J. G. HOLBOURNS & W. FLETCHER.

MAGAZINE OF TYPOGRAPHICAL COMPOSING MACHINES.

APPLICATION FILED JULY 28, 1908.

951,245. Patented Mar. 8, 1910.

4 SHEETS—SHEET 1.

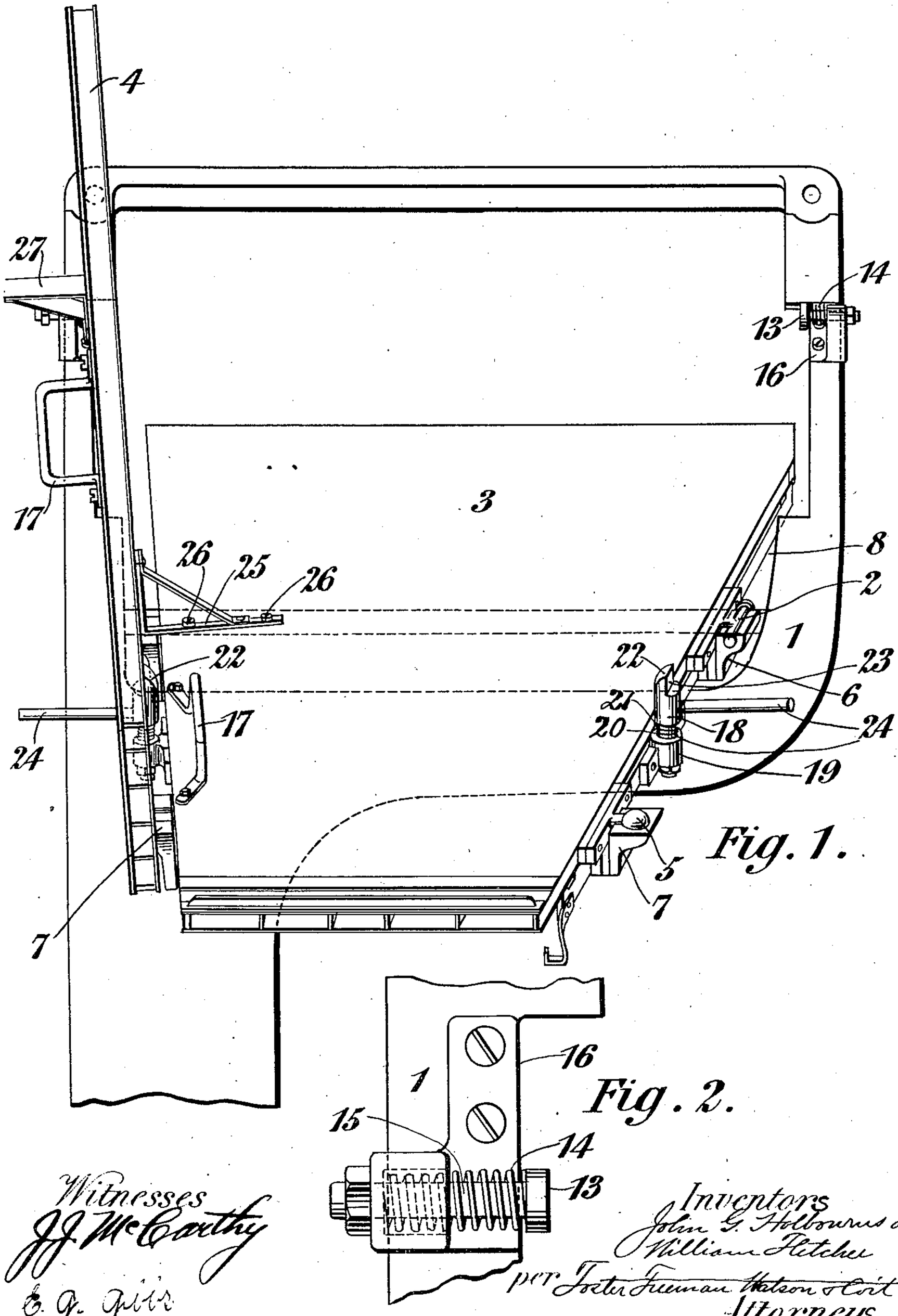

Fig. 1.

Fig. 2.

