

No. 763,195.

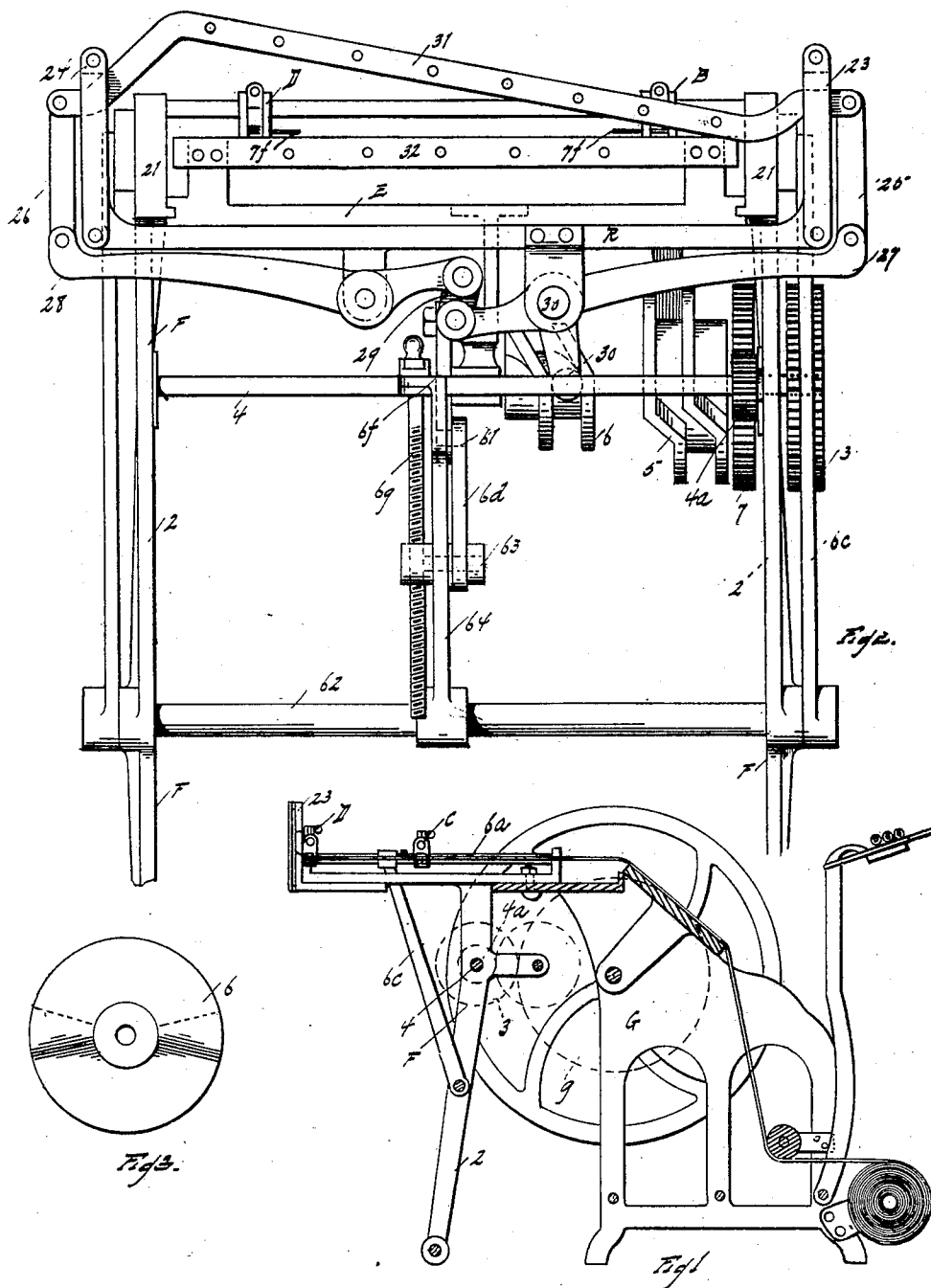
PATENTED JUNE 21, 1904.

