No. 834,309. PATENTED OCT. 30, 1906.

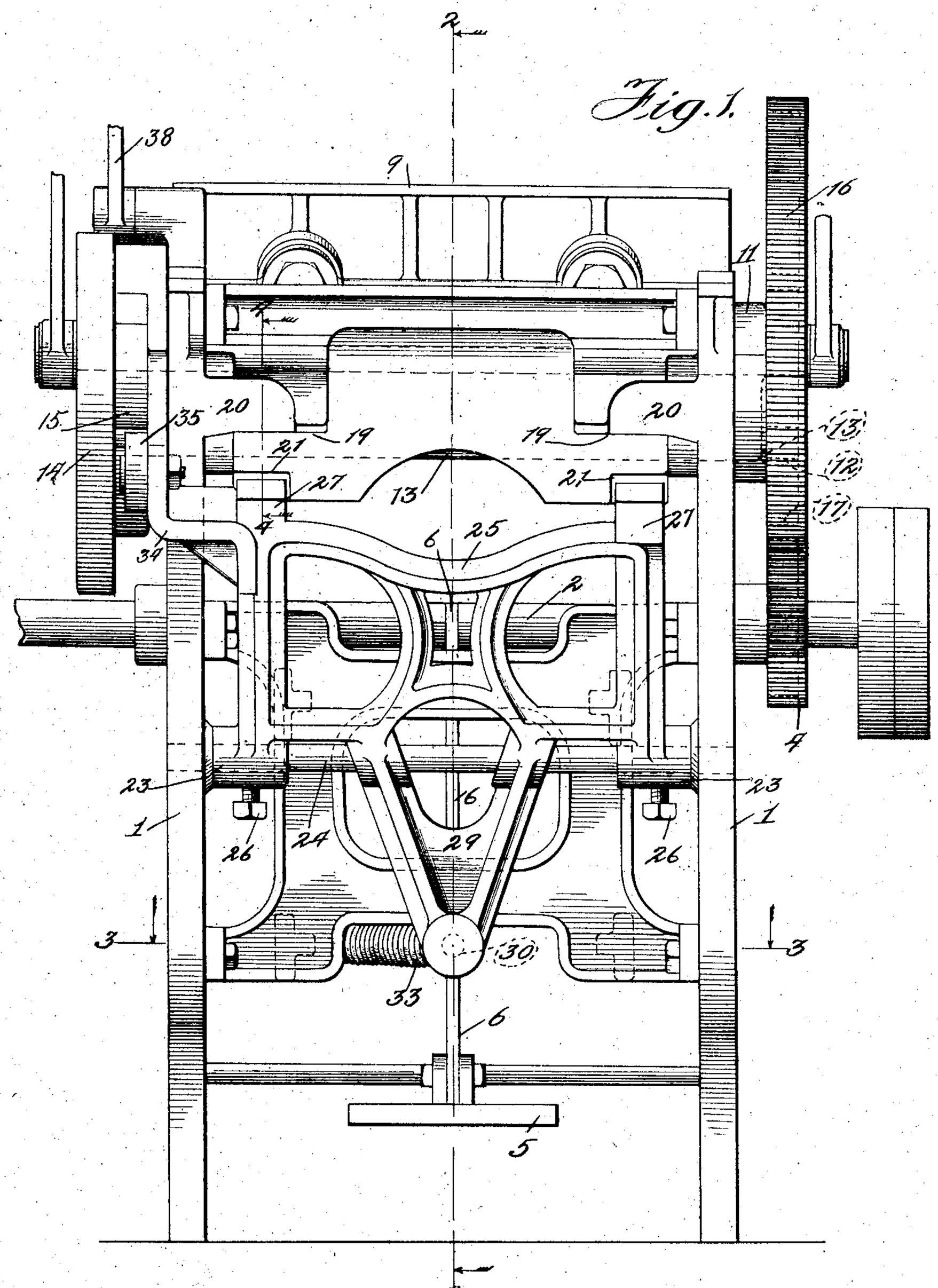
J. E. LEE.