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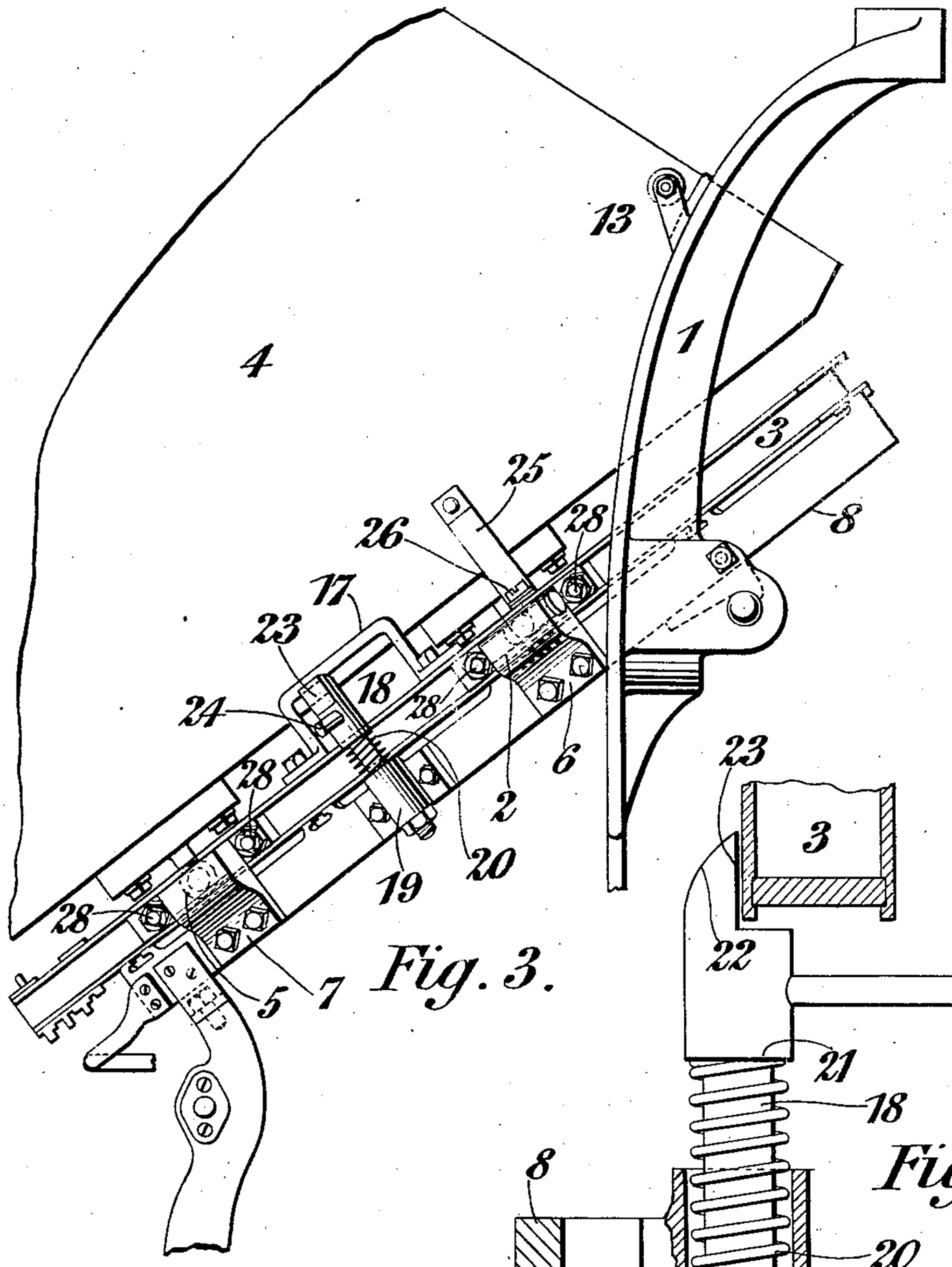

Fig. 3.

