

(No Model.)

J. GREIVENKAMP & O SCHLEICHER.  
AUTOMATIC INK FEEDING DEVICE.

No. 414,639.

Patented Nov. 5, 1889.

Fig. 1.

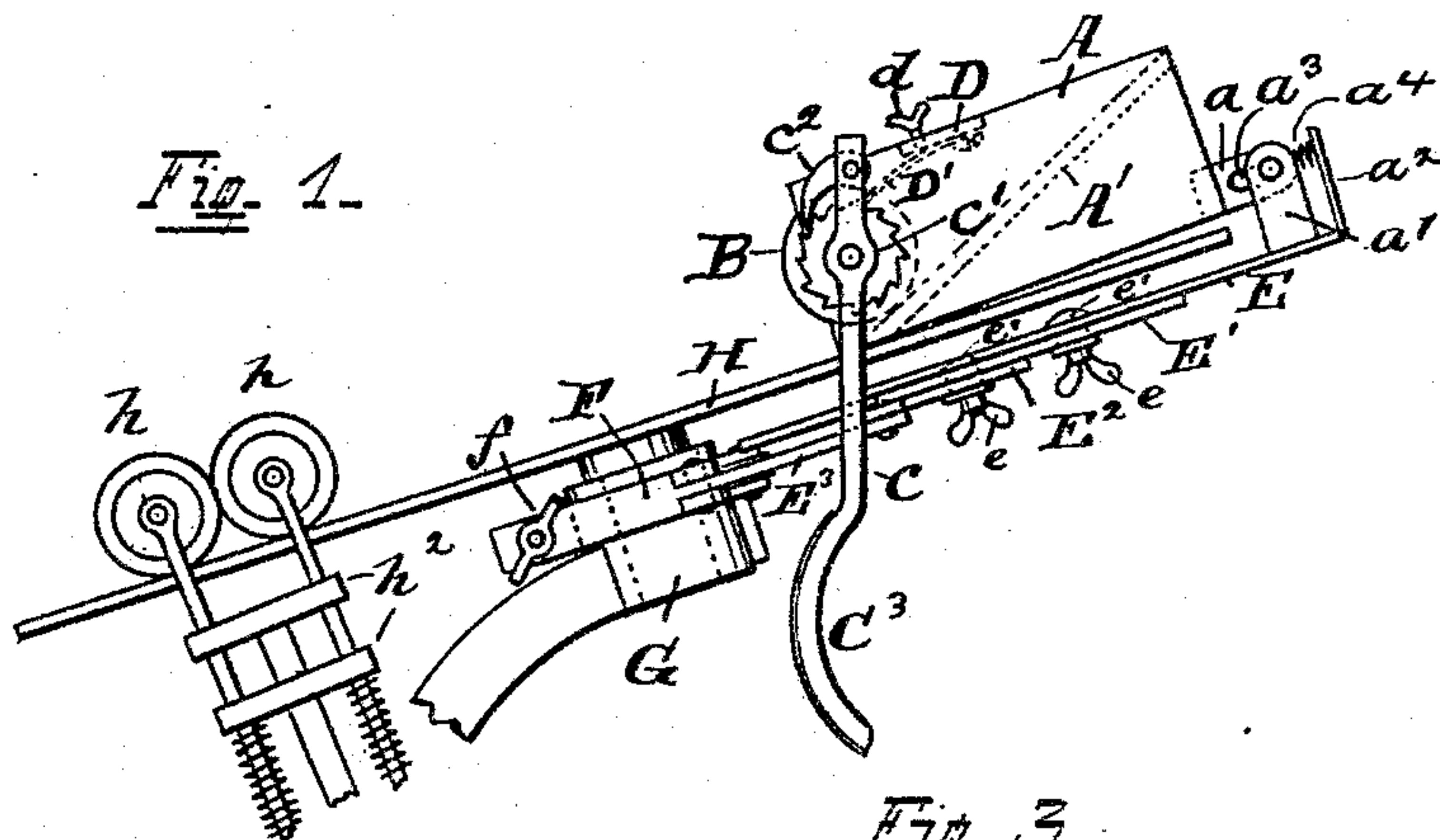


Fig. 3.

