

No. 640,163.

Patented Dec. 26, 1899.

F. MEISEL.

OFFSET MECHANISM FOR PERFECTING PRINTING MACHINES.

(Application filed Mar. 31, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

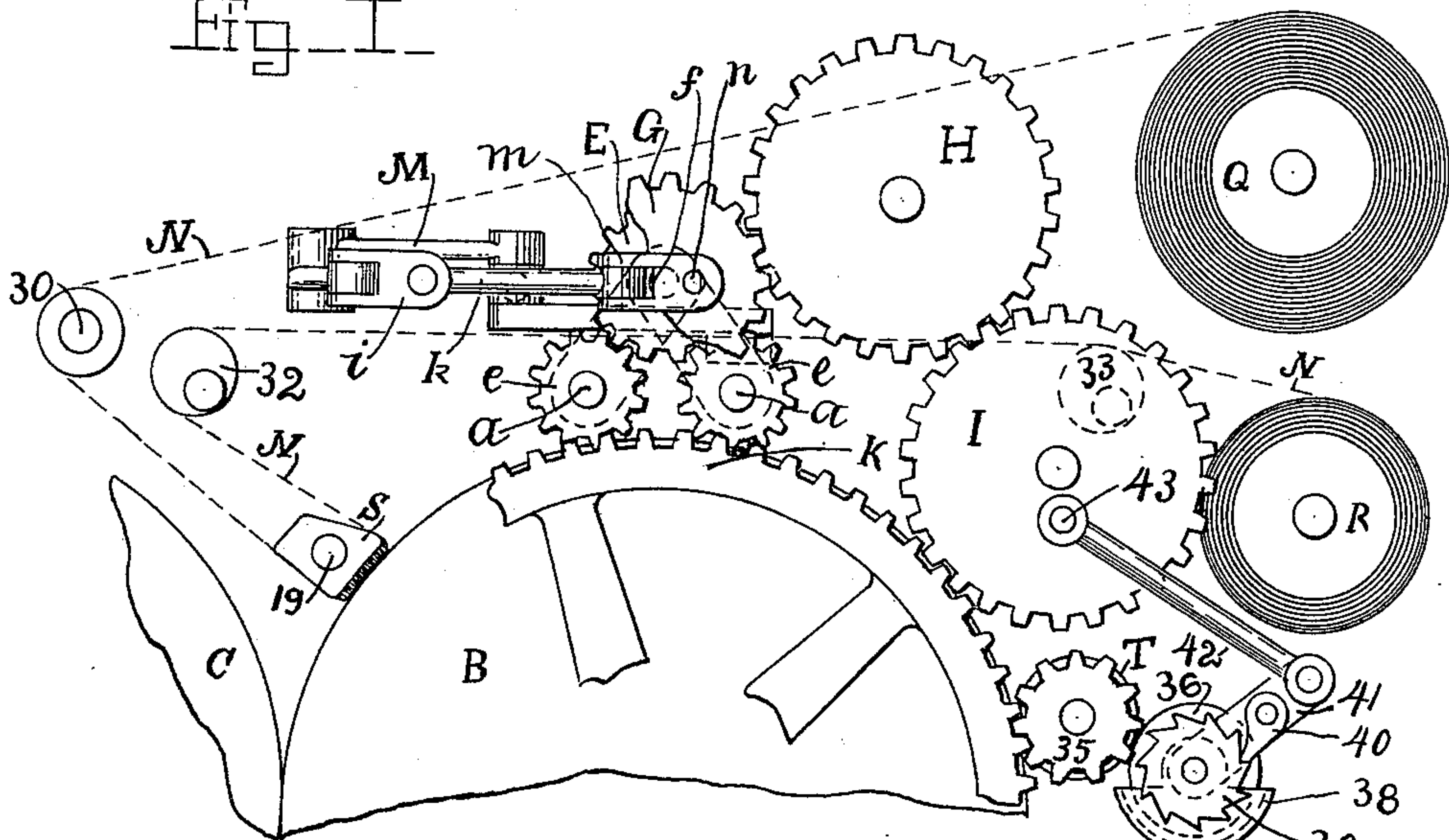
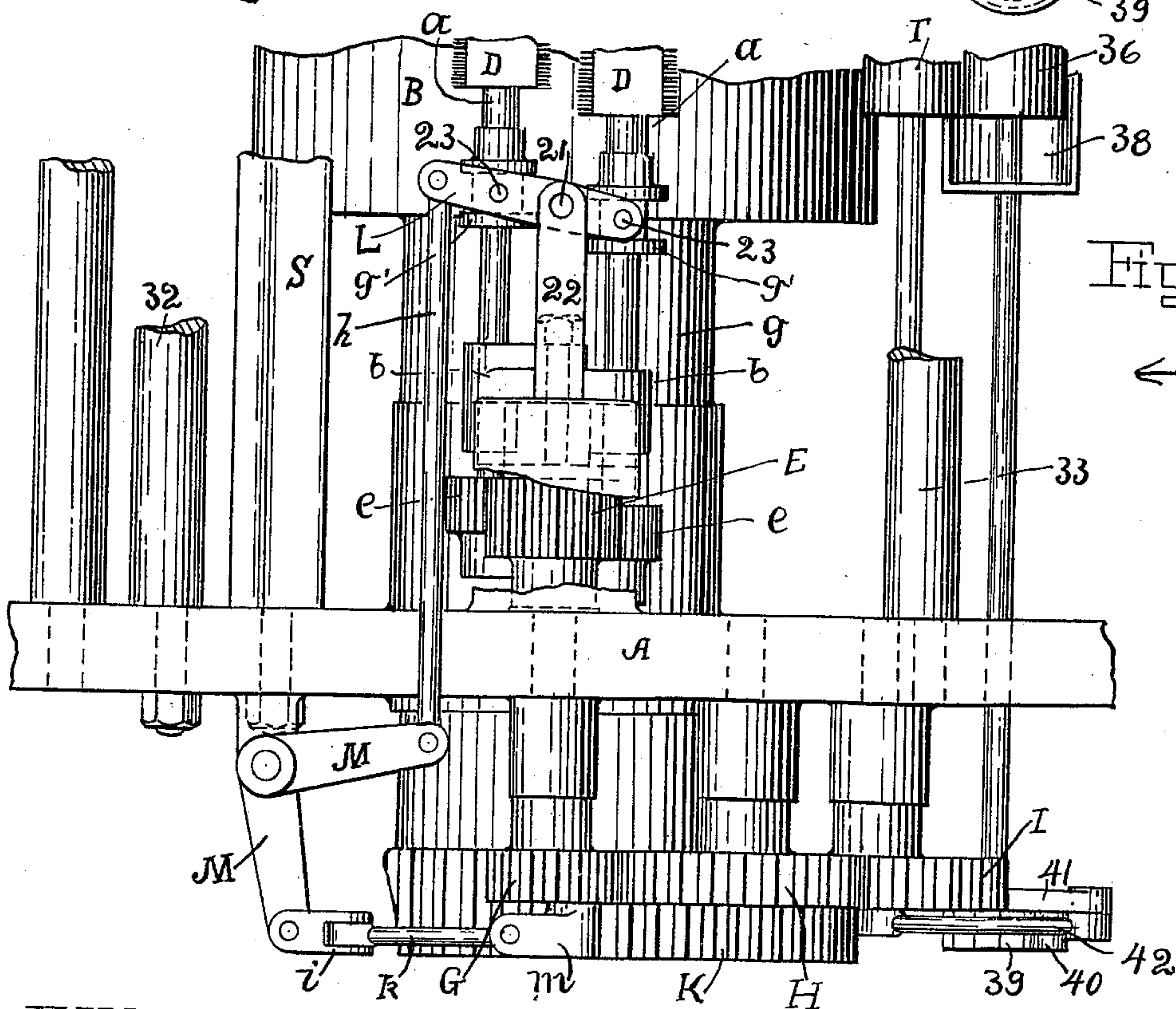