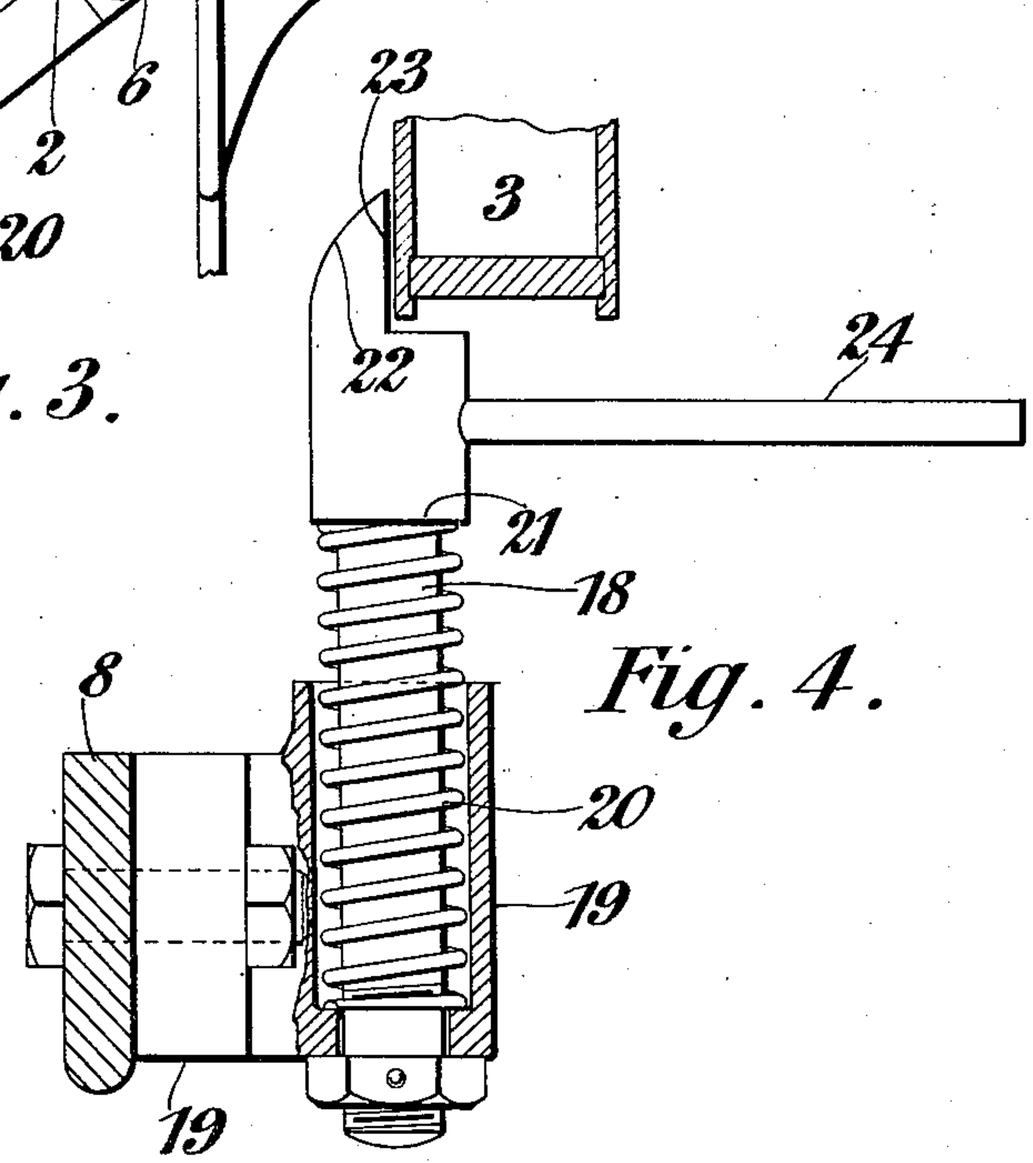

Fig. 4.

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4 SHEETS—SHEET 3.

