

No. 614,762.

Patented Nov. 22, 1898.

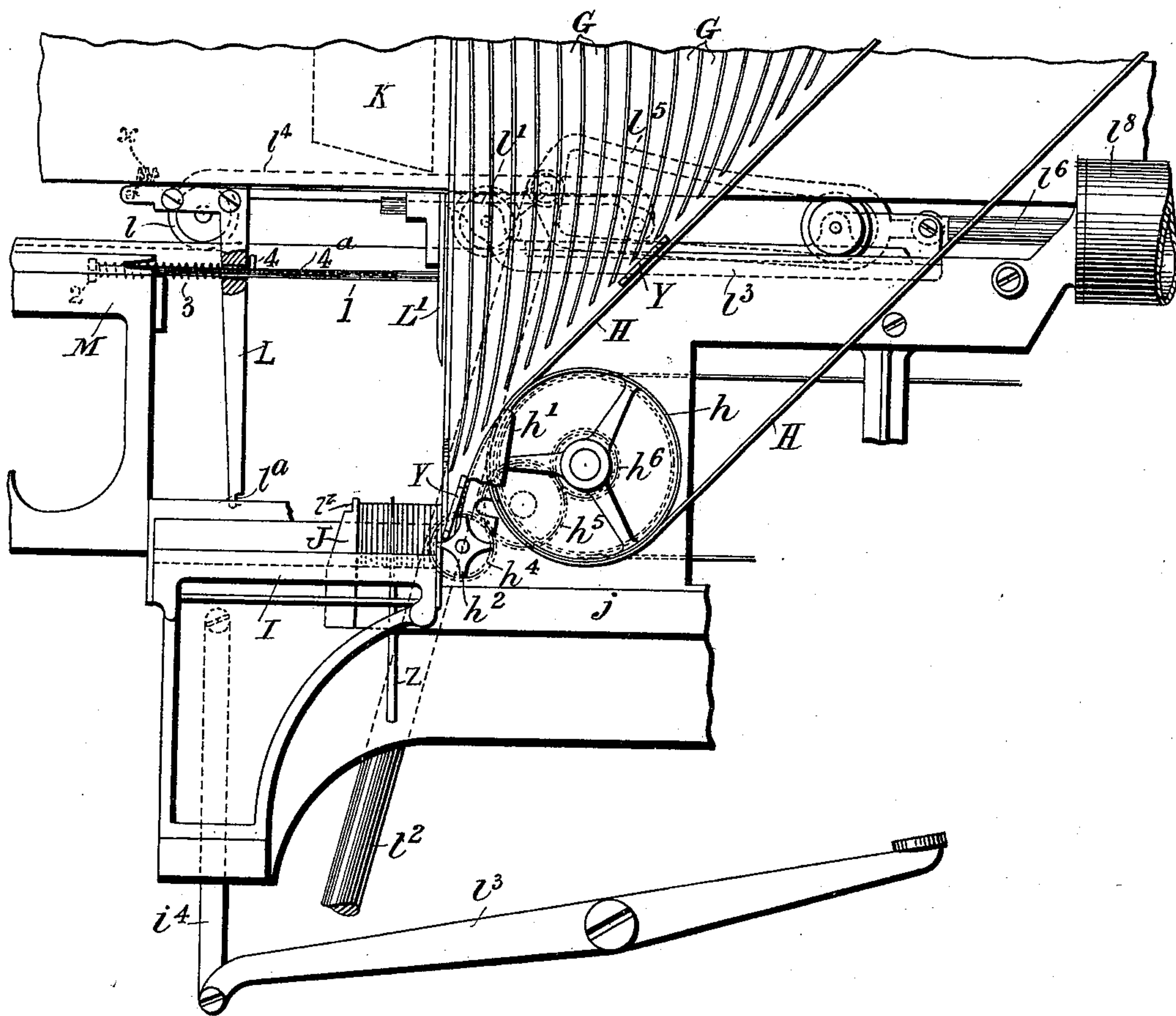
T. P. RITZEMA.
LINOTYPE COMPOSING MACHINE.

(Application filed Feb. 21, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES.
Mr. R. C. [Signature]
James Bradley

