

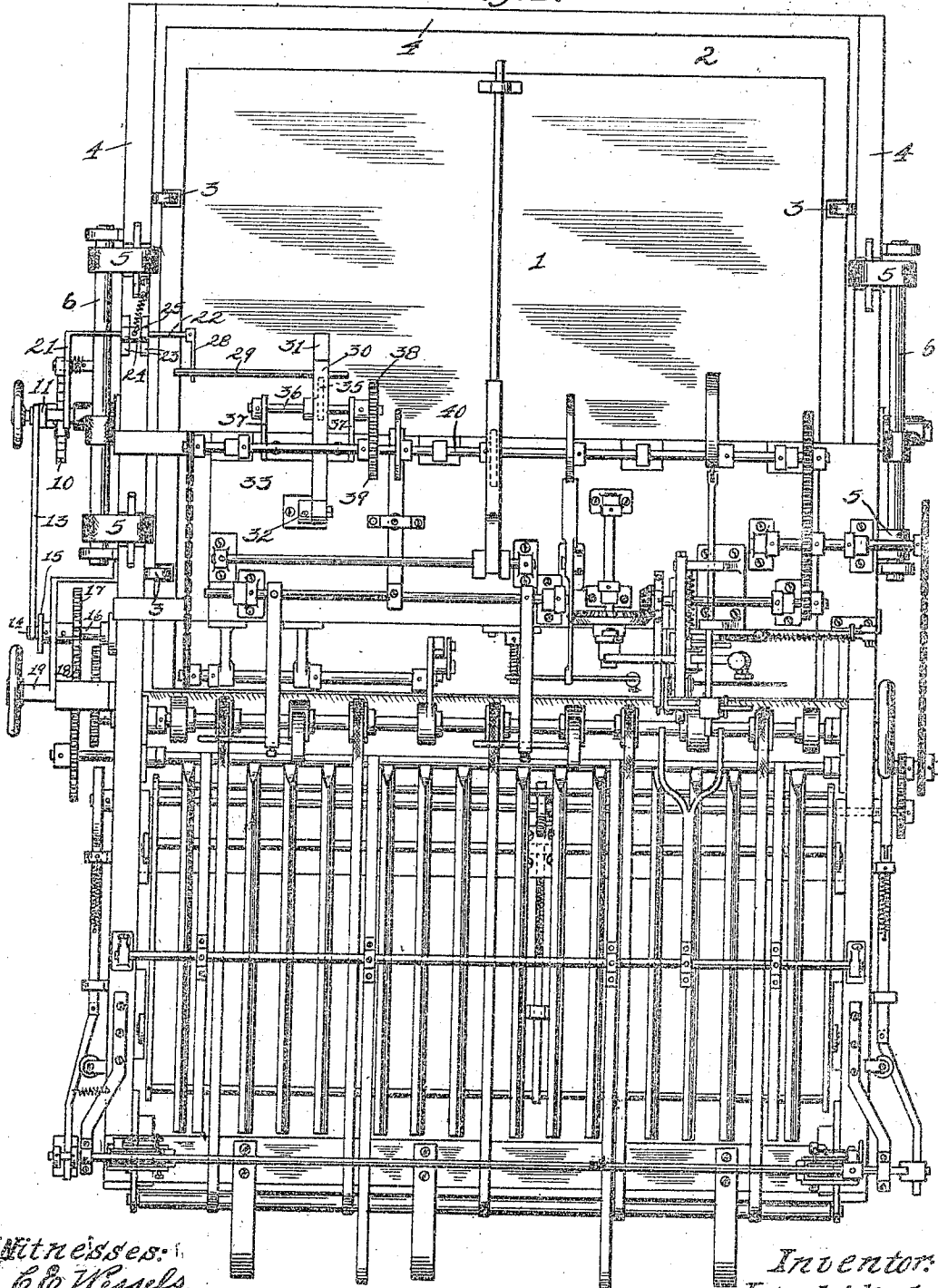
J. A. KACHA.
 FEED MECHANISM FOR PRINTING PRESSES.
 APPLICATION FILED JULY 30, 1909.

946,049.

