

No. 778,609.

PATENTED DEC. 27, 1904.

J. R. ROGERS.
LINOTYPE MACHINE.
APPLICATION FILED JUNE 16, 1904.

4 SHEETS—SHEET 1.

Fig 1.

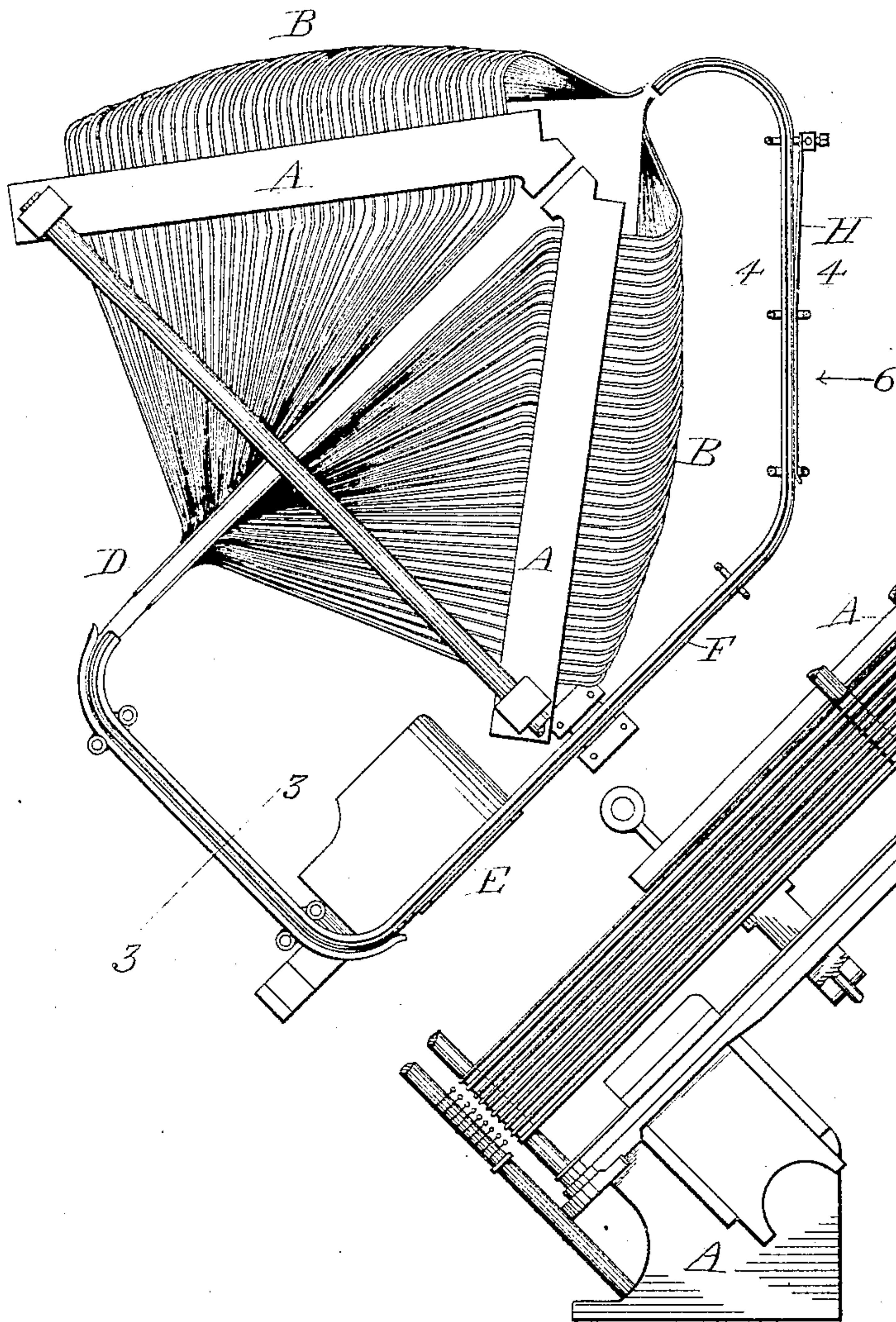
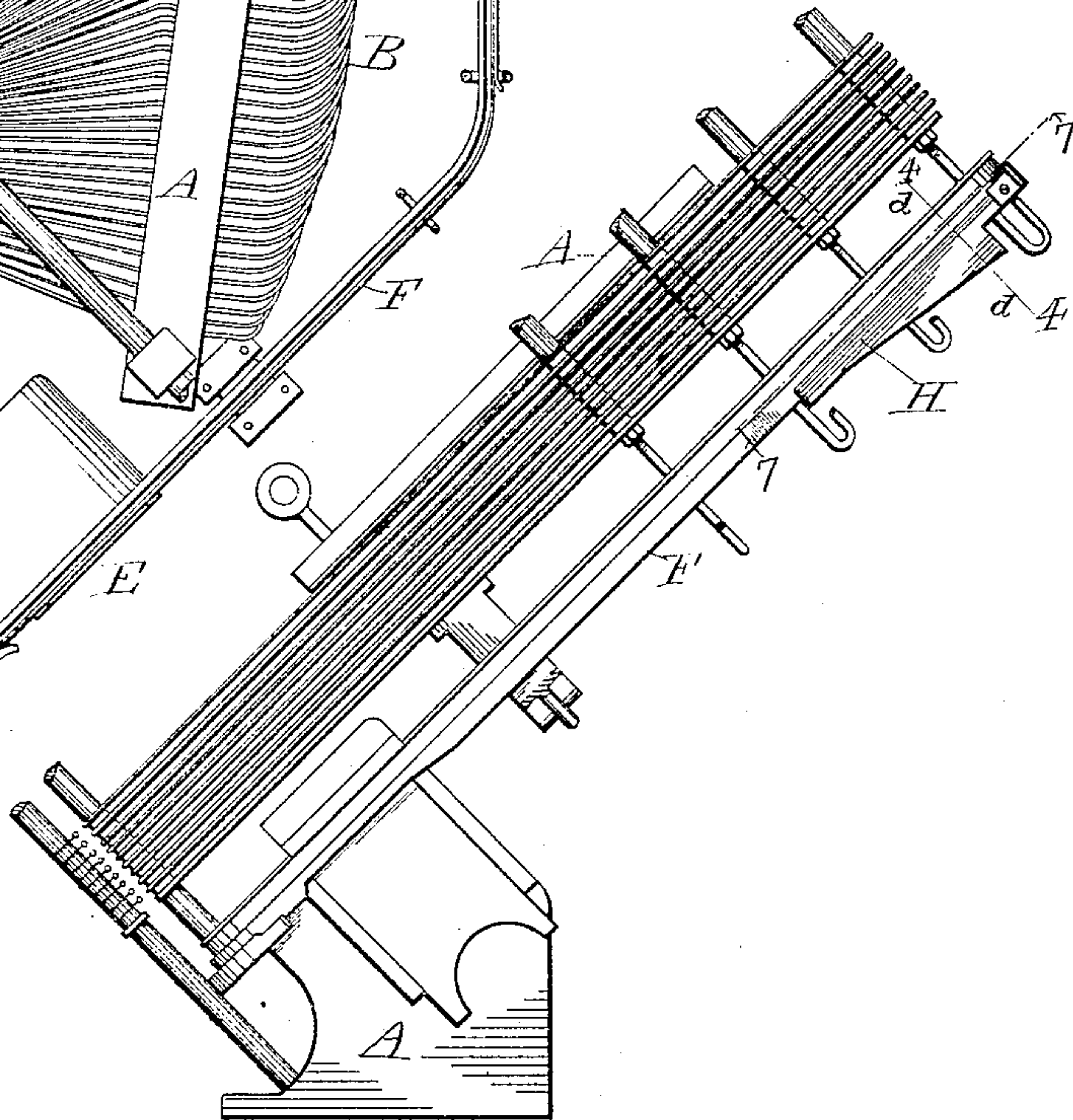


