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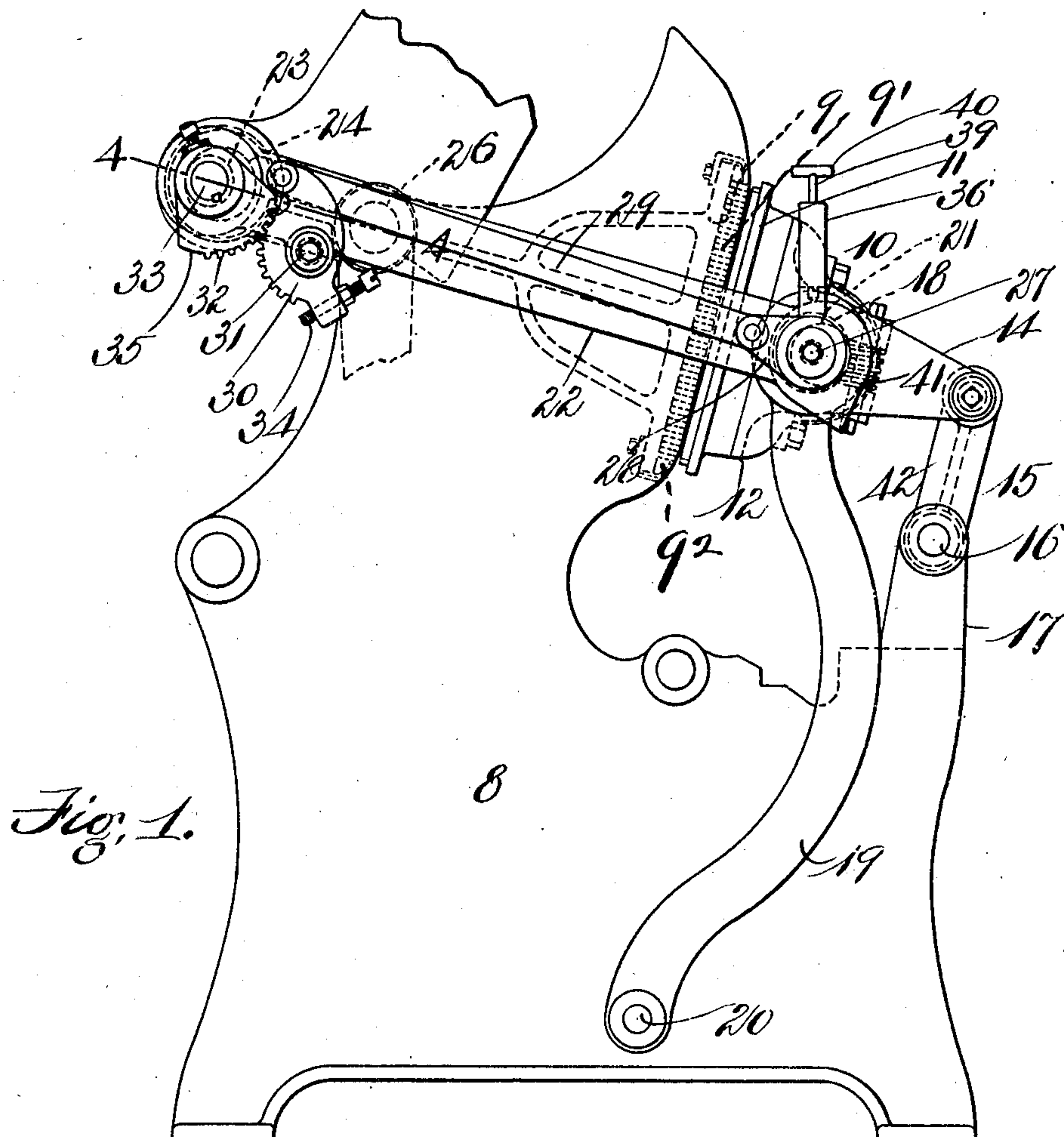
