J. J. ZEITZ.

GRAB TYPE RECTIFIER.

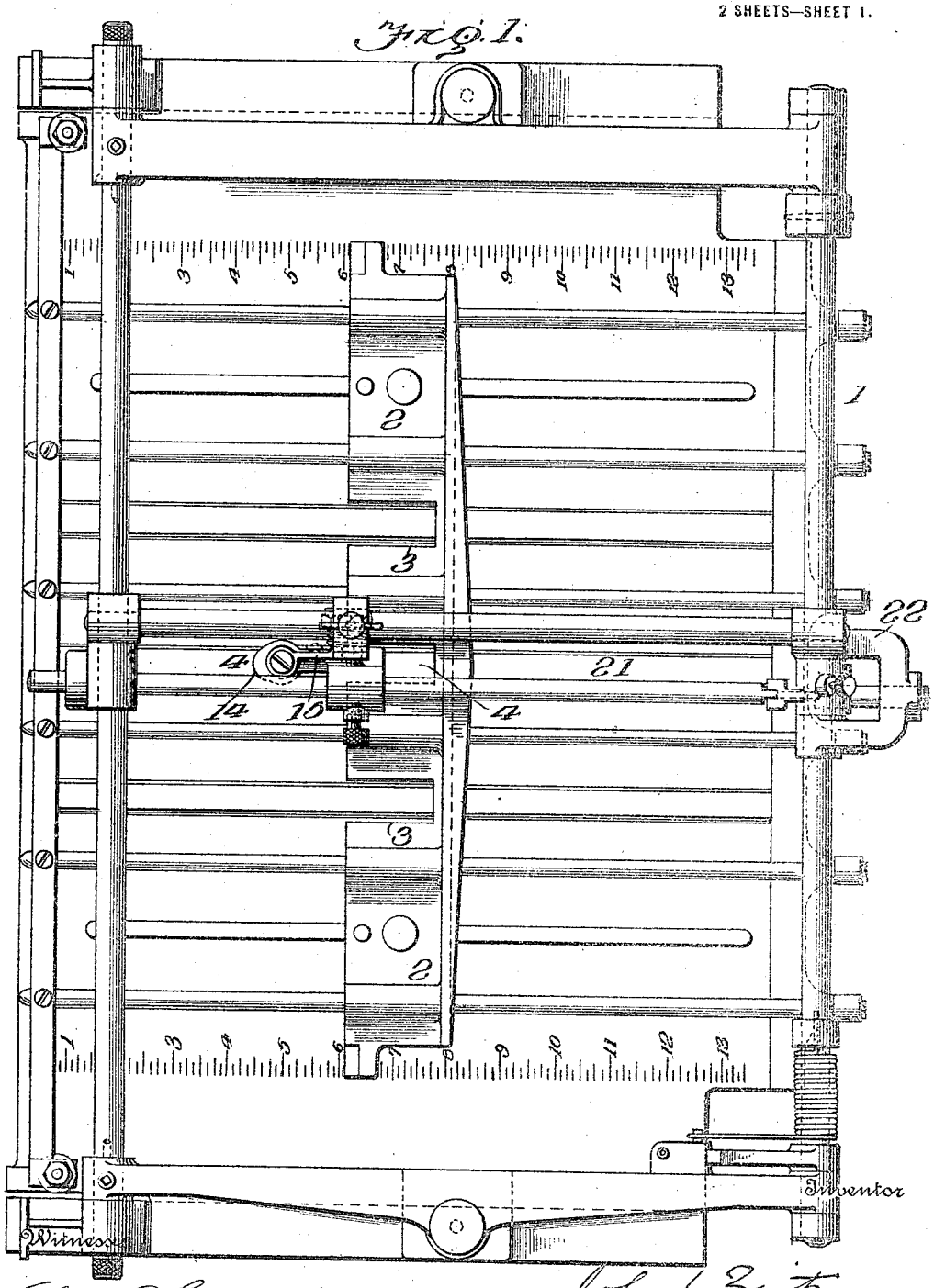
APPLICATION FILED DEC. 6, 1915.

1,229,849.

Patented June 12, 1917.

2 SHEETS—SHEET 1.

Fig. 1.



