

(No Model.)

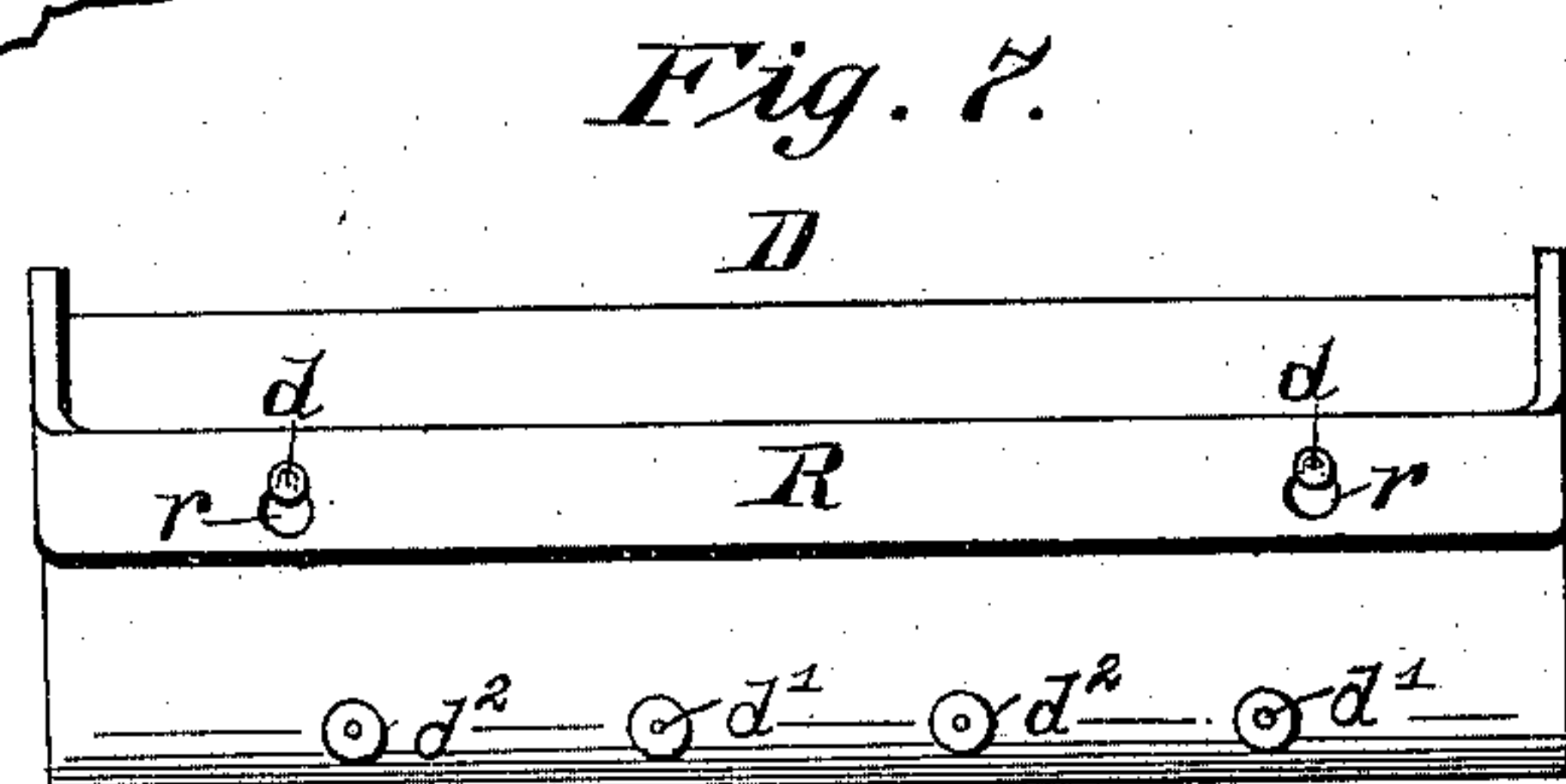