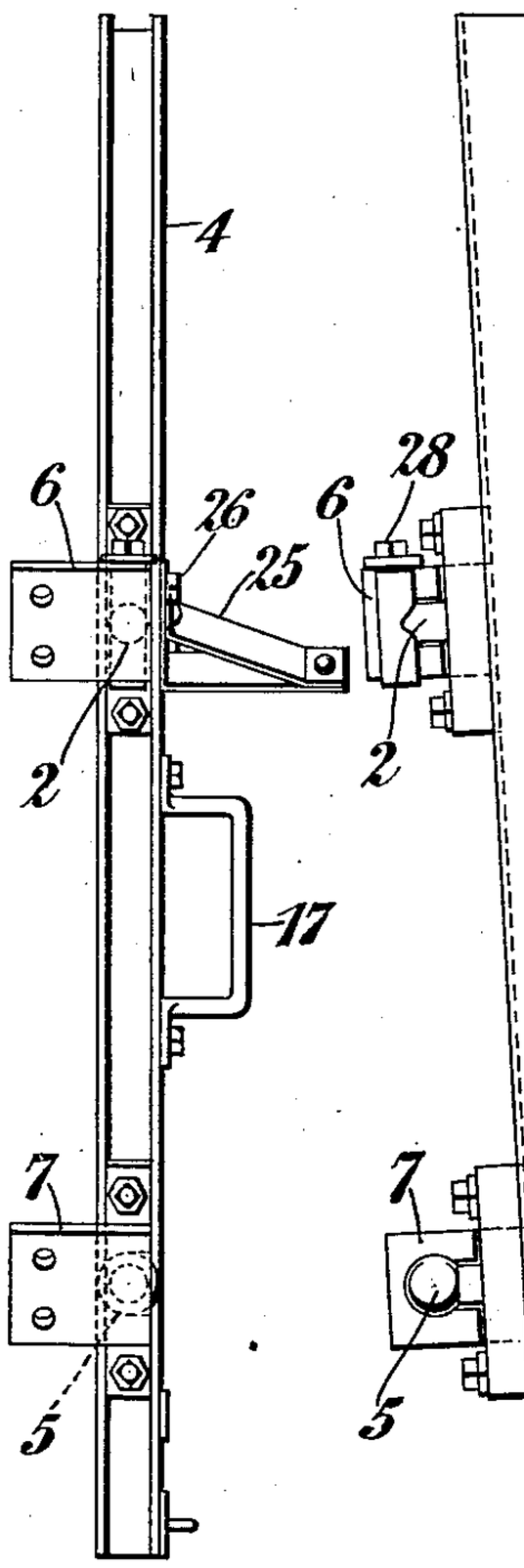

Fig. 6.

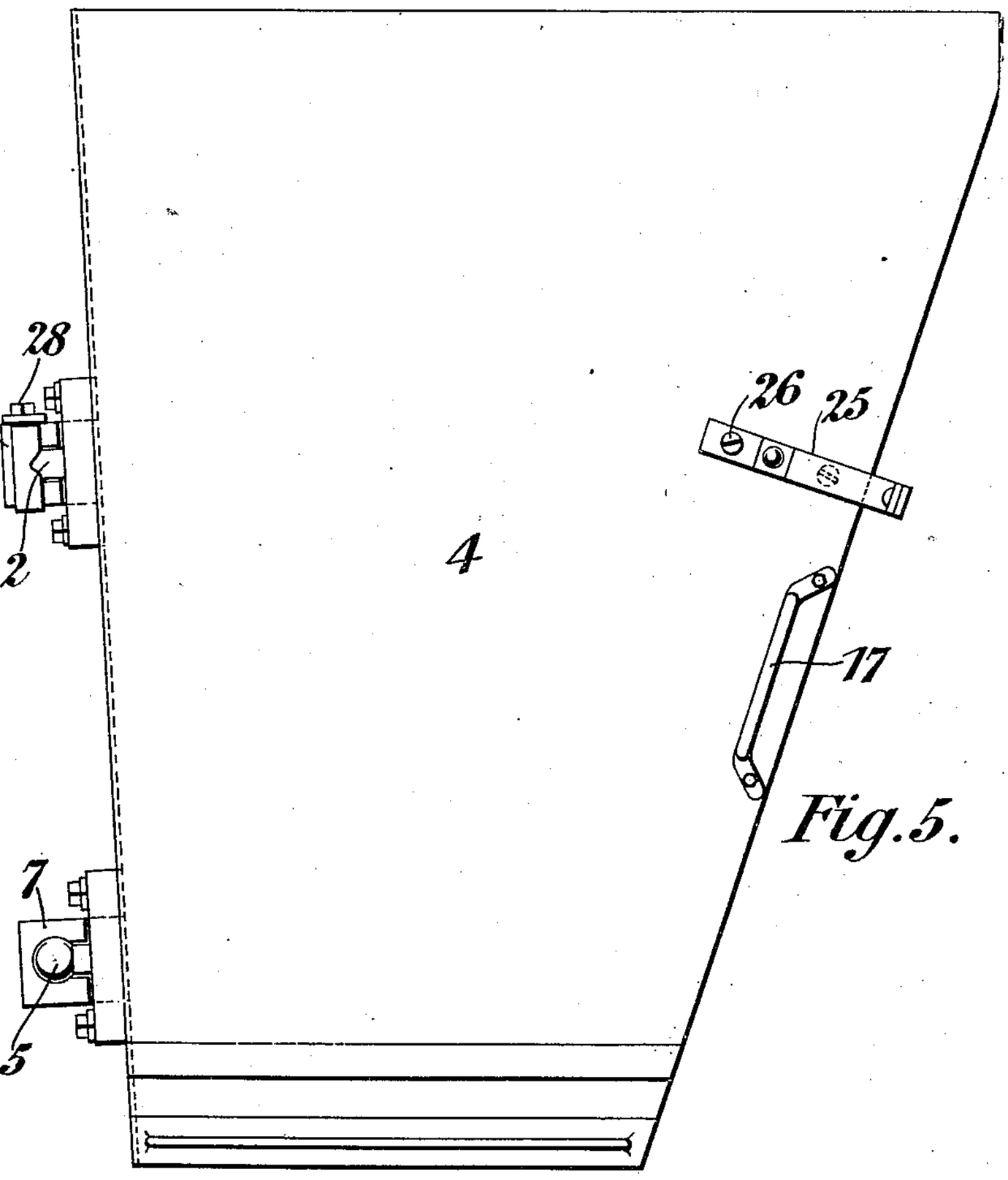

Fig. 5.

