Oct. 9, 1956 F. J. NIEKELSKI 2,765,836

STRAIGHTENING PRESS

Filed June 5, 1953. 2 Sheets-Sheet 1

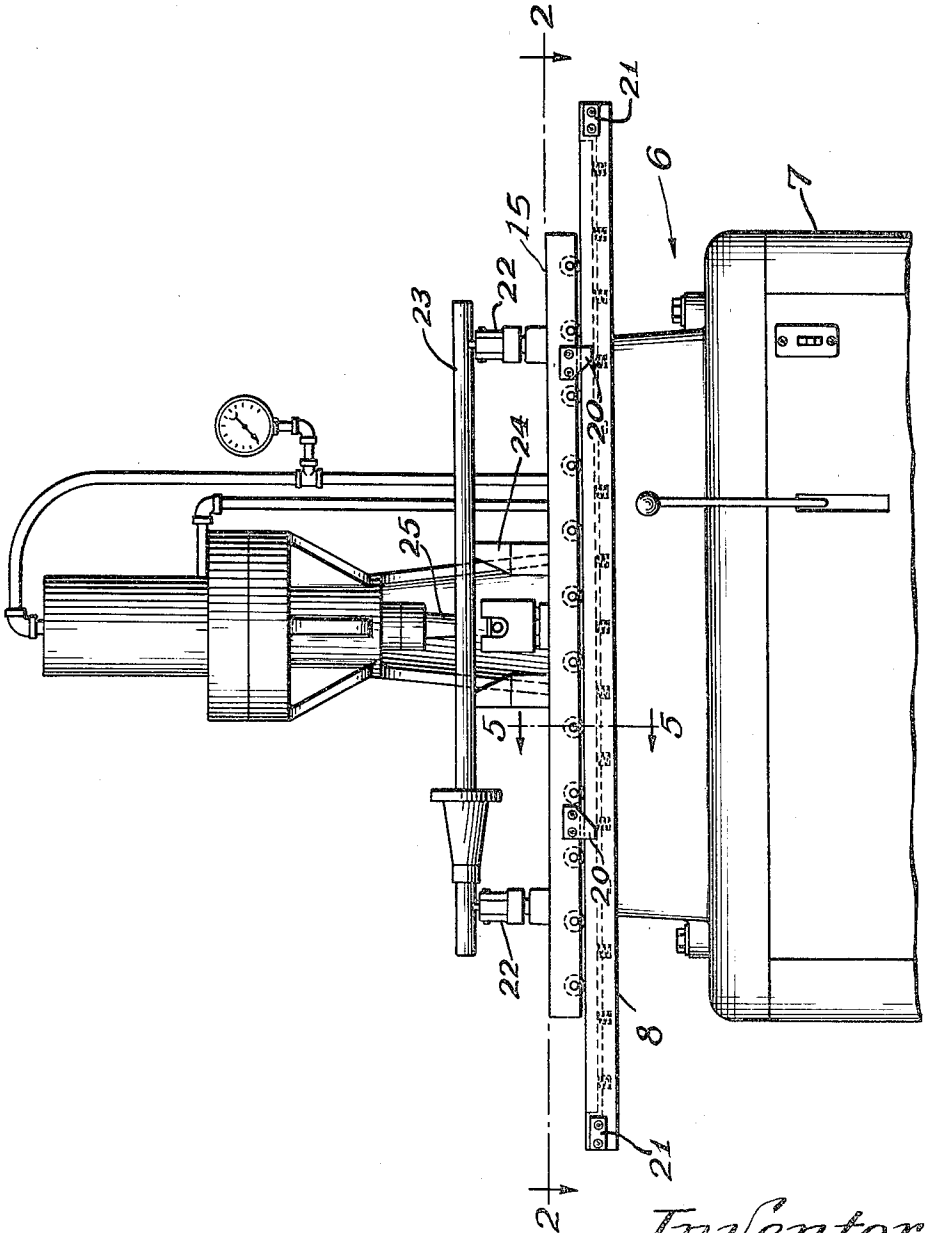


Fig. 1.

