

No. 774,822.

PATENTED NOV. 15, 1904.

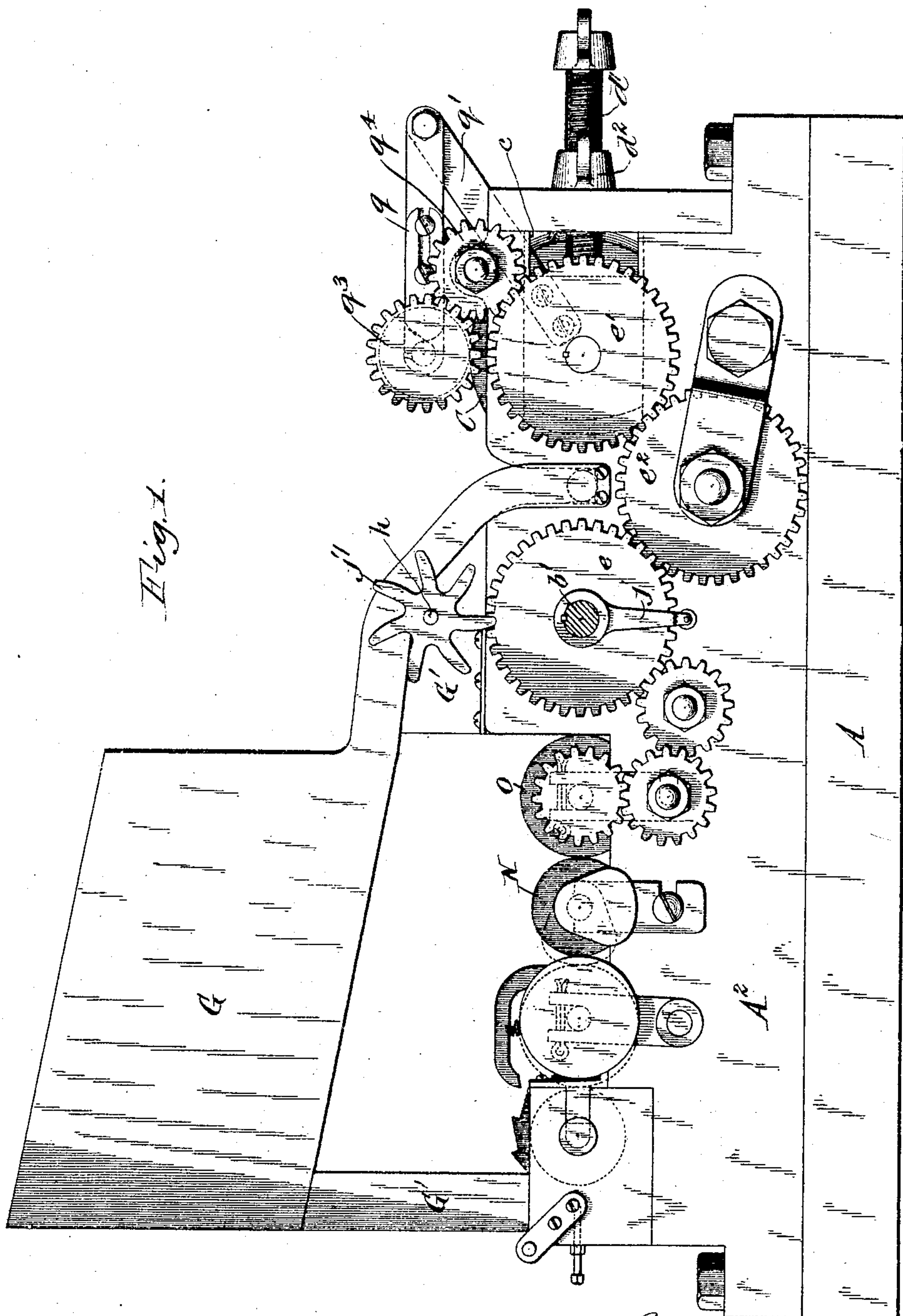
H. C. BIETTE.

MACHINE FOR IMPRINTING PENCILS, &c.

APPLICATION FILED MAY 21, 1904.

NO MODEL.

4 SHEETS--SHEET 1.



Witnesses  
Louis W. Gratz.  
Robert Wenthersicht.