Fig. 2



WITNESSES

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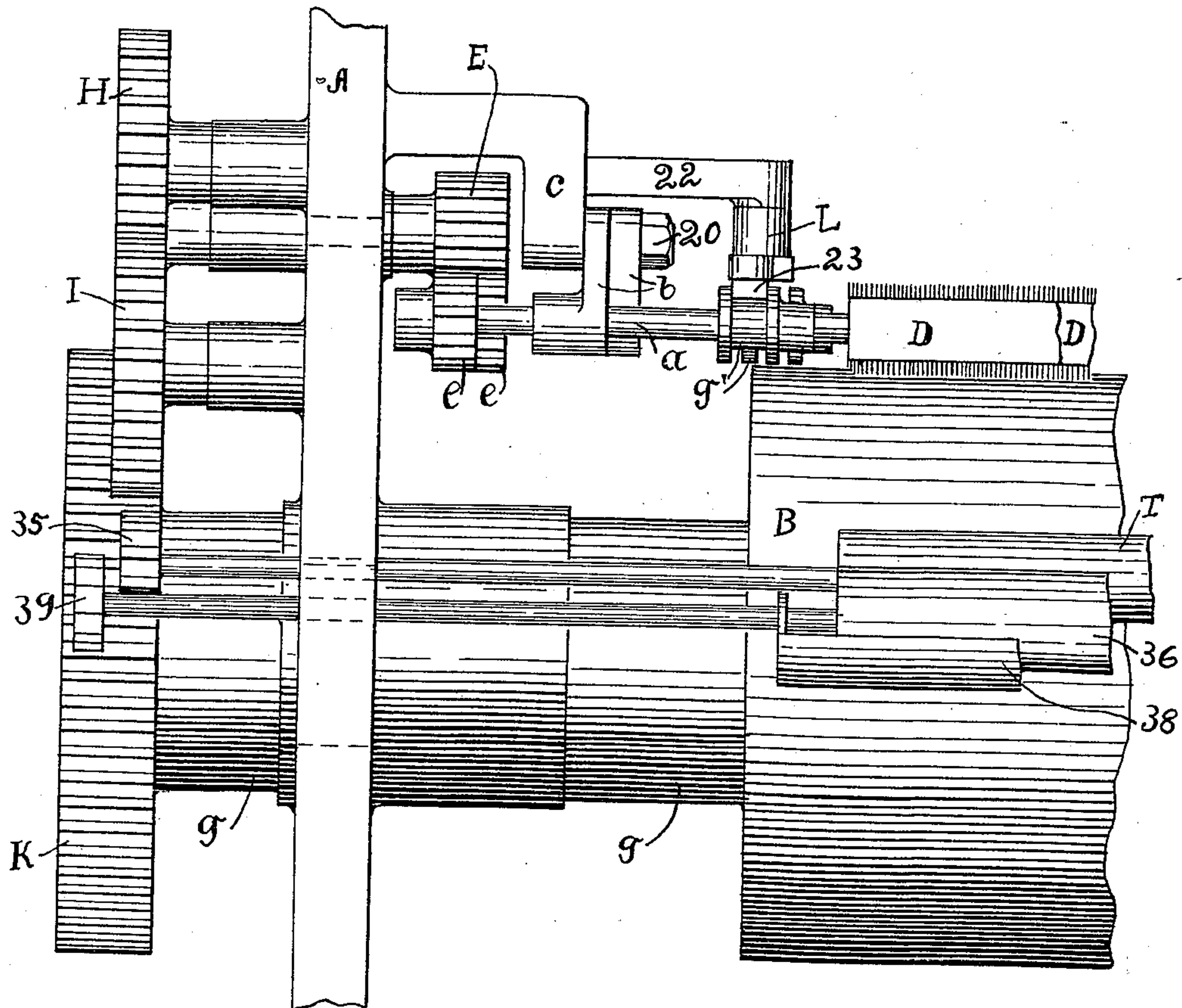
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2 Sheets—Sheet 2.

Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANCIS MEISEL, OF BOSTON, MASSACHUSETTS.

OFFSET MECHANISM FOR PERFECTING PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 640,163, dated December 26, 1899.

Application filed March 31, 1899. Serial No. 711,231. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS MEISEL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Offset Mechanism for Perfecting Printing-Machines, of which the following is a specification.

My invention has for its object to provide a simple and effective means for removing from the surface of the perfecting impression-cylinder of a printing-machine the ink or "offset" which is being continually deposited from the printed web or sheet, thus preventing it from accumulating on said cylinder and injuring or blurring the work.