Patented Jan. 11, 1910.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

C. C. Wessels.

B. J. Richards

Inventor:

Joseph A. Kacha

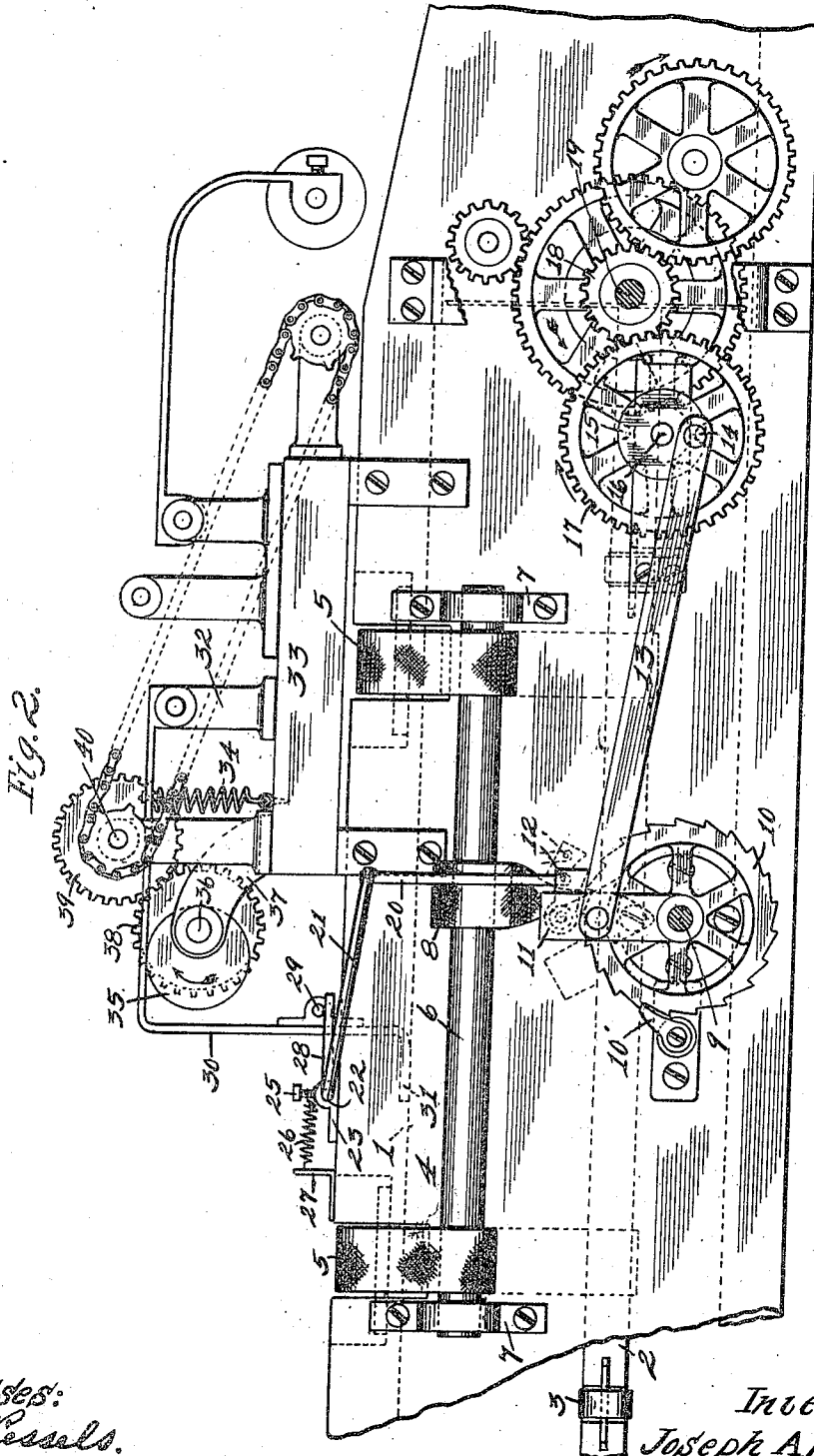
By Joshua K. Horn
 His Attorney.

J. A. KACHA.
 FEED MECHANISM FOR PRINTING PRESSES.
 APPLICATION FILED JULY 30, 1909.

946,049.

Patented Jan. 11, 1910.

3 SHEETS—SHEET 2.



Witnesses:

C. E. Kessels.

B. V. Richards.

Inventor:

Joseph A. Kacha.