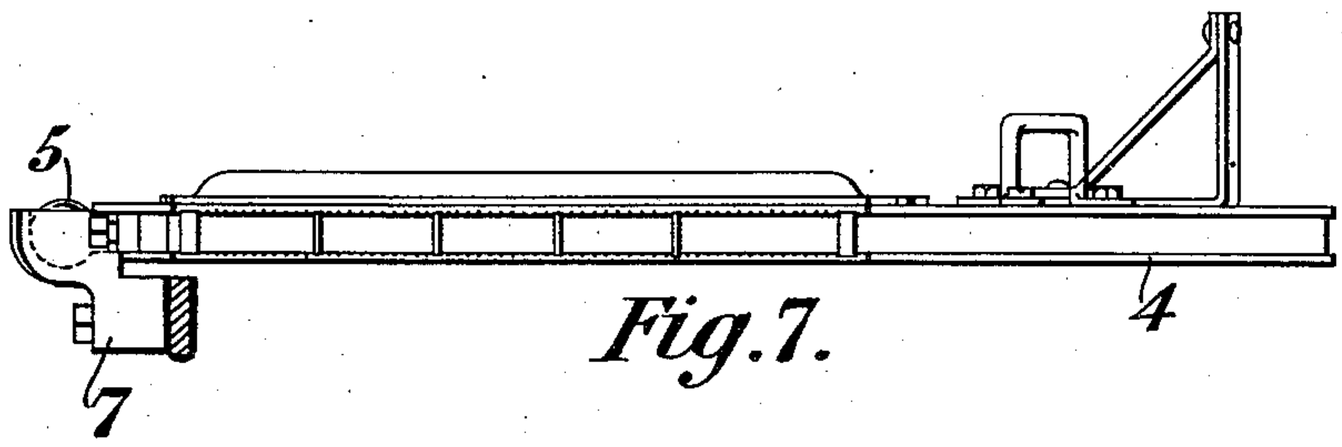

Fig. 7.

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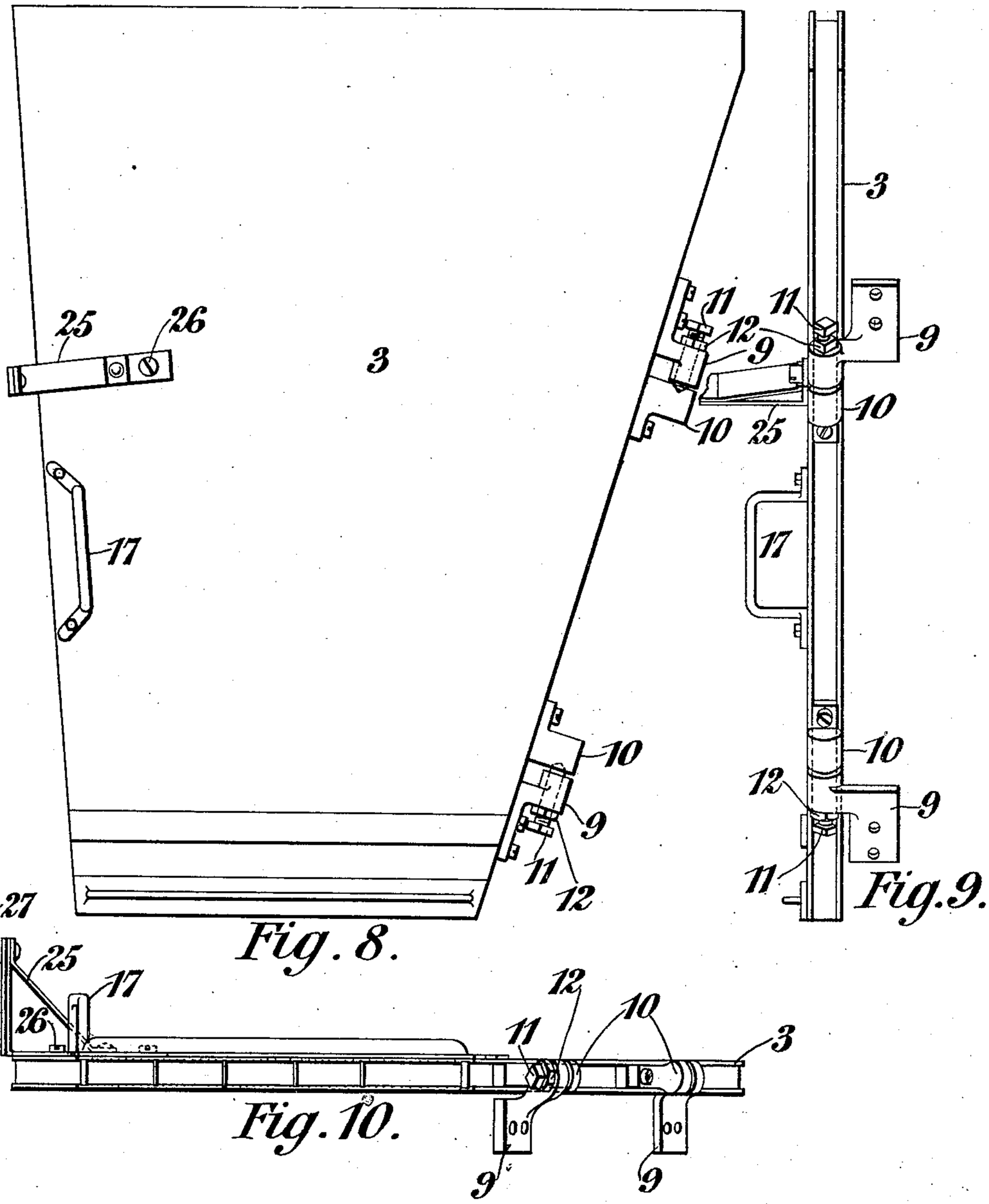