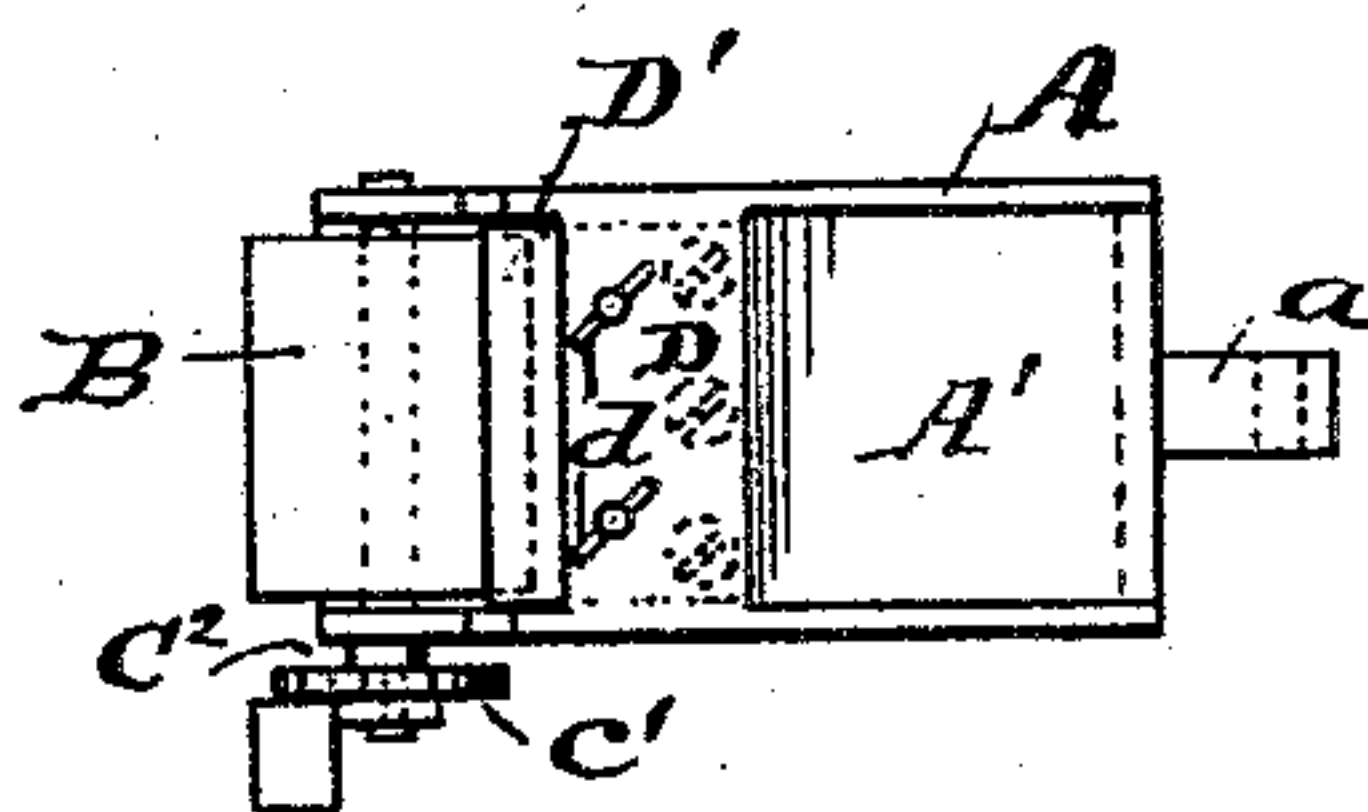


Fig. 2.