Fig 2.



Witnesses:
C. E. Marks
A. M. E. Kennedy

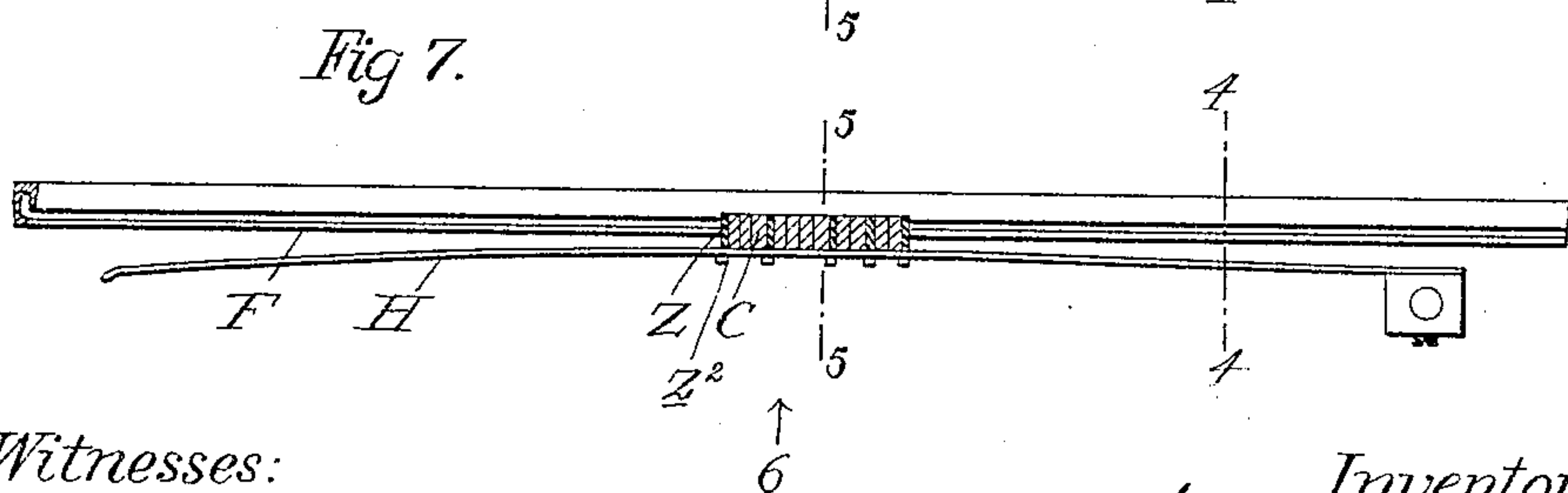