Henry C. Rittle Inventor  
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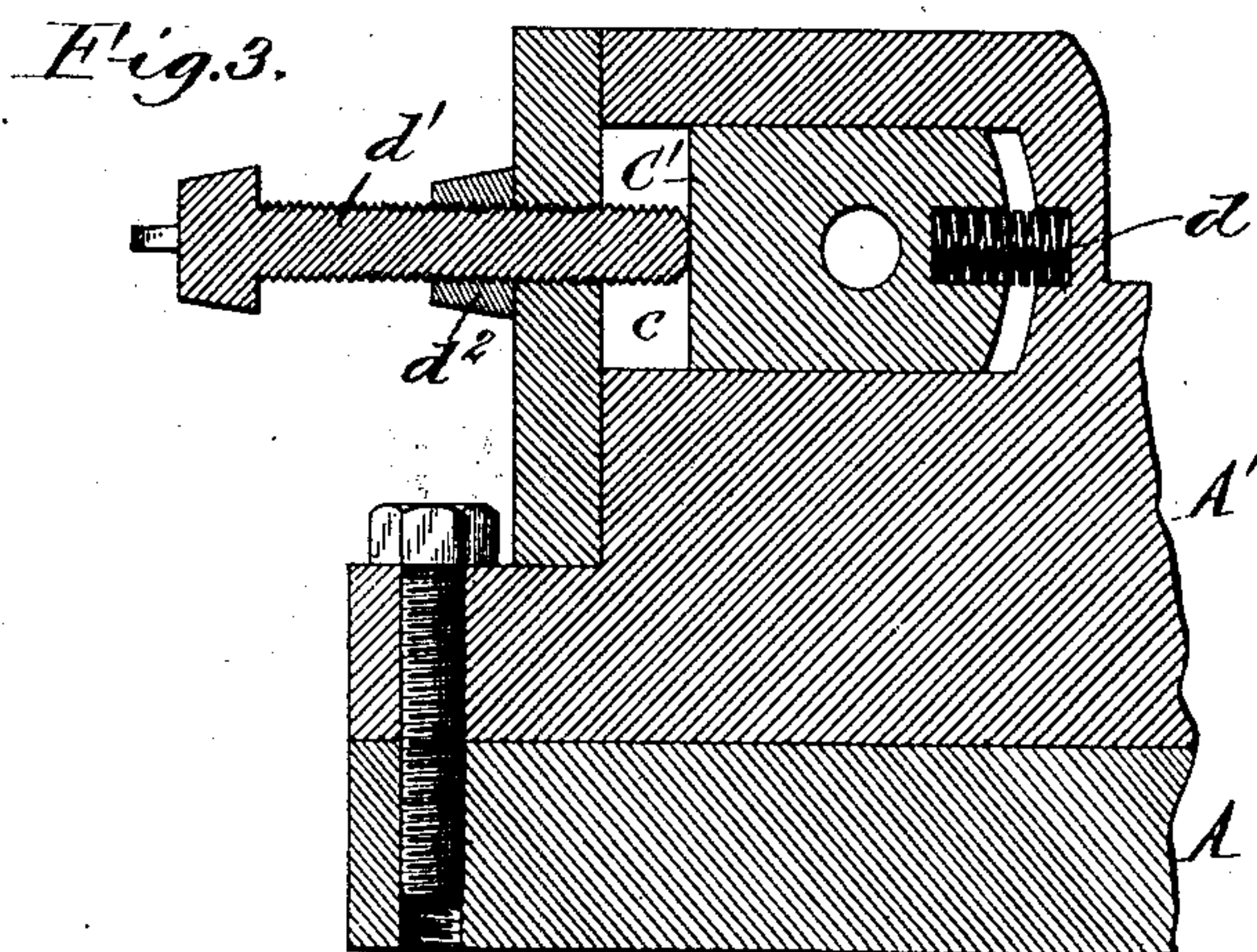
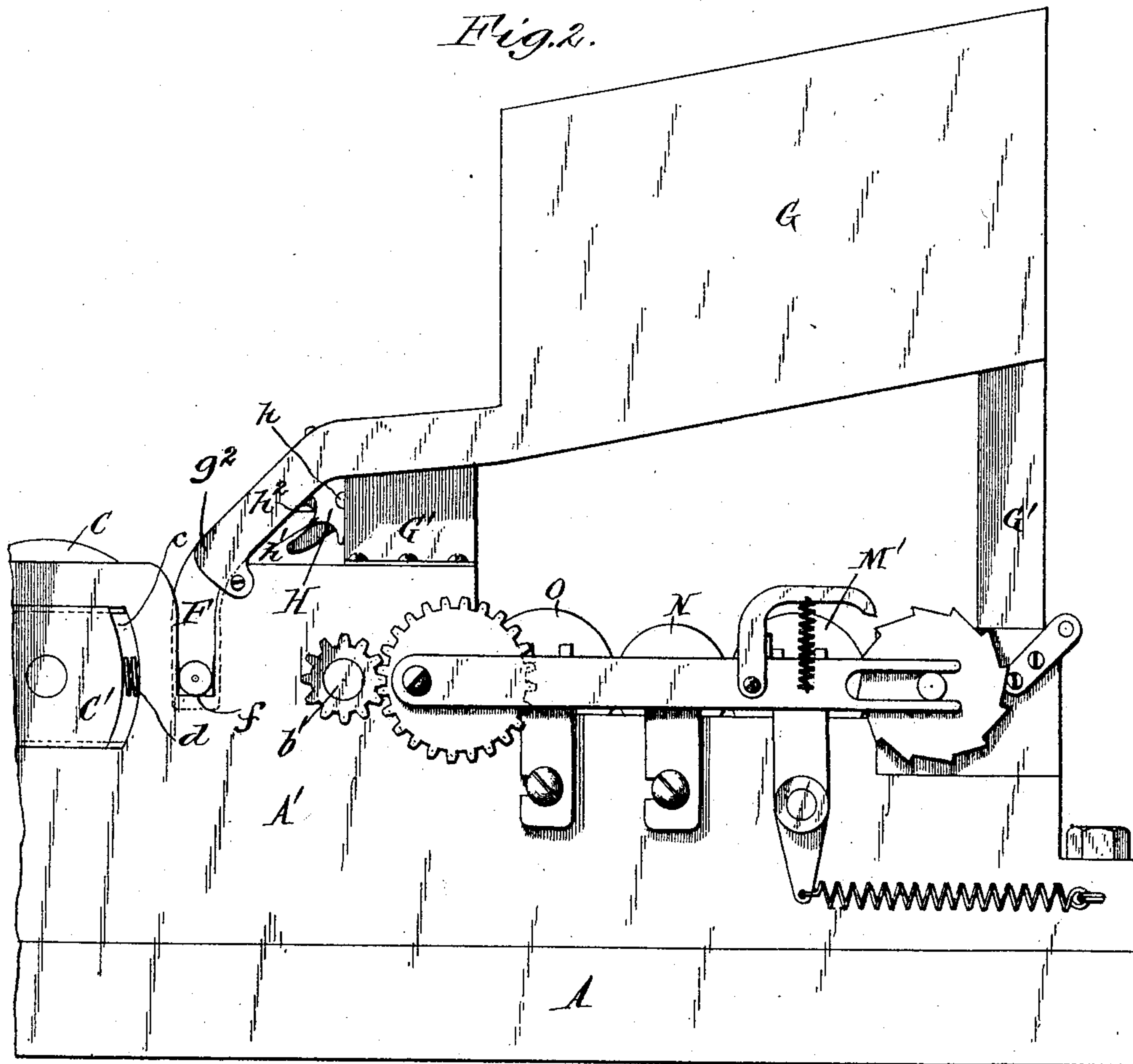
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Witnesses:  
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Robert Weithorn.