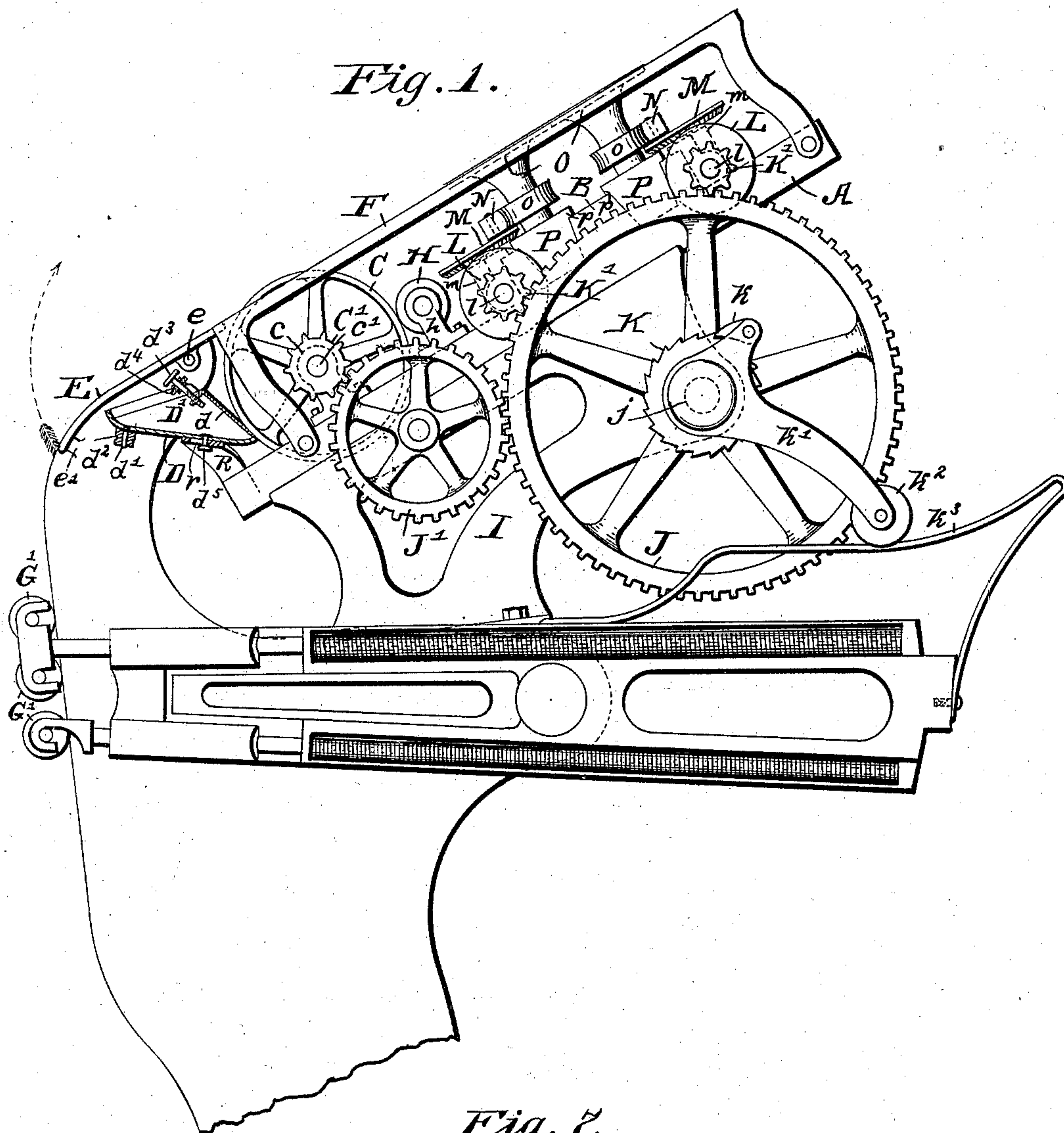
2 Sheets—Sheet 1.

