No. 798,298. PATENTED AUG. 29, 1905.

J. R. ROGERS.

LINOTYPE MACHINE.

APPLICATION FILED MAR. 25, 1905.

2 SHEETS—SHEET 1.

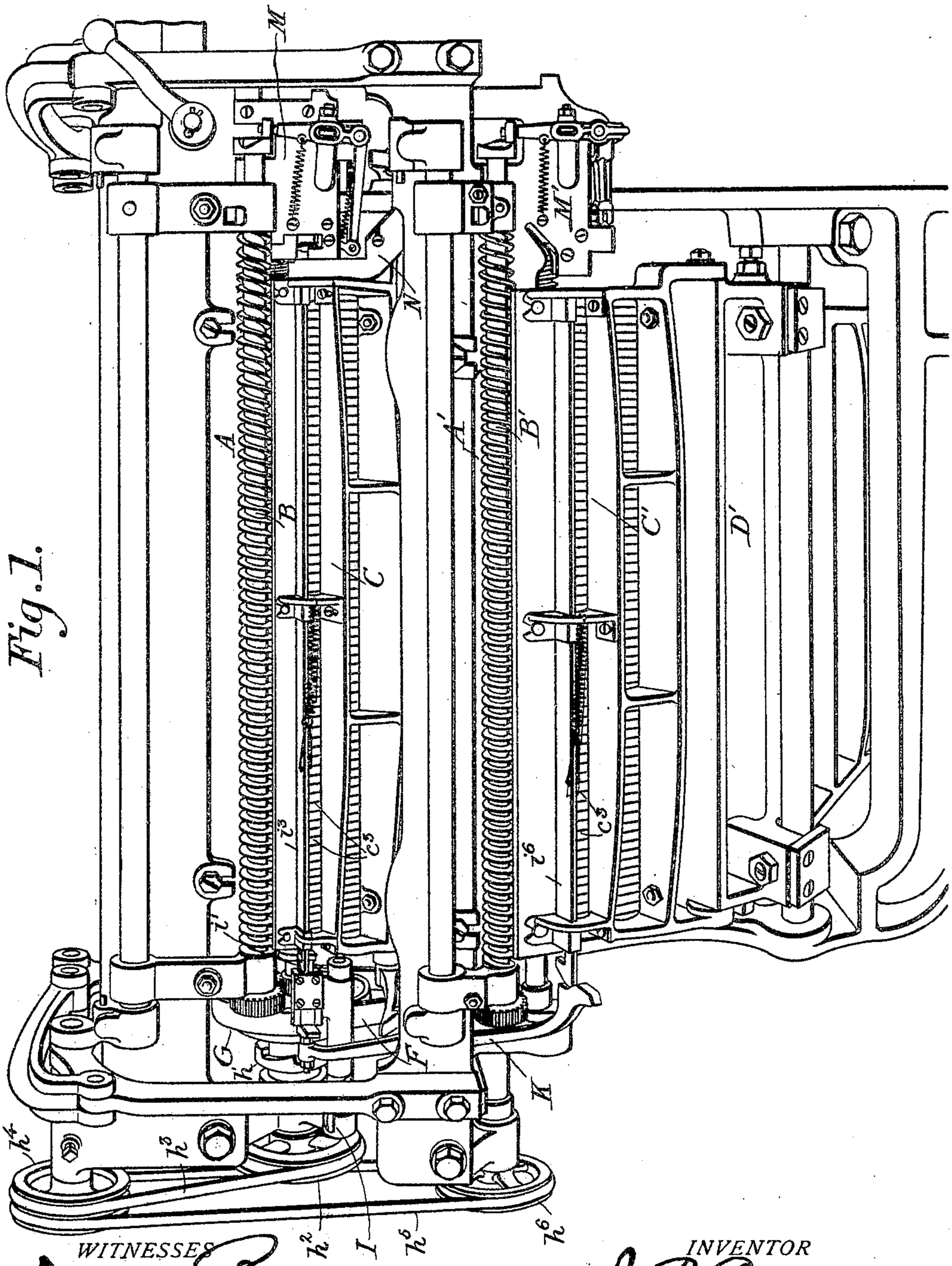

Fig. 1.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 2.