T. C. MERZ.
FEEDER FOR PRINTING PRESSES.

APPLICATION FILED NOV. 17, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



WITNESSES
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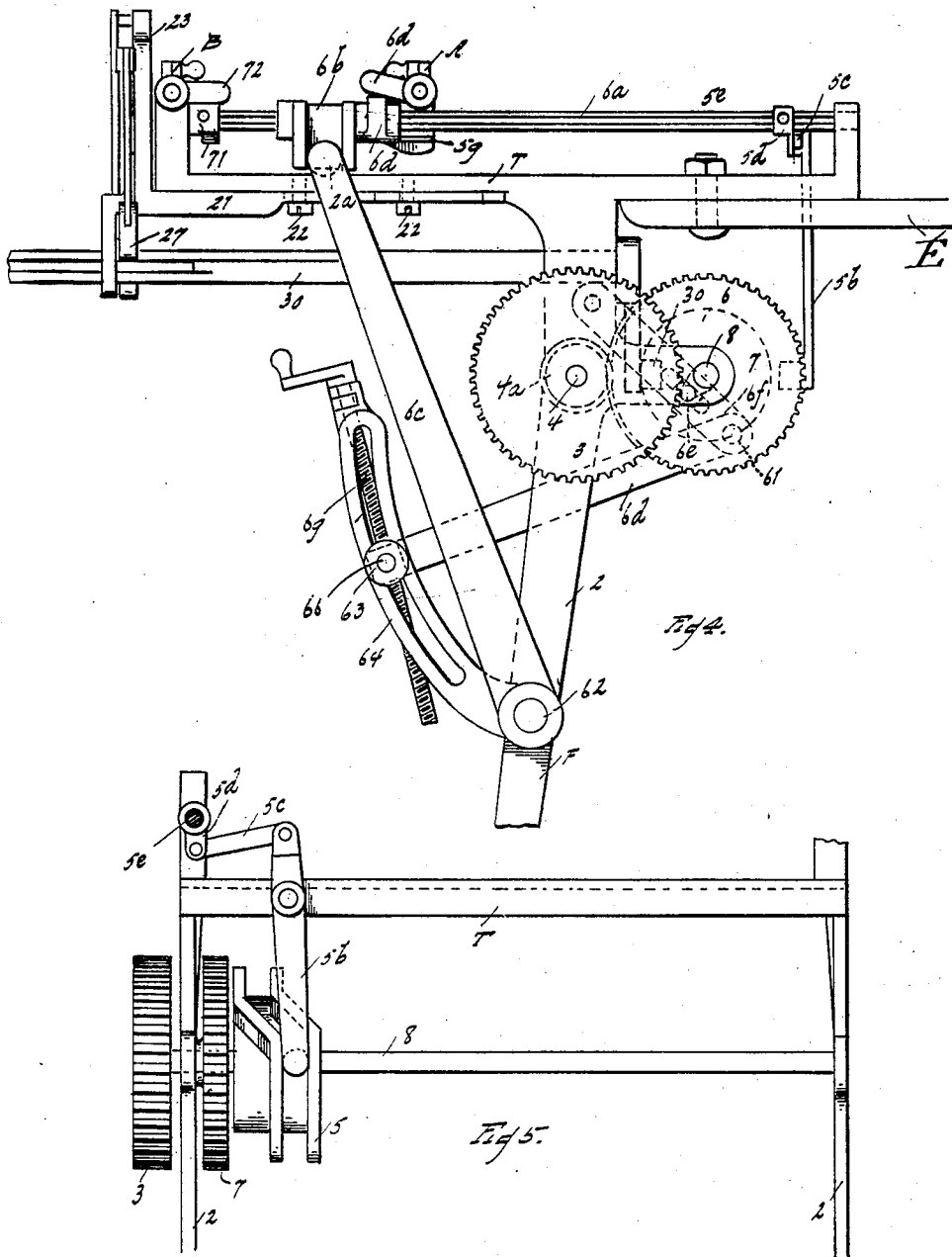
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

