

No. 632,948.

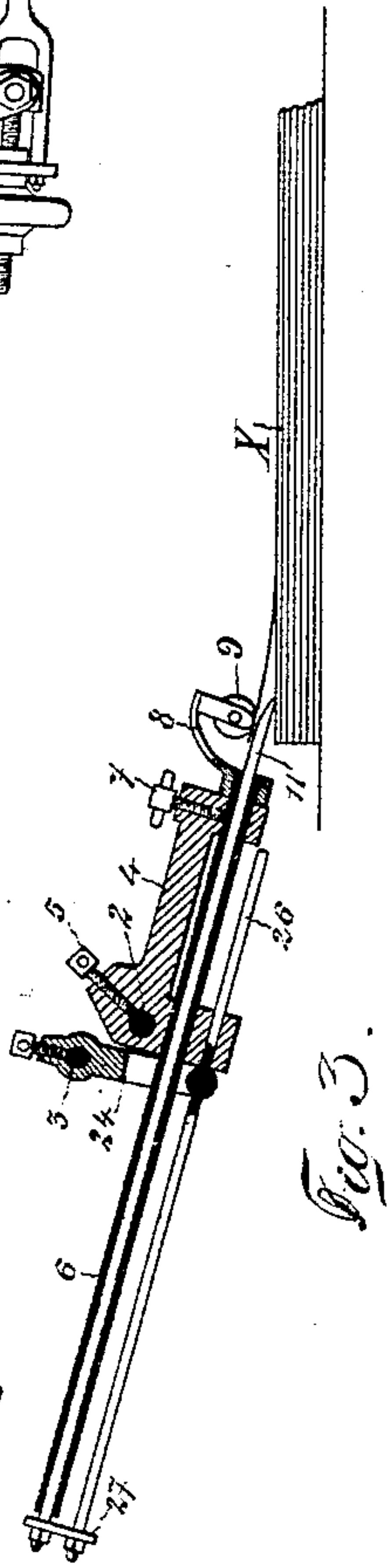
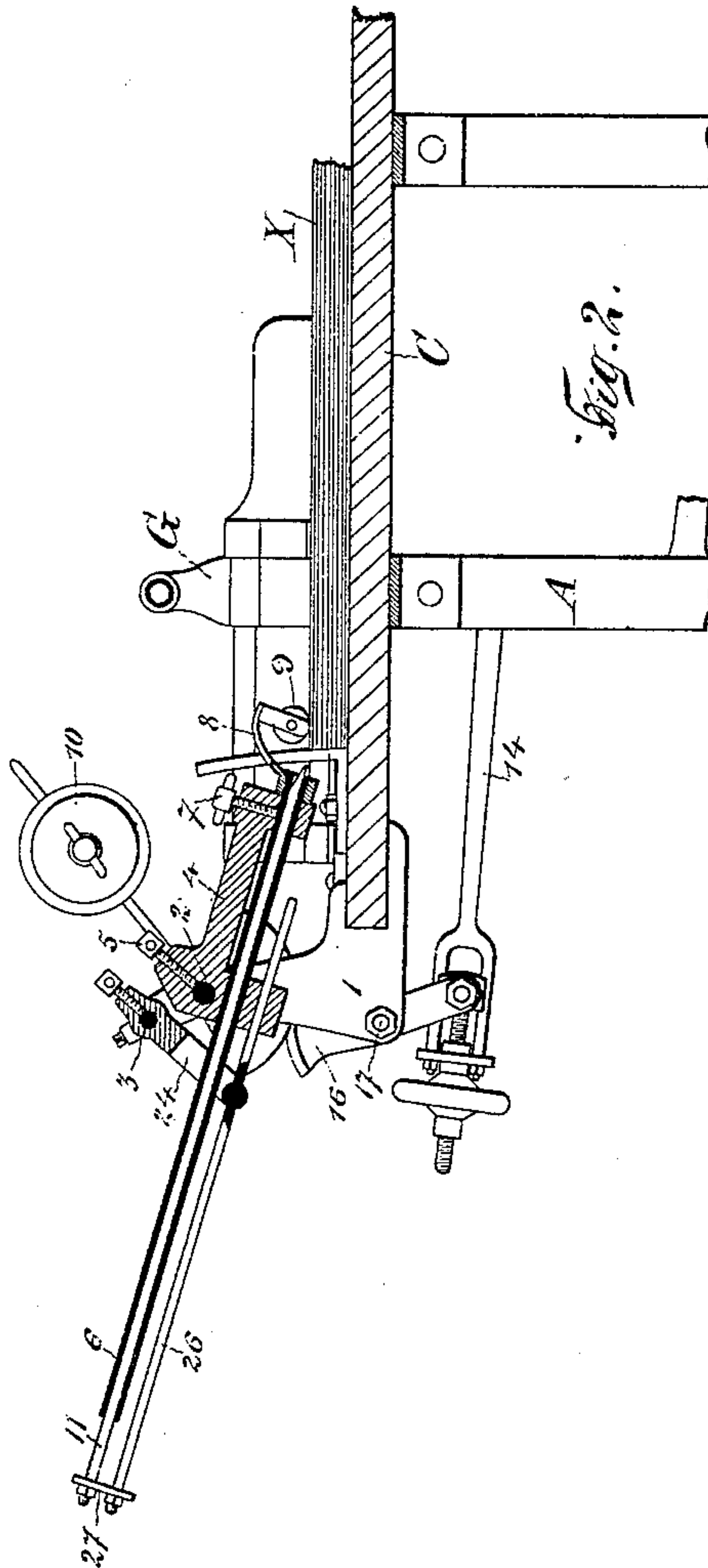