S. J. HART.

INKING ATTACHMENT FOR PRINTING PRESSES.

No. 558,586.

Patented Apr. 21, 1896.



Witnesses:
F. G. Fischer
Kittie Rees

Inventor:
Sidney J. Hart
By James G. Young
his Atty.

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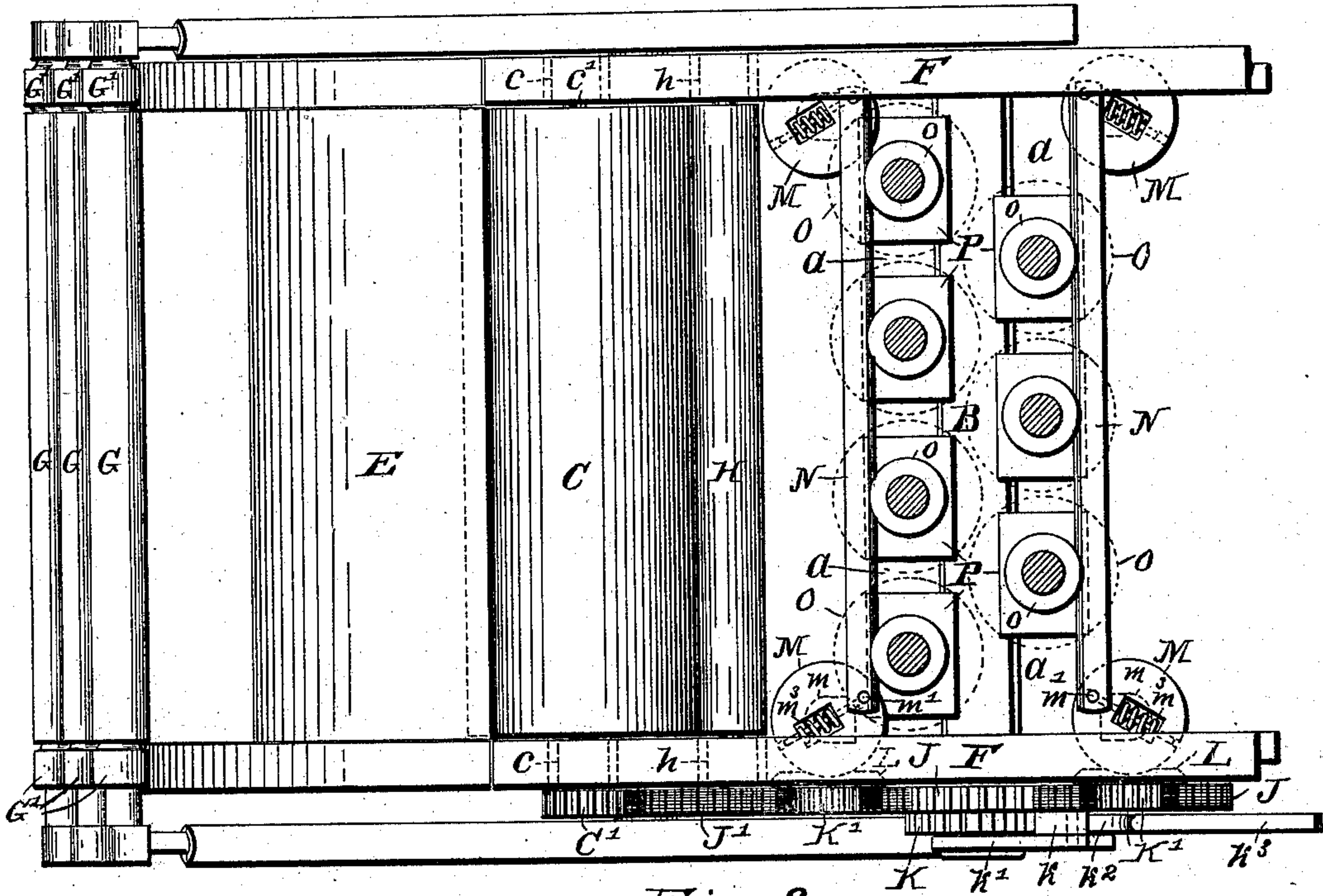


Fig. 2.