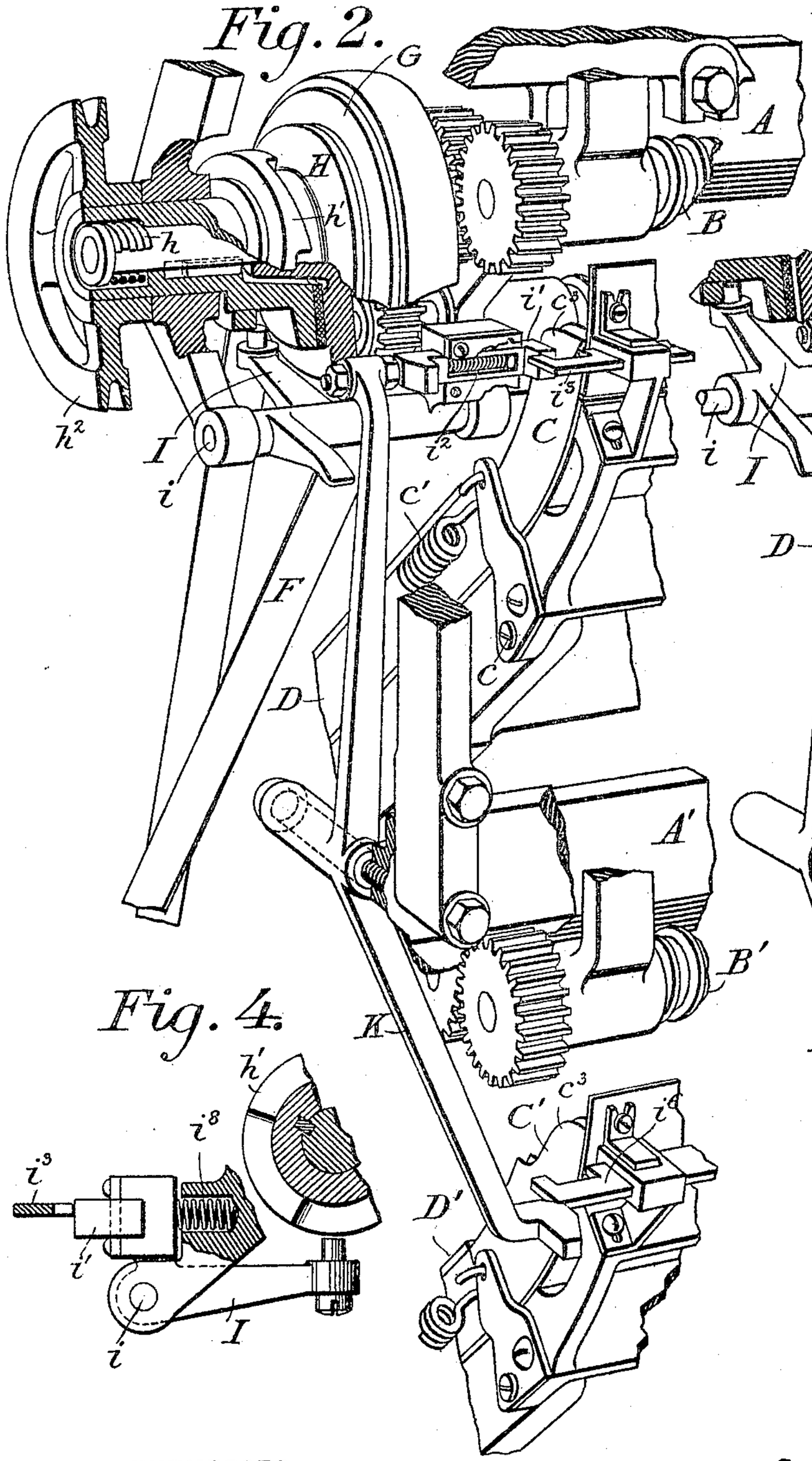


Fig. 3.