INVENTOR.
Thomas Lewis Ritzema

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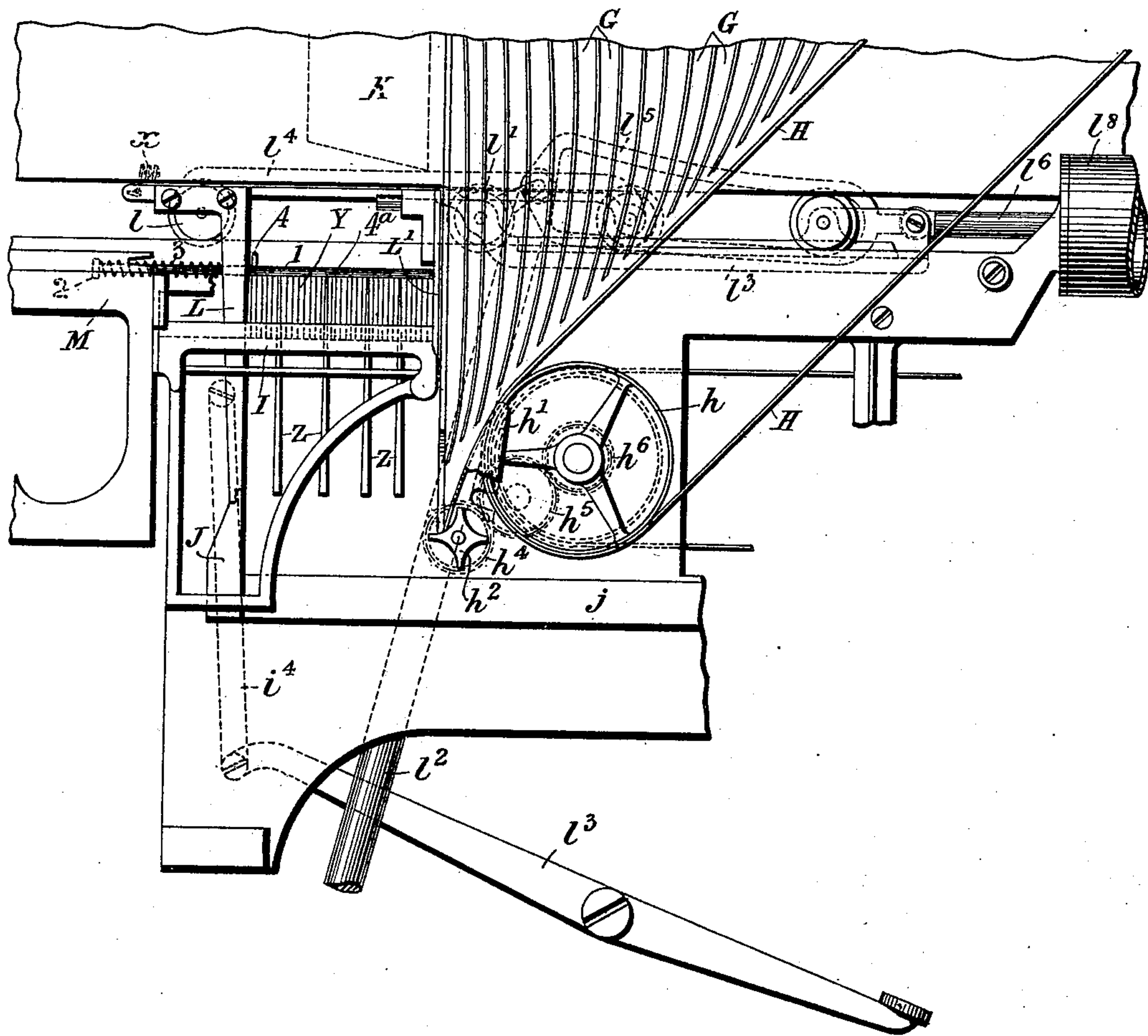
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(No Model.)

2 Sheets—Sheet 2.

Fig. 2.



WITNESSES.

W. H. Putnam.
James Bradley

INVENTOR.

Thomas Purvis Ritzema

UNITED STATES PATENT OFFICE.

THOMAS PURVIS RITZEMA, OF BLACKBURN, ENGLAND.

LINOTYPE COMPOSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 614,762, dated November 22, 1898.

Application filed February 21, 1898. Serial No. 671,122. (No model.)

To all whom it may concern:

Be it known that I, THOMAS PURVIS RITZEMA, a subject of Her Majesty the Queen of Great Britain, residing at Blackburn, in the county of Lancaster, England, have invented a certain new and useful Improvement in Linotype Composing-Machines, of which the following is a specification.

My invention relates to a certain improvement in linotype composing-machines, the object of same being to insure the space-bands and matrices being pressed down and level before they leave the assembling-block and are carried by the shifter-arms laterally to the casting mechanism, thus accelerating the speed of forming the linotypes and preventing breakage of any of the space-bands or matrices which might project and strike against any unyielding part of the mechanism as they are carried along, a further object of my invention being to do away with a long spring at present employed, the operation of which is liable to become uncertain.

Heretofore it has devolved on the operator to push down any projecting space-bands or matrices; but according to my invention this operation is now rendered automatic and certain.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a part front elevation of a linotype-machine, showing my improvement; and Fig. 2 is a similar view showing certain parts in a different position.