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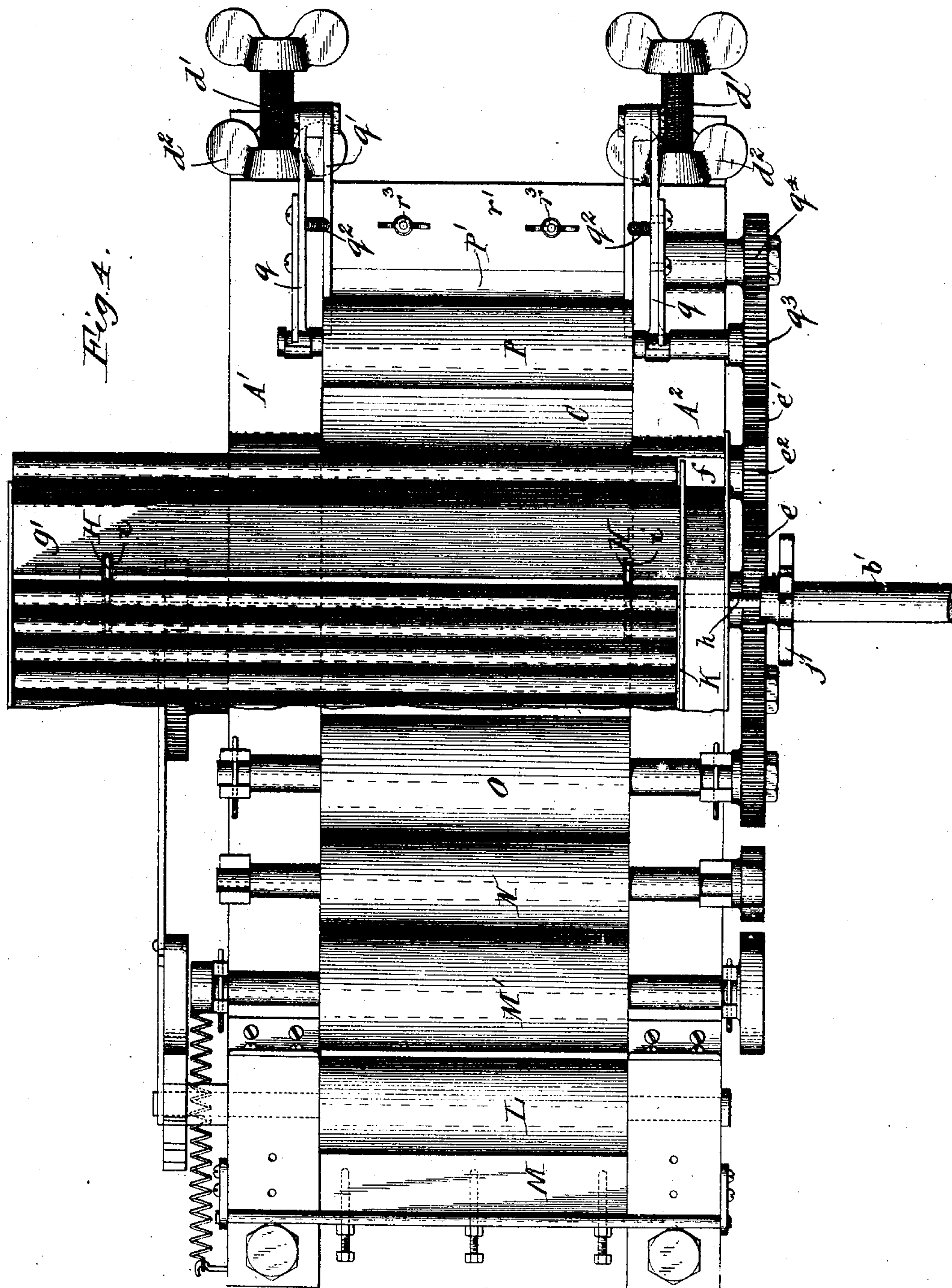
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Witnesses:  