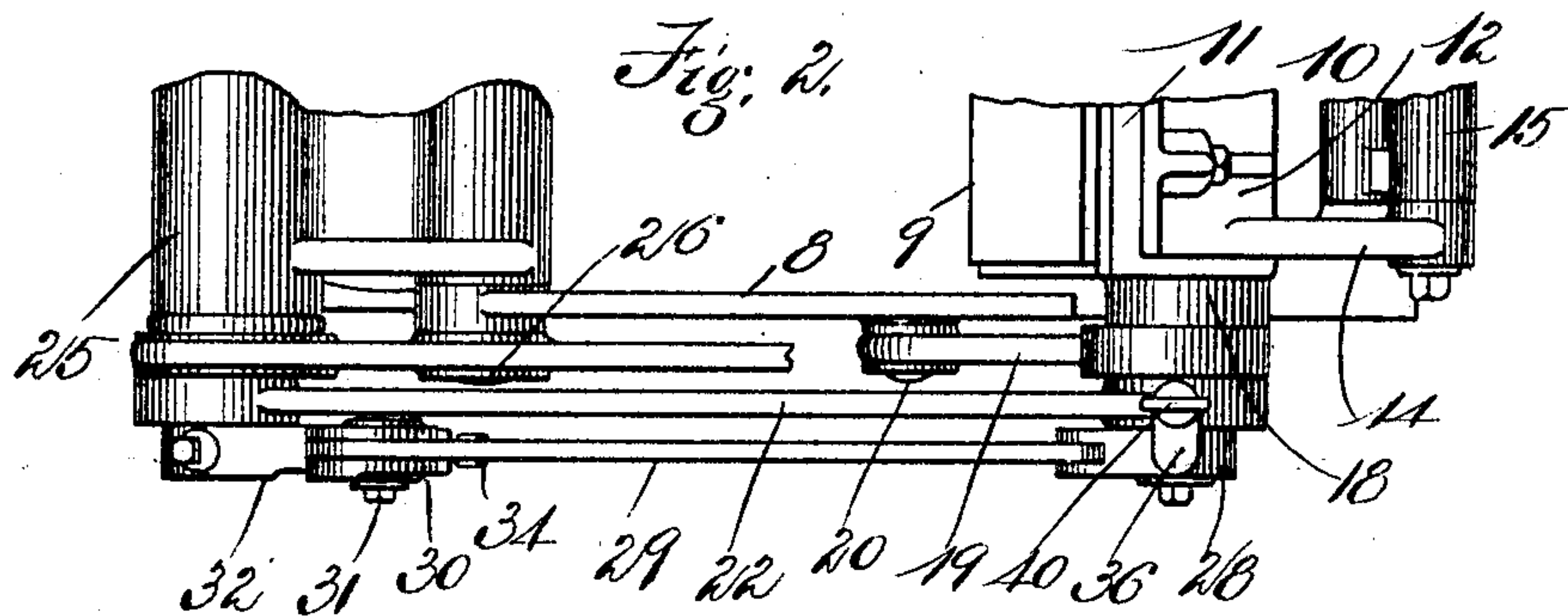
PATENTED NOV. 19, 1907.

