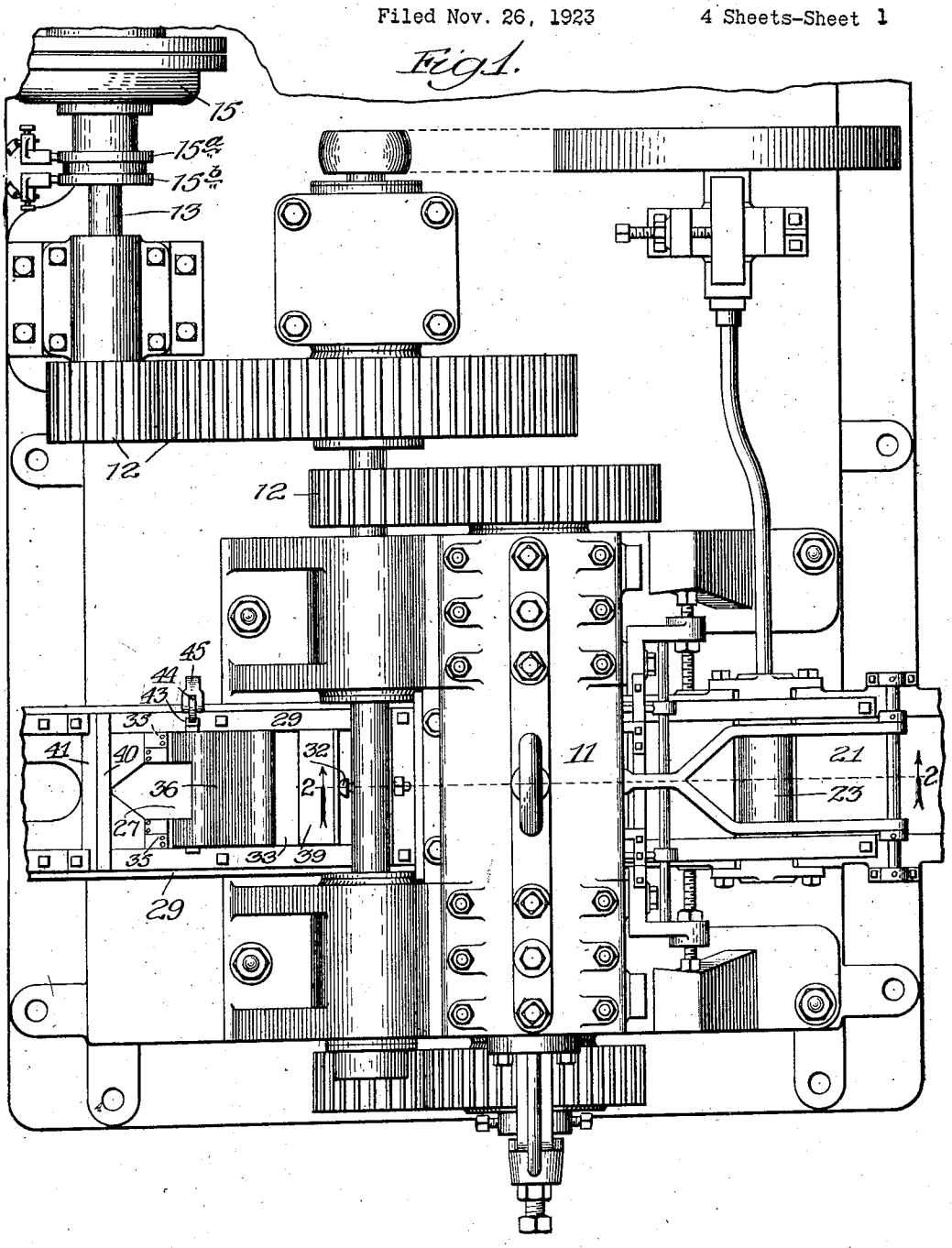
Sept. 13, 1927. 1,642,422

J. MANOFSKY

STOP DEVICE

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Fig. 1.