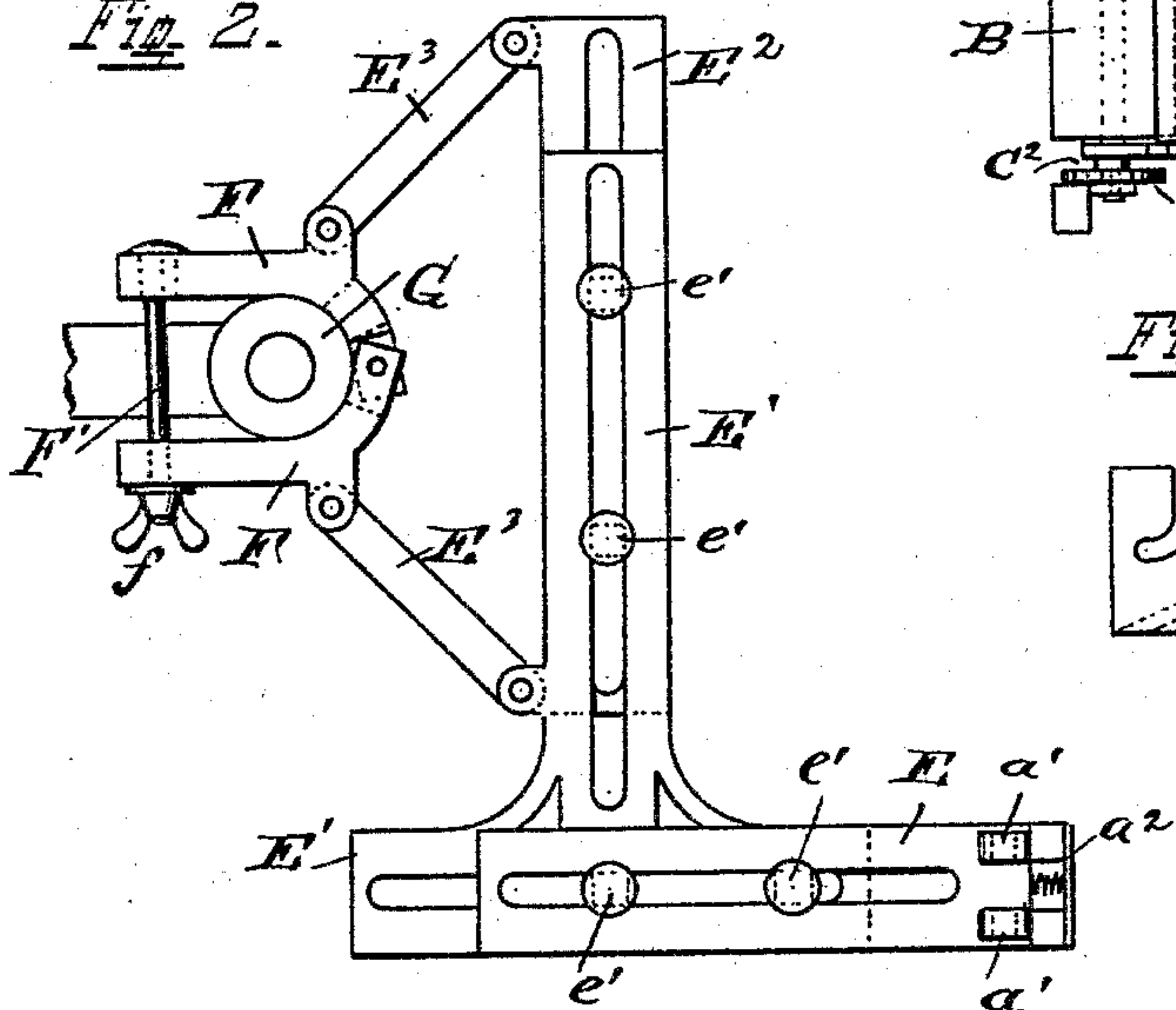
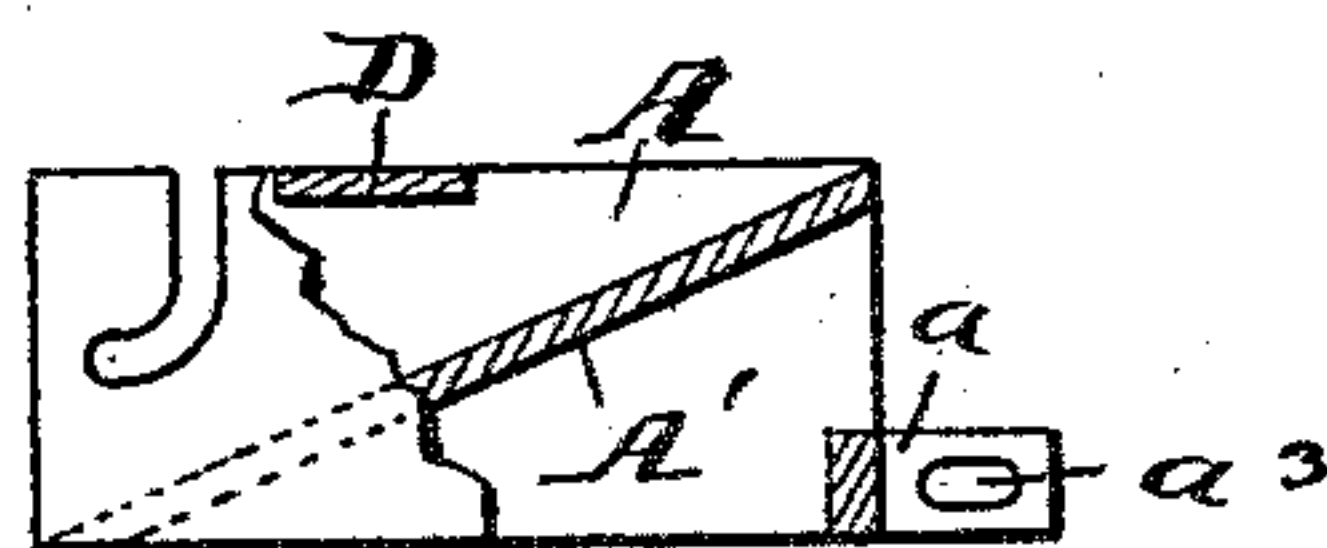