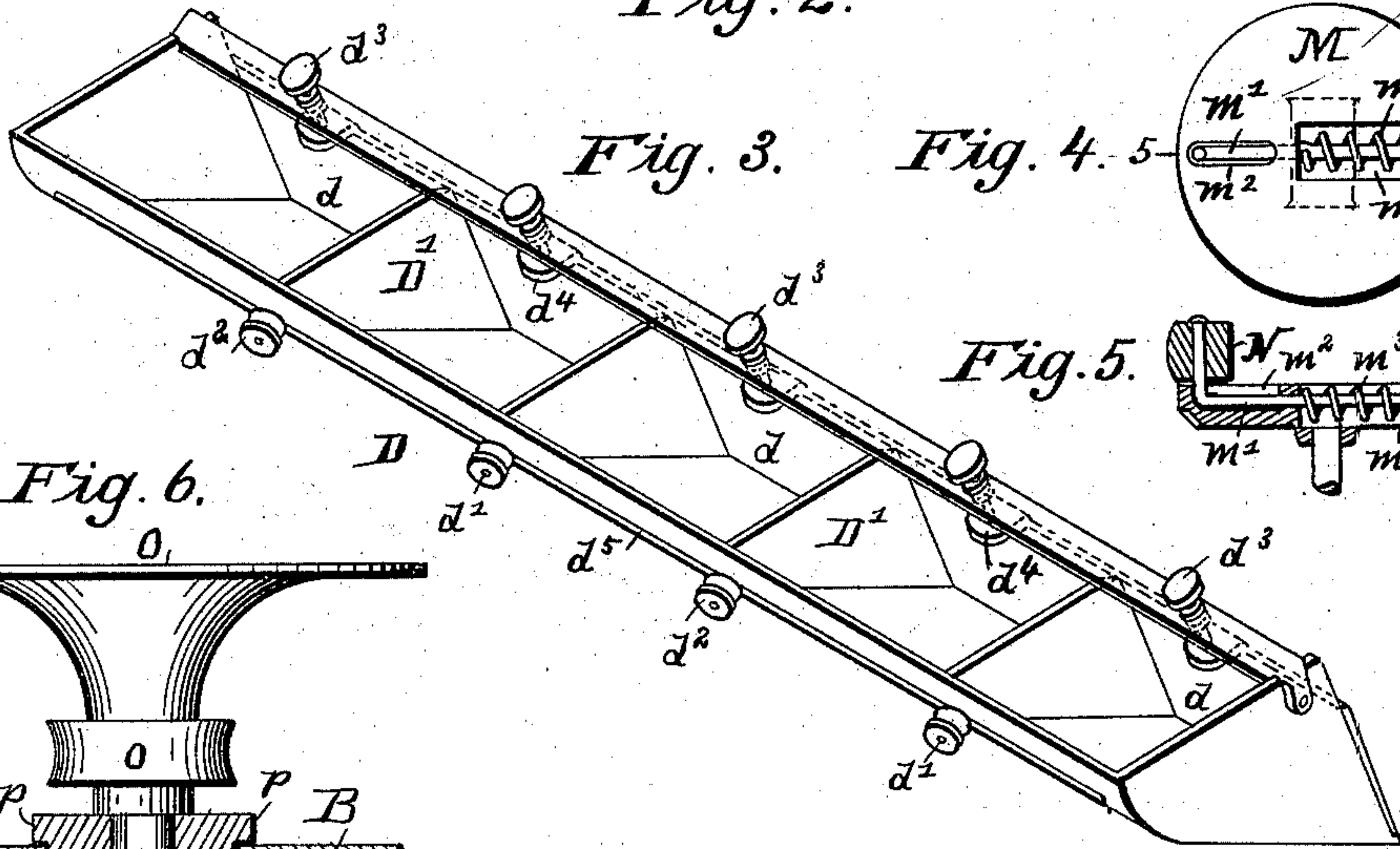


Fig. 3.