PRINTING PRESS PLATEN LOCK.

APPLICATION FILED NOV. 24, 1905.

3 SHEETS—SHEET 1.

Fig. 1.



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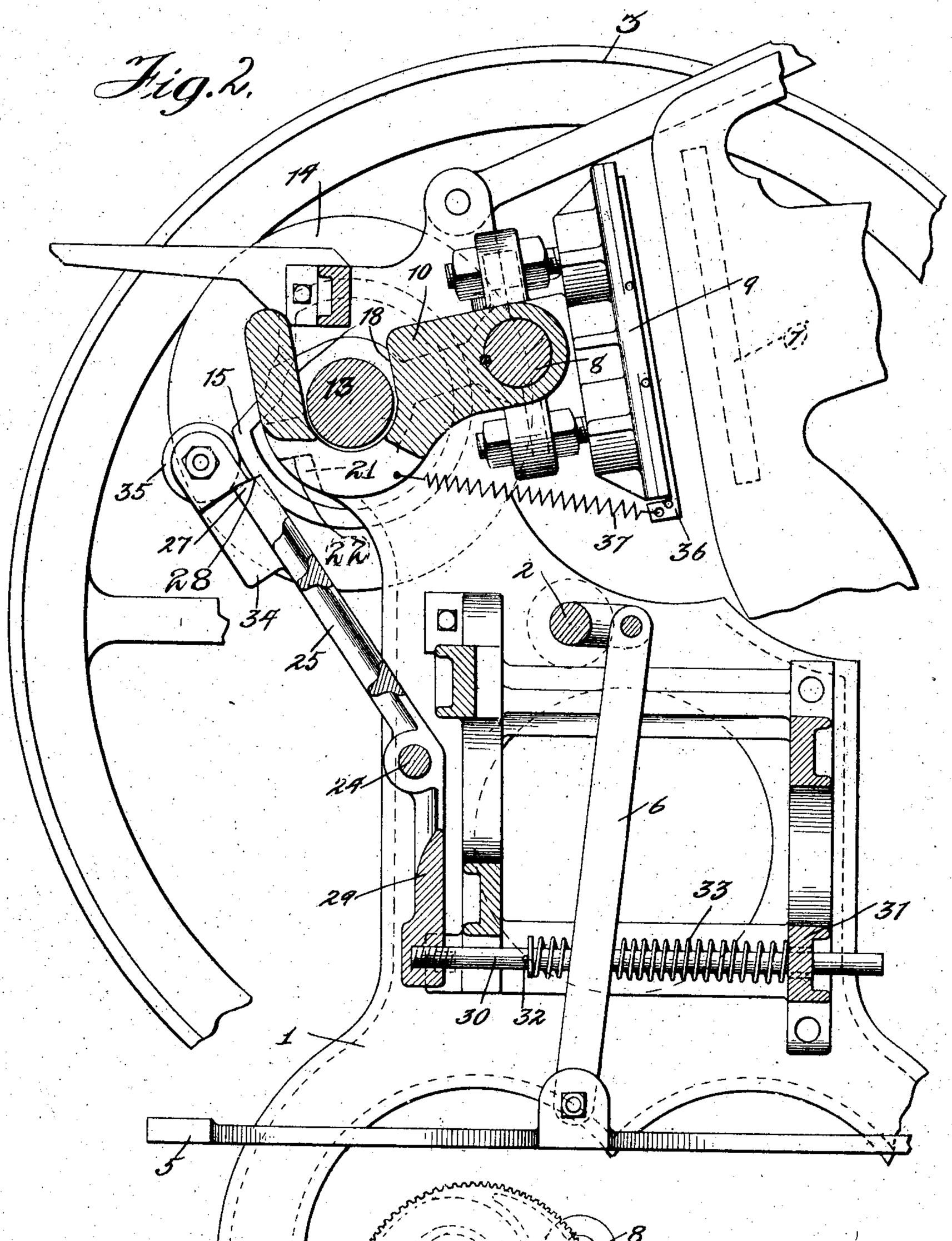
3 SHEETS—SHEET 2.