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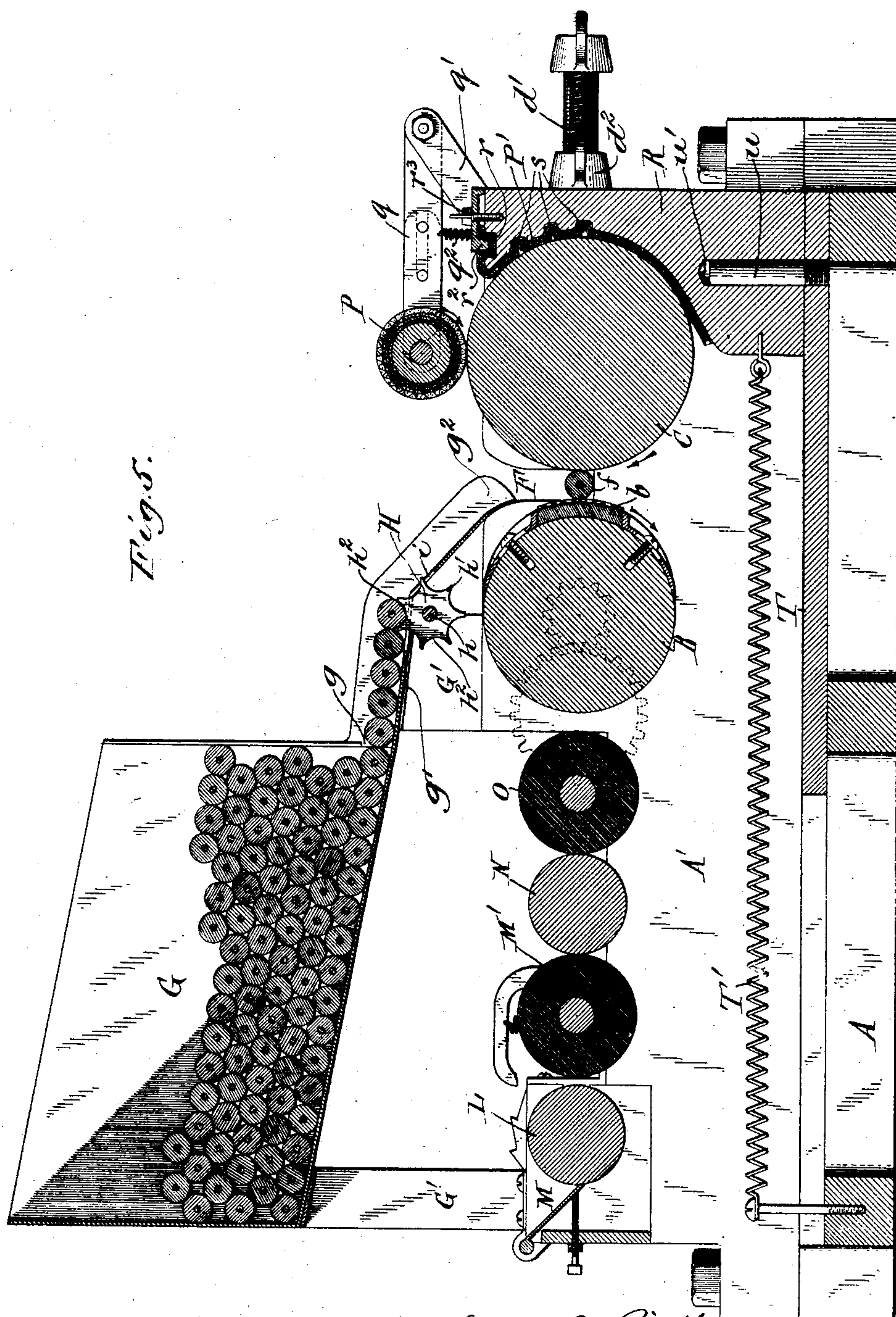
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4 SHEETS—SHEET 4.