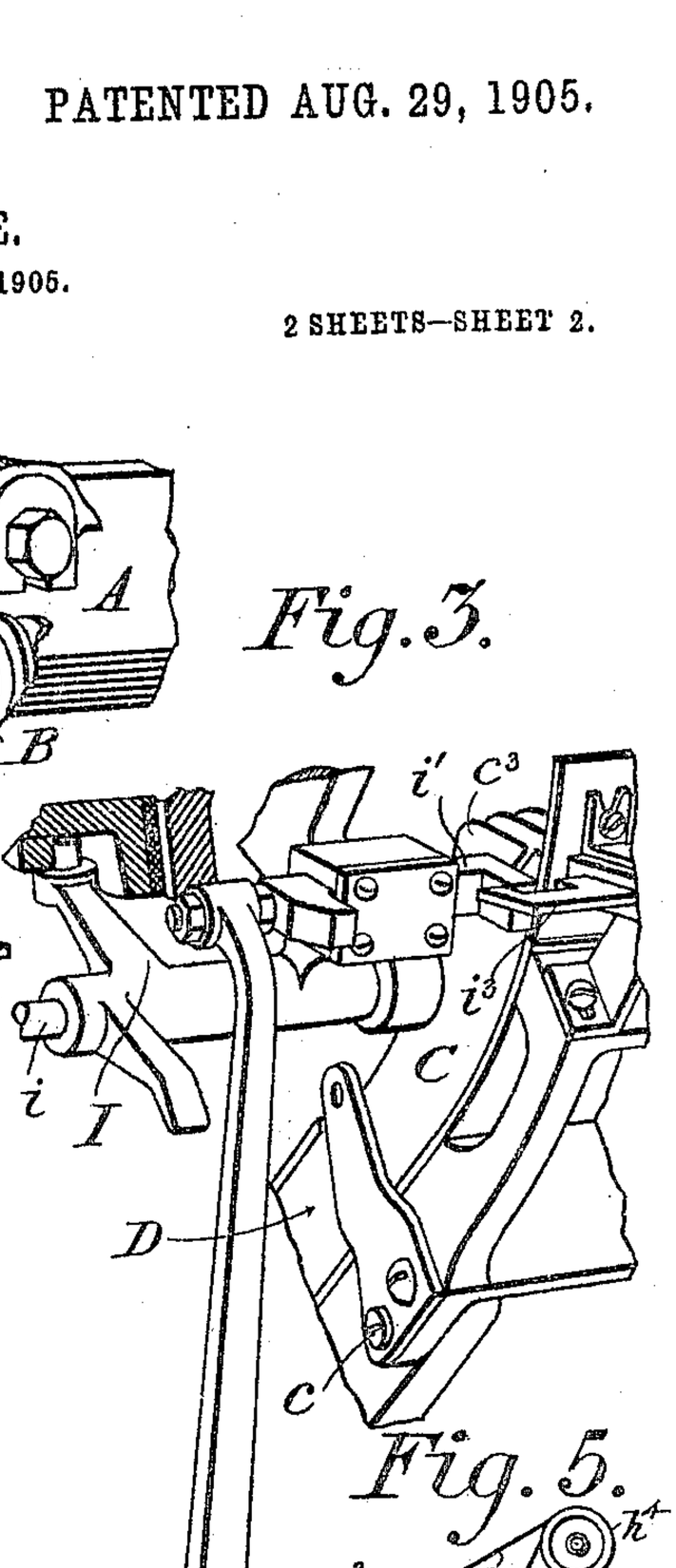


Fig. 5.