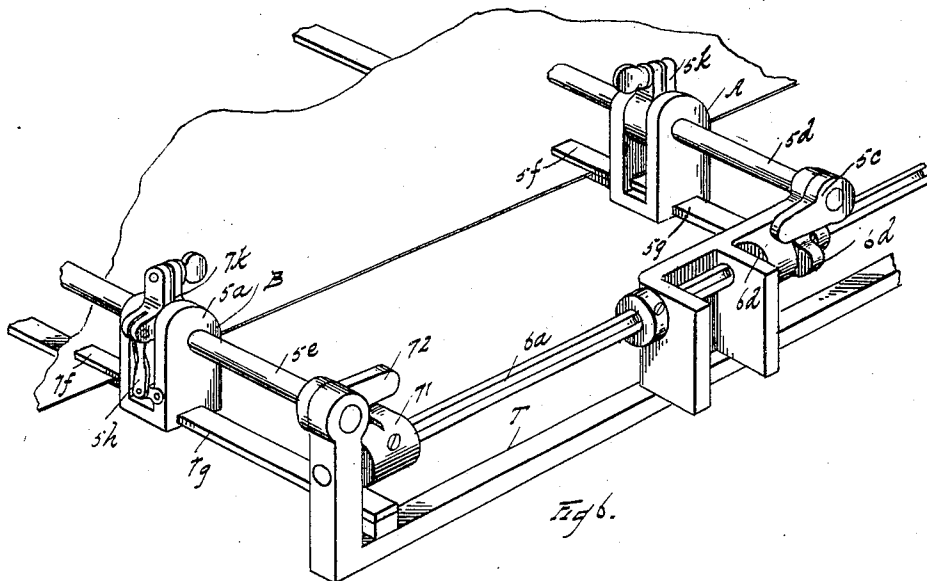


Fig. 6.

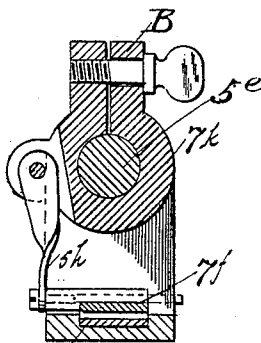


Fig. 8.

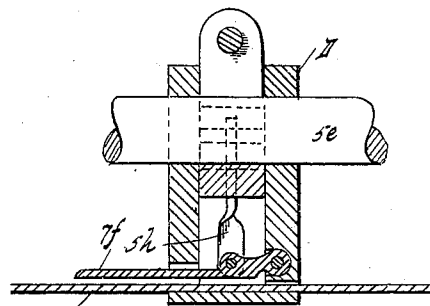


Fig. 7.

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4 SHEETS—SHEET 4.

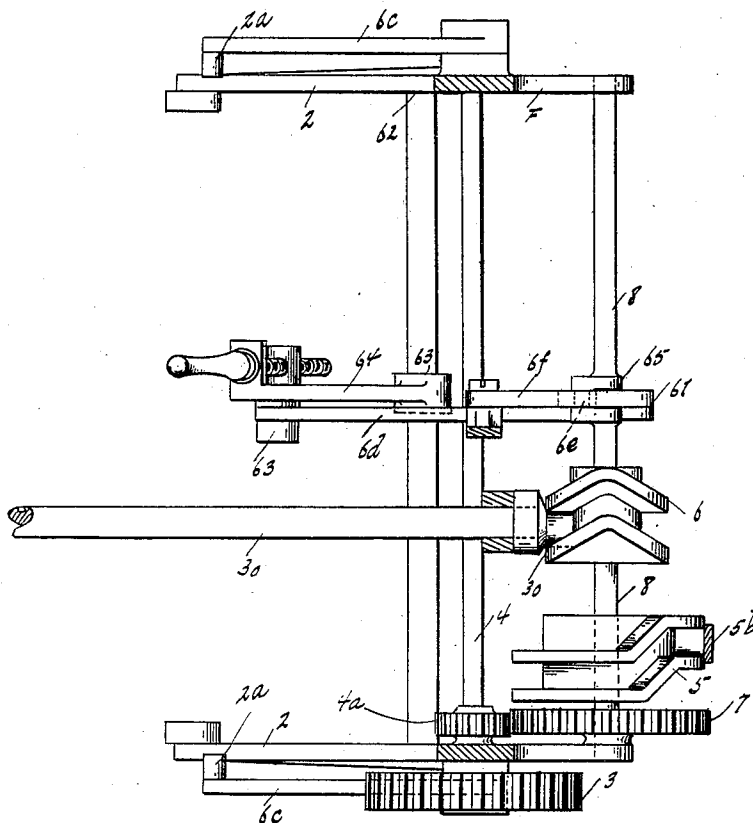


Fig 9.

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THEODORE C. MERZ, OF DETROIT, MICHIGAN.

FEEDER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 763,195, dated June 21, 1904.

Application filed November 17, 1902. Serial No. 131,611. (No model.)