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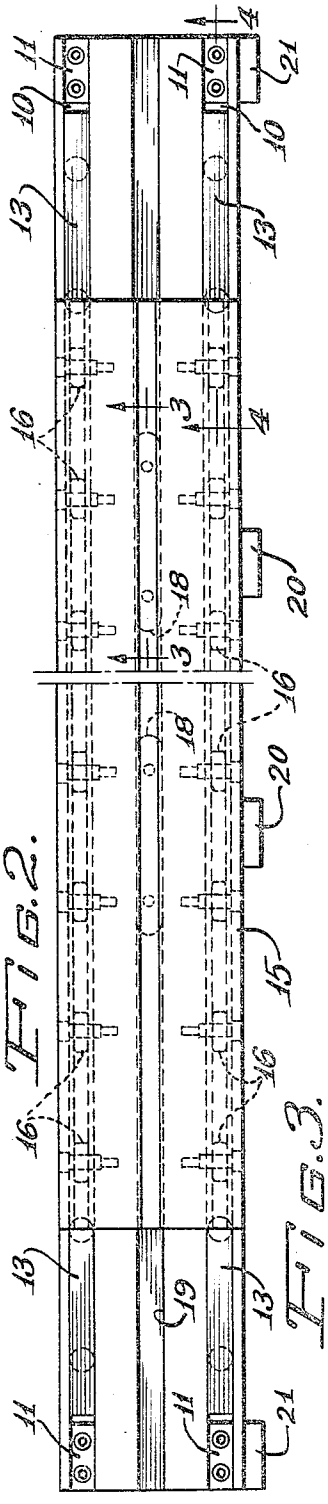


FIG. 2.

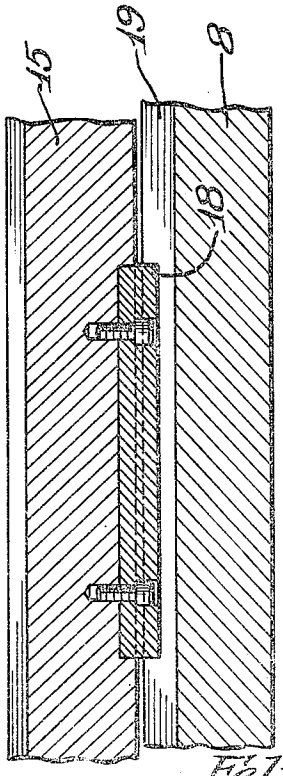


FIG. 3.

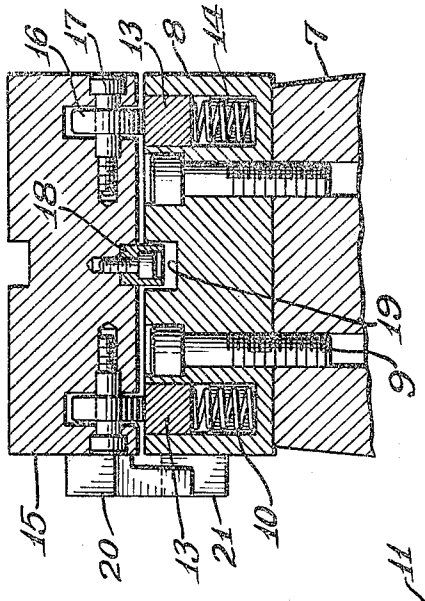


FIG. 5.

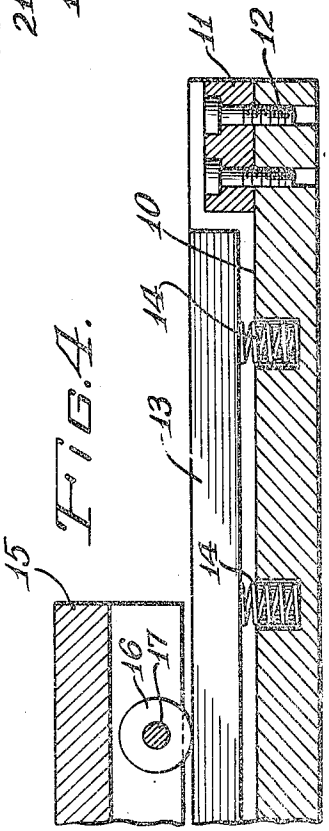


FIG. 4.

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STRAIGHTENING PRESS

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Application June 5, 1953, Serial No. 359,808

2 Claims. (Cl. 153—48)

This invention relates to straightening presses adapted for the general use of such machines and is particularly adapted for straightening arbors or the like.