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# UNITED STATES PATENT OFFICE.

HENRY C. BIETTE, OF TORONTO, CANADA, ASSIGNOR TO PRESS NOVELTY COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

## MACHINE FOR IMPRINTING PENCILS, &c.

SPECIFICATION forming part of Letters Patent No. 774,822, dated November 15, 1904.

Application filed May 21, 1904. Serial No. 209,110. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. BIETTE, a subject of the King of England, and a resident of Toronto, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Machines for Imprinting Pencils and Similar Articles, of which the following is a specification.

This invention relates to a machine for printing advertisements or other desired reading matter upon round lead-pencils, penholders, and similar articles.

The object of my invention is to provide an efficient machine of this character by which advertising or other matter can be cheaply and expeditiously printed upon different sides of such articles or around their entire surface, if desired.

In the accompanying drawings, consisting of four sheets, Figure 1 is an elevation of one side of the improved machine. Fig. 2 is a fragmentary elevation of its opposite side. Fig. 3 is a vertical longitudinal section of one of the bearings of the adjustable impression-cylinder. Fig. 4 is a top plan view of the machine with the feed-hopper broken away. Fig. 5 is a longitudinal central section thereof.

Similar letters of reference indicate corresponding parts throughout the several views.

A is the bed or base plate of the machine, and A' A<sup>2</sup> indicate two parallel upright side frames secured to the base and supporting the various parts of the machine.

B is a horizontal printing-cylinder carrying the printing or impression die *b* and suitably journaled in the side frames A' A<sup>2</sup>. This die bears one or more lines of characters, according to the desired space to be covered by the printed matter. The printing-cylinder may be driven either by hand or power, the shaft *b'* of this cylinder being the driving-shaft of the machine.

C indicates a horizontal impression-cylinder arranged beside the printing-cylinder and preferably mounted in movable bearing-boxes C', so that it can be adjusted toward and from the printing-cylinder to accommodate

pencils or similar articles of different diameters. In the preferred construction shown in the drawings the bearing-boxes slide in longitudinal guide-slots *c*, formed in the side frames A' A<sup>2</sup>, and are moved away from the printing-cylinder by springs *d* and shifted in the opposite direction by adjusting-screws *d'*, engaging in threaded openings in the adjacent ends of the side frames and bearing against the outer ends of the boxes, the screws being preferably provided with lock-nuts *d''*, as shown.

The printing and impression cylinders are driven at the same peripheral speed and with their opposing sides running in opposite directions, so that the pencils or similar articles fed between the cylinders are rolled by contact therewith without being subjected to a rubbing action. In the construction shown in the drawings the impression-cylinder is driven from the printing-cylinder by spur-gears *e e'*, secured to the shafts of these cylinders, and an intermediate idler-gear *e''*, meshing with both of said gears; but any other suitable power-transmitting mechanism may be employed for this purpose.