G. W. PROUTY.

PLATEN THROW-OFF MECHANISM FOR PRINTING PRESSES.

APPLICATION FILED FEB. 26, 1907.

2 SHEETS—SHEET 1.



Witnesses:

Ernest A. Telfer
Walter L. Curran

Inventor:

George W. Prouty,
by his attorney, Charles S. Gooding.

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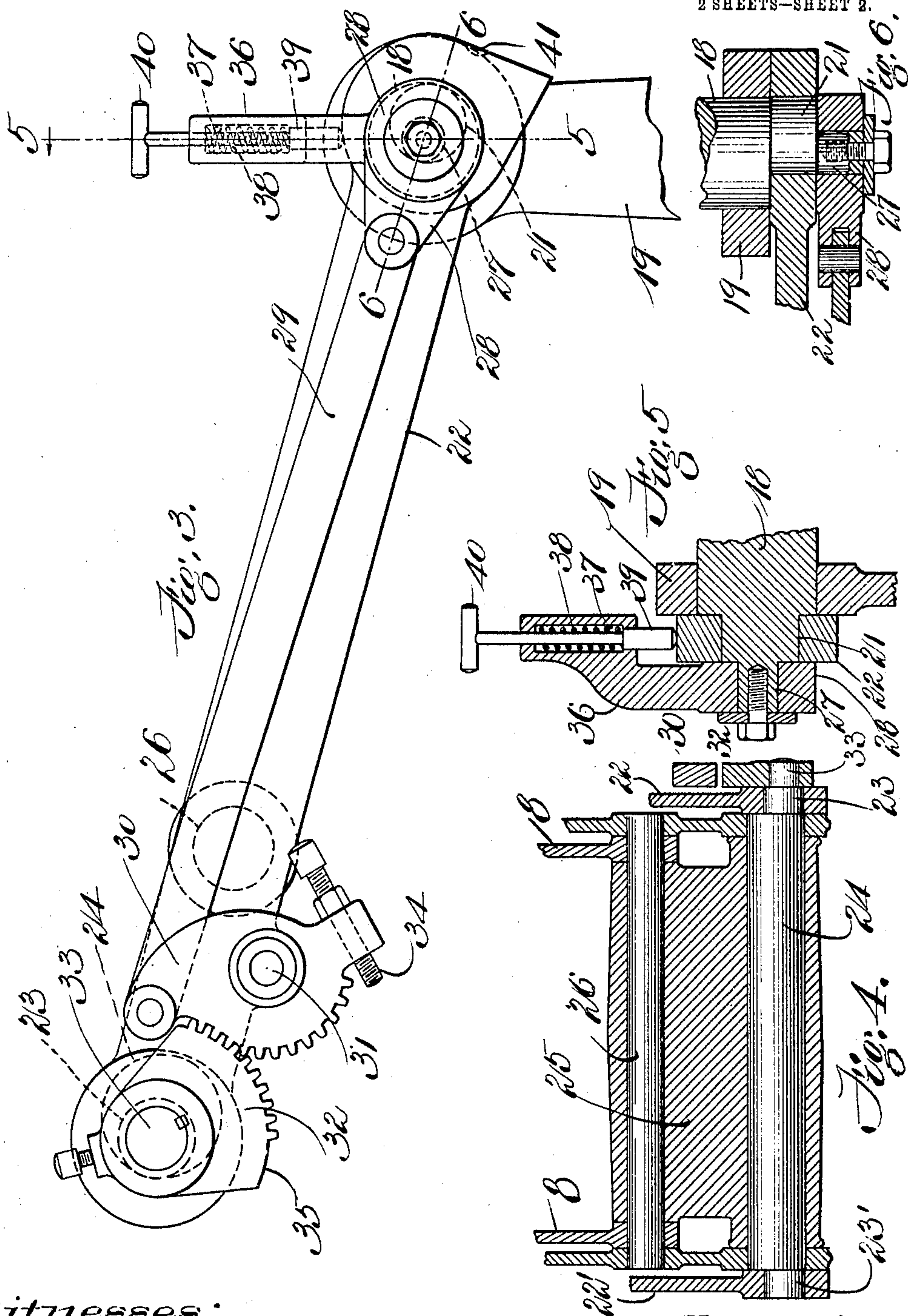
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2 SHEETS—SHEET 2.



Witnesses:

Ernest A. Telfer.

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UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE IMPERIAL ART PRESS CO., A CORPORATION OF MAINE.

PLATEN-THROW-OFF MECHANISM FOR PRINTING-PRESSES.

No. 871,439.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed February 26, 1907. Serial No. 359,410.

To all whom it may concern:

Be it known that I, GEORGE W. PROUTY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Platen - Throw - Off Mechanism for Printing-Presses, of which the following is a specification.

This invention relates to printing presses of the type known as "platen presses", but for illustration I refer specifically to the one described and illustrated in Letters Patent of the United States No. 735,818, patented August 11, 1903, "Ink distributing apparatus for printing presses;" G. W. Prouty, the object of the invention being to provide a "throw-off" mechanism for the platen, whereby the operator can quickly change the relative location of the platen to the type-bed in such a manner that although the press continues in its cycle of operations the platen will not be brought into contact with the type-bed.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a partial left hand side elevation of a printing press similar to that described and illustrated in said Letters Patent, the same being broken away to save space in the drawings. Fig. 2 is a partial plan view, also broken away to save space. Fig. 3 is an enlarged side elevation of my improved "throw-off" mechanism. Fig. 4 is a section, partly in elevation, taken on line 4—4 of Fig. 1. Fig. 5 is a detail section, partly in elevation, taken on line 5—5 of Fig. 3, looking toward the left in said figure. Fig. 6 is a detail section, partly in elevation, taken on line 6—6 of Fig. 3.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 8 is the frame of the press and 9 a type-bed fast thereto with type 9' in a form 9² fast thereto. 10 is the platen formed preferably in two parts, viz., the platen bed 11 and the platen yoke 12, said parts being rigidly fastened together. Arms 14, 14 project forwardly from the platen yoke 12 and are pivotally connected at their outer ends to a rocker-frame 15 which in turn, is pivoted to a shaft 16 having bearings in ears 17 forming a portion of or con-

nected to the frame 8. A shaft 18 extends through the platen 10—that is, through the yoke portion 12 of said platen and is supported at its opposite ends in the radius arms 19 which, in turn, are fastened at their lower ends to a shaft 20 having bearings in the frame 8 and adapted to rock therein.