Fig. 4.

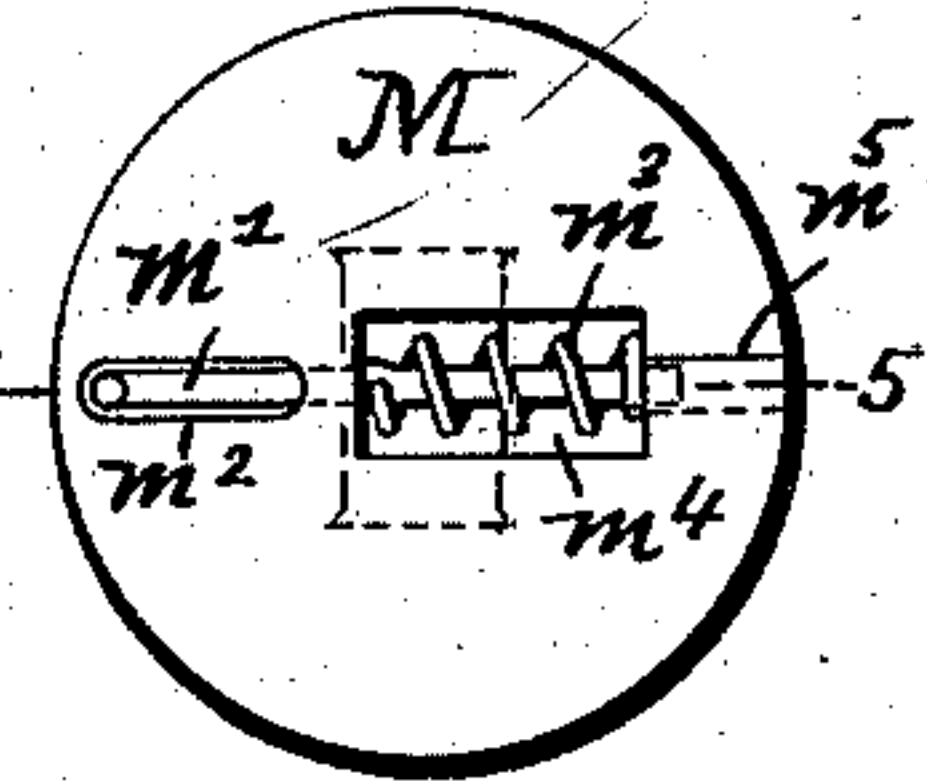


Fig. 5.