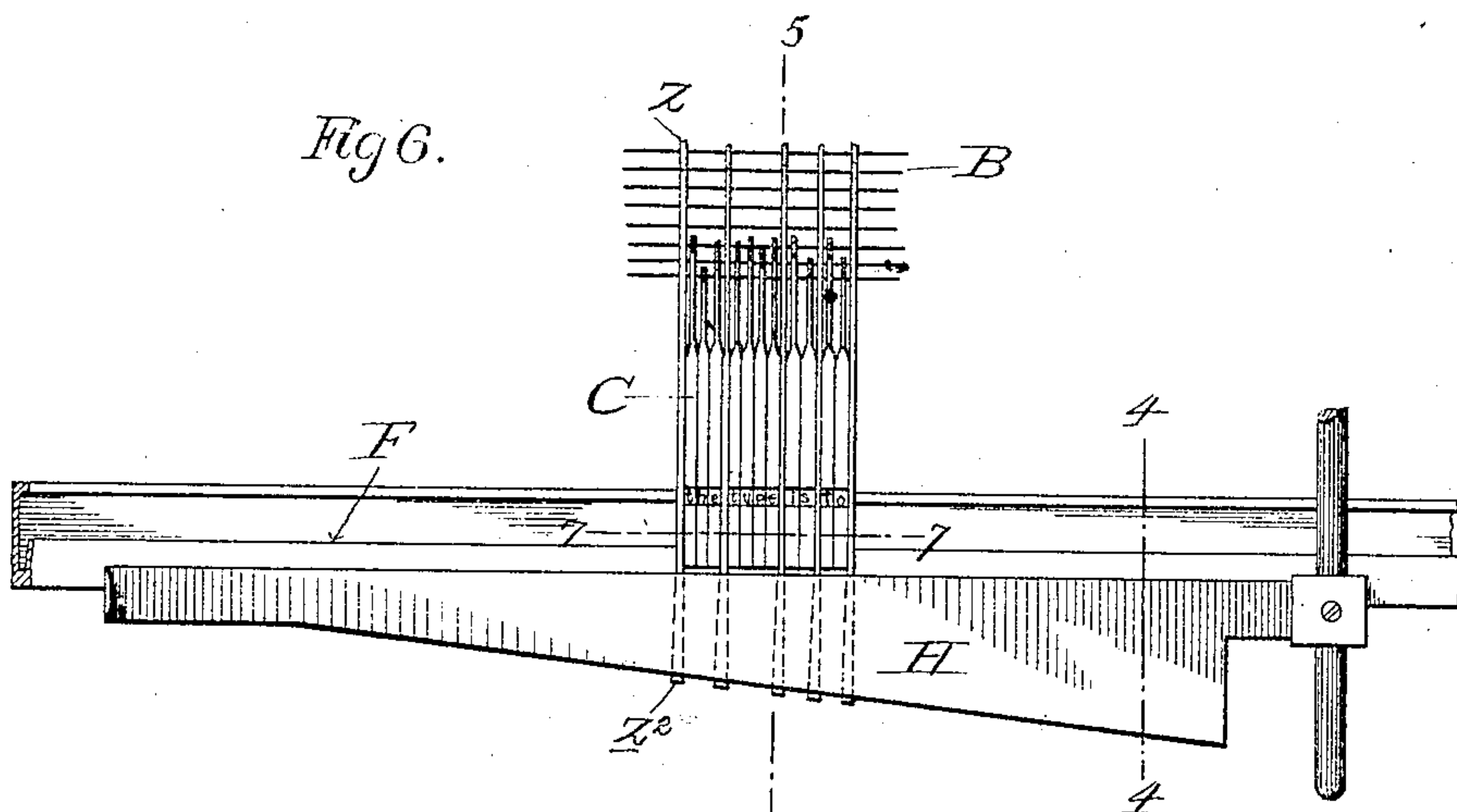
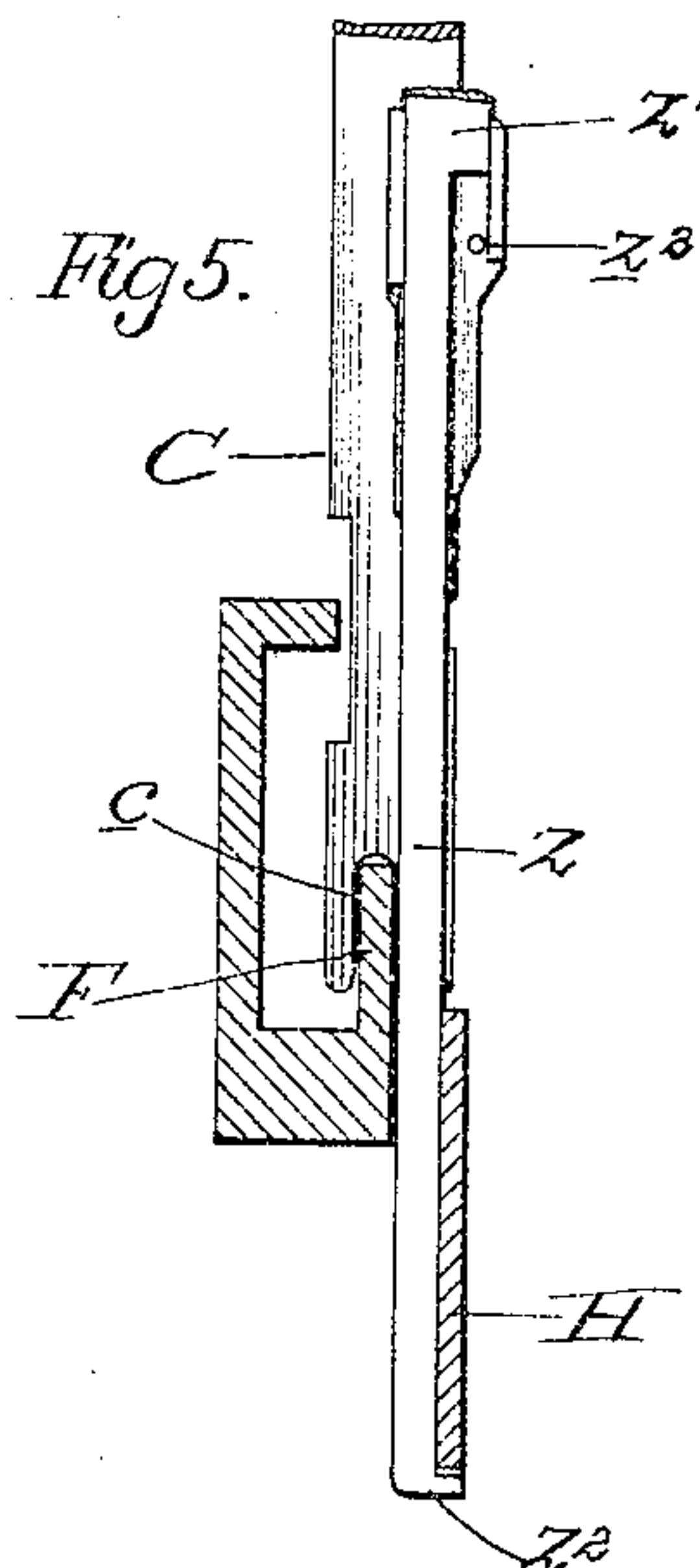
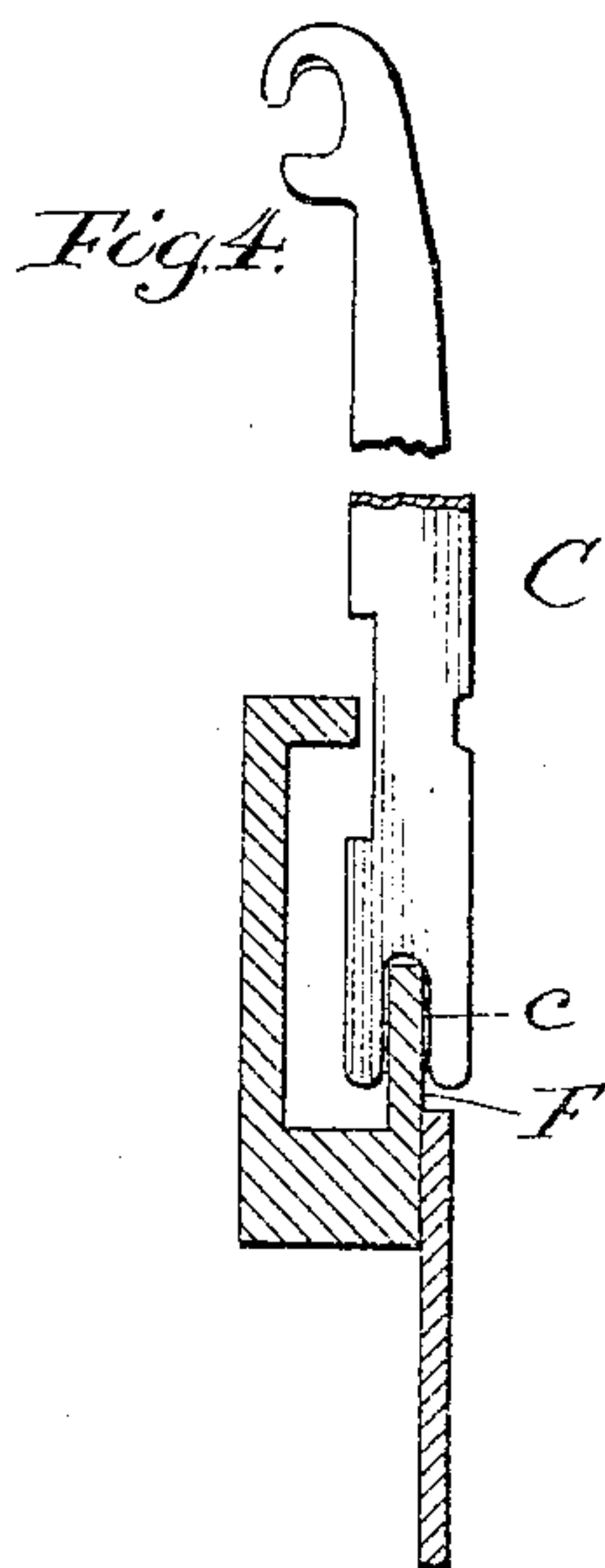