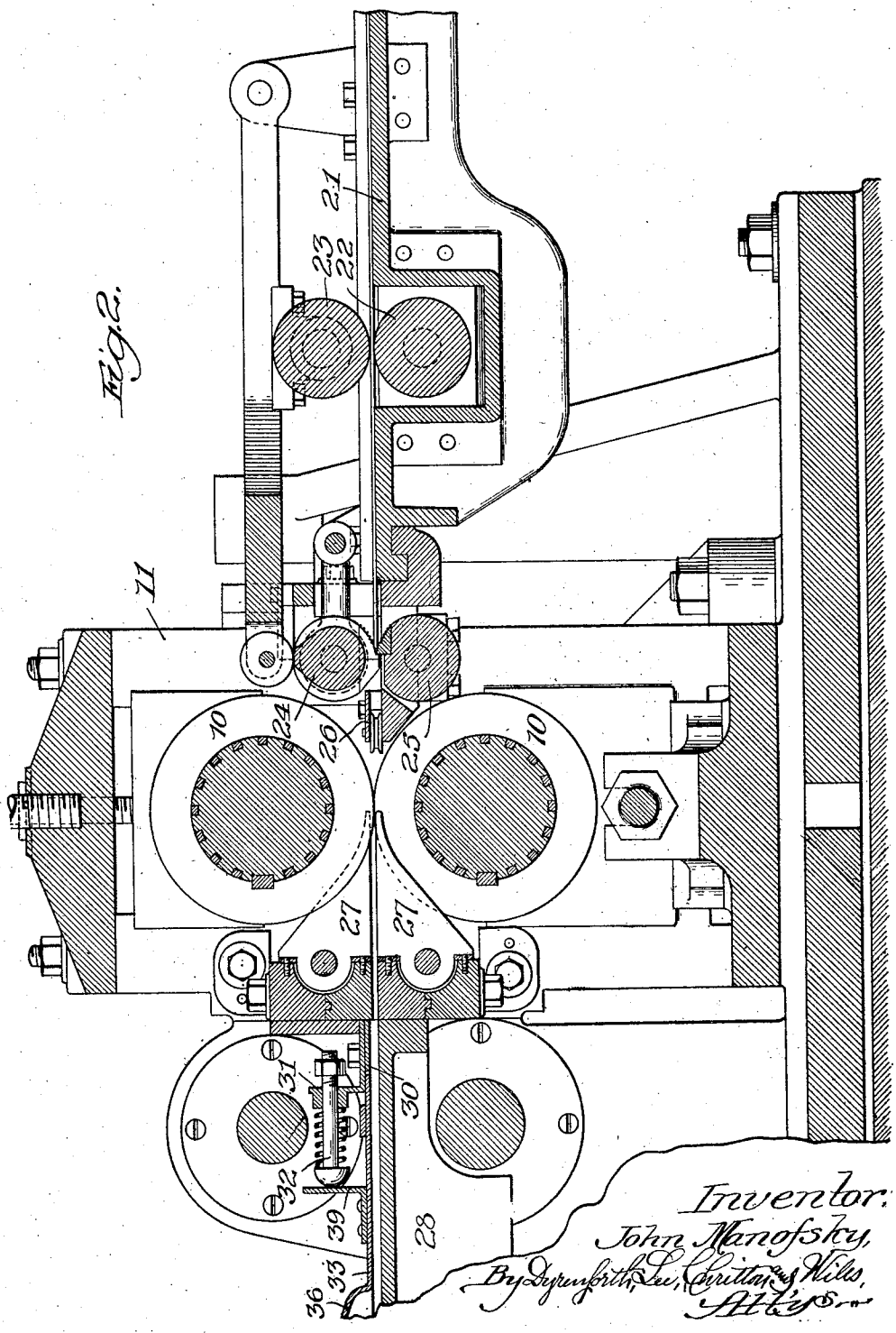
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Filed Nov. 26, 1923 4 Sheets-Sheet 2



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STOP DEVICE

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Fig. 3.