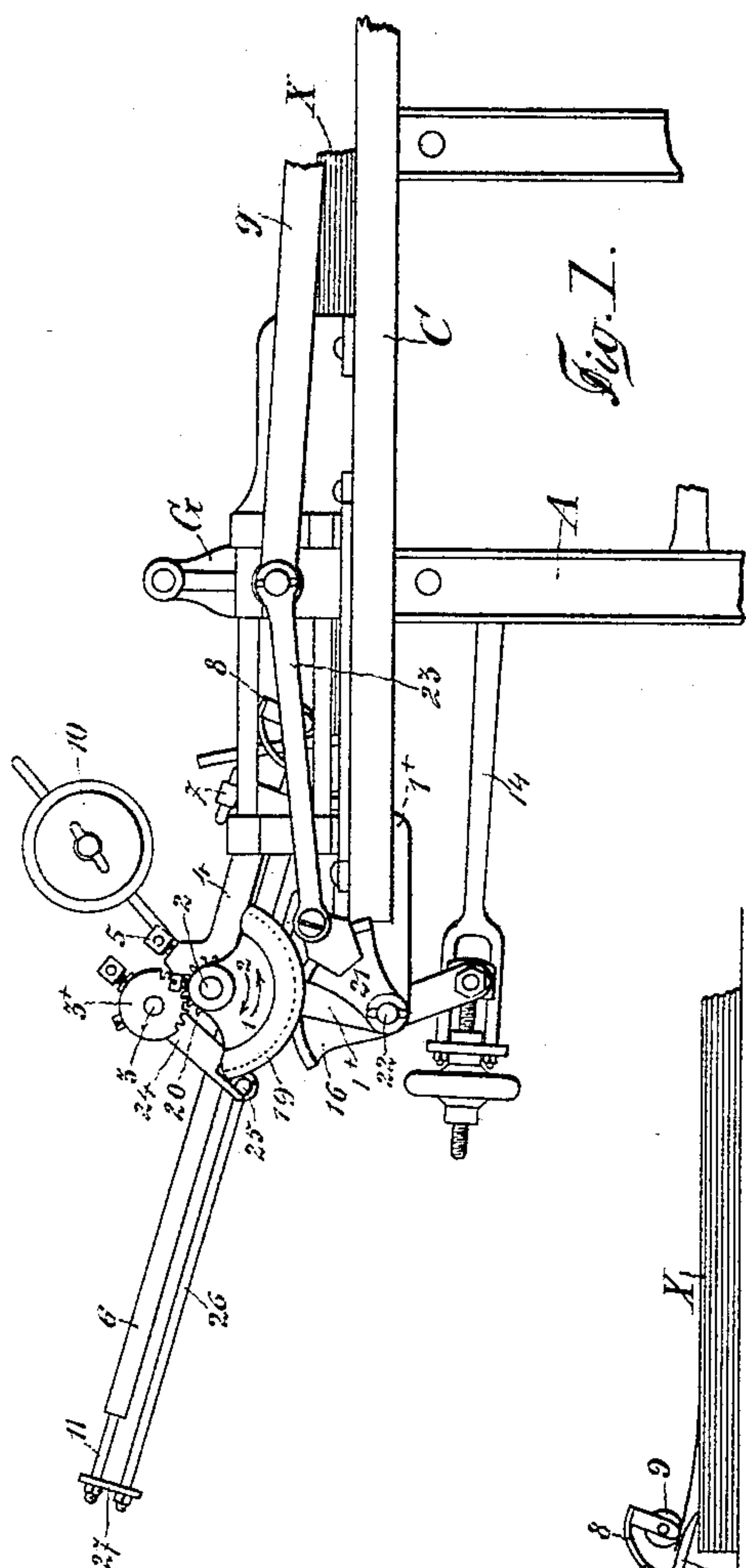
Patented Sept. 12, 1899.

