

June 16, 1925.

1,542,424

A. J. TOWNSEND

SHEET METAL SLITTING MACHINE

Filed Jan. 15, 1923

2 Sheets-Sheet 1

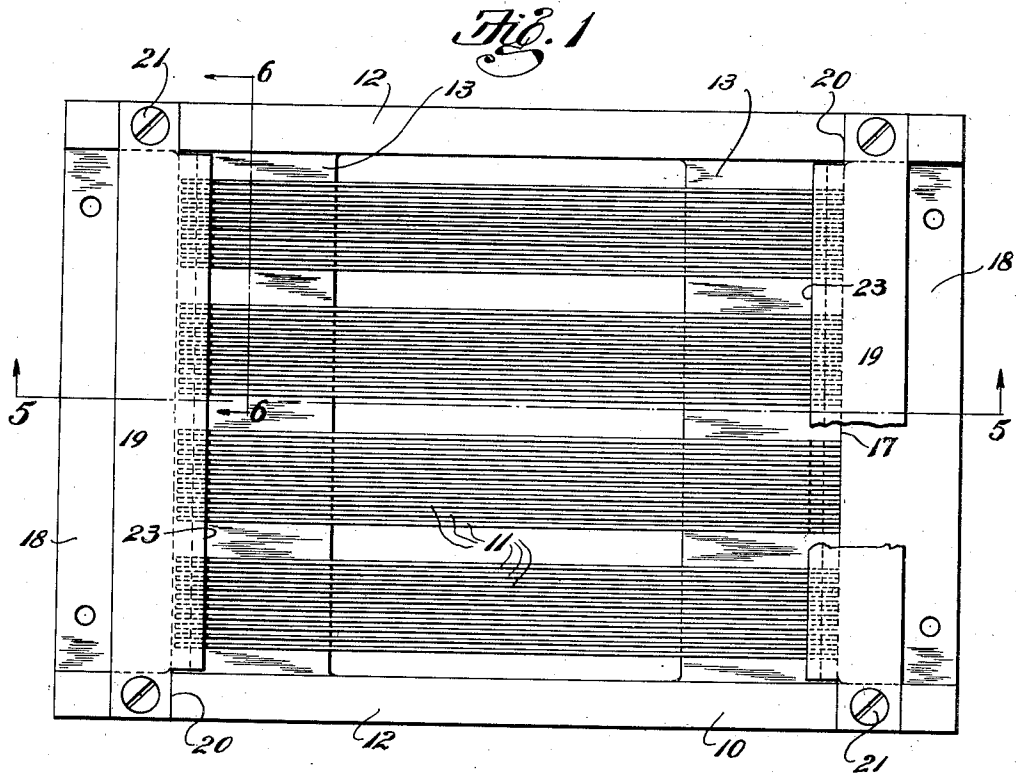


Fig. 4

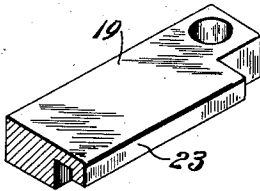


Fig. 2

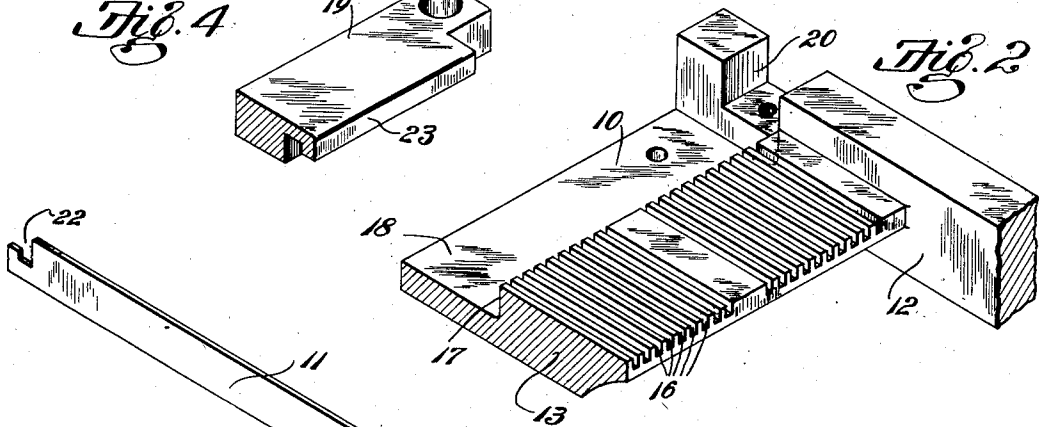
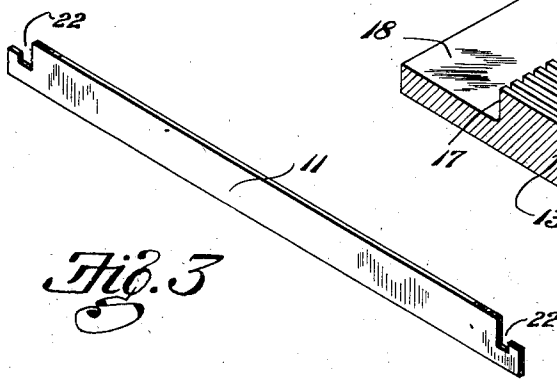