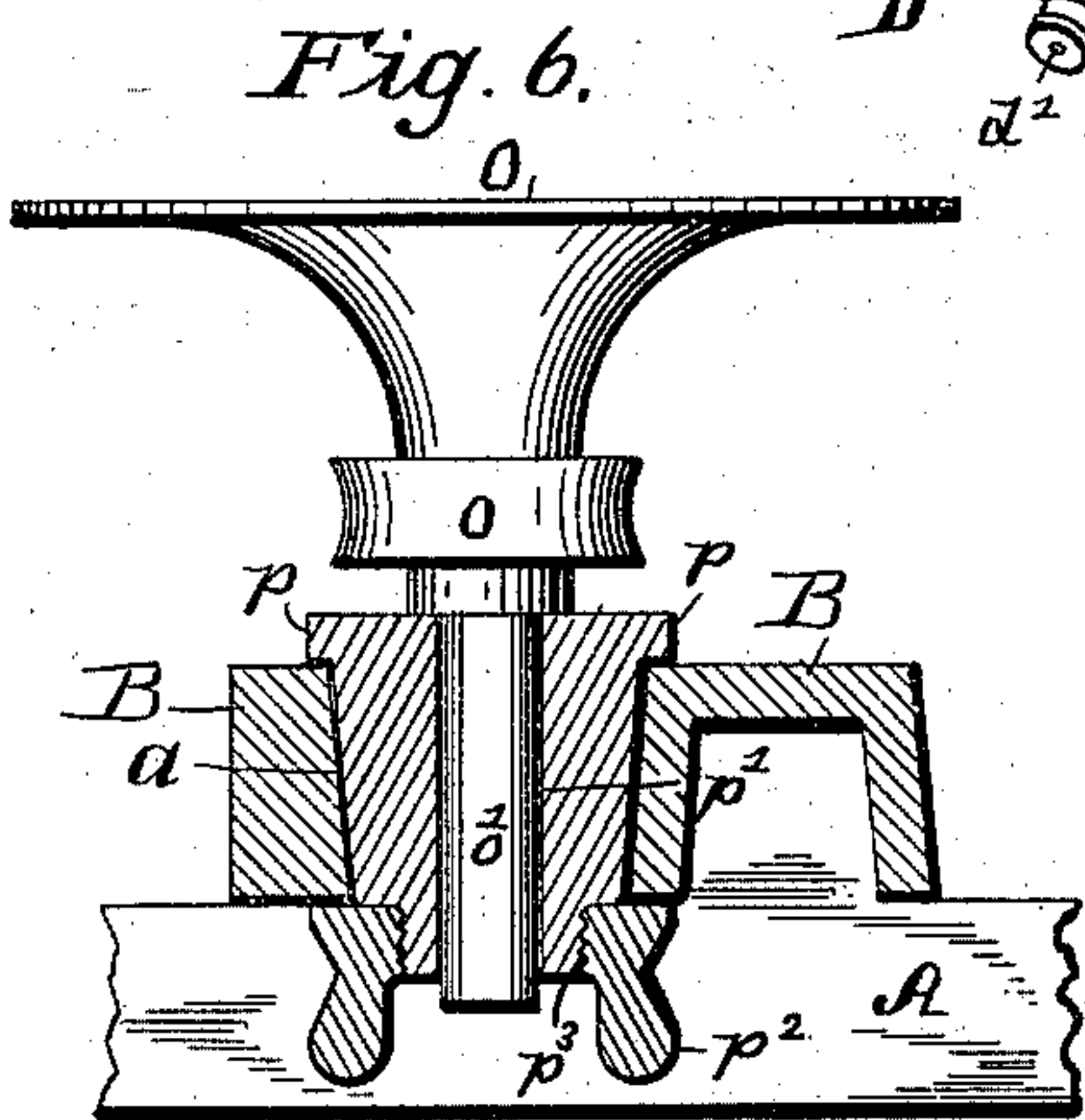
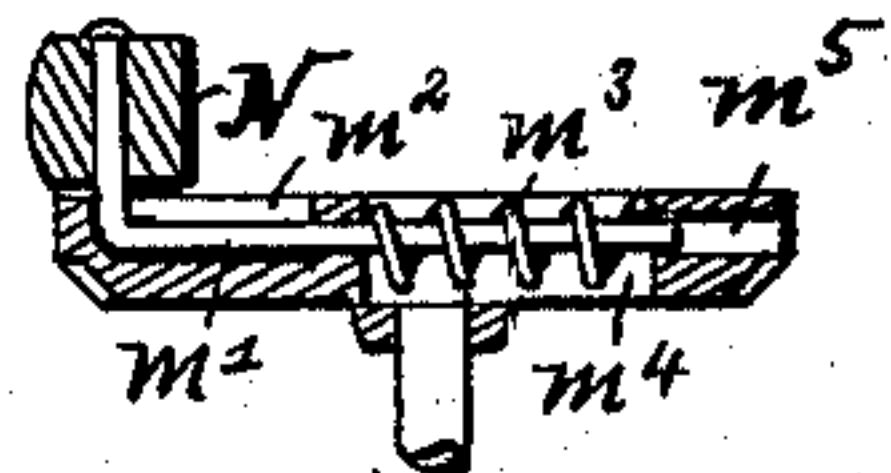


Fig. 6.

Witnesses:
F. G. Fischer
Kittie Rice

Inventor:
Sidney J. Hart
By James G. Young
his Atty

UNITED STATES PATENT OFFICE.