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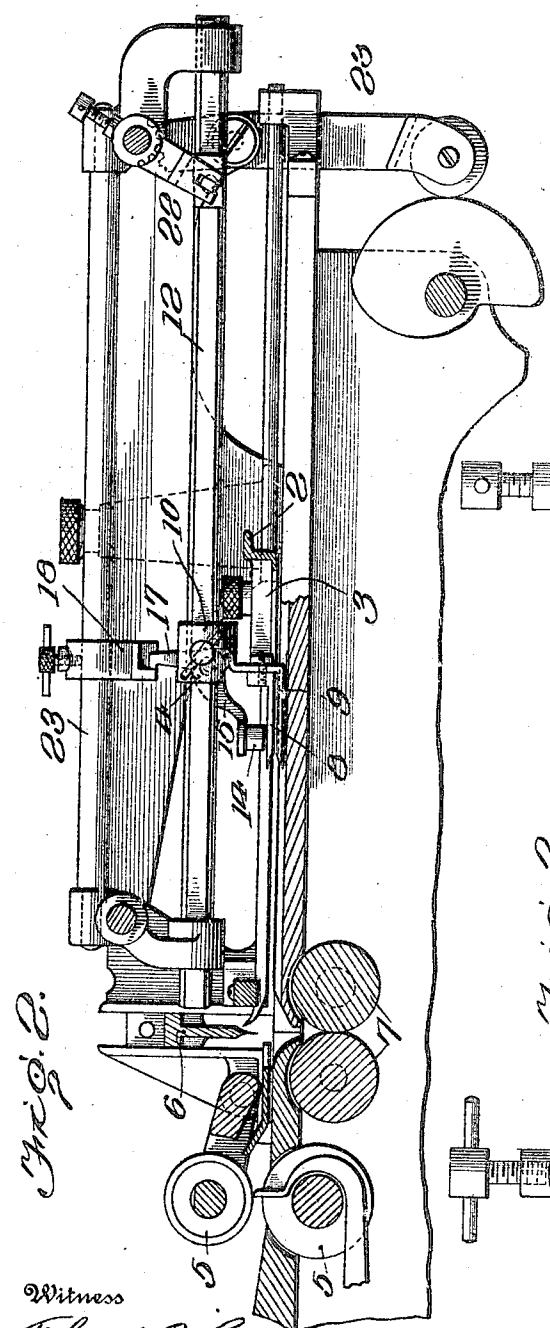


Fig. 2.

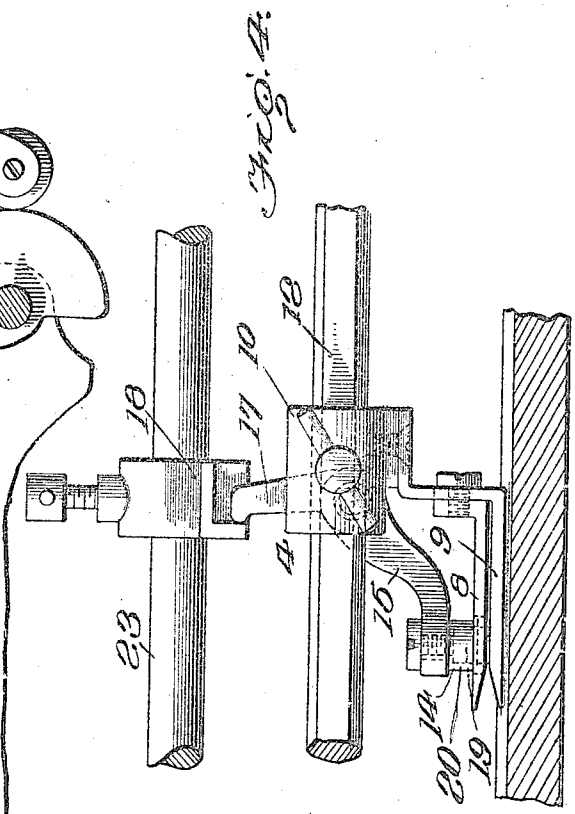


Fig. 4.

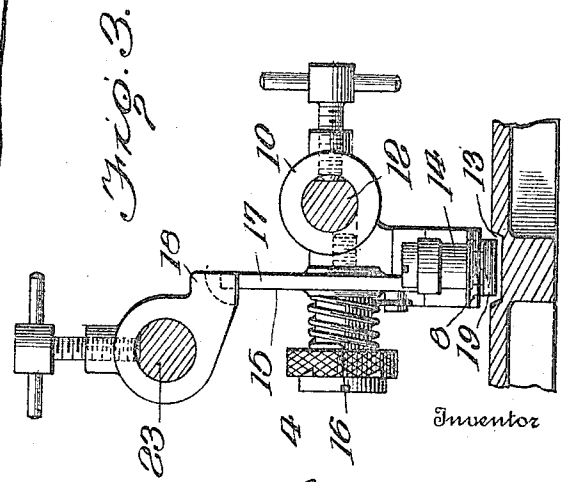


Fig. 3.

Witness

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Inventor

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UNITED STATES PATENT OFFICE.