While being imprinted the pencils are sustained between the printing and impression cylinders by rests or supports *f*, which are arranged to support the pencils substantially on a level with the axes of the cylinders or in diametrical alinement therewith, by which arrangement slipping or rubbing of the pencils against the cylinders is obviated. The pencil-rests *f* may be of any suitable construction. In the machines shown in the drawings they are formed by the lower ends of vertical slots or channels F, arranged in the side frames A' A<sup>2</sup> in line with the space between the printing and impression cylinders.

The pencils may be successively fed between the printing and impression cylinders either by hand or by any suitable mechanical means. I prefer to employ for this purpose the automatic feed mechanism illustrated in the drawings, which is constructed as follows:

G is an elevated feed hopper or box adapted



to receive a batch of pencils and located in rear of the printing-cylinder, the same being supported by standards  $G'$ . The hopper is provided in the lower end of its front wall with a horizontal discharge-aperture  $g$ , which is just large enough to permit the escape of one pencil at a time, the bottom of the hopper sloping toward this aperture and having sufficient pitch to discharge the pencils by gravity. A chute  $g'$ , extending forwardly and downwardly from the opening  $g$  and terminating at the lower ends of the channels  $F$ , serves to conduct the pencils between the printing and impression cylinders. One of the side walls of the chute terminates at the upper end of the adjacent channel  $F$ , as shown at  $g^2$ , to permit the pencils to be withdrawn endwise after being printed.

$H$  represent intermittently-actuated feed-wheels adapted to intercept the row of pencils in the delivery-chute and permit the delivery of but a single pencil at a time to the printing-cylinder. These feed-wheels are mounted on a transverse shaft  $h$ , arranged underneath the discharge-chute  $g'$ , and are provided with equidistant peripheral teeth or projections  $h'$ , the sides of which are curved to form concave seats or pockets  $h^2$  of the proper size to receive the lower half of a pencil, as shown in Fig. 5. The upper portions of these feed-wheels extend through longitudinal slots  $i$  in the bottom of the chute and project a sufficient distance above said bottom to intercept and arrest the row of pencils in the chute when the wheels are at rest and to carry the foremost pencil of the row forward sufficiently to clear the feed-wheels and allow it to drop into the channels  $F$  when the wheels are turned forwardly a step. An intermittent rotary motion may be imparted to the feed-wheels by any suitable means; but I prefer to actuate the same by a radial tappet-arm  $j$ , secured to the cylinder-shaft  $b'$  and arranged to engage radial arms or teeth  $j'$ , mounted on the feed-shaft  $h$ . This shaft has as many of such teeth as there are pencil-pockets in the feed-wheels  $H$ , and the teeth are arranged to be tripped successively by the arm  $j$ , whereby the feed-wheels are turned the distance of one pocket for every complete rotation of the printing-cylinder. The motion of the feed-wheels  $H$  is so timed relatively to that of the printing-cylinder that the foremost pencil in the chute is released by the feed-wheels and allowed to drop upon the rests  $f$  before the printing-die  $b$  arrives opposite the impression-cylinder. In this manner the pencils are automatically fed to the printing-cylinder one at a time, and the machine requires no attention on the part of the operator except to keep the feed-hopper supplied with pencils and remove the printed pencils.

The hopper is preferably made just long enough to receive pencils of standard length

having the usual rubber erasers and provided with a removable partition or false end wall  $K$ , which may be placed in the hopper when short pencils or such as have no erasers are to be printed. This partition may be held in position by any suitable means.

The inking mechanism of the printing-cylinder may be of any well-known construction, that shown in the drawings consisting of an ink-roller  $L$ , an ink-fountain  $M$ , containing an intermittently-rotated roller  $M'$  and intermediate transfer and distributing rollers  $N$   $O$ .