To all whom it may concern:

Be it known that I, THEODORE C. MERZ, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Feeders for Printing-Presses; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to feeders for printing-presses, and has for its object an attachment to be used with printing-presses of the class commonly known as "Gordon" presses, in which the paper upon which imprint is to be made is placed on a movable platen that carries it to the type, presses it against the type, and removes it therefrom. In the ordinary and usual employment of presses of this class the paper is cut to size and placed manually on the platen, and the object of this attachment is to enable this class of presses to be used to make an imprint on paper that is in long strips and is fed from a roll. An adjunct to the attachment is arranged to cut the paper after the imprint has been made, and the attachment is arranged to be adjustable, so that the severing of the paper may correspond with the surface of the imprint and that the paper may be fed to correspond with the imprint, making it possible to print sheets that in their completed condition are of any one of several different sizes.

In the drawings, Figure 1 is a section somewhat diagrammatic in character, showing the location of the attachment with respect to the press. Fig. 2 is an elevation of the upper part of the attachment as seen by one standing at the left of the machine as indicated in Fig. 1. Fig. 3 is a detail side elevation of one of the cam-wheels. Fig. 4 is an elevation showing the attachment in substantially the same position that it appears in Fig. 1, but on a large scale. Fig. 5 is a detail of the rock-shaft mechanism which actuates the grips. Fig. 6 is a perspective of the paper-grips. Fig. 7 is a section showing in detail the part B of Fig. 6. Fig. 8 is a section taken at right

angles to that of Fig. 7, showing in detail the part B of Fig. 6. Fig. 9 is a plan of the parts beneath the table.

F indicates a frame arranged to be supported by a leg 2, that is terminated with a caster-wheel, and to be attached to and held principally by the framework of an ordinary Gordon press G. The press is provided with a driving-wheel *g*, which meshes with wheel 3 on the attachment, and the wheel 3 is mounted on shaft 4, to which there is a counter-shaft 8, both mounted on the framework F. On the shaft 4 is a pinion 4^a, that meshes with wheel 7 on the counter-shaft 8 and produces a rotation of the shaft 8 which is of speed equal to that of the driving-wheel of the Gordon press. On the shaft 8 are cams 5 and 6, and of these cam 5 drives the mechanism which grips the paper and which feeds the paper, and cam 6 drives a mechanism which actuates the severing-shears. The paper-feeding mechanism is reciprocated by a lever 6^c, pivotally secured to the leg 2 and provided with a carrying-pin upon which there is a friction-roller 2^a, that engages in a socket 6^b on the reciprocating part of the paper-feeding mechanism. The lever 6^c, pivoted to the leg 2 at 62, is itself oscillated by a jointed link composed of two parts 6^d and 6^e, pivoted together at 61 and adjustably pivoted at 63 to a branch 64 of the lever 6^c. The part 6^e of the link is slotted and through the slot engages the wrist-pin 6^f of a crank 65 on the shaft 8. The end of the link 6^e, which carries the pin 61, has an invariable throw; but the link 6^d is adjustable along the arm 64 between its fulcrum-pin 62 and the free end of the arm 64, and by means of this adjustment the throw of the end of the lever 6^c which carries the pin 2^a can be varied within limits determined by the point of connection between the pin 63 and the arm 64, and this is adjusted by a screw 6^g, journaled on the arm 64 and traveling through a nut on the pin 63.

The feed-carriage reciprocates on a pair of guide-bars, one of which, 6^h, is seen in Fig. 4 and in Fig. 6, and the guide-bar 6^h is itself grooved longitudinally, and a feather on a cam 6^d, which travels with the carriage, engages in the groove. The traveling carriage