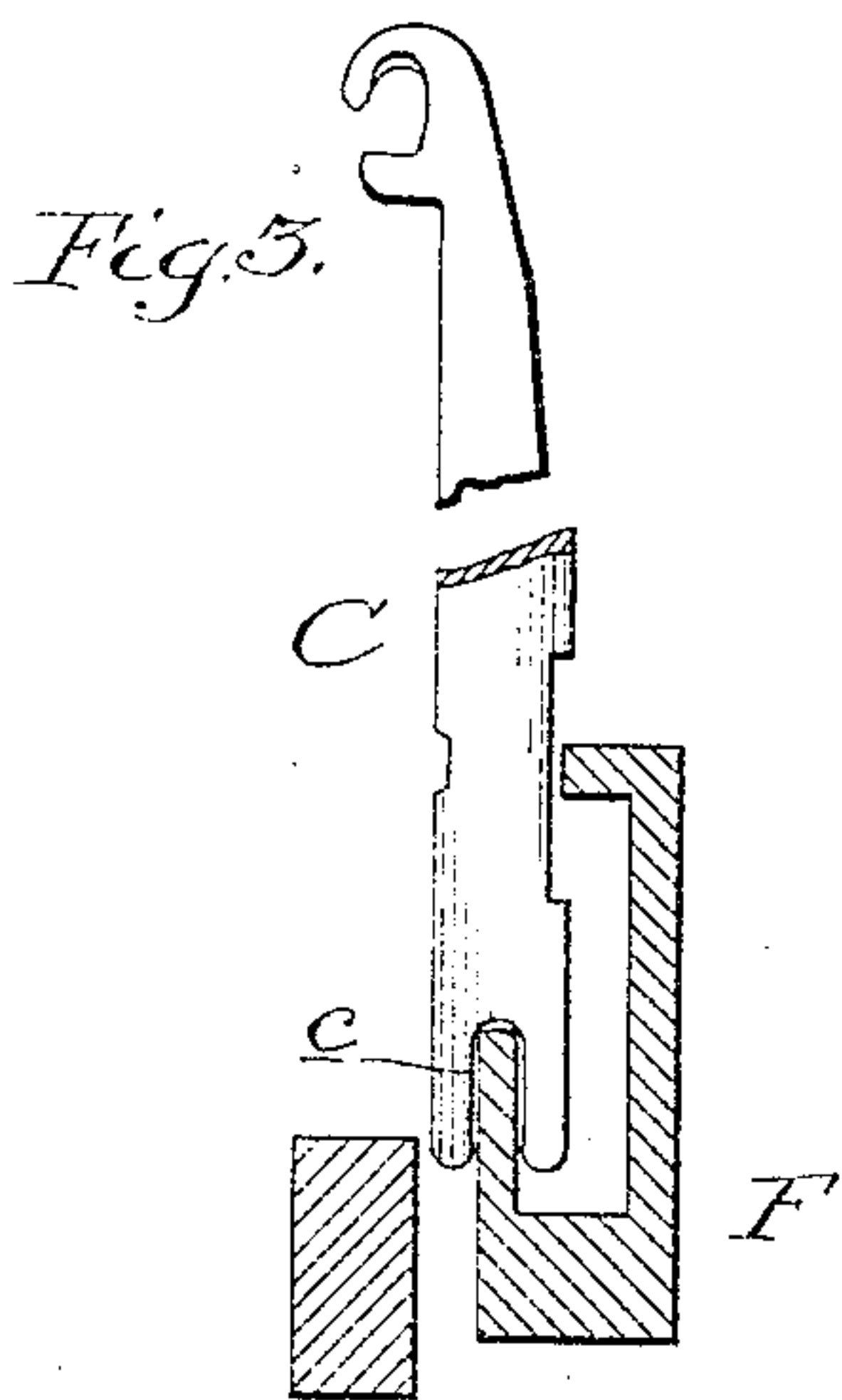
Inventor:
John R. Rogers
By P. T. Dodge
his Attorney.