Fig. 8.

Fig. 9.

Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHN GLENNIE HOLBOURNS AND WILLIAM FLETCHER, OF LONDON, ENGLAND.

MAGAZINE OF TYPOGRAPHICAL COMPOSING-MACHINES.

951,245. Specification of Letters Patent. Patented Mar. 8, 1910.

Application filed July 28, 1908. Serial No. 445,776.

To all whom it may concern:

Be it known that we, JOHN GLENNIE HOLBOURNS and WILLIAM FLETCHER, subjects of the King of the United Kingdom of Great Britain and Ireland, residing at 188 and 189 Fleet street, in the city of London, England, and Mercer's avenue, Endell street, Long Acre, London, England, respectively, have invented new and useful Improvements Connected with the Magazines of Typographical Composing-Machines, of which the following is a specification.

The present invention relates to improvements connected with the magazines of typographical composing machines, the object of it being to facilitate the substitution for the magazine in composing position and containing a certain font, of another similar magazine containing a different font. It is particularly applicable to such machines as have flat magazines removable from their composing positions for changes of font, as, for instance, the well-known Mergenthaler linotype machine described in the specification of Letters Patent 436532, September 16th 1890. In this machine, the magazine occupies an oblique position upon the machine, the back of it higher than the front and coöperating with the distributer while the said front coöperates with the assembler.

A substitution such as above described, is known among linotype operators as a "quick change", and several different methods of and means for effecting it, have been proposed.

According to the present invention, two magazines adapted to contain different fonts, are pivotally connected to the machine, one magazine having the axis of its pivot along one side of it and the other magazine having that of its pivot along the opposite side of it, the two magazines being pivoted to respectively opposite sides of the machine, whereby either magazine can be turned into and occupy the composing position on the machine, or be turned out of it to make room for the other magazine. The magazines are pivoted along their left and right hand sides instead of along their front and rear edges, for the reason that neither of the said sides is called upon to cooperate with either the distributer or the assembler. The pivot of each magazine may be of such a type that the magazine can be taken off the machine and another substituted for it. Thus the substitute magazine in any "quick change" may be either the one pivotally connected with the machine and, for the time being, out of the composing position; or it may be one waiting ready to be placed upon the machine. But the present invention avoids substitution from a source outside the machine, excepting when neither of the two magazines pivotally connected therewith contains the desired font.

Referring to the accompanying drawings which are to be taken as part of this specification and read therewith and which show the present invention applied to a Mergenthaler linotype machine—Figure 1 is a front elevation: Fig. 2, a detail front elevation of the left hand buffer in Fig. 1: Fig. 3, a side elevation from the right hand of Fig. 1: Fig. 4, a sectional detail elevation of the part detent on the frame: Fig. 5, a plan of a magazine having its pivots on its left hand side and the part detent that is carried by each magazine, at its right hand side: Fig. 6, a side elevation from the left hand of Fig. 5; and Fig. 7, a front elevation of Fig. 5. Fig. 8, is a plan; Fig. 9, a side elevation from the right hand of Fig. 8, and Fig. 10, a plan showing a magazine fitted with a modified type of pivot.