To this end my invention consists in an offset or ink removing mechanism embodying certain novel features and combinations of parts, as hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a perfecting printing-machine having my improved offset mechanism applied thereto, the framework being removed to show the parts behind the same. Fig. 2 is a plan of the same, the cleaning-web and the shafts or rolls which support the same being removed and a portion of the framework on one side only of the machine being shown. Fig. 3 is an end elevation of the parts shown in Fig. 2, looking in the direction of the arrow.

In the said drawings, A represents a portion of the framework of a perfecting printing-machine in suitable bearings, in which are supported the journals of the perfecting impression-cylinder B and the type or plate cylinder C, Fig. 1.

DD represent a pair of cleaning-rolls which are applied to the impression-cylinder B for the purpose of removing therefrom the freshly-laid ink or offset, and thus preventing its accumulation on the surface of said cylinder. The rolls DD are covered with an elastic material, preferably bristles or plush, and are arranged to run in contact with and wipe the surface of the cylinder B, said rolls revolving at the same or a lesser surface velocity as said cylinder, but in an opposite direction. The shafts *aa* of the rolls DD have their bearings in and are supported at each end of the machine by a pair of short diverging arms or links *bb*, pivoted at their upper

ends by means of a screw 20 to a bracket *c* on the framework A, so that by loosening the screws 20 and adjusting said links up or down the cleaning-rolls may be raised or lowered to bring their surfaces into proper working contact with the cylinder B. To one end of each of the cleaning-roll shafts is secured a small gear *e*, which meshes with and is driven by a wide-faced gear E, secured to the end of a short shaft *f*, carrying a gear G, which meshes with an intermediate gear H, driven by a gear I, which in turn is driven by a gear K on the end of the shaft *g* of the impression-cylinder B, the motion of which is thus transmitted to the cleaning-rolls D. The cleaning-rolls D are rapidly reciprocated in the direction of their length to enable them to more effectively wipe the surface of the cylinder B in the following manner:

L is a rocker-lever, which is pivoted at 12 to a projection 22 on the framework and carries two oscillating studs or projections 23, which engage grooved disks *g' g'*, secured to the shafts *aa* of the rolls D. The lever L has pivoted to its outer end a rod *h*, the opposite end of which is pivoted to one arm of a bell-crank lever M, to the other arm of which is connected, by means of a link *i*, a rod *k*, which is also connected, by means of a pivoted link *m*, to a crank-pin *n*, projecting from the gear G, the revolution of which thus imparts the required longitudinal reciprocating movement to the cleaning-rolls D.

N, Fig. 1, is a cleaning-web which coöperates with the cleaning-rolls D and assists the latter to remove the offset from the cylinder B, at the same time running in contact with said rolls for the purpose of preventing an excessive accumulation of ink thereupon. The web N, which is composed of cloth, is wound upon two shafts or rolls Q R, journaled in the framework, and passes from the roll Q over a shaft or roll 30, thence under and around a stationary bar S, parallel with the cylinder B, and secured at its opposite ends to the framework, after which it passes over two rolls 32 and 33, eccentrically mounted in the framework, and then to the roll R, upon which it is wound, as shown in Fig. 1. The surface of the bar S next to the cylinder is preferably covered with felt or other elastic substance, which causes the web to be held against the said cylinder with a yielding pressure. The cleaning-web is moved inter-

mittently or continuously at a speed adapted to produce the best results by suitable mechanism (not shown) applied to the winding-shafts and operated so that when the web is
 5 unwound from one shaft onto the other the action will be reversed and the web wound up onto the other shaft, the bar S holding the web in wiping contact with the impression-cylinder B, as shown in Fig. 1, and the ec-
 10 centric rolls 32 and 33 supporting it in contact with the cleaning-rolls D. By turning the eccentric rolls 32 and 33 the web can be adjusted to keep it in contact with the cleaning-rolls as their diameters become reduced
 15 by wear.