The opposite ends of the shaft 18 are connected by draw-bar links 22, 22' to eccentric extensions 23, 23' formed upon the opposite ends, respectively, of a shaft 24 which extends through and is rotatable in a journal bearing which, in this particular machine, is formed in a rocking member 25, said rocking member being pivoted on a shaft 26 which may be journaled to rock in the frame 8. Said rocking member 25 is rocked by suitable mechanism, preferably like that illustrated and described in said patent. This mechanism forms no portion of this invention and it is, therefore, thought that it is unnecessary to describe or illustrate the same in relation to the "throw-off" mechanism which I will now proceed to describe.

The shaft 18 has an extension 27 projecting therefrom which is concentric with the shaft 18 and has mounted thereon a rocker-arm 28 which is pivotally connected to a link 29, the other end of said link being pivotally connected to a segment gear 30. The segment gear 30 is pivoted to rock upon a stud 31 fast to the draw-bar link 22 and meshes into another segment gear 32 fast to an extension or stud 33 projecting from the outer face of the eccentric extension 23 and concentric with said eccentric extension and consequently eccentric to the shaft 24. A stop-screw 34 has screw-threaded engagement with the segment gear 30 and is adapted to abut against the portion 35 of the periphery of the segment gear 32, said portion 35 having no teeth cut therein and thus forming a suitable surface for said stop-screw to abut against in the operation of the device as hereinafter described.

The rocker-arm 28 has a handle arm 36 projecting upwardly therefrom which is chambered at 37 to receive a spiral spring 38, one end of which bears against the upper end of said chamber, the other against a pin 39 adapted to slide in said arm 36 and projecting upwardly through the spring 38 and through said arm and terminating in a handle 40. The lower end of said pin bears against the periphery of the right hand end

(as viewed in Fig. 3) of the draw-bar link 22. Said link has a recess 41 formed therein.

The arms 42 of the rocker frame 15 and the arms 19 constitute radius arms upon which the platen as a whole is supported and by which it is partly controlled in its movements toward and away from the type-bed, so that said radius arms form a movable support for the platen.

It is evident that the draw-bar links 22, 22' may be connected to a shaft by means of the eccentrics 23, 23' and that said shaft may be rotatable in any movable member which is actuated by the mechanism of the machine to impart a longitudinal movement to said links without departing from the spirit of my invention—that is, it is not essential to the practical operation of the device that the same should be connected by means of the links to a rocking member.

The general operation of the "throw-off" mechanism hereinbefore specifically described is as follows: Assuming the parts to be in the position illustrated in Fig. 1, if the operator desires to operate the "throw-off" mechanism, he grasps the handle 40, moves the same toward the front until the pin 39 drops into the recess 41. This rocking of the rocker-arm 28 rocks the segment 30 about the stud 31 by means of the link 29 connecting said rocker-arm to said segment. The rocking of the segment 30 causes the segment gear 32 to be rocked, thus rocking the shaft 24 to which it is rigidly fastened. The rocking of the shaft 24, which is eccentric to the extensions 33 and 23 throws the draw-bar links 22, 22' forward or toward the right (Fig. 3), thus moving the platen forward, it being understood that the draw-bar links 22 are connected to said platen by the shaft 18, as hereinbefore described, the platen thus being moved to an appreciable distance from the type-bed when said platen is at its nearest position to said type-bed. The movement of the platen by the rocking of the rocker-arm 28 can evidently be accomplished at any time during the cycle of operations performed by the press, so that the press need not be stopped while the "throw-off" mechanism is being operated.

It is evident that by reversing the movement of the handle 40 and the rocker arm 28 to the position illustrated in Fig. 3 the different parts will be brought into the relative positions illustrated in Figs. 3 and 4.

It is also evident that when the platen is in the position shown in Fig. 1, the eccentric 33 is rocked to such a position as to bring the face of the platen against the type 9' upon the type-bed. The rocker-arm 28 and the link 29 are in such positions that a plane extending through the pivots at the opposite ends of the link 29 also passes through the axis of the shaft 18, or in other words the link 29 and the arm 28, when the platen is

in contact with the type, are on dead centers. Therefore, the platen is locked in position and in contact with said type and very little force is required to keep said link and platen locked in position, no matter what pressure may be exerted on the face of the platen by the impression or type during the printing operation.

It will be seen that when the rocker-arm 28 is rotated sufficiently for the pin 39 to be forced into the recess 41 by the spring 38 the stop-screw 34 will abut against the portion 35 of the segment gear 32, said stop-screw thus forming a means for limiting the distance to which the operator can rock the rocker arm 28.