No. 778,609.

PATENTED DEC. 27, 1904.

J. R. ROGERS.
LINOTYPE MACHINE.
APPLICATION FILED JUNE 16, 1904.

4 SHEETS—SHEET 2.



Witnesses:
C. C. Marks.
A. W. V. Kennedy.

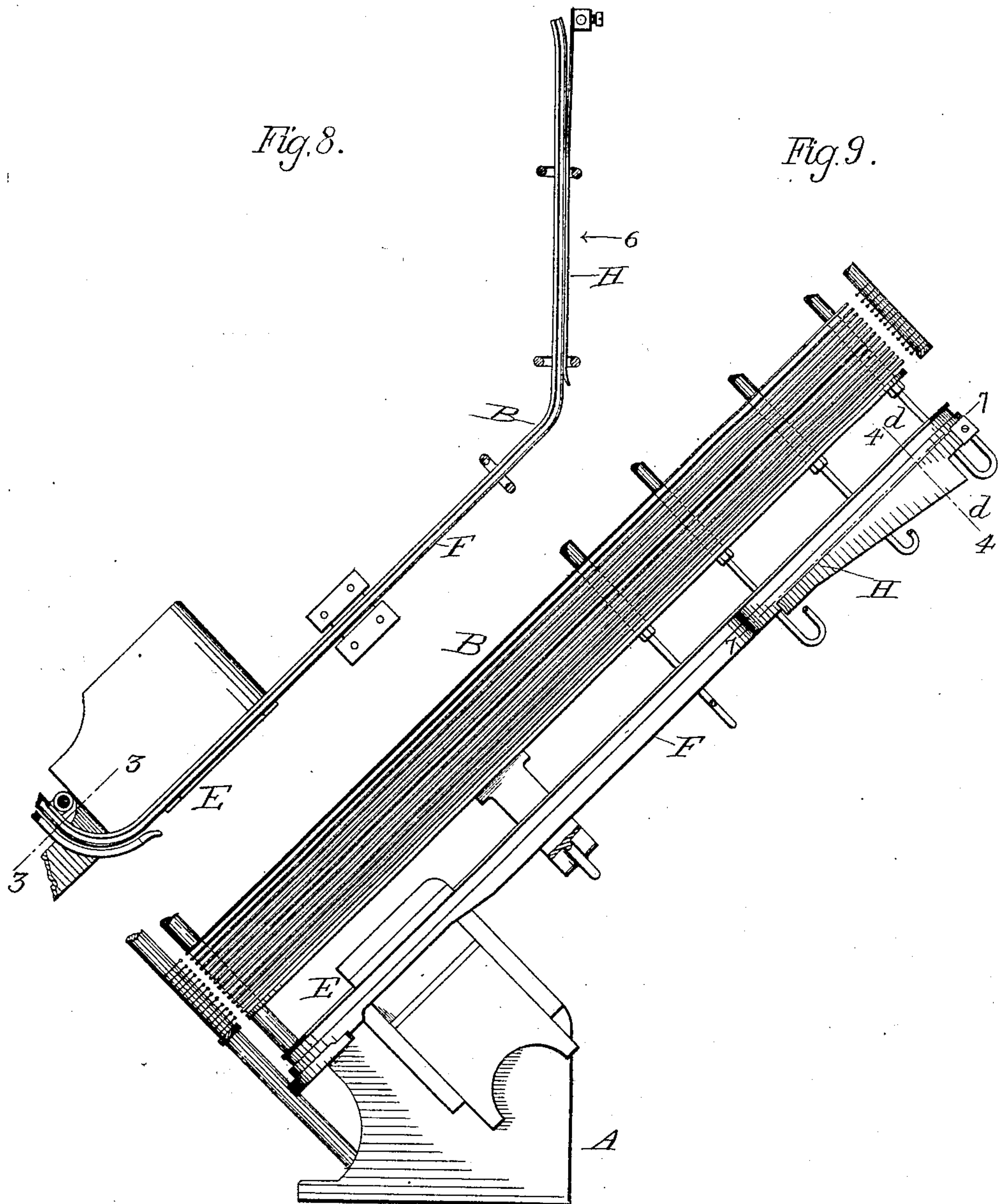
Inventor:
John R. Rogers
By P. I. Dodge
His Attorney.

No. 778,609.

PATENTED DEC. 27, 1904.