When the pencils are imprinted around one-half or more of their surface, they smut the impression-cylinder by rolling in contact therewith. In order to avoid transferring to the next pencil the imprint thus received by the impression-cylinder, suitable means are provided for automatically cleaning said cylinder after imprinting each pencil. The preferred means shown in the drawings consist of a roller  $P$ , having an absorbent covering which is moistened or saturated with a suitable solvent and runs in contact with the impression-cylinder, and a bed or blanket  $P'$ , of suitable absorbent material, which bears against the impression-roller beyond the solvent-roller  $P$ , so as to absorb the surplus moisture, ink, or size not removed by the solvent-roller and thoroughly clean the surface of said cylinder preparatory to printing the next pencil. The covering of the solvent-roller may be of felt or other suitable material, and the same may be saturated with turpentine, benzine, gasoline, or other suitable liquid which will dissolve the ink and size deposited upon the impression-cylinder. This solvent-roller is journaled in the free end of a pair of supporting-arms  $q$ , pivoted to brackets  $q'$  on the side frames  $A' A^2$ , and is yieldingly held against the impression-cylinder by springs  $q^2$ , attached at their ends to said arms and the side frames, respectively. In order to render the cleaning action of the solvent-roller more effective, it is driven in the contrary direction to the impression-cylinder and at a greater speed, so that it has a rubbing or wiping action. The roller-drive shown in the drawings consists of a gear-wheel  $q^3$ , secured to the shaft of said roller, and an idler-gear  $q^4$ , connecting said gear-wheel with the gear-wheel  $e'$  on the shaft of the impression-cylinder.

The cleaning-blanket  $P'$  may be of linen or other suitable absorbent material and extends around one side of the impression-cylinder, preferably from the top to the bottom thereof, as shown. The blanket is carried by a supporting block or standard  $R$ , arranged on the rear side of the impression-roller, and its face which forms the backing of the blanket is concave and curved to conform to the cylindrical surface of the impression-cylinder. The blanket is removably secured to its sup-



port by any suitable fastening. In the construction shown in the drawings its upper end overlies a transverse groove *r*, formed in the top of the support, in which groove it is 5 clamped by a plate *r'*, having a depending rib or flange *r''*, which forces the blanket into said groove upon tightening the plate. This plate is clamped in place by thumb-screws *r'''* entering openings in the supporting-block 10 R. As the impression-cylinder turns toward the lower edge of the cleaning-blanket, said edge may be left unattached, as shown. The supporting-block R is preferably provided in its face, near the upper end of the blanket, 15 with one or more transverse grooves or recesses *s*, into which the overlying portions of the blanket may bulge or recede, so as to give the upper portion of the blanket a corrugated form. In the use of the machine the grit or 20 other solid particles in the ink and size deposited upon the impression-cylinder gather at the upper edge of the blanket and tend to spread downward over the rear side of the impression-cylinder. The ridges or salient 25 edges presented by the corrugated portion of the blanket serve to check such spreading of the grit and confine it to the upper portion of the blanket, thereby insuring the cleaning of the impression-cylinder by the lower por- 30 tion of the blanket. To facilitate the cleaning of said cylinder, it is preferably nicked and highly polished.

In order to obtain the best results, the blanket *P'* should be yieldingly held against the 35 impression-cylinder. For this purpose its supporting-block R is mounted on a longitudinal slide T, suitably guided on the base-plate A and constantly urged in the proper direction to press the blanket against the im- 40 pression-cylinder by a spring *T'*, connected at one end to the front side of said supporting-block and at its other end to the base-plate. The supporting-block is preferably capable of turning or swiveling on the slide T, so that 45 it may adapt itself to the impression-cylinder and bear at all times against the same throughout the width of the blanket. The swiveling connection shown in the drawings consists of an upright pivot-pin *u*, mounted on the slide 50 T and entering a socket *u'*, formed centrally in the bottom of the supporting-block R.

In the operation of the machine the pencils or similar articles to be printed are automatically fed one at a time to the channels *F* by 55 the feed-wheels *H*, the movement of the parts being so timed that the printing-die *b* comes in contact with the pencil immediately after the latter falls upon the rests *f*. The impression-cylinder, which has received the imprint 60 from the printed pencil, is subjected to the cleaning action of the solvent-applying roller *P* and then to that of the absorbent blanket *P'*, thereby thoroughly cleaning it before the next pencil is fed between the same and the

printing-cylinder and avoiding smutting of 65 the pencil. Immediately after a pencil has been imprinted it is removed to allow the next pencil to drop upon the rests *f*.

As my machine is capable of imprinting pencils and similar articles around their entire cir- 70 cumference, if desired, it enables such articles to be furnished with a greater or less number of lines of advertising matter at practically no greater cost than that of pencils having but a single line of reading matter, thus correspond- 75 ingly enhancing the value of such articles for advertising purposes.

I claim as my invention—

1. In a machine of the character described, the combination with a printing-cylinder and 80 an impression-cylinder arranged side by side and adapted to impart a rolling motion to round articles fed between the same, and a support arranged to sustain said articles sub- 85 stantially on a level with the axes of said cylinders, substantially as set forth.