The object of using segmental gears, as hereinbefore described, is for the purpose of reducing the amount of power exerted by the operator in moving the platen relatively to the type-bed, but it is evident that on presses of light construction the rocker-arm 28 may be pivotally connected directly to an arm fast to the extension 33 without the employment of segmental gears.

It is also evident that without departing from the spirit of my invention other means than that of a spring pin or handle may be used to hold the handle arm in position at either end of the rocking of said handle arm hereinbefore described.

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

1. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a rocking member, a shaft extending through said rocking member and journaled therein, said shaft terminating at its opposite ends in eccentric extensions, links pivotally connected at one end to said platen and at the other end thereof to said eccentric extensions, and means to rotate said shaft, whereby said platen is moved toward or away from said type-bed.

2. In a printing press, a type-bed, type fast thereto, a platen, an arm pivotally connected to said platen, a movable member, a shaft extending through and journaled in said movable member, eccentric extensions on said shaft, draw-bar links connecting said eccentric extensions to said platen, and means to rotate said shaft embodying a link pivotally connected at one end to said arm and at the other end to said shaft rotating means, the pivots of said link being located in alinement with the pivot of said arm when said platen contacts with said type.

3. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a rocking member, a shaft extending through said rocking member and journaled therein, said shaft terminating at its opposite ends in eccentric extensions, links pivotally connected at one

end to said platen and at the other end thereof to said eccentric extensions, a gear fast to one of said eccentric extensions, a second gear meshing into said first-named gear and journaled to rotate on one of said draw-bar links, and means to rotate said gears, whereby said shaft is rotated and said draw-bar links cause said platen to be moved toward or away from said type-bed.

4. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a shaft extending through said platen, a rocking member, a shaft extending through said rocking member and journaled therein, said rocking member shaft terminating at its opposite ends in eccentric extensions, draw-bar links pivotally connected at one end to said platen shaft and at the other end thereof to said eccentric extensions, and means to rotate said rocking member shaft, whereby said platen is moved toward or away from said type-bed.

5. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a shaft extending through said platen, a rocking member, a shaft extending through said rocking member and journaled therein, said rocking member shaft terminating at its opposite ends in eccentric extensions, draw-bar links pivotally connected at one end to said platen shaft and at the other end thereof to said eccentric extensions, a gear fast to one of said eccentric extensions, a second gear meshing into said first-named gear and journaled to rotate on one of said links, and means to rotate said gears, whereby said platen may be moved toward or away from said type-bed.

6. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a shaft extending through said platen, a rocking member, a shaft extending through said rocking member and journaled therein, said rocking member shaft terminating at its opposite ends in eccentric extensions, draw-bar links pivotally connected at one end to said platen shaft and at the other end thereof to said eccentric extensions, a gear fast to one of said eccentric extensions, a second gear meshing into said first-named gear and journaled to rotate on one of said links, a rocker-arm journaled on said platen shaft, and a link connecting said rocker-arm to said second

gear, whereby said platen may be moved toward or away from said type-bed.

7. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a shaft extending through said platen, a rocking member, a shaft extending through said rocking member and journaled therein, said rocking member shaft terminating at its opposite ends in eccentric extensions, draw-bar links pivotally connected at one end to said platen shaft and eccentric thereto and at the other end thereof to said eccentric extensions, a gear fast to one of said eccentric extensions, a second gear meshing into said first-named gear and journaled to rotate on one of said links, a rocker arm journaled to rotate on said platen shaft and concentric therewith, and a link connecting said rocker arm to said second gear, a spring locking device mounted on said rocker arm and bearing against said link, said link being provided with a recess into which said locking device is adapted to project, whereby said platen may be moved toward or away from said type-bed.

8. In a printing press, a type-bed, a platen, radius arms upon which said platen is pivotally supported, a shaft extending through said platen, a rocking member, a shaft extending through said rocking member and journaled therein, said rocking member shaft terminating at its opposite ends in eccentric extensions, draw-bar links pivotally connected at one end to said platen shaft and at the other end thereof to said eccentric extensions, a gear fast to one of said eccentric extensions, a second gear meshing into said first-named gear and journaled to rotate on one of said draw-bar links, a rocker arm journaled to rotate on said platen shaft and concentric therewith, a link connecting said rocker arm to said second gear, and a stop adapted to limit the angle of rotation of said gears and thus limit the distance to which said platen can be moved by said mechanism away from said type-bed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE W. PROUTY.

Witnesses:

LOUIS A. JONES,
EDUARD SHORE.