Fig. 3



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2 Sheets-Sheet 2

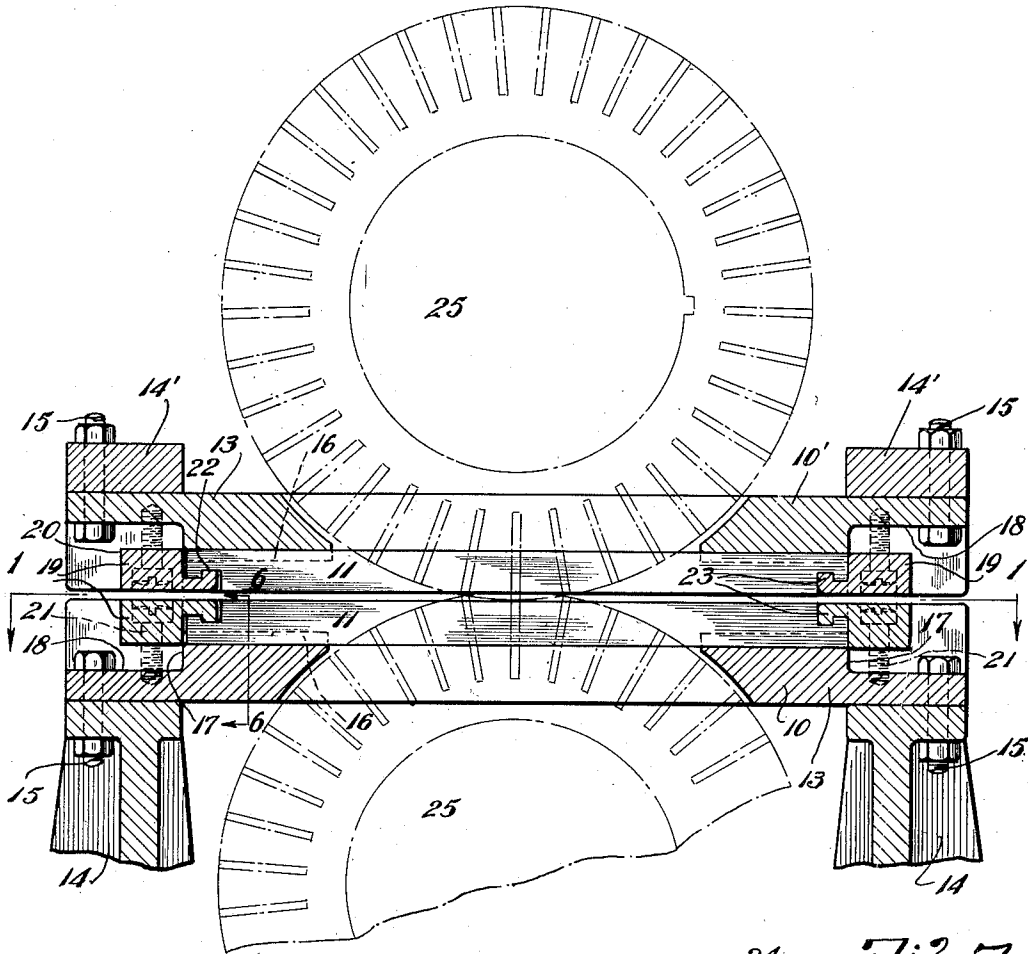


Fig. 5

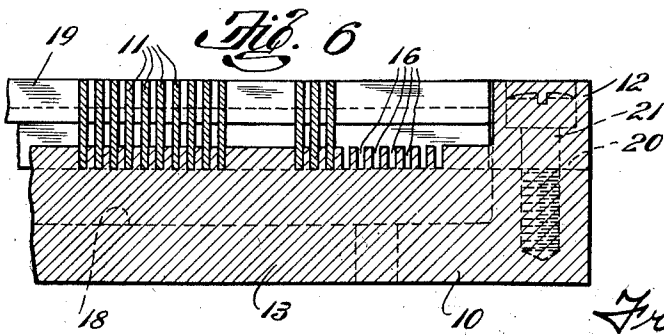


Fig. 6

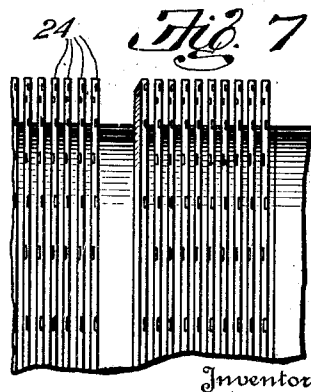


Fig. 7

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UNITED STATES PATENT OFFICE.

ARTHUR J. TOWNSEND, OF CANTON, OHIO.

SHEET-METAL-SLITTING MACHINE.

Application filed January 15, 1923. Serial No. 612,785.

To all whom it may concern:

Be it known that I, ARTHUR J. TOWNSEND, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented new and useful Improvements in Sheet-Metal-Slitting Machines, of which the following is a specification.

The invention relates to machines for slitting sheet metal as a preliminary step for expanding the same, and especially to the rotary type of such machines; and the objects of the improvement are to provide a simple form of stripper bar for the slitting rolls, and to support the same on both sides of the rolls for ready removal and replacement either individually or collectively, in case of need.

When stripper bars for slitting rolls are supported solely at the rear side of the rolls and extend forward between the slitting disks of the roll, a special shape of bar must be used to give it the cantilever strength necessary for supporting its free end; and one object of the present improvement is to use straight strips of stock steel for the bars.

In the use of stripper bars supported solely at the rear ends, difficulty is experienced in removing and replacing individual bars, and a sheet is also liable to be retarded or buckled by impinging the forward free ends of the bars; and a further object of the present improvement is to provide a frame for each set of stripper bars, with transverse bearing bars for aligning and supporting the ends of the stripper bars and a transverse clamping bar having tongues thereon engaging notches in the ends of the stripper bar.

An embodiment of the invention is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a plan view of a frame containing a lower set of stripper bars, as on line 1—1, Fig. 5, showing one clamp bar broken away to show the ends of stripper bars underneath the same;

Fig. 2, a fragmentary perspective view of the corner portion of a frame;

Fig. 3, a detached perspective view of one stripper bar;

Fig. 4, a fragmentary section of one end of a clamping bar;

Fig. 5, a longitudinal section of upper and lower frames containing sets of strip-

per bars, as on line 5—5, Fig. 1; showing slitting disks in side elevation by broken lines;

Fig. 6, a fragmentary cross section, showing a portion of the lower frame, showing a number of stripper bars therein, as on line 6—6, Figs. 1 and 5; and

Fig. 7, a fragmentary side elevation of a slitting roll.