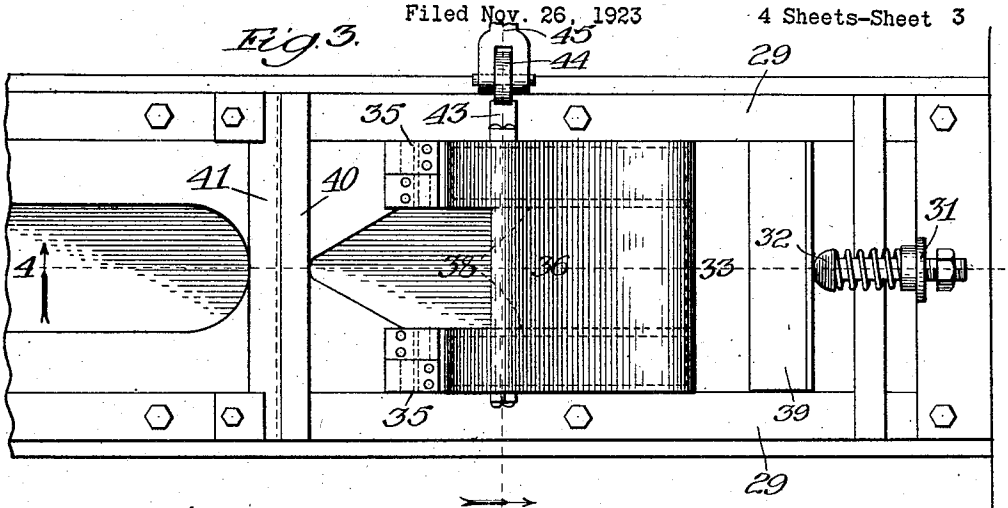


Fig. 4.

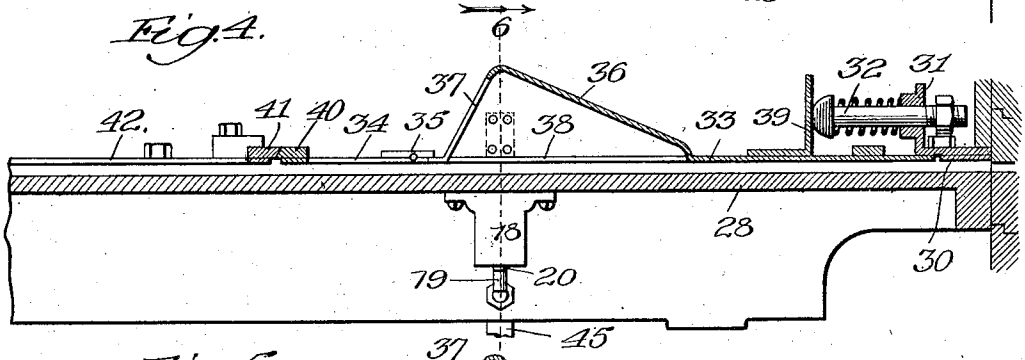


Fig. 5.

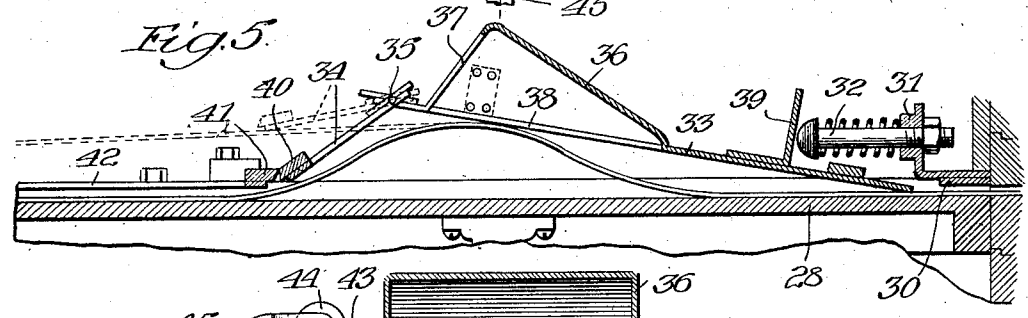
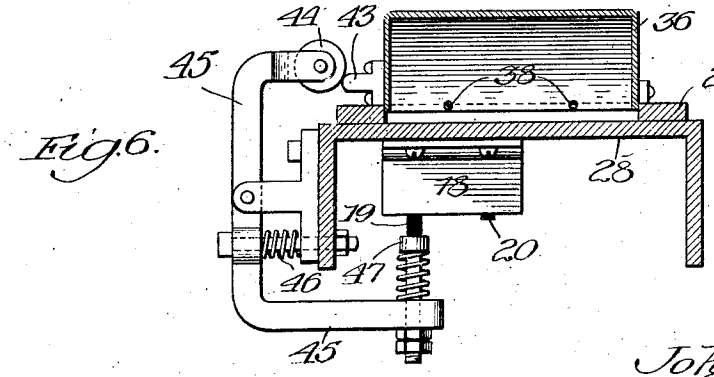


Fig. 6.