J. R. ROGERS.
LINOTYPE MACHINE.
APPLICATION FILED JUNE 16, 1904.

4 SHEETS—SHEET 3.



Witnesses:
C. E. Marks
A. M. E. Kennedy

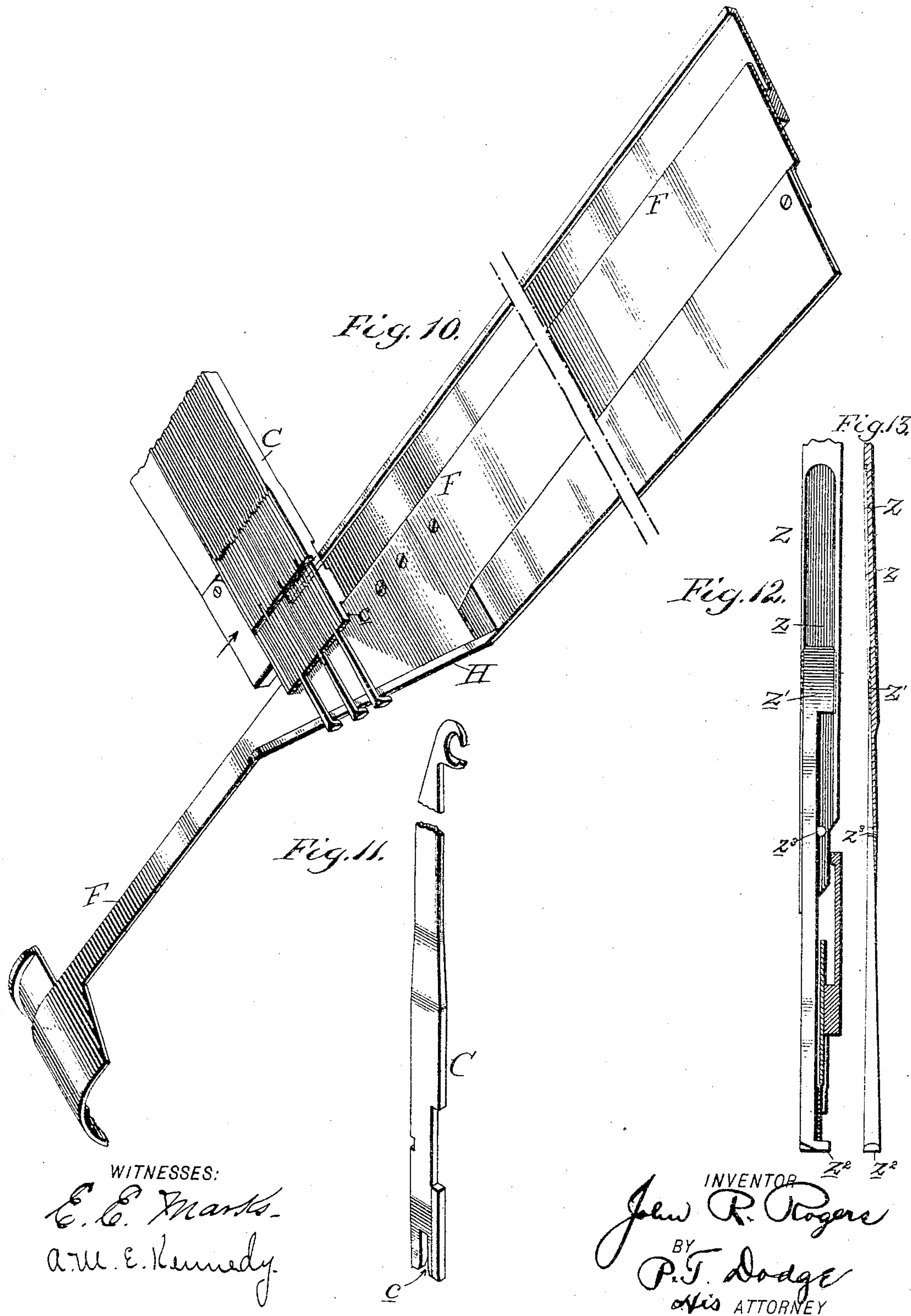
Inventor:
John R. Rogers
By P. T. Dodge
His Attorney.

No. 778,609.

PATENTED DEC. 27, 1904.

J. R. ROGERS.
LINOTYPE MACHINE.
APPLICATION FILED JUNE 16, 1904.

4 SHEETS—SHEET 4.



UNITED STATES PATENT OFFICE.

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

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 778,609, dated December 27, 1904.

Application filed June 16, 1904. Serial No. 212,806.

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 relates to improvements in linotype-machines of the general character represented in Letters Patent of the United States, numbered 630,412 and 679,481, wherein the individual matrices are suspended from and arranged to slide on inclined endless guides which converge at one point in their length for the purpose of bringing the selected matrices in line for use and diverge at another point in their length for the purpose of distributing the matrices to their original points of storage, a casting mechanism being used in connection with the composed lines to produce slugs or linotypes.

The invention has reference to means for preventing the matrices from twisting and binding on the guide-wires, to justifiers or spacing devices specially adapted for use in a machine containing the first feature of my invention, and to means for operating the justifiers.

The accompanying drawings are limited to the illustration of my improved parts and the parts immediately associated with them. In all other respects the machines may be of the construction represented in the above-named patents or of any equivalent construction.

Figure 1 is a top plan view illustrating in outline the framework of the machine. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are sections on the correspondingly-numbered lines of Figs. 1, 2, 8, and 9. Fig. 5 is a cross-section on the line 5 5, Figs. 6 and 7. Fig. 6 is a side elevation looking in the direction of the arrow 6, Figs. 1, 7, and 8. Fig. 7 is a section on the line 7 7, Figs. 2, 6, and 9. Figs. 8 and 9 are respectively a plan view and a side elevation of parts, shown on a smaller scale in Figs. 1, 2, 6, and 7. Fig. 10 is a perspective view illustrating the action of the matrices and spacers in connection with the guard forming the subject of my invention. Fig. 11 is a perspective view of one of the

matrices. Fig. 12 is a side view of one of the spacers or justifiers, and Fig. 13 is a longitudinal section of the same.