JOHN J. ZEITZ, OF WARREN, OHIO, ASSIGNOR TO THE AMERICAN FOLDING MACHINE COMPANY, OF WARREN, OHIO, A CORPORATION OF OHIO.

GRAB-TYPE RECTIFIER.

1,229,849. Specification of Letters Patent. Patented June 12, 1917.

Application filed December 6, 1915. Serial No. 65,300.

To all whom it may concern:

Be it known that I, JOHN J. ZEITZ, of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Grab-Type Rectifiers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

As illustrated, Figure 1 is a plan of so much of a folding machine as is necessary to show the application of my invention. Fig. 2 is a transverse section. Figs. 3 and 4 are details.

Referring to the drawing 1 designates, generally, a frame forming part of a folding machine. Upon the bed of this frame is shown the guide or stop 2, adjustable to meet the requirements of the paper to be folded. At intervals I have shown the guide formed with recesses 3 adapted for entrance of the rectifier 4 as the latter completes its travel.

The machine is shown provided with feed rolls 5 by which the sheets are carried forward into the machine and a knife 6 which moves downward and passes the sheets to the folding rolls 7. These features form no part of my present invention.

The rectifier 4 is of peculiar construction and operation. It has a path of movement in the same direction as that of the sheet. Its office is to engage the guide edge of the sheet to be folded. It may perform several functions. It may engage the sheet in advance of the guide and draw the sheet to the guide, in which event it will travel with the sheet. It may engage and hold the sheet as the latter lies in even contact with the guide. It may engage and hold the sheet and prevent its rebound from the guide. In the latter two instances it need not travel with the sheet. In all instances, however, its function of rectification is performed by engagement with the sheet which has no propelling or conveying force other than the rectifier itself or the momentum it may have derived from the feed rolls. The sheet is withdrawn from the guide by the downward thrust of the knife 6. I have shown the rectifier having a rigid portion comprising two jaws 8, 9, carried by a sleeve 10 on a shaft 12 which is reciprocated in the direction of travel of the sheet. Channels or depressions 13 in the bed permit the edge of the lower jaw 9 to travel in a plane below the sheet and insure the entrance of the sheet between the jaws. The upper jaw 8 is apertured to receive the gripping element 14 which is shown on a bell crank lever 15 fulcrumed on the sleeve 10. A spring 16 on the stub shaft upon which this lever is mounted tends to hold the gripping element 14 depressed. The tendency of this spring is overcome by the arm 17 of the lever contacting with a stop 18 at the forward limit of travel of the rectifier to admit a sheet.

The gripping element as shown comprises a stud 19 which is free to rotate in its support. I have shown it mounted in a collar 20 which is secured to the end of the lever 15 in such manner that while the stud will move vertically with the lever yet it is free to rotate axially.

I have shown the sleeve 10 adjustably mounted upon the shaft 12 which may be reciprocated by any preferred means as by a sector 22 actuated by a lever 23 in engagement with a cam shaft. The stop 18 is shown mounted on a shaft 23 above the shaft 12. In operation the stop 18 is fixed at a position on the shaft 23 to arrest and turn the bell crank lever 15 when the rectifier has reached the limit of its forward travel, this action lifting the stud 19 off of jaw 9 and providing space for the advancing sheet to enter. As the rectifier recedes with the shaft 12 the stud 19, owing to the downward movement of the lever 15, positively engages the front edge of the sheet and carries it toward the guide 2. The rectifier passes into the recess 3 so as to enable the forward edge of the sheet to reach the guide. This engagement, however, consisting of contact by the stud 19, affords opportunity for the sheet to turn and adjust itself if it should be moving unevenly from the feed rolls, that is to say, stud 19 will allow for any unevenness of the sheet and will enable the latter to come into easy and perfect contact with the guide. During this rectifying action the stud 19 is maintained in positive engagement with the sheet and the latter remains not only held by the stud but in even contact with the guide until the knife 6 moves downward and by its pressure withdraws the sheet from the rectifier.

I designate this mechanism a grab type rectifier because it positively engages the

sheet, whether or not it travels with the sheet, and allows the sheet to move into engagement with the guide.

I claim as my invention:

1. A rectifier for sheet feeding mechanism comprising a fixed forward guide, and a gripping device adapted to engage a sheet fed toward said guide, said gripping device having a swiveled stud adapted to contact with the sheet.

2. A rectifier for sheet feeding mechanism comprising a guide having a recess, and a gripping device adapted to engage the forward edge of a sheet being fed toward said guide, said device being adapted to enter said recess to bring the sheet into contact with said guide and having a lever and a rotatable stud carried by said lever, and means for tripping said lever.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

JOHN J. ZEITZ.

Witnesses:
W. S. BECHTEL,
I. B. TAYLOR.

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