Fig. 2.



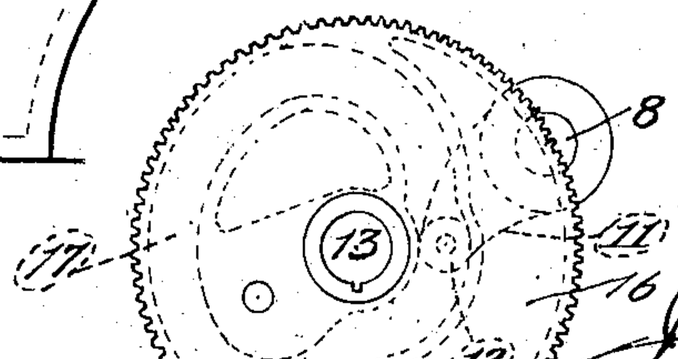


Fig. 6.

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3 SHEETS—SHEET 3.

Fig. 3.

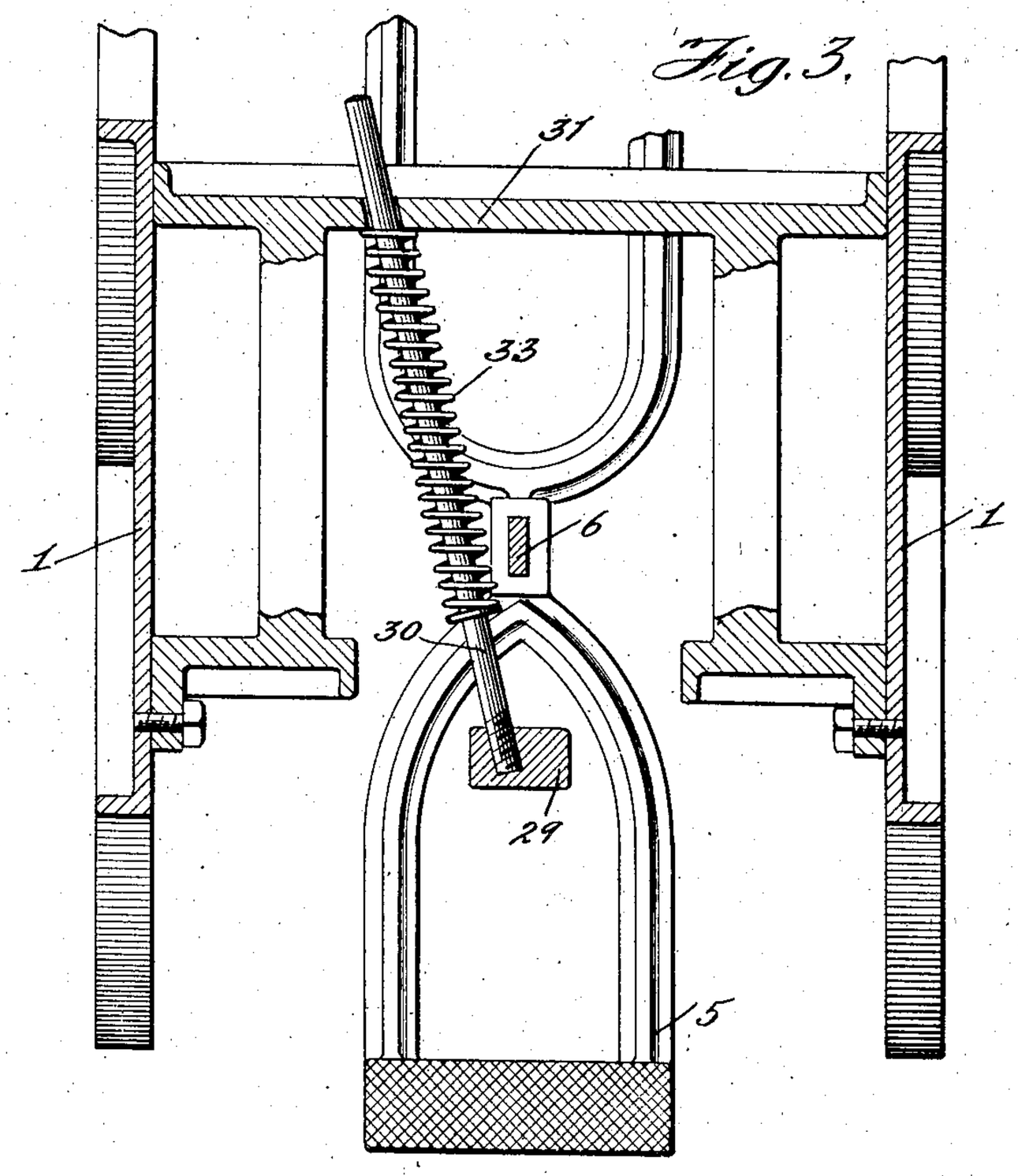


Fig. 4.

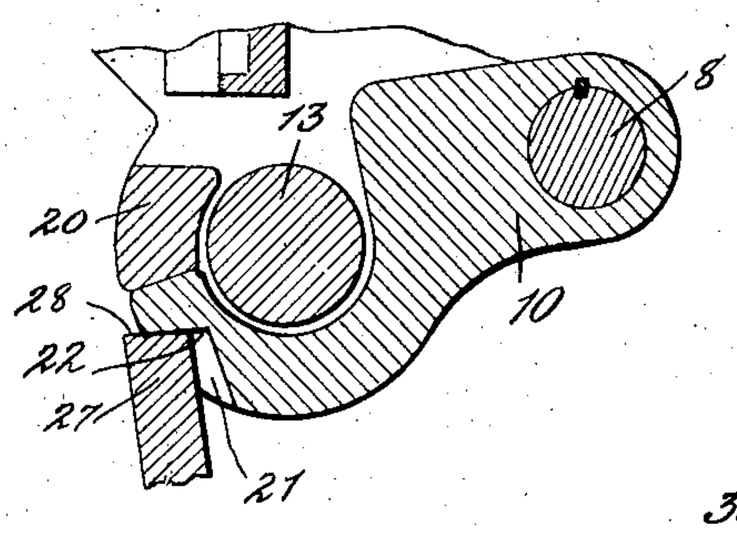
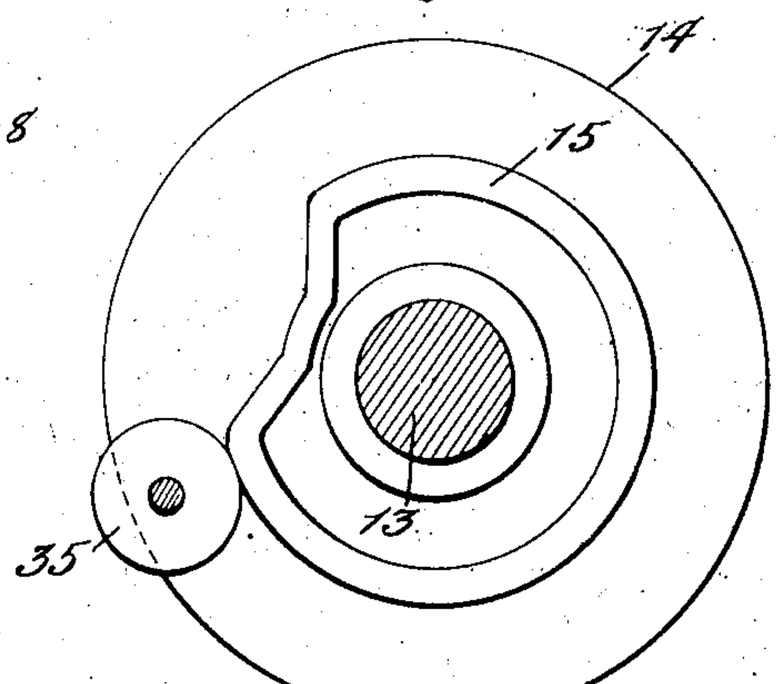


Fig. 5.