In the form of linotype-machine illustrated in the accompanying drawings the matrices Y, as is well known, fall from a magazine by gravity through a series of channels G onto a constantly-running belt H, from whence they pass onto a guide-plate or decline h' in the direction of the mouth of the assembling-block I, between the side plates of which the latter is composed, and onto inside ledges formed on same, they being thrust therein by means of a star-wheel h^2 , operated by gears $h^4 h^5 h^6$ from a shaft on which is the pulley h of the belt H. The space-bars Z fall from the reservoir K through a conductor or channel at the side of the channels G and are delivered into the block by the star-wheel h^2 in the same manner as the matrices Y, all of these forming a line against what is called a "yielding

resistant" J, traveling between the side plates of the block I and carried by a horizontal bar j , which is controlled by a spring or weight, so that a resistance is placed against the increasing line sufficient to hold the matrices and spaces in position therein. A vertical movement is given to the assembling-block I by means of a link i^4 , operated by a pivoted hand-lever i^3 within convenient reach of the operator.

Above the assembling-block I and resistant J are the shifter-arms L L', mounted as hangers on pulleys $l l'$, respectively, traveling in a suitable guide below the space-box K, such arms L L' having, as is well known, an independent as well as a combined movement with reference to each other, such independent movement of the arm L being allowed by the agency of its connecting-bar l^4 , link l^5 , and connected parts against the pressure of a long spring x (shown in dotted lines) as the free arm L is pushed along laterally by the increasing length of line of matrices, the combined movement of the two arms L L' with the line of matrices and spaces between them toward the horizontal guide M being effected by means of the parts above through a lever l^2 and a bar l^3 , attached to the piston-rod l^6 of the cylinder l^8 of a pneumatic device which controls the speed, all of such above construction and its operation being well known in this particular art.

In carrying out my improvement I secure in one side of the shifter-arm L' a spindle 1, passing through a hole in the opposite arm L and terminating in a suitable head 2, which may project, as shown, into the open part of the horizontal guide M. Between such head and the arm L is a spring 3, which tends to force the arm to the right against pin 4, adjustable in holes 4^a , made in the upper side only of spindle 1, this spring being employed in place of the long spring x to the advantage of the working of the arm L, as the spring 3 is more certain in its operation. The end of the arm L is notched, as usual, as shown at l^a , to engage with a reversely-arranged notch l^b on the end of the yielding resistant J. As ordinarily operated the ends of the resistant J and the arm L are practically always in engagement, the resistant J as the line is formed forcing the arm L to the left against the ac-

tion of the long spring usually employed. According to my construction, however, the operator sets the arm L to the width of the line he proposes to set up, as shown in Fig. 1, by means of the pin 4, (the spring 3 holding it against the latter,) and the resistant J is forced to the left by the increasing line of type without having to carry with it the arm L and its connected parts. When the resistant J reaches the arm L and the notches l^a and l^b engage, the determined width of line will have been formed, and the assembling-block I may be raised by lever i^3 and link i^4 to lift the line of matrices and spaces out of the grip of the resistant and carry them between the shifter-arms L L' and into the position shown in Fig. 2. As the line of matrices and spaces is raised, it is brought against the spindle 1, as shown in this figure, and any projecting matrix or space is thereby pressed home, so that the line is automatically brought level at the top, and as it is now held between the shifter-arms L L' it is in position to be moved to the left through the horizontal guide M to the casting mechanism as soon as the arms L L' are operated, such arms carrying with them the spindle 1, which continues to hold the matrices and spaces in position during the travel of the shifter-arms and which returns with them when empty, the same distance being preserved between said arms during all their movements, so that when the assembling-block I is lowered and the other parts restored the arms L L' are again in the position shown in Fig. 1.

What I claim is—

1. In a linotype-machine the combination with the assembling-block, yielding resistant, shifter-arms, matrices, and spaces, of a spindle secured at a point where the tops of the matrices and spaces as they are raised by the assembling-block will come into contact with same, so that all are pressed down level before they are carried by the shifter-arms to the casting mechanism substantially as described.

2. In a linotype-machine, the combination with the assembling-block, yielding resistant, shifter-arms, matrices, and spaces, of a spindle carried by one of the shifter-arms in a position where the matrices and spaces as they are raised by the assembling-block will come into contact with same so that they are pressed down level, a head on one end of said spindle a spring in compression between such head and the other shifter-arm and means carried by the spindle for adjusting the position of said shifter-arm substantially as described.

3. In a linotype-machine the combination with the yielding resistant, shifter-arms, and means for moving the latter, of a spindle passing through the free shifter-arm and provided with a series of radial openings, a spring on the outside of same, a head on one end of said spindle confining the spring thereon, and a pin fitting the said radial openings in said spindle for adjusting the position of said shifter-arm on the spindle against the pressure of the spring so that it may be set independently of the yielding resistant substantially as described.

4. In a linotype-machine the combination with the yielding resistant, shifter-arms, and means for moving the latter, of a spindle carried by one of the arms, and passing freely through the other and having a series of radial openings therein, a head on said spindle, a spring on one side of the second shifter-arm in compression between it and the head, and a pin fitting the radial openings of said spindle and adjustable to control the position of the shifter-arm independently of the yielding resistance, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS PURVIS RITZEMA.

Witnesses:

GEO. W. PICKUP,
JAMES BRADLEY.