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN GREIVENKAMP AND OTTO SCHLEICHER, OF CINCINNATI, OHIO.

## AUTOMATIC INK-FEEDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 414,639, dated November 5, 1889.

Application filed March 6, 1889. Serial No. 302,135. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN GREIVENKAMP and OTTO SCHLEICHER, both citizens of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have jointly invented certain Improvements in Automatic Ink-Feeding Devices, of which the following is a specification, reference being had to the accompanying drawings.

The object of our invention is to provide a device which may be attached to any of the ordinary forms of disk printing-presses, and in such a manner that the same may be adjusted to varying sizes of disks and operate automatically, as will more fully hereinafter appear.

In the accompanying drawings, Figure 1 is a side view of the device in position over the inking-disk, showing the preferred mode of attachment, and also showing the inking-rolls on the disk approaching the feeding device. Fig. 2 is a top view of the adjustable frame to which the ink-feeding device is connected, showing our mode of attaching same to the disk standard or journal. Fig. 3 is a top view of the ink-feeding device; and Fig. 4 is a side view of same with the drum and cleaning-knife removed, showing one mode of securing the drum in place, so that it can readily be removed for cleaning.

The ink-feeding device consists of a box-shaped receptacle A, having a chute A' extending diagonally from the upper rear end to the lower front end of the box. In the front end of the box, near the center thereof, is journaled the feeding-drum B, which impinges against the top face of the chute, as shown by dotted lines in Fig. 1. The chute and drum are of sufficient width and length to make the box above the chute ink-tight. To one end of the shaft on which the drum B is secured is rigidly connected the lever C, to which the ratchet C' is attached. In the upper end of the lever C is pivoted the pawl C<sup>2</sup> in such a manner that it will engage the teeth of the ratchet C', as shown. Across the top of the box, back of the drum, is secured the cross-piece D, to which the cleaning-knife D' is secured, preferably by screws, as shown. This knife D' is for the purpose of keeping the drum cleaned of all surplus ink, and is

regulated by the thumb-screws d, either toward or away from the drum, as desired.

Having described the preferred form of ink-feeding device proper, we will now describe the preferable mode of attaching it to the press and for adjusting the same relative to the inking-disk.

To the rear of the box A is cast or otherwise suitably secured the lug a, which is pivoted between the side lugs a' of the frame-support E, as shown in Fig. 1. To the outer end of frame E is cast a back support a<sup>2</sup>, which, in connection with the side plates or lugs a', forms a housing, in which the lug a is pivoted. The opening a<sup>3</sup> in lug a is preferably elongated, as shown in Figs. 1 and 4. To the rear end of lug a is secured a suitable spiral spring a<sup>4</sup>; or, if desired, a piece of rubber or other elastic material will answer the purpose, the object being to permit the feeding-box A to give a little when the ink-rolls come in contact with the drum B, as will more fully appear in the operation hereinafter described.