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UNITED STATES PATENT OFFICE.

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PRINTING-PRESS PLATEN-LOCK.

No. 834,309. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed November 24, 1905. Serial No. 288,940.

To all whom it may concern:

Be it known that I, JAMES E. LEE, a citizen of the United States, residing at Grand Haven, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Printing-Press Platen-Locks, of which the following is a full, clear, and exact specification.

This invention relates to improvements in printing-press platen-locks adapted to lock the platen while an impression is being made; and the object of the same is to produce an improved locking means adapted to simultaneously engage both sides of the platen.

A further object is to provide an improved lock of this character which is controlled by a spring and in which the spring engages the lock at a central point and exerts its energy at a point in a direct line with the diametric center of the locking member.

A further object is to produce an improved locking device of this character which will be simple and durable in construction, cheap to manufacture, and positive and effective in operation.

To these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction and arrangement of the several parts hereinafter more fully described and claimed, and shown in the accompanying drawings, illustrating an exemplification of the invention, and in which—

Figure 1 is a front elevation of a printing-press embodying the improvements. Fig. 2 is a vertical section on line 2 2 of Fig. 1. Fig. 3 is a section on line 3 3 of Fig. 1 looking in the direction of the arrows. Fig. 4 is a detail section on line 4 4 of Fig. 1. Fig. 5 is an enlarged detail view of the cam for releasing and holding the lock out of operative position; and Fig. 6 is a detail of the arm and outer face of the cam-gear for operating the platen, the cam-groove on the inner face thereof being shown in dotted lines.

Referring more particularly to the drawings, and in which the same reference-numerals designate similar parts throughout the several views, the numeral 1 designates the supporting-frame of an ordinary oscillating-platen printing-press; 2, a crank-shaft; 3, a fly-wheel; 4, an operating-gear carried by the shaft; 5, a treadle, and 6 a pitman-rod connecting the treadle and crank-shaft.

Journaled in the framework adjacent the bed 7 is a shaft 8, secured to which in any suitable manner is a platen 9, and carried by the platen is a rearward extension or arm 10. Keyed also to the shaft 8 is an arm 11, which is provided with a projection or antifriction-roller 12, for a purpose hereinafter set forth.

Parallel with the shaft 8, preferably in advance thereof and mounted in suitable bearings, is a shaft 13, and said shaft has secured to one end thereof a disk 14, provided with a cam-surface 15. Secured to the opposite end of said shaft 13 is a gear 16, which meshes with the pinion-gear 4, and said gear is provided in its face with a cam-groove 17, in which moves the antifriction-roller or projection 12, carried by the arm 11, which is secured to the shaft 8.

The rearward extension or arm 10, carried by the platen 9, is so constructed as to stand astride of the shaft 13, as at 18, when the platen is in position to make an impression and is provided with reduced portions forming shoulders 19, adapted to pass under projections or lugs 20, carried by the frame 1. Said arm or projection is also provided with notches 21, each having an inclined wall 22, and said notches are preferably located below the shoulders 19.

Mounted in suitable bearings in the frame and extending through the bearings 23 is a shaft 24, which is rigidly secured to the locking member or plate 25 by means of screws or bolts 26. Said member or plate is preferably provided with projecting ends 27, having an inclined face 28, adapted to coöperate with the inclined wall 22 of the notches 21, as hereinafter set forth.

Carried by the member or plate 25 is a centrally-disposed depending arm or projection 29, which is arranged at an angle to the plane of the body portion thereof.

A rod or bar 30 is removably attached to the lower extremity of the arm or projection 29, and said bar extends loosely through the bar or support 31, carried by the framework. A pin or collar 32 is carried by the bar, and disposed between this pin or collar and the support or bar 31 is an expansion-spring 33, which loosely surrounds the bar and tends to normally force the arm or projection 29 outward and the ends 27 of the member or plate 25 into engagement with the notches 21 in the arm 10, carried by the platen 9.