SIDNEY J. HART, OF KANSAS CITY, MISSOURI, ASSIGNOR TO THE MULTI-COLOR PRINTING COMPANY, OF SAME PLACE.

INKING ATTACHMENT FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 558,586, dated April 21, 1896.

Application filed March 30, 1894. Serial No. 505,760. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY J. HART, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Attachments for Printing-Presses; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved attachment for printing-presses, which is so arranged as to be easily adjusted to print one or more colors at one impression.

A further object is to provide an attachment which will enable the average printer to produce either line or blended work at a small expense, and finally to make my attachment at a moderate cost.

My invention may also be said to consist in the novel construction and combination of parts, fully described hereinafter in connection with the accompanying drawings, and specifically pointed out in the claims.

In the drawings which illustrate my invention, Figure 1 represents a side elevation of the attachment connected to the upper portion of a printing-press. Fig. 2 is a plan view of same. Fig. 3 is a perspective view of the ink-fount. Fig. 4 represents a plan view of one of the bevel-wheels which carries the frictional bars. Fig. 5 is a vertical sectional view of same, taken on line 5 5 of Fig. 4. Fig. 6 is a vertical sectional view of one of the adjustable blocks, showing an inking-disk arranged thereon. Fig. 7 represents an inverted plan view of the ink-fount, showing the manner in which it is attached to its supporting-bar.

In the construction of my invention I employ a rectangular frame A, the rear portion of which is divided into equal spaces *a* by cross-bars B, cast integral with the sides of the frame. The front portion of frame A is left open to receive a distributing-cylinder C, journaled in bearings *c*, which are secured on top of the opposite sides of the frame.

Cylinder C is revolved by a cog-wheel C', rigidly secured upon one end of the cylinder-shaft, and meshes with an intermediate gear-wheel J', journaled to one of brackets I, to which motion is communicated by a master gear-wheel J, mounted rigidly upon shaft *j*, which is also journaled in one of brackets I.

Rigidly mounted on shaft *j* is a ratchet-wheel K, which is operated by a pawl *k*, pivoted to the upper portion of a lever *k'*. This lever is loosely fulcrumed to shaft *j* and carries at its lower end a friction-roller *k*, which operates upon an irregular-shaped track *k*³, secured on one of the rocking arms of the press.

Arranged across the frame A, and almost contacting with the front surface of the distributing-cylinder, is an ink-fount D, which consists of a longitudinal trough having adjustable partition-plates D' and vertically-operating feed-plates *d*, which are raised and lowered by screws *d*³, secured in a cross-bar *d*⁴, their threaded lower ends engaging lugs *d*⁶ on the top of the feed-plates. Partition-plates D' are provided at their lower ends with studs *d'*, which project through a longitudinal slot *d*⁵ in the under side of the trough, and are engaged by thumb-nuts *d*², the manipulation of which permits the adjustment of the partition-plates as the nature of the work demands. The compartments thus formed in the trough by the partition-plates are filled with the different colored inks and fed to the revolving cylinder C beneath the raised feed-plates *d*.

Should the ink feed unevenly for any cause, it is smoothly pressed on the cylinder by a contacting-roller H, journaled in bearings *h*, located on opposite sides of the rectangular frame. This roller also removes any superfluous ink which may accumulate upon cylinder C.

In addition to the revolving cylinder C, I employ a stationary distributing-plate E, which is hinged to the sides of the press at *e* just above the ink-fount. The front end of said plate is supported by lugs *e'*, cast upon the sides of the press, and may be raised to gain access to the ink-fount.

P indicates one or more blocks, which are adapted to slide back and forth in spaces *a* between cross-bars B, and are supported upon

said cross-bars by shoulders p , which are cast integral with the upper side corners of the block. Projecting from the under side of block P is a threaded stud p , which is engaged by a thumb-nut p^2 , that impinges against the under side of the cross-bars B, when screwed up on the stud. By unscrewing thumb-nut p^2 block P may be moved at will. Block P also has a central aperture p' to receive a shank o' depending from an ink-disk O. Cast integral with the head of shank o' is a roller o , operated by frictional bars N. The faces of these rollers are concaved to fit the convex side of the bar which contacts therewith. These frictional bars are pivoted to the upright portion of rods m' , located in slots m^2 , m^4 , and m^5 , of bevel-wheels M, the latter being journaled in bearings m upon the cross-bars.