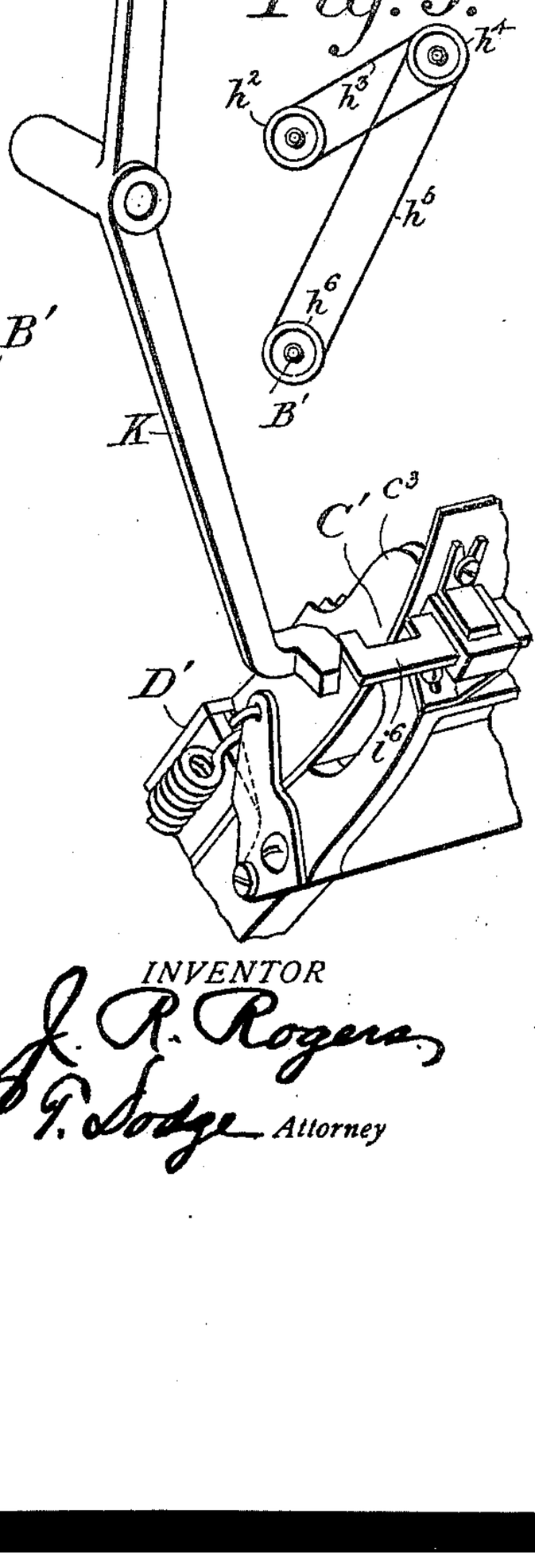
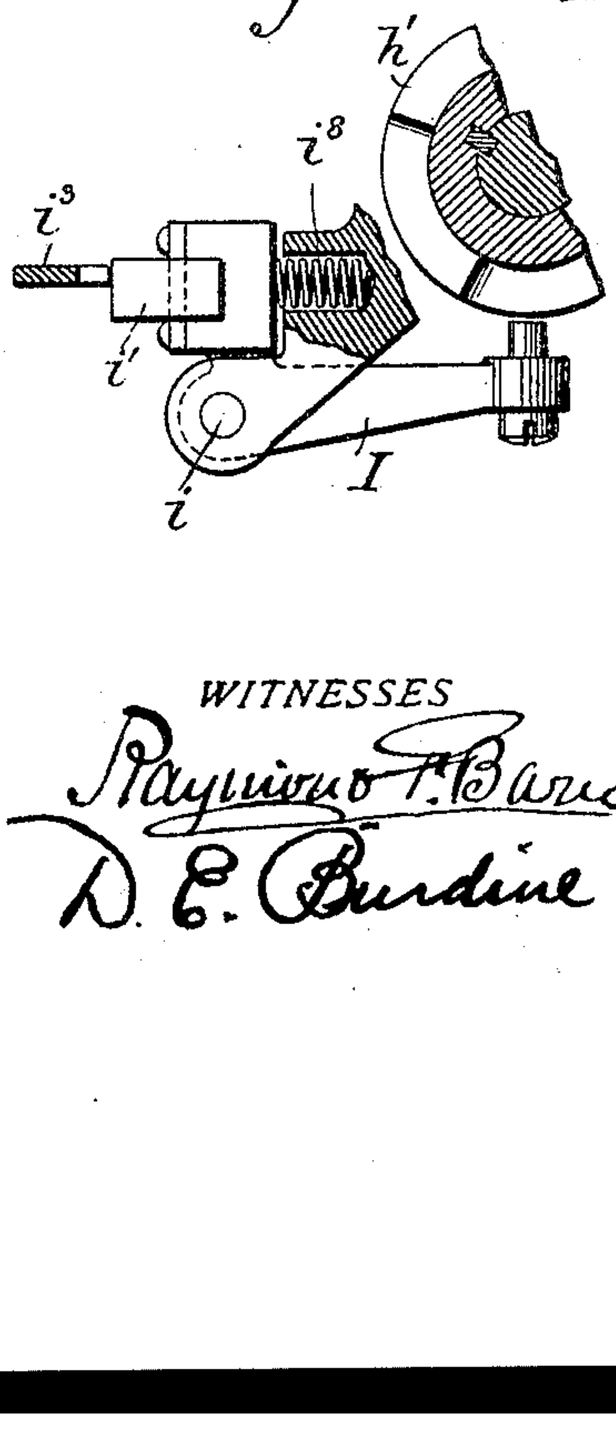


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN R. ROGERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

No. 798,298. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed March 25, 1905. Serial No. 252,002.