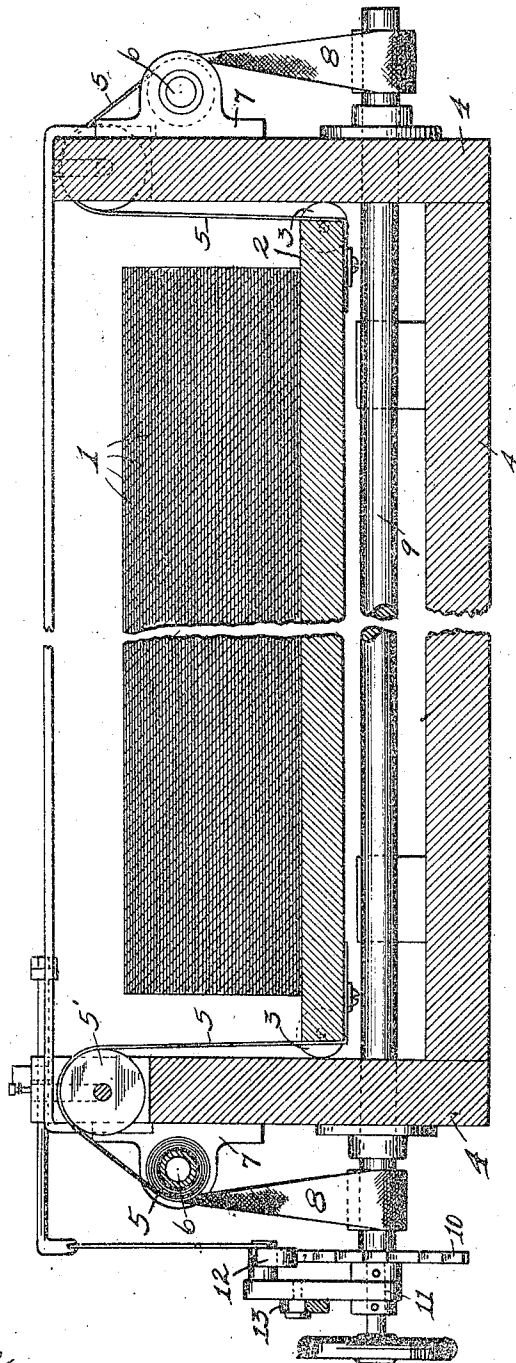
By *John R. Ator*
 his Attorney

J. A. KACHA.
 FEED MECHANISM FOR PRINTING PRESSES.
 APPLICATION FILED JULY 30, 1909.

946,049

Patented Jan. 11, 1910.
 3 SHEETS—SHEET 3.

Fig. 3.



Witnesses:
 E. E. Wessels
 B. G. Richards

Inventor:
 Joseph A. Kacha
 By *John A. Allen*
 his Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH A. KACHA, OF CHICAGO, ILLINOIS.

FEED MECHANISM FOR PRINTING-PRESSES.

946,049.

Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed July 30, 1909. Serial No. 510,371.

To all whom it may concern:

Be it known that I, JOSEPH A. KACHA, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Feed Mechanism for Printing-Presses, of which the following is a specification.

My invention relates to improvements in feed mechanism for printing presses, and more particularly to mechanism for maintaining the top of a pile of sheets at a constant level. In this class of feeding mechanism the sheets are placed in a pile on a vertically movable platform and suitable mechanism provided for removing said sheets singly from the top of said pile and feeding the same to the press. This proceeding would, of course, lower the level of the top of said pile and as it is important to the successful operation of said feeding mechanism, that the level of the top of said pile remains substantially constant, suitable mechanism for automatically accomplishing this is desirable.

The object of my present invention is to provide such automatic mechanism which shall be of simple construction and efficient in operation.

My invention consists in the combination and arrangement of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a top plan view of mechanism for feeding sheets to a printing press, including my improved mechanism for automatically maintaining the top of the pile of sheets at a substantially constant level; Fig. 2, an enlarged side elevation, partially in section of the mechanism for elevating the sheet pile, and Fig. 3 a transverse section of the same.

The pile of sheets 1 is supported on a vertically movable platform 2 having rollers 3 contacting with the sides of the frame 4 and thus serving to guide said platform in its vertical movement. Platform 2 is suspended upon four flexible belts 5 taking over pulleys 5' in frame 4 and wrapped upon shafts 6 supported in bearing brackets 7 at either side of frame 4. Quarter-twisted belts 8 are wrapped upon shafts 6 and upon a transverse shaft 9 mounted in frame 4. At

one end shaft 9 carries a ratchet wheel 10 fixed thereto and a pivoted pawl arm 11 carrying a pawl 12 adapted to engage ratchet wheel 10. A link 13 connects pawl arm 11 with a wrist-pin 14 on a disk 15 which is carried by a shaft 16 suitably mounted on frame 4. Shaft 16 carries a gear 17 meshing with a gear 18 upon a shaft 19 which is one of the driven shafts of the main feeding mechanism. A stop pawl 10' serves to prevent backward movements of ratchet 10. By this construction it will be seen that the pawl arm 11 and pawl 12 will be constantly reciprocated and that when pawl 12 is in engagement with ratchet 10 the shaft 9 will be operated to elevate platform 2 through the medium of belts 8, shafts 6 and belts 5.