The bar or rod 30 is disposed obliquely across the frame or at such an angle as to stand to one side of the pitman-rod 6 and yet in such a position that the spring 33 will cause the same to exert a strain upon the projection or arm 29 at a point directly in line with the diametric center of the locking member or plate 25, thereby causing both ends thereof to simultaneously engage the platen-arm and lock the platen at both points, forming a positive lock at both points and overcoming all tendency of springing the locking member or plate. Carried by this member or plate 25 is an arm or bracket 34, and journaled thereto is a roller 35, and said roller is so located as to engage and travel upon the cam-face 15 of the disk 14 and is held in contact therewith by means of the spring 33 and rod 30. The ordinary gripper-fingers 36 and operating-spring 37 may be provided, if desired.

It is to be understood that the ordinary inking-rollers are to be provided and are connected to and operated by the movement of the platen by means of the bars or connections 38.

The operation of this improvement is as follows: When the shaft 2 is revolved, motion is transmitted to the gear 4, which operates the gear 16, which through the medium of the cam-groove 17 therein, shaft 8, arm 11, and projections or rollers 12 will cause the platen 9 to turn about its pivot-point, carrying the arm or projection 10 with it. Just as the shaft 13 starts to rotate, the cam-face 15 shoves the locking member or plate 25 away from the platen by means of the engaging roller 35 and holds the same in that position and against the tension of the spring 33 until the flat portion of the cam comes opposite the roller 35, when the expansive force of said spring will cause the roller 35 to follow the flat portion and bring the ends 27 of the locking member or plate 25 into engagement with notches 21 in the arm or projection 10 of the platen, the platen having at this time assumed its operative position by means of the cam-groove in the gear 16, with the shoulders 19 engaging the projection 20, carried by the frame 1, which serves as a stop for the platen. The beveled faces of the projecting ends 27 of the plate 25, cooperating with the beveled wall of the notches 21, form a wedge to hold the parts firmly together and permit the parts to be positively seated.

Having thus fully described the invention, it is to be understood that it is not desired to be limited to the exact construction and arrangement of the several parts, as various changes may be made without departing from the spirit of the invention.

What is claimed as new, and desired to be secured by Letters Patent, is—

1. In a device of the class described, the combination of a platen, means for moving the platen, a locking member having two points of engagement with the platen, and operating means connected to said locking member at a point intermediate the platen-engaging points.

2. In a device of the class described, the combination of an oscillating platen, an oscillating member, provided with a depending portion, a spring engaging said portion at a point in a direct vertical line through the diametric center of the member and adapted to cause said member to engage and lock the platen, and means for unlocking said platen.

3. In a device of the class described, the combination of an oscillating platen, an oscillating member provided with a depending portion, a spring engaging the depending portion at a point below its pivot, the body of said spring being disposed to one side of the center of the member and so located that the energy thereof will be exerted upon the member at a point in a direct vertical line through the diametric center thereof.

4. In a device of the class described, the combination of a supporting-frame, an oscillating platen mounted therein, an oscillating member also mounted therein and provided with a depending portion, a rod, one end thereof being connected to the depending portion, the other end thereof sliding loosely through the frame, a spring surrounding the rod, the body of said rod and the spring being located to one side of the center of the member and so disposed that the energy of the spring will be exerted in a direct vertical line through the diametric center line of the member for causing said member to engage the platen to lock the same in an operative position.

5. In a device of the class described, the combination of a platen, means for moving the platen, an independent locking member having two points of engagement with the platen, and means disposed between the locking member and frame and engaging the locking member at a point intermediate the platen-engaging points, to cause the locking-points of said member to automatically engage the platen.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of November, A. D. 1905.

JAMES E. LEE.

Witnesses:
HERMAN Z. NYLAND,
D. H. CHRISTOPHEL.