Similar numerals refer to similar parts throughout the drawings.

The frames 10 and 10' for the lower and upper sets of stripper bars 11 are made exactly alike, except that one frame is inverted with respect to the other. Each frame comprises longitudinal side bars 12 located adjacent to the ends of the rolls, and the ends of the side bars are connected by transverse supporting bars 13, which may be and preferably are formed integral with the side bars. The ends of the lower frame may be supported upon transverse pedestals 14, and the ends of the upper frame may be suspended from the transverse beams 14', to which pedestals and beams the frames may be secured by bolts 15.

The transverse supporting bars 13 are provided with a series of longitudinal grooves 16 for neatly receiving the edge of the end portions of the stripper bars so as to space and stay the same in proper position, and the outer portion of the bar is off-set downward to form a transverse shoulder 17, at the ends of the stripper bars and a depressed shelf 18 in a plane below the lower edge thereof, to provide a free clearance for the transverse clamping bars 19, the ends of which are preferably secured and stayed in recesses 20, provided in the side bars 12 by means of countersunk bolts 21.

The stripper bars 11 are made of straight strips of steel having corresponding corners on each end cut to form an L-notch 22 in which an L-flange 23 formed on the inner edge of each clamping bar is adapted to clamp the stripper bars in place.

The parts are so proportioned and arranged that the straight sides of the L-flanges 23 are flush with the outer face of the clamping bar 19 which in turn is flush with the guiding edges of the stripper bars and of the side bars of the frame so as to form co-planer guiding surfaces for the metal sheets; it being understood that the upper and lower frames and sets of stripper bars

are spaced apart to form a way through which a sheet is guided for passing between the cutting disks 24 comprising slitting rolls 25, one stripper bar being located between the peripheral portions of adjacent slitting disks of each roll, in well known manner.

By this construction and arrangement, it is evident that the upper slitting roll, and the upper set of slitting bars can be removed altogether with the upper frame, whereupon either one of the slitting bars can be removed from the frame by merely removing the clamping bars at the ends thereof.

I claim:—

1. A sheet metal slitting machine including slitting rolls with spaced cutting disks, stripping bars extending through between adjacent disks, transverse supporting bars for the ends of the stripping bars in front and in rear of the rolls, and transverse clamping bars retaining the ends of the stripper bars.

2. A sheet metal slitting machine including slitting rolls with spaced cutting disks, stripping bars extending through between adjacent disks, transverse supporting bars for the stripping bars in front and rear of the rolls, grooves in the supporting bars engaging the edges of the end portions of the

stripping bars, and transverse clamping bars retaining the ends of the stripper bars.

3. A sheet metal slitting machine including slitting rolls with spaced cutting disks, stripping bars extending through between adjacent disks, transverse supporting bars for the ends of the stripping bars in front and in rear of the rolls there being notches in the ends of the stripper bars and transverse clamping bars retaining the ends of the stripper bars having flanges entering in the notches.

4. A sheet metal slitting machine including slitting rolls with spaced cutting disks, stripping bars extending through between adjacent disks, transverse supporting bars for the ends of the stripping bars in front and in rear of the rolls, and removable transverse clamping bars retaining the ends of the stripper bars.

5. A sheet metal slitting machine including slitting rolls with spaced cutting disks, straight stripping bars extending through between adjacent disks, a supporting frame including longitudinal side bars and transverse supporting bars for the ends of the stripping bars in front and in rear of the rolls, and transverse clamping bars retaining the ends of the stripper bars.

ARTHUR J. TOWNSEND.