To all whom it may concern:

Be it known that I, JOHN R. ROGERS, of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention has reference to linotype-machines of the character represented in my United States Letters Patent No. 640,033. In this machine there are two magazines, one overlying the other, and over the mouth of each magazine a distributing mechanism. The composed lines of matrices commonly containing matrices from both magazines are presented in front of the upper distributer and there separated, the matrices for the upper magazine passing to its distributer, while those for the lower magazine are dropped successively through a chute to the lower distributer. Each magazine is provided, as usual, with a channeled mouthpiece or entrance, through which the matrices are guided from the distributer to the appropriate channels in the magazines. The throats or entrances, which are, in effect, a part of the distributing mechanism, are hinged to swing backward and downward in order to permit access to the distributers and to the upper ends of the magazines. The two distributing mechanisms are driven in unison from a common source. It is therefore important that whenever the throat or entrance of either magazine is opened its distributing mechanism shall be stopped in order to avoid the delivery of matrices from the distributers when the parts are not in position to deliver them properly to the magazines.

To this end my invention consists, broadly, in combining with two distributers and a driving mechanism therefor connections through which the distributers are stopped whenever a throat or other part is in such position as to forbid the proper delivery of the matrices to the adjacent magazine.

Referring to the drawings, Figure 1 is an outline elevation showing the two distributing mechanisms and the adjacent ends of the magazines. Fig. 2 is a perspective view of the driving mechanism for the two distributers, together with the adjacent parts in operative position. Fig. 3 is a similar view with the clutch thrown out of action. Fig. 4 is a side view of the clutch-controlling devices. Fig. 5 is a diagram illustrating the driving connections between the two distributers.

In its general organization the machine shown is the same as that in the patent above referred to and in my pending application for United States Letters Patent, Serial No. 243,033. Each distributing mechanism is of the character shown in United States Letters Patent No. 436,531, consisting of a horizontal bar with permuted teeth at the lower edge to sustain the matrices until they arrive over their respective channels in the magazine and adjacent feed-screws to engage the edges of the matrices and effect their movement along the bar.

Referring to the drawings, A represents the upper distributer-bar; B, the adjacent matrix-feeding screws, and C an underlying vertically-channeled throat or entrance into which the matrices descend by gravity from the distributer.

D is the upper fixed magazine to which the matrices are delivered from the throat C and to which the throat is hinged at *c* in order that it may be swung backward and downward, so as to permit free access to the distributer and to the upper end of the magazine, as usual, this throat being held normally in its operative position by springs *c'*.

A' represents the lower distributer-bar, and B' its feed-screws. C' is the hinged throat or entrance thereunder, and D' the lower magazine, to which the matrices are delivered by the throat C', which latter is arranged to open in the same manner as the throat of the upper magazine.

The composed lines of matrices after being used at the casting mechanism are lifted by the usual devices and carried horizontally into a distributer-box M, Fig. 1, from which the matrices for the upper magazine pass directly to the upper distributer, while those for the lower magazine are dropped through a chute N into the lower distributer-box M', by which they are delivered to the lower distributer. The upper distributer-screws are connected by pinions and receive motion from a driving-belt F through a pulley G and friction-clutch H, both mounted on the end of one of the screws. The clutch is movable in an axial direction and held normally in action by a spiral spring *h*, Fig. 2. It is provided with an angular collar *h'*, having cam-surfaces on one side. To throw the clutch out of action and stop the distributer, a rocker-plate I is mounted on a pivot *i* in the main frame and provided with an upturned arm which may