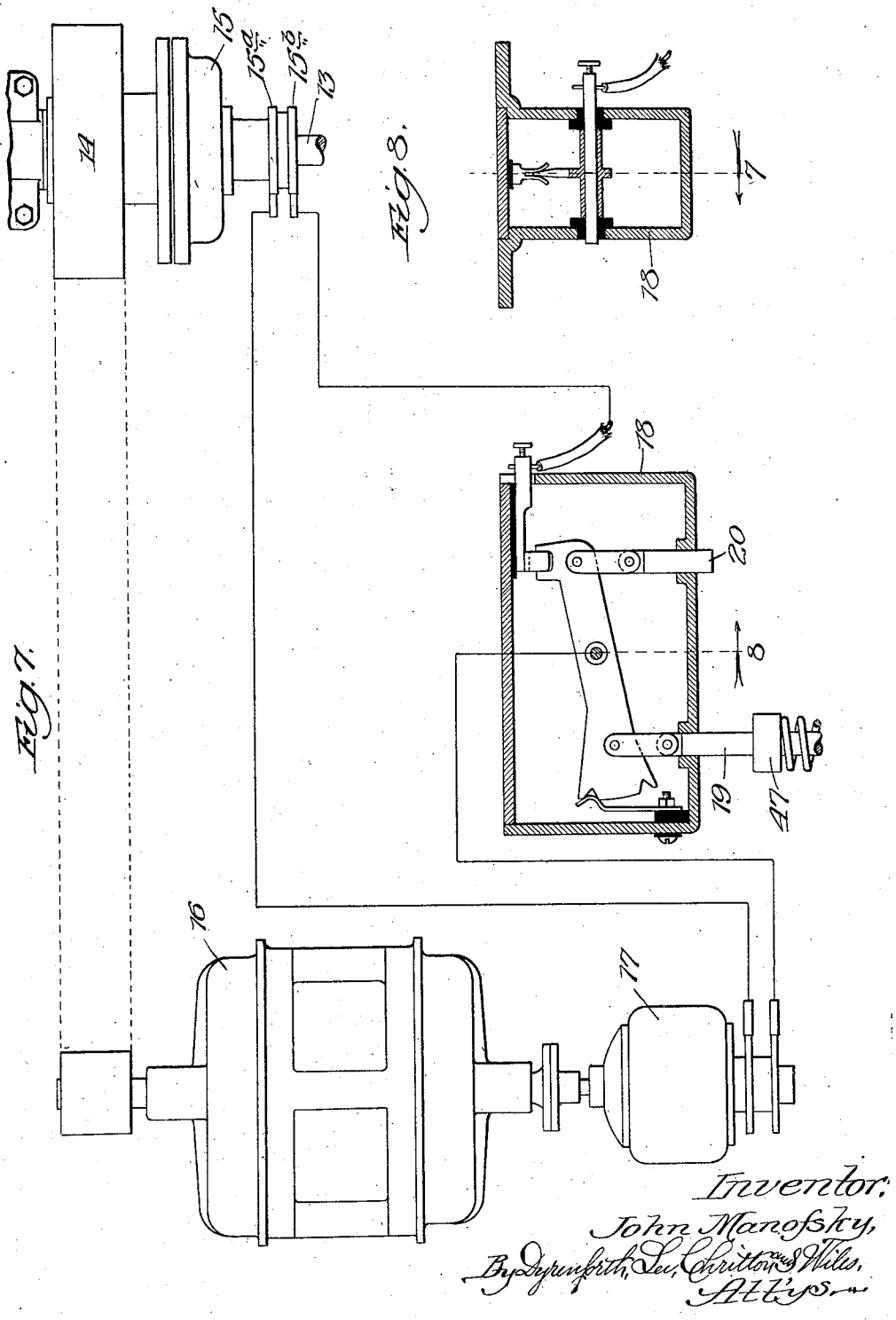
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STOP DEVICE

Filed Nov. 26, 1923 4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE.