The frame E is slotted, as shown, and is attached to the angular frame E' (which also has a slot in it, as shown) by means of the thumb-screws e, screwed onto the headed bolts e', as shown. The other extension of the angular frame E' is similarly connected to the slotted frame or bar E<sup>2</sup>, as shown in Figs. 1 and 2. The ends of this slotted frame or bar E<sup>2</sup> are pivotally connected to the bars E<sup>3</sup>, the outer end of said bars being pivotally connected to the clamp F, as shown in Figs. 1 and 2. This clamp is composed of the two jaws adapted to embrace the disk standard or journal G beneath the disk, as shown, the outer ends of the clamp-jaws being connected by bolt F' and thumb-screw f. The object of this support for the ink-feeding device—viz., the angular and slotted bars E, E', and E<sup>2</sup>—is to afford a forward and backward and also a lateral adjustment to said device to conform to the varying sizes of disks.

The disk H fits and rotates in the journal G in the usual manner. The ink-rollers h h are made to ascend and travel over the disk H in the usual manner also.

Having described the general construction of the ink-feeding device and the preferable



mode of supporting and adjusting the same, we will now describe its operation.

The drum B is held to place against the chute A in any suitable manner. This drum  
5 is rotated as follows: As the ink-rollers *h h* rise and travel over the disk H, they are made to travel the greater surface of said disk. The ink-feeding device is located over the  
10 outer peripheral surface of the disk and in such a manner that the forward roll *h*, when it has reached its extreme limit of travel, will come in contact with the drum B and receive any ink on said drum where the contact is made. As the rollers *h h* approach the  
15 drum the frame *h*<sup>2</sup>, which carries said rollers, comes in contact with a flange C<sup>3</sup> on the lever C, forcing said lever backward a short distance, which in turn causes the drum to describe a partial revolution, preferably the  
20 distance of one or more teeth on the ratchet C'. Every time the rollers *h h* rise and travel over the disk the drum B revolves slightly, thus affording a fresh supply of ink to the forward roller *h*, which in turn distributes it to the disk, and in this manner the  
25 disk is kept constantly and evenly inked at all times, as said disk describes a partial revolution every time the rollers travel over it.

The advantages of our device are apparent.  
30 The disk is kept constantly and evenly inked, much more so than can possibly be done with the usual brush, and is quite a saving of time. The entire device may be cast, (excepting the scraper,) thus greatly lessening the cost of  
35 manufacture. The construction of the ink-feeding device is such that the drum and scraper may be readily and easily removed for cleaning when desired to change the color of ink or for other cause. The adjustable  
40 frame-support will permit of the operator locating the ink-feeding device at any desired point on the disk-face.

What we claim as new, and desire to secure by Letters Patent, is—

1. An automatic ink-feeding device consisting of a drum journaled in the end portion of the ink-reservoir, said drum impinging against a chute therein, and a lever connected to one end of the drum-shaft, said device being connected to an adjustable support consisting of the slotted bars E, E', and E<sup>2</sup>, connected to the disk-standard, in combination with the disk and operating mechanism, as set forth. 45 50

2. In combination with the automatic ink-feeding device, constructed substantially as set forth, the means for adjustably connecting said device over the revolving disk, consisting of the slotted bars or frames E, E', and E<sup>2</sup>, the lug *a* of the box being pivotally connected between lugs *a'* at the end of bar E, thumb-screws *e*, and bolts *e'*, for setting and connecting said bars, the bar E<sup>2</sup> being connected to the clamp F, and suitable means for attaching said clamp to the journal G. 55 60 65

3. In combination with an automatic ink-feeding device, constructed substantially as described and pivotally connected to an adjustable frame, the lug *a*, connected to said device, and having an elongated slot *a*<sup>3</sup> and spring *a*<sup>4</sup>, or other elastic material interposed between the end of said lug and an extension, as *a*<sup>2</sup>, of the frame E, substantially as set forth. 70

4. In combination with an ink-feeding device, the adjustable frame-support consisting of slotted bars E and E<sup>2</sup> and angular slotted bar E', headed bolts *e'*, and thumb-screws *e*, bars E<sup>3</sup>, pivotally connected to bar E<sup>2</sup> and to the jaws of clamp F, and suitable means, as bolt F' and nut *f*, for securing said clamp to the disk journal G, as and for the purposes set forth. 75 80

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