is composed of a cross-bar 5^d, capable of slight oscillation, and of an under grip-bar 5^g, held to the cross-bar 5^d by yoke-like hangers A. At the end of the cross-bar 5^d is a crank-arm 5^e, that engages with the cam 6^d and produces an oscillating movement of the bar 5^d, which is communicated from the cam 5 through a lever 5^b, pivotally supported on the frame part T of the frame and connected by link 5^e to the crank-arm 5^e on the guide 6^a. An upper clamp 7^f (seen best in Figs. 7 and 8) is pivotally supported by the hanger B and connected by a link 5^h to a split ring 5^k, that is clamped to the rod 5^e. Oscillation of the guide-rod 6^a and of the cam 6^d carried thereon produces an oscillation of the arm 5^e and of the rod 5^d, with which it is connected, oscillates the split ring 5^k, actuates the link 5^h, and actuates the upper clamp-plate 5^f. At the end of the rod 6^a is a second cam 71, similar to the cam 6^d and arranged to engage a crank-arm 72 on a cross-rod 5^e, that is similar to the cross-rod 5^d, except that it does not travel, but remains substantially fixed except for its oscillation. On this cross-rod 5^e is a hanger B, which supports an upper grip-plate 7^f and embraces a lower fixed grip-plate 7^g, actuated by split ring 7^k, similar in all respects to the corresponding mechanism described in connection with the hanger A. On the rod 5^d is a second hanger C and connected gripping mechanism similar to the already-described gripping mechanism, and these hangers are both adjustable along the rod 5^d to accommodate the width of the paper that is to be used. The paper lies between them, above the under plate 5^g and below the upper gripping-plate 5^f, which extends toward the hanger C only far enough to enable it to properly grip the edge of the paper. A hanger D on the rod 5^e has connected with it mechanism in all respects similar to the gripping mechanism of the hanger B, the upper gripping-foot being pointed toward the hanger B and the upper gripping-foot 7^f of the hanger B being pointed toward the hanger D. The cams 6^d and 71 are set so that the gripping parts of the hangers B and D seize upon the paper just at the point of time when the carriage has advanced most closely to them and is about to recede, and contemporaneously with the seizing of the paper by the gripping parts of the hangers B and D the gripping parts of the hangers A and C release their hold and the carriage travels backward, sliding freely over the paper. When the carriage has reached the rearmost point of its travel, its gripping parts seize the paper, the grips of the hangers B and D release the paper, and the carriage returns forward, drawing the paper with it. It will be observed that the gripping parts seize the paper when the carriage has reached the rearmost point of its travel in any adjusted position.

To the end E of the frame-pieces T is ad-

justably secured a frame which carries the shears or severing knife. This frame is held by sliding arms 21, that engage in grooves on the under side of the frame-pieces T and are held in adjusted position by holding-screws 22. The shears-blade is held in slotted standards 23 and 24 and is actuated by links 25 and 26, that are pivotally connected to levers 27 and 28. The two levers 27 and 28 are linked together by a link 29 and are actuated contemporaneously by a crank-pin 30, that engages in cam 6. The crank-pin 30 is on a branch arm from the lever 27, and the lever 27 is pivotally secured to a hanger from the cross-bar R of the frame, and the lever 28 is also pivotally secured to a hanger from the same cross-bar. The cutting-knife 31 is arranged obliquely with respect to the fixed plate 32, so that while its motion is nearly vertical it has a shearing cut and is actuated from the same shaft 8 that actuates the feed mechanism and makes a cutting reciprocation with each forward motion of the feeding apparatus. The position of the cut with respect to the paper and the imprint made on the paper is determined by adjustment of the shearing mechanism with respect to the main frame of the attachment.

What I claim is—

1. In an attachment for printing-presses, a rock-shaft, a cross-head adapted to reciprocate longitudinally to said shaft, a gripper mechanism connected with said cross-head and connected with said rock-shaft so as to be capable of sliding longitudinally thereto and to be operated by the rocking of said shaft, means for reciprocating said cross-head, means for rocking said shaft, and a stationary gripper mechanism adapted to be operated alternately to the first-named gripper mechanism, by the rocking of said shaft, for the purpose described.

2. In an attachment for printing-presses, a rock-shaft, a cross-head adapted to reciprocate longitudinally to said shaft, a laterally-extending rock-shaft on said cross-head adapted to be rocked by the rocking of said first-named rock-shaft, a gripper mechanism on said transverse rock-shaft adapted to be adjusted longitudinally thereto and to be operated by the rocking thereof, means for reciprocating said cross-head and means for rocking said shafts.

3. In an attachment for printing-presses, a cross-head, means for reciprocating said cross-head, a rock-shaft upon said cross-head extending transversely to the motion thereof, a gripper mechanism upon said cross-head adapted to be operated by said rock-shaft and adjustable longitudinally of said shaft, means for reciprocating said cross-head and means for rocking said shaft.

4. In a printing-press feeder, the combination of a reciprocating cross-head, a gripper mechanism on said cross-head adjustable lat-

erally thereto, and means for automatically operating said gripper mechanism in its various adjusted positions and at any position in the reciprocating movement.

5 5. In a printing-press feeder, the combination of a reciprocating cross-head provided with a part extending transversely under the sheet of paper and forming the lower jaw of a gripper mechanism, a gripper-jaw above
10 said part adjustable longitudinally thereto,

and means for automatically actuating said jaw in any position in its said adjustment and at any position in the reciprocating movement.

In testimony whereof I sign this specification in the presence of two witnesses.

THEODORE C. MERZ.

Witnesses:

CHARLES F. BURTON,
MAY E. KOTT.