Coiled around that portion of rods m which is located within slots m^4 are springs m^3 , which force the rods together with the frictional bars outwardly, so that the latter will engage the rollers o sooner than if they were rigidly secured to the bevel-wheels, thus insuring a longer movement to the disks at each stroke of the frictional bars.

Ink-disks O are of various sizes, according to the nature of the work required, and are revolved by the frictional bars N contacting with rollers o , which are cast upon the depending shanks o of said disks.

Arranged upon each side of the rectangular frame are tracks F, the upper surfaces of which are in alinement with distributing-plate E. The purpose of these tracks is to relieve the ink-disk of undue pressure from the inking-rollers G, and to also provide a continuous path for rollers G' from distributing-plate E to said ink-disks. The operation of my machine is as follows: The feed-plates of the ink-fountain are raised a suitable distance to permit the different colored inks to feed upon the distributing-cylinder, which is revolved by the above-described intermediate mechanism, from whence it is carried by the inking-rollers up to the revolving ink-disks that evenly distribute the ink upon said rollers, which are then carried back by the rocking arms over the distributing-cylinder, the stationary distributing-plate, and down over the type. It will thus be seen that perfect distribution of the inks upon the rollers is obtained, which will insure first-class work.

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

1. In a chromatic printing-press, the combination with a suitable supporting-framework, an ink-supply, a distributing-cylinder, and an inking-disk, of a gear-wheel operatively connected up to operate the distributing-cylinder and the inking-disk, a ratchet-wheel mounted to rotate with said gear-wheel,

a lever loosely fulcrumed upon the gear-wheel shaft, and carrying a roller at one end and a pawl at the other, which engages the said ratchet, a pivoted arm, a track carried thereby and engaging the roller of said lever, and means to operate said arm, substantially as set forth.

2. In a chromatic printing-press, the combination with a suitable framework, and ink-distributing disks rotatably mounted and adjustable therein and friction-rollers carried by said disks, of a series of reciprocatory bars held yieldingly into engagement with said rollers, and means to operate said bars, substantially as set forth.

3. In a chromatic printing-press the combination with a suitable framework, and a series of inking-disks rotatably mounted therein, and provided with friction-rollers, of wheels rotatably mounted in the framework, rods carried by said wheels, friction-bars carried by said rods, springs actuating said rods to hold the friction-bars yieldingly into contact with the said rods, substantially as set forth.

4. In a chromatic printing-press, the combination with a suitable framework, and an ink-distributing cylinder and inking-disks mounted rotatably therein, of an ink-fountain mounted in said framework to supply the distributing-cylinder, a roller to distribute the ink evenly upon said cylinder, a hinged cover for the fountain which is also a distributor, a train of spring-retracted rollers, and means to cause them to contact with the hinged distributor, the distributing-cylinder, and the inking-disks, substantially as set forth.

5. In a chromatic printing-press, the combination with a suitable framework, blocks mounted therein, inking-disks rotatably carried by said blocks and provided with grooved friction-rollers and means to adjust said blocks and consequently said disks and rollers, of wheels arranged in pairs and rotatably mounted in the framework, rods carried by said wheels, and friction-bars carried by said rods and engaging the grooves of the friction-rollers, substantially as set forth.

6. In a chromatic printing-press, the combination with a suitable framework, and ink-distributing disks rotatably mounted therein and provided with friction-rollers, of slotted wheels journaled in the framework, means for actuating the wheels, spring-actuated rods, carried by said wheels and friction-bars carried pivotally by said rods and engaging said friction-rollers substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SIDNEY J. HART.

Witnesses:

KITTIE REES,
F. G. FISCHER.