2. In a machine of the character described, the combination with a printing-cylinder and an impression-cylinder arranged side by side, 90 of means for driving said cylinders at the same peripheral speed and with their opposing sides running in opposite directions, and a support for the articles to be printed arranged to sus- 95 tain the same substantially on a level with the axes of said cylinders, substantially as set forth.

3. In a machine of the character described, the combination with a printing-cylinder and an impression-cylinder arranged side by side, 100 the impression-cylinder being movable toward and from the printing-cylinder, of a spring for moving the impression-cylinder away from the printing-cylinder, an adjusting device for 105 shifting said cylinder toward the printing-cylinder, and means for driving said cylinders at the same peripheral speed and with their opposing sides running in opposite directions, substantially as set forth.

4. In a machine of the character described, the combination with a pair of side frames and 110 printing and impression cylinders journaled side by side in said frames, said frames being provided with channels which lead to the space between said cylinders and the lower ends of 115 which form rests for the articles to be printed, of means for driving said cylinders at the same peripheral speed and with their opposing sides running in opposite directions, sub- 120 stantially as set forth.

5. In a machine of the character described, 120 the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of an automatic cleaner for removing 125 from the impression-cylinder the imprint received from the printed article, substantially as set forth.

6. In a machine of the character described,



the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of means for applying a solvent to the impression-cylinder, and means for cleaning the said cylinder arranged beyond said solvent-applying means, substantially as set forth.

7. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a roller bearing against said impression-cylinder and adapted to apply a solvent thereto, and means for yieldingly holding said roller in contact with the impression-cylinder, substantially as set forth.

8. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a solvent-applying roller running in contact with said impression-cylinder, and means for driving said roller at a different speed from that of the impression-cylinder, substantially as set forth.

9. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a solvent-applying roller running in contact with said impression-cylinder, and means for driving said roller in a contrary direction to the impression-cylinder and at a greater speed than said cylinder, substantially as set forth.

10. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of an absorbent roller bearing against the impression-cylinder and adapted to apply a solvent thereto, pivoted arms carrying said roller, and a spring tending to hold the roller against the impression-cylinder, substantially as set forth.

11. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of an absorbent blanket bearing against the impression-cylinder for cleaning the same, substantially as set forth.

12. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support arranged adjacent to the impression-cylinder and having a concave face conforming thereto, and a cleaning-blanket seated against said concave face and bearing against the impression-cylinder, substantially as set forth.

13. In a machine of the character described,

the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support movable toward and from the impression-cylinder and having a concave face conforming thereto, a cleaning-blanket seated against said concave face and bearing against the impression-cylinder, and a spring tending to move said support toward the impression-cylinder, substantially as set forth.

14. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support arranged adjacent to the impression-cylinder and having a concave face conforming thereto, and a corrugated cleaning-blanket interposed between said concave face and the impression-cylinder, substantially as set forth.

15. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support arranged adjacent to the impression-cylinder and having a concave face conforming thereto, said face having transverse grooves or recesses, and a cleaning-blanket interposed between said concave face and the impression-cylinder and adapted to enter said grooves, substantially as set forth.

16. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support arranged adjacent to the impression-cylinder, a cleaning-blanket interposed between said support and the impression-cylinder, and means for removably securing the upper end of said blanket to said support, substantially as set forth.

17. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a support arranged adjacent to the impression-cylinder and provided in its top with a groove, a cleaning-blanket overlying said groove and interposed between said support and the impression-cylinder, and a clamping-plate having a rib which forces the blanket into said groove, substantially as set forth.

18. In a machine of the character described, the combination with a printing-cylinder and an opposing impression-cylinder adapted to roll a round pencil or similar article between them, of a swiveling support arranged adjacent to the impression-cylinder, and a cleaning-blanket backed by said support and bearing against the impression-cylinder, substantially as set forth.

19. In a machine of the character described, the combination with a printing-cylinder and



an opposing impression-cylinder adapted to  
roll a round pencil or similar article between  
them, of a slide movable crosswise of the im-  
pression-cylinder, a support mounted on said  
5 slide adjacent to the impression-cylinder and  
capable of swiveling on the slide, said sup-  
port having a concave face, a cleaning-blanket  
backed by said concave face and bearing  
against the impression-cylinder, and a spring

tending to move said support toward the im- 10  
pression-cylinder, substantially as set forth.

Witness my hand this 11th day of May,  
1904.

HENRY C. BIETTE.

Witnesses:

C. F. GEYER,

E. M. GRAHAM.