C. RYMTOWTT-PRINCE.
PAPER FEEDING MACHINE.

(Application filed Dec. 24, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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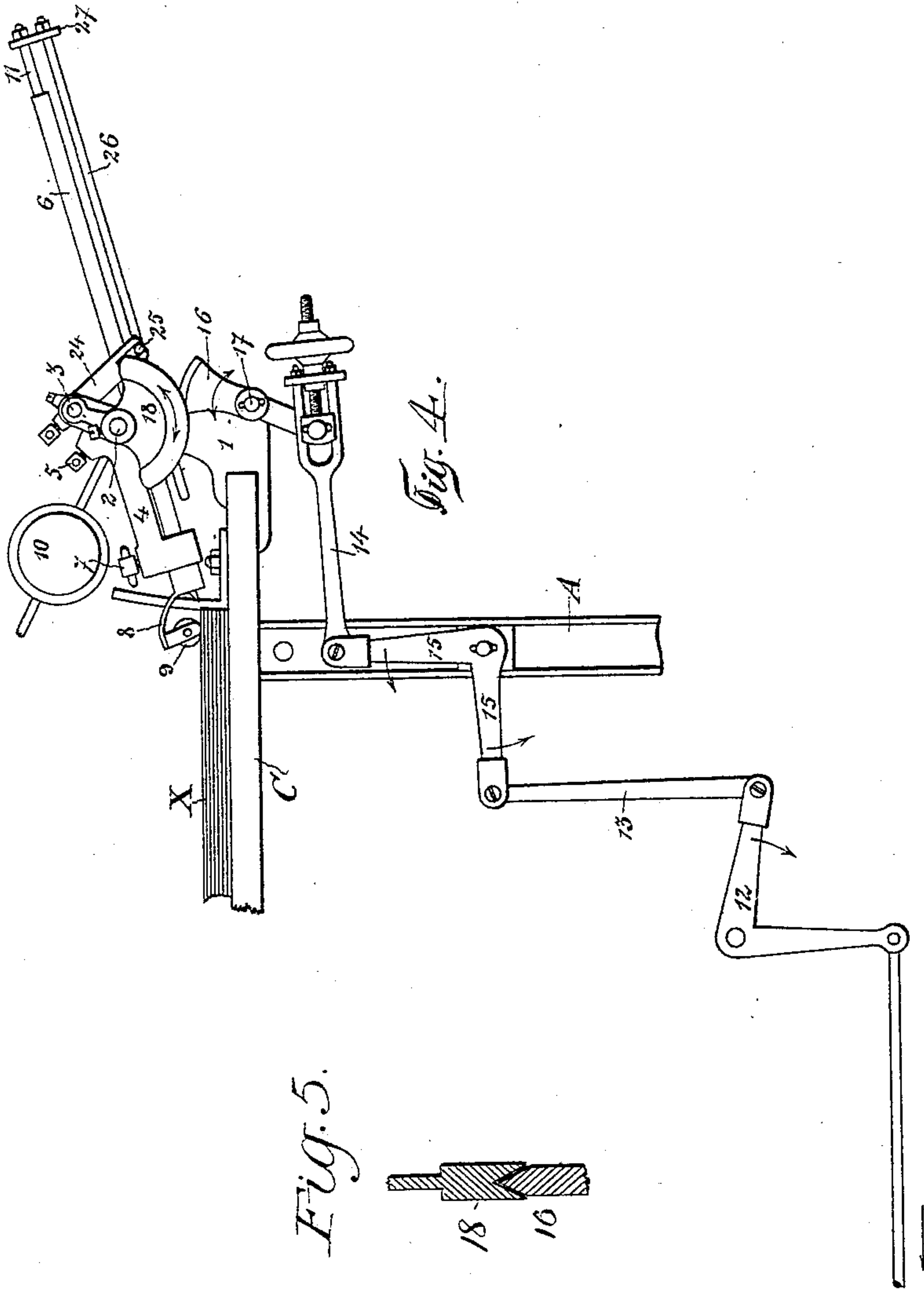
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(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CZESLAW RYMTOWTT-PRINCE, OF GENEVA, SWITZERLAND.