be lifted, as in Fig. 2, alongside of the collar h', so that as the latter rotates its cam-surfaces, acting laterally against the arm I, will draw the clutch away from the pulley. When the arm I is thrown down by hand, so as to release the flange, the clutch will be automatically reëngaged by the spring h and the distributer started. The tubular hub of the clutch is provided with a pulley h^2, (see Fig. 5,) from which the belt h^3 is extended to an idle pulley h^4, this pulley being in turn connected by belt h^5 to a pulley h^6 on one of the lower distributer-screws B'. It will be observed that owing to the connection between the two distributers they are stopped and started together. Whenever either of the throats or entrances C C' is opened, so that it is no longer in position to guide matrices into the magazine, the distributer must be stopped. To this end the rocker-plate I is provided at its inner upturned end with a horizontal slide i', which is normally acted upon and pressed forward by a bar i^3 on the upper throat C, as shown in Fig. 1, the effect being to rock the plate I and hold its arm downward out of engagement with the clutch, as shown in Figs. 1 and 3, against the tendency of the spring i^8, Fig. 3, which tends to throw the trip-arm into engagement. Whenever the throat C is opened and the slide i' relieved from the pressure of the bar i^3, the trip-arm rises and throws the clutch out of action. In order that the opening of the lower throat C' may have a like effect, I mount on the main frame an upright centrally-pivoted lever K, having its lower end opposite a bar i^6 on the lower throat and its upper end in position to act on the slide i', which is urged normally to the left by a spring i^2. The right end of this slide has a rearwardly-projecting shoulder, and the bar i^3 on the throat is notched, as shown in Figs. 1 and 2. When the throat C' is opened, its bar i^6 acts against a beveled or inclined surface on the lower end of the lever K, pushing the same to the left and causing its upper end to push the slide i' to the right until its shoulder is opposite the notch in the bar i^3, the effect of which is to permit the shoulder of the slide i' to trip into the notch, thereby permitting the rocker-plate I to turn and throw its arm into engagement with the clutch to release the same. Thus it will be seen that the opening of the throat of either magazine has the effect of stopping both distributers. The reason for stopping the upper distributing mechanism when the lower throat is open lies in the fact that the matrices are delivered by the upper distributer to the lower distributer, so that if the upper distributer were permitted to continue its action it would deliver matrices which could not be or would not be distributed to the lower magazine.

The vertical partitions c^3 of the throat-plates are made elastic and arranged to yield laterally and are connected, as usual, with the respective bars i^3 and i^6, so that in the event of matrices lodging improperly in the throat-plate their lateral pressure against the partitions will cause the latter to move the bars endwise to the left. If this occurs in the upper throat C, the bar i^3 will present its notch opposite the end of the slide i' and permit the throw-out devices to act, this feature in itself being the same as in the ordinary linotype-machines. If the obstruction occurs in the lower throat C', its bar i^6, moving to the left, will actuate the lever K and move the slide i' to the right, as before explained, causing the clutch to be thrown out of action.

It is to be noted that the lever K is actuated to cause the disengagement of the clutch either by the opening of the throat C' or by the movement of the bar i^6 when the throat is in operative position.

While I have shown my invention in a form commercially and successfully used, it is to be understood that the details may be variously modified.

I believe myself to be the first to combine with two distinct or independent distributing mechanisms and a driving mechanism therefor means whereby the driving mechanism is stopped in the event of the improper delivery of matrices in either distributer or of the matrix-receiving devices adjacent to either distributer assuming an inoperative position.

Having described my invention, what I claim is—

1. In a typographic machine, the combination of two distinct distributers, a driving-clutch therefor, and two clutch-controlling connections coacting with the respective distributers.

2. In a typographic machine, two parallel distributers, two magazine-throats below the respective distributers, and mechanism actuating both distributers, in combination with stop devices extending from the respective throats to the actuating mechanism, whereby each throat is enabled to independently control the distributer.

3. In a linotype-machine, two magazines, a distributer for each magazine, a movable throat or guide-plate between each distributer and the adjacent magazine, a driving mechanism for the distributers, and means whereby the opening of either throat is caused to effect the stoppage of both distributers.

4. The combination of the two magazines one overlying the other, their distributers, the intermediate throats independently movable, and connections whereby the opening of the lower throat is caused to stop the upper distributer.

5. The combination with two magazines, their respective distributers, and the intermediate movable throats with the clutch and connections therefrom to both distributers, of the intermediate lever and devices whereby

the opening of either throat is caused to effect the stoppage of both distributers.

6. In combination with the lower distributer and the adjacent receiving-throat, the upper distributer, the throat thereunder, the driving-clutch and connections to both distributers, the trip device for the clutch, and connections thence to the lower throat, whereby the opening of the lower throat is caused to effect the stoppage of both distributers.

7. The upper magazine-throat and its slide i^3, in combination with the lower magazine-throat and its slide i^6, the driving-clutch, its controlling-lever I, the slide i' thereon, and the lever K, connecting the slides i^5 and i'.

In testimony whereof I hereunto set my hand, this 28th day of February, 1905, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:

DAVID S. KENNEDY,

JACOB B. BUCKLEY.