The objects of this invention are to provide an improved machine of the kind indicated and more particularly to provide means for conveniently adjusting the work piece in order to position it in the press.

Other objects and advantages will appear more fully from the following description taken in connection with the accompanying drawings in which,

Fig. 1 is a front view of a machine embodying this invention.

Fig. 2 is a plan view taken substantially on the line 2—2 of Fig. 1.

Fig. 3 is a cross sectional detail taken on the line 3—3 of Fig. 2.

Fig. 4 is a sectional detail taken on the line 4—4 of Fig. 2; and

Fig. 5 is a cross section taken substantially on the line 5—5 of Fig. 1.

As shown in these drawings, 6 represents the machine generally which has a base 7 of any suitable construction. This base supports a bed or base plate 8 which may be secured thereto in any suitable manner as by means of cap screws or bolts 9. The bed has slots or grooves 10 which extend the full length thereof and which are closed at the ends by blocks 11 which are fastened by means of screws 12. These grooves are engaged by long tracks 13 which are substantially rectangular in cross section and slidably mounted for vertical movement in the grooves. These tracks are held in normally raised position with their upper surface preferably flush with the top of the base plate 8 by means of compression springs 14 preferably of the type known in the trade as "Danly" springs. These springs are mounted in holes which are spaced along the tracks as shown in Figs. 4 and 5.

An elongated rail or bar 15 is mounted on the base plate 8 being supported by means of rollers 16 carried on the stripper bolts or suitable bearings 17. A plurality of these rollers are spaced along the rail to support the same throughout its length as shown in the drawing. These rollers ride on the tracks 13 as shown in Fig. 5. The rail 15 is guided in its longitudinal movement by means of keys 18 which are secured in the lower face of the rail as shown in Figs. 3 and 5 and which engage with a longitudinal slot or guideway 19 in the top of the base plate 8. The travel of the rail 15 is limited by means of detents 20 which are adapted to engage with stops 21 at the ends of the base plate as shown.

The rail 15 is provided with two supports 22 which are adjustable longitudinally of the rail and also have

vertical adjustment, these supports being adapted to support the arbor or work piece 23 preparatory to the straightening operation. It is also provided with two anvils 24 which are adjustable longitudinally of the rail and which serve to support the work piece when the ram 25 moves downwardly in the straightening operation. These arbor supports and ram are parts of the usual machines of this character and do not need detailed operation. The ram is preferably actuated by hydraulic pressure and control means are provided for controlling the actuating fluid. However, the ram and cooperating elements are not specifically a part of the present invention which is directed more particularly to the provision of an adjustable support for the work piece.

When a part is to be straightened as for instance, the arbor 23, it may be first placed on the end supports 22 and then lowered on to the anvils 24 preparatory for the straightening operation. The arbor may be rotated for marking or determining the necessary portions to straighten and it may be easily moved longitudinally of the bed on account of the rollers 16 which roll freely on the tracks 13 when such tracks are in normally raised position.

In a machine in actual use, the rail is approximately one-eighth of an inch above the base plate when the tracks are in normal position. Then when the ram descends, the force is sufficient to cause the tracks to be depressed and the rail to rest solidly on the top of the base plate during the punching or straightening operation. When the ram is again raised, the springs will raise the tracks and permit the rail and parts supported thereby to be readily adjusted for further operations or for removal of the work piece.

What I claim is:

1. In a straightening press, the combination with a base, of tracks slidably mounted in the base for vertical movement, springs tending to hold said tracks in normally raised position, a rail mounted above the base and movable longitudinally of the base, means for guiding the rail along the base, wheels mounted in the rail and riding on said tracks, means for supporting a piece to be straightened above the rail for the straightening operation and a straightening ram mounted above the piece to be straightened, the arrangement being such that the tracks will normally be held in raised position but when the ram is actuated, the tracks will be depressed so that the rail will rest on the base during the straightening operation.

2. In a straightening machine, the combination of a base plate having longitudinal grooves in the top thereof, tracks mounted in said grooves, spring tending to hold said tracks in normally raised position, a rail, rollers in the rail which ride on said tracks for longitudinal movement, a keyway in the base plate, keys in the rail which coact with the keyway for guiding the rail along the base plate, stops for limiting the movement of the rail with respect to the base plate, anvils on the rail for supporting a piece to be straightened, a ram coacting with the anvils for straightening said pieces, and means for actuating said ram.

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