PAPER-FEEDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 632,948, dated September 12, 1899.

Application filed December 24, 1897. Serial No. 663,412. (No model.)

To all whom it may concern:

Be it known that I, CZESLAW RYMTOWTT-PRINCE, residing at Geneva, Switzerland, have invented certain new and useful Improvements in Automatic Lifters for Paper-Feeding Mechanism, (for which I have obtained patents in Great Britain, No. 24,054, dated October 28, 1896; in Belgium, No. 127,903, dated April 28, 1897; in Italy, No. 201/44,597, dated April 27, 1897; in France, No. 266,420, dated April 27, 1897; in Austria, No. 47/4,100, dated May 5, 1897, and in Switzerland, No. 14,513, dated May 18, 1897,) of which the following is a specification.

15 This invention relates to automatic lifters for paper-feeding mechanism used with printing-machines; and the object of the invention is to provide a lifter which is perfectly reliable when the mechanism is running at a high rate of speed and to prevent the rapidly-transferred sheets from causing the underlying sheets in the pile being drawn away by suction, and thus entirely disarranging the pile.

25 My invention consists of certain features of construction and combinations of parts, to be hereinafter described and then claimed.

In the accompanying drawings, Figure 1 is a side elevation of my automatic lifter for paper-feeding mechanism. Fig. 2 is a longitudinal section of the same. Fig. 3 is a similar section, parts being omitted and the picker being raised. Fig. 4 is a side elevation seen from the opposite side of Fig. 1; and Fig. 5 is a broken central section through the engaging edges of the segments, so as to show the V shape of the same.

Similar letters and figures of reference indicate corresponding parts.

40 C indicates a table supported by legs A, G a slide guided on the table and provided with a shifting rod *g*, operated by a suitable source of power, and X a pile of paper which is intended to be acted on sheet after sheet.

At the rear end of table C are fixed the two bearing-supports 1 and 1^x, in which are journaled the transverse shafts 2 and 3. On the shaft 2 there are fixed by means of set-screws 5 bracket-arms 4, each having a longitudinal hole in which is arranged a tube 6, adjustable in the same and fixed in the desired position by means of a set-screw 7. The purpose of this adjustment is to enable the parts

to be presently described to act on any sized sheet of paper. In the drawings the lifter is applied to the largest size for which the table C is constructed. Arms 8 are attached to the ends of tubes 6, and the outer ends of the same form bearing for a picker-cylinder 9, which is made of sticky or adhesive material of suitable composition. The shaft 2 carries a counterweight 10, which tends to press the cylindrical pickers down upon the rear ends of the sheets of paper.