The main frame of the machine is represented by part of the distributer bracket 1.

Each magazine pivot is shown in Figs. 1 to 7, as consisting of a tee 2 fast to and projecting laterally from the respective side of the magazine, 3 or 4, and a ball 5 likewise fast to and projecting laterally from the same side, the axis of the cross piece of the tee 2 and the center of the ball 5 being alined with each other and in the same plane, the said tee and ball being located the former to the rear and the latter to the front of the transverse median line of the magazine side and resting in respective stationary brackets 6 and 7 which are suitably shaped to receive the lower halves only of the said tee 2 and ball 5 respectively. These brackets 6, 7 are made fast to and project laterally from the respective side of the magazine support, whatever that may be. This support is

shown as being the well-known magazine frame 8 and which in its turn rests upon the machine frame in the usual way. It is to be noted that the brackets 6 and 7 have, preferably, no cap plates, that they receive only the lower halves of the tee 2 and ball 5 respectively and that the ball 5 and its bracket 7 are in front. This arrangement is to facilitate a "quick change" when the substitution is from a source outside the machine, in which case one of the magazines pivotally connected with the machine must be taken off it. It is taken off by first turning it up on its pivot 2 and 5 until it is vertical and then turning it forward on its ball 5 and finally lifting it off. The said magazine pivot is shown in Figs. 8 to 10, as consisting of two similar and symmetrically positioned stationary brackets 9, 9 fast to and projecting laterally from the respective side of the magazine support whatever that may be; two similar and symmetrically positioned brackets 10, 10 fast to and projecting laterally from the respective side of the magazine 3, and a screw 11 working about the axis of the pivot on each bracket 9 and having its nose engaging in a coöperating socket in the respective bracket 10. When each screw 11 has been set in working engagement with the respective bracket 10, it is locked by a suitable lock nut 12. When a magazine fitted with such a pivot is to be "quick changed", the rear screw 11 is disengaged from its bracket 10 while the magazine is in the composing position, the latter lifted off the machine, the substitute one put in its place and its rear screw 11 engaged with the coöperating bracket 10.

13 is a buffer mounted in each side of the distributer bracket 1 and projecting into the path of the respective magazine 3 or 4 when it is turned on its pivot out of the composing position. Each buffer is preferably outside the vertical position of the so turned-out magazine so that the latter, having passed its center, shall lean against the said buffer, as shown in Fig. 1. A buffer is preferably fitted with a cushioning spring 14 which surrounds the buffer rod 15 and is resilient between the buffer 13 and the buffer support 16—see Figs. 1 and 2. The latter is made fast to the bracket 1 by any suitable means.

17 is a grip fast to each magazine on the side opposite to its pivot, to facilitate the act of either turning a magazine up out of the composing position or of turning it down thereinto.

A magazine and its contained font are heavy. At the moment a "quick change" becomes necessary, one magazine say the magazine 3 in Fig. 1 is down in the composing position while the other one, say 4, is leaning against the respective buffer 13. There must be a detent that will engage the turned up magazine as soon as it is up to its buffer 13 and it is advisable that there be also a detent held by the magazine that is in the composing position against the one that is leaning against the respective buffer 13, to prevent it being accidentally disengaged from the first mentioned detent as by the vibration of the machine when it is at work or by any one pushing the said magazine. To comply with the necessity just explained there is for each magazine a part detent on the frame and a part detent on the other magazine. The part detent on the frame is shown in Figs. 1, 3 and 4. It consists of a vertical post 18 capable of a rising and falling motion through a bracket 19 projecting laterally outward from the magazine frame 8 or equivalent stationary part of the machine adjacent to the pivot of the magazine with which the detent is to cooperate and preferably midway of the same; a spring 20, resilient between the bracket 19 and a shoulder 21 on the top of the post 18, a bevel or incline 22 on the said top next to the magazine when it is in the composing position, and a vertical flat 23 on the opposite side of the top, the bevel 22 and flat 23 meeting each other in an edge. The parts of the said part detent are so proportioned and positioned that when the respective magazine is down in the composing position, the spring 20 holds both the bevel 22 and the flat 23 in the path which the adjacent side of the said magazine will take as it is being turned up out of the said position. As the said side engages the bevel 22, the post 18 is pushed down through the bracket 19, thereby compressing the spring 20 and by the time the opposite side of the magazine is home against the respective buffer 13, the magazine has cleared the post 18 whereupon the spring 20 pushes the flat 23 up over the adjacent face of the magazine, thereby holding it in the turned up position.