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STOP DEVICE.

Application filed November 26, 1923. Serial No. 677,022.

The present invention relates to improvements in stop devices, and more particularly to such devices when used in connection with operating mechanism, such as slitters, cutters and the like, operative upon buckling of discharged sheets, or other mischance, to stop the operation of the operating devices and also to cause any additional sheets or blanks discharged therefrom to be thrown out of the normal path of discharge. The invention will be fully understood from the following description, illustrated by the accompanying drawings in which:

Figure 1 is a plan view of a device embodying the present invention, showing the work operating means, feeding means therefor and the device of the present invention in the discharge path from the operating device;

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a plan view on somewhat enlarged scale of the discharge table;

Fig. 4 is a vertical sectional view on the line 4 of Fig. 3;

Fig. 5 is a sectional view corresponding to Fig. 4 and showing the device as set in operation by a buckled sheet or blank;

Fig. 6 is a transverse sectional view on the line 6 of Fig. 3;

Fig. 7 is a diagrammatic view showing the control means for the work operating device taken partly on line 7 of Fig. 8; and

Fig. 8 is a sectional view on the line 8 of Fig. 7.

Referring more particularly to the drawings, the operating means in connection with which the present invention is shown may suitably be a pair of rotating slitting cutters 10 mounted in a frame 11, for example, of the type shown in the co-pending application of W. W. Galbreath, Serial No. 613,674 filed January 9, 1923. The cutters may be driven in any suitable manner, for example, by a train of gears 12 from a shaft 13 which, in turn, is driven from a pulley 14 through a magnetic clutch 15 (see Figs. 1 and 7). The pulley 14 is driven from a motor 16, which also drives a direct current generator 17, which supplies current to the collector rings 15^a and 15^b of the magnetic clutch 15. The circuit between the generator 17 and the magnetic clutch 15 is controlled by a push-button switch 18, of an ordinary type of construction and having the control push-buttons 19 and 20. The disposition and operation of this switch will be more fully hereinafter referred to.

The metal blanks to be operated upon by the cutters 10 are fed along a feed table 21 through feeding rolls 22, 23 and the control rolls 24, 25 to a feed guide 26, by which they are directed between the cutters 10. In the drawings there are illustrated feeding and feed control means substantially similar to those shown in my co-pending application Serial No. 677,021, filed of even date herewith, although it is readily apparent that any other suitable feeding device may be employed.

The sheet metal blanks pass between the cutters 10, by which they are cut or slitted, and pass out between strippers 27 to a discharge table 28 having side guiding rails 29.

At this end nearest the cutters, the discharge table 28 is provided with a fixed cover portion 30, below which the discharged blank passes. To this fixed cover portion is secured an upwardly projecting lug 31, in which is mounted a spring-pressed plunger 32, preferably extending substantially parallel to the discharge pass. Beyond the cover portion 30 there is supported upon the side rails 29 a movable cover portion, suitably formed in two sections 33 and 34, pivoted together on a transverse pivotal line, as at 35, along which line this cover portion can be flexed. The rear section 33 is bent to form a concave or tent-like, upwardly projecting portion 36 having an opening 37 which may suitably be forwardly directed. Rods or bars 38 are inserted in the cover section 33 in the plane of its undeformed portion and extend longitudinally of the table. Near its rear end, an angle iron 39 is secured to the movable cover section 33 and this angle iron is normally engaged by the spring-pressed plunger 32, holding the movable cover sections 33 and 34 in their proper positions, as shown in Fig. 4. The movable section 34 is provided at its end with a beveled bar 40 which engages a co-operating beveled bar 41 mounted on a fixed cover plate 42 on the feed table 28 beyond the

movable cover sections 33 and 34. In normal operation, the movable cover sections 33 and 34 (together with the rods 38) form a continuous guiding cover with the fixed cover portions 30 and 42 of the feed table. This is best shown in Fig. 4, and, as illustrated, it is readily apparent that a blank discharged from the cutters 10 will pass along the feed table 28 unimpeded.