Referring to the drawings, A A represent portions of the rigid main frame, which may be of any form and construction adapted to sustain the other parts of the machine.

B B are the fixed endless guides, from which the matrices C are suspended and on which they travel, descending one after another to the point D, where the wires lie in parallel vertical tiers, so that the matrices may be assembled between them in a compact line. From the point D the assembled matrices are advanced, as heretofore, along the guides to the point E, where the casting mechanism is located, and from this point subsequent to the casting action they are pushed upward along the guides and carried around the upper ends until they reach a point from which they will descend by gravity on the diverging wires or as in the patents above referred to. In the machine constructed as in the original patent there was nothing to prevent the suspended matrices from turning or twisting in such manner as to cause their upper hooked ends to bite upon the guides. It occasionally happened, therefore, that the matrices offered great resistance and that it was impossible to advance them along the guides without endangering the integrity of the parts. To overcome this difficulty, I now form each matrix with a vertical notch *c* in the lower end, and beneath the inclined guides I locate a stationary guard F, following the direction of or lying immediately below the guides in such position that the lower ends of the matrices will straddle the guard in the manner shown in Figs. 3, 4, and 5, the guard serving to prevent the matrices from turning or twisting horizontally, while at the same time permitting them to move freely. I find it sufficient ordinarily to extend the guard F from the point at which the matrices are assembled upward to the point at which distribution begins; but it may be made longer, if desired. The guard may be of any suitable form in cross-section, provided only that it presents an edge or flange adapted to enter the notches

in the matrices, and it may be supported in position by any suitable means. I prefer to give the guard in cross-section the channeled form shown in the drawings.

5 For the purpose of effecting the justification of the composed lines of matrices, or, in other words, expanding the composed lines to the predetermined length, I employ wedge
10 spacers of the well-known Schuckers type, similar in their general construction to those shown in United States Patent No. 679,481, each consisting of two oppositely-tapered
15 wedges connected by a sliding joint, so that while one is held fast in the line the other may be advanced through the line to increase the thickness of the operative portion. In my
20 former patent these justifiers were made of the same width edgewise as the matrices. In the present machine, however, the presence of the guard F necessitates a peculiar con-
struction of the justifier to avoid conflict therewith. They are therefore constructed
as shown in Figs. 5, 6, 7, 10, 11, 12, and 13. Z represents the upper or body portion of
25 the spacer, having its upper end provided with a supporting-hook and its lower portion formed with a longitudinal groove or recess z , the edges of which are undercut or dove-
tailed to receive and guide the upper end of
30 a wedge z' , the outer face of which lies parallel with the extreme lower end of the body portion, which latter is seated in the line between the matrices. The sliding wedge z' is
reduced in width edgewise, so that it may ex-
35 tend downward outside of the guard F and below the lower ends of the matrices. At the lower extremity the wedge has a toe z^2 , pro-
jecting in an outward direction and adapted to ride underneath the inclined edge of a
40 fixed plate H as a matrix-line containing the spacers is moved upward toward the distrib-
uting-point. This plate H is secured to the frame or outside of and parallel with the
guard F, so that the lower ends of the justi-
45 fier-wedges pass between the guard and the plate, with their toes riding under the lower edge of the latter. This is for the purpose of directing the wedges downward to their
normal or lowermost position after they have
50 been thrust upward through the line to effect

justification at the casting-point. A pin or stop z^3 prevents the two parts of the justifier from being separated by limiting the downward motion of the wedge.

Having described my invention, what I 55 claim is—

1. In a linotype-machine, suspended traveling matrices notched in their lower ends, in combination with a stationary guard F, to prevent the matrices from turning or twist- 60
ing on their guides.

2. In a linotype-machine, a series of fixed inclined guides, a series of matrices suspended from said guides and terminating at a common level, with notches in their lower ends, in 65
combination with a fixed guard to enter said notches and prevent the matrices from turning or twisting on the guides.

3. A matrix for a linotype-machine, provided with a suspending hook at the upper 70
end and with a transverse slot in the lower end, whereby it is adapted to be suspended from a single guide at the top and to be prevented from turning and binding thereon by a guard entering the lower end. 75

4. In a linotype-machine, a series of guides and a series of two-part wedge-spacers suspended therefrom, in combination with an inclined surface located in the path of the 80
spacers and acting to depress their sliding members.

5. In a linotype-machine, the combination of the suspended matrices, notched in their lower ends, the suspended two-part spacers, the guard F, arranged to enter the notches in 85
the assembled line of matrices, and the inclined plate H, arranged to act on the sliding members of the spacers in the line.

6. In a linotype-machine in combination with the traveling two-part wedge spacers, a 90
fixed surface located in the path of the spacers to effect their readjustment.

In testimony whereof I hereunto set my hand, this 6th day of June, 1904, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:

JOHN PAULSEN,
D. S. KENNEDY.