The device further consists of a rod 11, arranged in tube 6, and the direction of which is substantially tangential to the cylindrical picker 9, so that it can be moved a short distance from the circumference of the picker where it is shifted forward in the tube 6.

The ends of the shafts 2 and 3 at one side of the lifter are provided with the mechanism (shown in Fig. 4) intended to periodically cause the arms 4 of the shaft 2 to be lifted, while the other ends of the shafts are provided with mechanism (shown in Fig. 1) intended to periodically shift rod 11 forward or backward, as will be described hereinafter. A bell-crank lever 12 (see Fig. 4) is acted upon by a suitable portion of the printing-machine, which in time acts upon a rocking lever 16 by means of connecting-rod 13, bell-crank lever 15, and connecting-rod 14. The rocking lever 16 is pivoted at 17 to the bearing 1 and is formed at its upper end as a segment, which is adapted to engage a segment 18, fixed on the shaft 2, for the purpose of periodically oscillating the same, so as to raise the bracket-arms 4 into the position shown in Fig. 3 or to lower them into the position shown in Fig. 4. For the purpose of allowing this engagement to take place easily the segments 16 and 18 are not provided with teeth, but are formed one with a V-shaped groove and the other with a V-shaped edge, so that their contact is frictional. The opposite end of shaft 2, Fig. 1, carries a pivoted segment 19, which has a V groove in which engages the V edge of a segment 21, that is pivoted to bearing 1^x and is connected to the slide G by means of a connecting-link 23. The shaft 3 bears a pinion 3^x, which engages with teeth 20 on the hub of segment 19. Every time the segment 19 is oscillated in one or the other direction it causes the shaft 3 to respond and

to also oscillate. In front of each bracket-arm 4 there is affixed to the shaft 3 an arm 24, the lower free end of which is forked and engages with a lateral projection 25 on a slide-rod 26, which is guided in a suitable hole in the arm 4 and is fixed to the rod 11 by a cross-piece 27. The oscillation of the shaft 3 in either direction alternately causes the forward or backward motion of the rod 11 in the tube 6.

It is evident that rod 11 and the devices acting upon the same might be replaced by any equivalent device intended to press upon the back of the sheet of paper which is to be prevented from being withdrawn by the sheet which is separated and which is to be transferred from the pile.

The device operates as follows: In the position shown Figs. 1 and 2 the poise 10 presses the sticky picker or pickers 9 down upon the uppermost sheet of paper in the pile X. When the picker 9 is being raised by the arm 4 and segments 16 18, so as to pick up the upper sheet, the rod 11 is moved forward and the upper sheet thereby separated at its rear end from the pile and the latter prevented from rising, it being held in position by the rod 11, which bears down upon it.

Having thus described my invention, what I claim is—

1. In an automatic lifter for paper-feeding mechanism, the combination, with an oscillatory picker, and means for operating the same, of a presser-rod, oscillated with the

picker, and means for imparting a longitudinal movement to the same, tangentially to the picker, substantially as set forth.

2. In an automatic lifter for paper-feeding mechanism, the combination, with a picker, an oscillatory shaft supporting the same, and means for oscillating said shaft, of a pressure-rod, oscillated with the picker, another oscillating shaft, and means for reciprocating said pressure-rod from the latter, substantially as set forth.

3. In an automatic lifter for paper-feeding mechanism, the combination with an oscillatory shaft, means for operating the same, a bracket-arm extending from said shaft, and a picker carried by said arm, of a presser-rod supported by said arm, and means for reciprocating said rod, relatively to the picker, substantially as set forth.

4. In an automatic lifter for paper-feeding mechanism, the combination with an oscillatory shaft, means for oscillating it, a bracket-arm extending from said shaft, and a picker carried by said arm, of a tube fixed to said arm, a presser-rod guided in the tube, and means for reciprocating said rod relatively to the picker, substantially as set forth.

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

CZESLAW RYMTOWTT-PRINCE.

Witnesses:

E. IMER-SCHNEIDER,
E. F. BARRY.