If the movement of a discharged blank is impeded at some point, it tends to buckle and this buckling will normally take place where it meets the least resistance, which is at the position where it is covered or guided only by the sections 33 and 34 of the movable cover portion. The buckling of the sheets or blank, as indicated in Fig. 5, tends to flex this cover portion, raising the elements 33 and 34 and causing their relative pivotal movement at the connecting pivot 35. The moment pivotal movement takes place at this point, the spring pressed plunger 32 adds its force to aid the movement of the parts 33 and 34. The cover plate 33 moves upwardly, and a projecting lug 43, secured to its side, engages a roller 44 mounted on the bent lever 45 causing its outward movement. This movement of the lever 45, which is held in its normal position by the coiled spring 46, is transmitted through the spring pressed plunger 47 to the push-button 19 of the switch 18. This breaks the circuit between the direct current generator 17 and the magnetic clutch 15 on the cutter drive shaft 13 as shown in Fig. 7, and the operation of the cutters 10 is stopped. If, for any reason, another blank should be fed to the discharge table 28 after the movable cover sections 33 and 34 have been raised, its front end will engage the cover section 34, raising it to the position shown in dotted lines in Fig. 5, and will pass out above the discharge table.

After the obstruction to the movement of the blank has been removed, and the blank itself, if necessary, the cover sections 33 and 34 may be forced down into their normal position, in which they are held by the spring pressed plunger 32.

Although the present invention has been described in connection with the details of a construction embodying it, it is not intended that these details are to be regarded as limitations upon the scope of the invention, except in so far as included in the accompanying claims.

I claim:

1. In combination with means for handling metal blanks, a discharge pass having a two-piece cover section capable of being flexed, the two sections being hingedly connected together and means operable upon flexing the cover section to stop the operation of the blank handling device.

2. In combination, a device for handling sheet metal blanks, a discharge table having spaced fixed cover portions, a removable cover portion therebetween, said removable cover portion being formed of sections connected on a transverse line, spring pressed means acting substantially parallel to the discharge pass for holding the removable cover portion in alignment with the fixed cover portions, and means operable on flexure of the sections of the removable cover portions on their connecting line to stop the operation of the blank handling device.

3. In combination, a device for handling sheet metal blanks, a discharge table having spaced fixed cover portions, a removable cover section therebetween, said removable cover portion being formed of sections connected on a transverse line, spring pressed means acting substantially parallel to the discharge pass for holding the removable cover portion in alignment with the fixed cover portions, a laterally projecting lug on one of the sections of the removable cover portions near the transverse line of connection of said sections, and means engaged by said projecting lug on flexure of the removable cover portion to stop the operation of the blank handling device.

4. In combination with a device for handling sheet metal blanks, a discharge table having spaced fixed cover portions, a removable cover portion therebetween, said removable cover portion having sections pivotally connected on a transverse line, an upwardly directed lug on one of said cover sections, a spring pressed plunger mounted on a fixed cover portion and engaging said lug to hold the removable cover portion in alignment with the fixed cover portions, and to aid the flexing of the removable cover portion initiated by the buckling of the sheet and means operable by the flexing movement of the removable cover portion to stop the operation of the blank handling device.

5. In combination with a device for handling sheet metal blanks, a discharge table having spaced fixed cover portions, a removable cover portion therebetween, said removable cover portion having a plurality of sections pivotally connected on a transverse line, an upwardly directed lug on one of said cover sections, and a spring pressed plunger mounted on a fixed cover portion and normally engaging said lug to hold the said removable cover portion in alignment with the fixed cover portion.

6. A discharge table for sheet metal blanks having spaced fixed cover portions, a movable cover portion therebetween, said movable cover portion being formed of sections connected on a transverse line and spring pressed means acting substantially parallel to the discharge pass for holding the movable cover portion in alignment with the fixed cover portions and to aid flexure of the

movable cover portion initiated by the buckling of a blank.

7. A discharge table for sheet metal blanks having spaced fixed cover portions, a movable cover portion therebetween capable of being flexed and spring pressed means acting substantially parallel to the discharge pass for holding the movable cover portion in alignment with the fixed cover portion and to aid its flexure on buckling of a blank, the flexure of the movable cover portion providing an opening for the movement of a second blank out of the discharge pass.

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