNITED STATES PATENT OFFICE

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STOCK STRAIGHTENER

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Application August 23, 1943, Serial No. 499,677

3 Claims. (Cl. 153—32)

This invention relates to new and useful improvements in means for straightening stock such as strip metal, metal tape and the like.

The principal object of the present invention is to provide a straightener of the character stated which will automatically straighten strip material as it is payed from a roll.

Another important object of the invention is to provide a device of the character stated which can be readily mounted for use and which because of its simple construction has very few parts that might become defective.

Other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 represents a fragmentary side elevational view showing the improved straightener with work passing therethrough.

Figure 2 is a fragmentary top plan view of the structure shown in Figure 1.

Figure 3 is a fragmentary bottom plan view with the stock removed.

Figure 4 is a fragmentary side elevational view showing a modified form of the invention.

Figure 5 is a top plan view of the structure shown in Figure 4.

Figure 6 is a bottom plan view of the structure shown in Figures 4 and 5.

Figure 7 is a fragmentary side elevational view of a third form of the invention.

Figure 8 is a cross section on the line 8—8 of Figure 7.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 denotes a stand supporting a roll of metal tape 6. Numeral 7 generally refers to the straightener and this consists of an elongated arm 8 having an offset portion 9 suitably secured as at 10 to a table or the like 11. The outer end of the arm 8 is curved downwardly as at 12 and has an opening 13 therein through which the tape 6 passes.

Inwardly of the opening 13, the arm has a second opening 14 outwardly through which the tape 6 passes in a straightened condition.

As can be seen in Figure 1, secured to the underside of the arm 8 inwardly of the opening 14 is an angular-shaped member 15 secured so that the portion *a* thereof will assume a substantially horizontal position to define a guide in completing the straightening operation.

Between the openings 13 and 14, the underside of the arm 8 has a downwardly and backwardly curved former 16 secured thereto. As

shown in Figure 1, the tape 6 must pass first through the opening 13 and under the curved free end of the former 16 and then along the straight portion *a* of the angle member 15 before passing out through the opening 14.

A second form of the invention is shown in Figures 4 and 5. In these figures, reference character 8*a* denotes an arm having openings 13*a*, 14*a* therein through which stock 6*a* must pass.

At the underside of the arm 8*a* between the openings 13*a*, 14*a*, a spring former 16*a* is secured in place and carries a roller 20 at its free end. An adjusting screw 21 is feedable through the arm 8*a* and has its lower end bearing in a recess in the former 16*a* or swivelly connected thereto.

Stationary or rotary rolls 22 are provided, one being located on the underside of the arm 8*a* adjacent the opening 13*a* and the other on the top side of the arm 8*a* just inwardly of the opening 14*a*.

An angle member 15*a* is secured to the underside of the arm 8*a* adjacent the opening 14*a* and has a straight portion *b* along which the stock must run, it being observed that the top of the roll 22 is on the same plane as the portion *b* of the angle member 15*a*.

Tension on the stock is obtainable by adjusting the roll 20.

A third form of the invention is shown in Figures 7 and 8, reference character 8*b* denoting an arm having a curved free end 12*b*. The arm 8*b* has openings 13*b* and 14*b* through which stock 6*b* must pass.

A frame 16*b* is secured to the underside of the arm 8*b* between the openings 13*b* and 14*b* and a vertically slidable roll 20*b* is mounted in this frame 16*b* and is adjustable by a screw 21*b* feedable through the arm 8*b* regulating the tension of the roll against the stock 6*b*.

An angle member 15*b* is secured to the underside of the arm 8*b* adjacent the opening 14*b* and has a straight portion *c* along which the stock 6*b* must travel, and the upper side of the arm 8*b* adjacent the opening 14*b* has a fixed or rotary roll 22*b* over which the stock passes. A similar roll 22*b* is provided adjacent the opening 13*b* and against which the stock must travel.

Obviously, the arm of any one of the forms of the invention above described may be attached directly to the bolster plate of a punch press or to any suitable part of any machine that has strip metal fed thereto. Further, it is preferable that the arm in each of the forms be of spring

metal so that the same can be flexed by hand under certain conditions.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. A device for straightening coiled metal tape as it is fed from a roll, comprising an elongated strip-like arm, means to secure one end of said arm to a support so that the arm extends from the support to a point near the roll of tape in the same general direction as that in which the tape is fed, said arm having a longitudinally and upwardly arched free end portion provided with a pair of transverse openings spaced longitudinally of the arm, a flat substantially horizontal guide carried by the arm beneath one opening and extending toward the other opening, and a former attached to the underside of the arm between said openings and arranged to press upon and reversely bend the tape in advance of the guide as said tape passes from the roll downwardly through said other opening then under the former and then over and parallel with said guide and through said one opening in a straight substantially horizontal path.

2. A strip stock straightener comprising a lon-

gitudinally curved elongated strip member having a pair of transverse openings therein spaced longitudinally thereof and through which stock must pass in opposite directions, and a former offset with respect to a plane intersecting the openings of said member and against which the stock must tensionally bear in passing from one opening to the other as it is paid from a roll or other confinement, said former being in the form of a spring finger attached at one end to the strip member and having its other end arranged to bear against the stock.

3. A strip stock straightener comprising a longitudinally curved elongated strip member having a pair of transverse openings therein spaced longitudinally thereof and through which stock must pass in opposite directions, and a former offset with respect to a plane intersecting the openings of said member and against which the stock must tensionally bear in passing from one opening to the other as it is paid from a roll or other confinement, and an angle member having one end secured to said strip member beneath the second opening through which the stock must pass, the other end of said angle member being straight and extending toward the first opening through which the stock must pass to define a straight guide over which the stock must run in passing to the second opening through which the stock must pass.

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