Pawl 12 is connected by a link 20 with the outer, longer limb 21 of a substantially U-shaped lever 22 mounted in bearings 23 on frame 4. The lever 22 carries a positioning collar 24 between bearings 23. Collar 24 is provided with an upwardly extending bolt or pin 25 to which is attached a spring 26 having its other end secured to a bracket 27 on frame 4. The inner and shorter limb of lever 22 takes under a cross bar 29 carried by a longitudinally extending lever 30 which has a foot 31 at its end contacting with the top of the sheet pile 1. The lever 30 is pivoted in a standard 32 secured to a supporting table 33 on frame 4. A spring 34 secured to said lever 30 and to said supporting table 33 serves to yieldingly hold said lever foot in contact with the top of the sheet pile. Contacting with the under side of lever 30 is an eccentric cam 35 secured to a shaft 36 which is mounted in brackets 37 supported on table 33. Shaft 36 carries a gear 38 meshing with a gear 39 on shaft 40 which is one of the driven shafts of the main feed mechanism. The cam 35 is provided for the purpose of raising the foot 31 from the top of the sheet pile when the top sheet of said pile is removed therefrom. The specific mechanism for removing the top sheet from said pile forms no part of my present invention and is not illustrated in detail, inasmuch as any well known or desired mechanism for this purpose may be employed. It will be observed that as the level of the top of the sheet pile descends, due to the removal of sheets therefrom, the cross bar 29 will descend therewith carrying with it the pawl 12 through the medium of lever 22 and link 20. As soon as pawl 12 is depressed suffi-

ciently to engage with ratchet 10, it operates as above described to elevate the platform 2 and the sheet pile, and will continue so to do until thrown out of operative relation by such elevation of the sheet pile. Thus it will be seen that as the sheets are removed from the top of the sheet pile the level of the top of the pile will be maintained substantially constant, thus facilitating the operation of the mechanism for withdrawing the sheets singly from the top of said pile. By making the arm 21 longer than the arm 28 the variations in the level of the top of the sheet pile are magnified in transfer to the pawl 12 thus increasing the sensitiveness of the mechanism.

While I have illustrated and described the preferred construction for carrying my invention into effect this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details of construction set forth but wish to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In mechanism of the class described, the combination with a supporting frame, of a vertically adjustable platform mounted therein and adapted to support a pile of paper sheets; pulleys mounted on the sides of the frame; horizontal shafts mounted at either side of the frame; supporting belts secured to the bottom of said platform on both sides at either end, said belts extending thence upwardly over said pulleys and thence downwardly, the ends of the belts on either side being wound upon said horizontal shafts; a transversely extending shaft;

quarter-twisted belts wrapped on said transverse and on said horizontal side shafts; and automatic mechanism for operating said transverse shaft, said automatic mechanism being controlled by the height of the top of the sheet pile, substantially as described.

2. In mechanism of the class described, the combination with a supporting frame, of a vertically adjustable platform mounted therein and adapted to support a pile of paper sheets; rollers carried by said platform and contacting with the sides of said frame; pulleys mounted on the sides of the frame; horizontal shafts mounted at either side of the frame; supporting belts secured to the bottom of said platform on both sides at either end, said belts extending thence upwardly over said pulleys and thence downwardly, the ends of the belts on either side being wound on said horizontal shafts; a transversely extending shaft; quarter-twisted belts wrapped on said transverse and on said horizontal shafts; ratchet and pawl mechanism for driving said transverse shaft; a longitudinally extending gage lever yieldingly contacting with the upper surface of said pile of sheets; a cam for temporarily raising said gage lever from contact with said pile of sheets; a transversely extending U-shaped lever having its inner limb spring held against said longitudinal extending lever; and a depending link pivoted to the outer limb of said lever and to the pawl of said pawl and ratchet mechanism, substantially as described.

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

JOSEPH A. KACHA.

Witnesses:

HELEN F. LILLYS,

JOSHUA R. H. POTTS.