24 is a handle for disengaging the flat 23 from its magazine preparatory to turning the latter down into the composing position.

The part detent on a magazine, is shown in Figs. 1 and 5 to 10. It consists of a rectangular shaped piece 25 standing up from the top plate of a magazine, to which it is made fast by any suitable means, as by screws 26 screwed down through it and the said top plate into some of the usual division plates inside the magazine, and holding a vertical side 27 of it sufficiently beyond that side of its magazine which is opposite to the pivot thereof, to bear upon the upturned magazine when its magazine is down in the composing position. The piece 25 is preferably upon or near the transverse median line of the magazine.

The usual escapement bar and set of escapements mounted thereon are not illustrated because they do not constitute any part of the present invention. It is well known in the art that they may be either on the magazine or on the magazine support. The present invention follows this alternativeness and imposes only one condition, namely, that when the escapement bar and set of escapements are mounted on the magazine, the front half of a pivot, say a ball 5 and its bracket 7 must project laterally from the composing position far enough to hold the escapements on the respective magazine when the latter is up against its buffer 13, out of the path which the other magazine will take as it is being turned up out of the composing position or down thereinto.

Any suitable means are used to effect the adjustment of the magazine in composing position for the purpose of making it register properly with the distributer at the rear of it and the assembler entrance in front of it. The necessity of these adjustments is well known as well as what means are capable of effecting them. Each magazine must be adjustable in two directions, one from front to rear and the other from side to side. The means just mentioned are of the type shown in Figs. 3 and 5, viz., set screws 28 carried, say, by the magazine and bearing against brackets carried by, say the magazine support. Fig. 8 shows the pivot screws 11 adapted to act as set screws for effecting the front to rear adjustment.

We claim,

1. In a typographical composing machine, two magazines each pivoted along one of its sides to the machine, the two pivots being on opposite sides of the machine.

2. In a typographical composing machine, two magazines pivotally connected to opposite sides of the machine whereby either may be readily turned to or from composing position.

3. The combination with a typographical composing machine, of two magazines pivotally mounted at opposite sides of the machine and each separately detachable from the machine.

4. In a typographical composing machine having magazines pivoted thereon, a magazine pivot consisting of a tee and a ball projecting from the side of the magazine and engaging in stationary journals carried by the machine frame, the ball and its journal being in front of the tee and its journal.

5. In a typographical composing machine, the combination with a supporting frame, of two magazines pivoted to opposite sides of said frame and adapted to be turned to and from composing position, and means for adjusting the magazine which is in composing position.

6. In a typographical composing machine, the combination with a supporting frame, of two magazines pivoted to opposite sides of and independently detachable from said frame, and means for adjusting the magazine which is in composing position.

7. In a typographical composing machine, the combination with a supporting frame, of two magazines pivoted to opposite sides of said frame and adapted to be turned to and from composing position, and means for adjusting the magazine which is in composing position, in two directions.

8. In a typographical composing machine, the combination with a supporting frame, of two magazines pivoted to opposite sides of and independently detachable from said frame, and means for adjusting the magazine which is in composing position, in two directions.

9. In a typographical composing machine the combination of a magazine, a support therefor, a side pivotal connection between said magazine and said support, and a detent operative to hold said magazine with one side upraised from said support.

10. In a typographical composing machine the combination of a suitable magazine supporting frame, a magazine, a pivotal connection between said frame and said magazine along one side thereof, said magazine being adapted to be swung upwardly away from composing position about said pivotal connection, and means for holding said magazine in its upturned, non-composing position.

11. In a typographical composing machine, the combination with a suitable frame, of two magazines connected with the frame and adapted to swing in opposite directions to and from composing position, and means for automatically engaging the magazine which is in non-composing position to retain said magazine in that position.

12. In a typographical composing machine, the combination with a suitable frame, of two magazines connected with the frame and adapted to swing in opposite directions to and from composing position, and means connected with each magazine adapted, when the magazine is in composing position, to hold the other magazine in non-composing position.

13. In a typographical composing machine, the combination with a suitable frame, of two magazines connected with the frame and adapted to swing in opposite directions to and from composing position, and means for automatically engaging the magazine which is in non-composing position to retain said magazine in that position, said means including a member on the machine frame and a member connected with the other magazine.

14. In a typographical composing machine, the combination with a magazine pivoted thereto, of means for moving the said magazine out of composing position while maintaining its connection with the machine; a supporting buffer on the machine frame; and means for holding the magazine against the said buffer.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

JOHN GLENNIE HOLBOURNS.
WILLIAM FLETCHER.

Witnesses:
HENRY HART,
CHAS. S. WOODROPE.