Oil is applied to the surface of the impression-cylinder B for the purpose of moistening and softening the ink which may adhere to its surface, thereby facilitating the operation of the cleaning-rolls and web, by means
 20 of a roll T, having a surface composed of absorbent material. The shaft of this roll T carries a gear 35, which meshes with and is driven by the gear K on the shaft of the im-
 25 pression-cylinder B, and consequently said roll T is caused to revolve with the same surface velocity as the cylinder B, whereby the required amount of oil is applied to the said cylinder without transferring any appreci-
 30 able quantity of ink to said oiling-roll. Oil is supplied to the roll T by a metal fountain-roll 36 in contact therewith, which revolves slowly in a fountain or trough 38, and carries at its end a ratchet-wheel 39, which is en-
 35 gaged by a pawl 40 on a rocker-arm 41, having pivoted to its outer end a rod 42, connected with and receiving motion from a crank-pin 43 on the gear I.

I do not wish to limit myself to the number
 40 of cleaning-rolls employed to wipe the surface of the impression-cylinder B, as a single one only may be used or three or more, as may be found best adapted to the requirements of the case.

45 What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with an impression-cylinder of cleaning devices contacting with said cylinder to remove the offset, and pairs
 50 of adjustable links, in the free ends of which said cleaning devices are mounted, to move toward and from each other and the impression-cylinder, when the links are adjusted, substantially as set forth.

55 2. In a perfecting printing-machine, the combination with an impression-cylinder, of a pair of elastic-surfaced cleaning-rolls rotating in contact therewith, and having a longitudinal reciprocating movement, said
 60 rolls having their bearings in links or arms made adjustable, whereby said rolls may be kept in contact with the surface of the impression-cylinder, and means for rotating and reciprocating said cleaning-rolls while in
 65 contact with the surface of the impression-cylinder, substantially as described.

3. In a perfecting printing-machine, the

combination with an impression-cylinder and an elastic-surfaced ink-cleaning roll cooperating therewith, and having a longitudinal
 70 reciprocating movement, of a cleaning-web arranged to contact with the surface of the cleaning-roll for the purpose of continuously removing the ink therefrom and also held in
 75 contact with the impression-cylinder beyond said cleaning-roll, and means for rotating and reciprocating the cleaning-roll, substantially as described.

4. In a perfecting printing-machine, the combination with an impression-cylinder and
 80 an elastic-surfaced ink-cleaning roll cooperating therewith and having a longitudinal reciprocating movement, of a cleaning-web arranged to move in contact with the surface of the cleaning-roll, to remove the ink from
 85 the same, and a bar for keeping said web in wiping contact with the surface of the impression-cylinder, whereby said web is caused to simultaneously remove the ink from the impression-cylinder and its cleaning-roll, sub-
 90 stantially as described.

5. The combination with the cylinder to be cleaned, and a pair of cleaning-rolls adjustable toward and from the cylinder, of a cleaning-web extending across the outer surfaces
 95 of the two cleaning-rolls to clean them, and adjustable supporting-rolls at opposite sides of the cleaning-rolls to adjust the web to the surfaces of the cleaning-rolls.

6. The combination with the cylinder to be
 100 cleaned, and a pair of cleaning-rolls, contacting therewith and adjustable in and out therefrom, of a traveling cleaning-web extending across the outer faces of the cleaning-rolls, adjustable eccentric rolls at oppo-
 105 site sides of the cleaning-rolls to adjust the web to the outer surfaces thereof, and a bar holding the cleaning-web in contact with the cylinder beyond the cleaning-rolls, substantially as set forth.

7. In a perfecting printing-machine, the combination with an impression-cylinder and an elastic-surfaced ink-cleaning roll cooperating therewith and having a longitudinal re-
 110 ciprocating movement, of a cleaning-web arranged to contact with the surface of the cleaning-roll for the purpose of continuously removing the ink therefrom, means for rotating and reciprocating the cleaning-roll, a roll having its surface composed of absorb-
 115 ent material, said roll having the same surface velocity as the impression-cylinder, and contacting with and arranged to apply oil to its surface, a metal fountain-roll in contact with said oiling-roll and having an intermit-
 120 tent rotary movement, and a fountain, substantially as described.

Witness my hand this 27th day of March,
 A. D. 1899.

FRANCIS MEISEL.

In presence of—

P. E. TESCHEMACHER,
 M. B. WILSON.