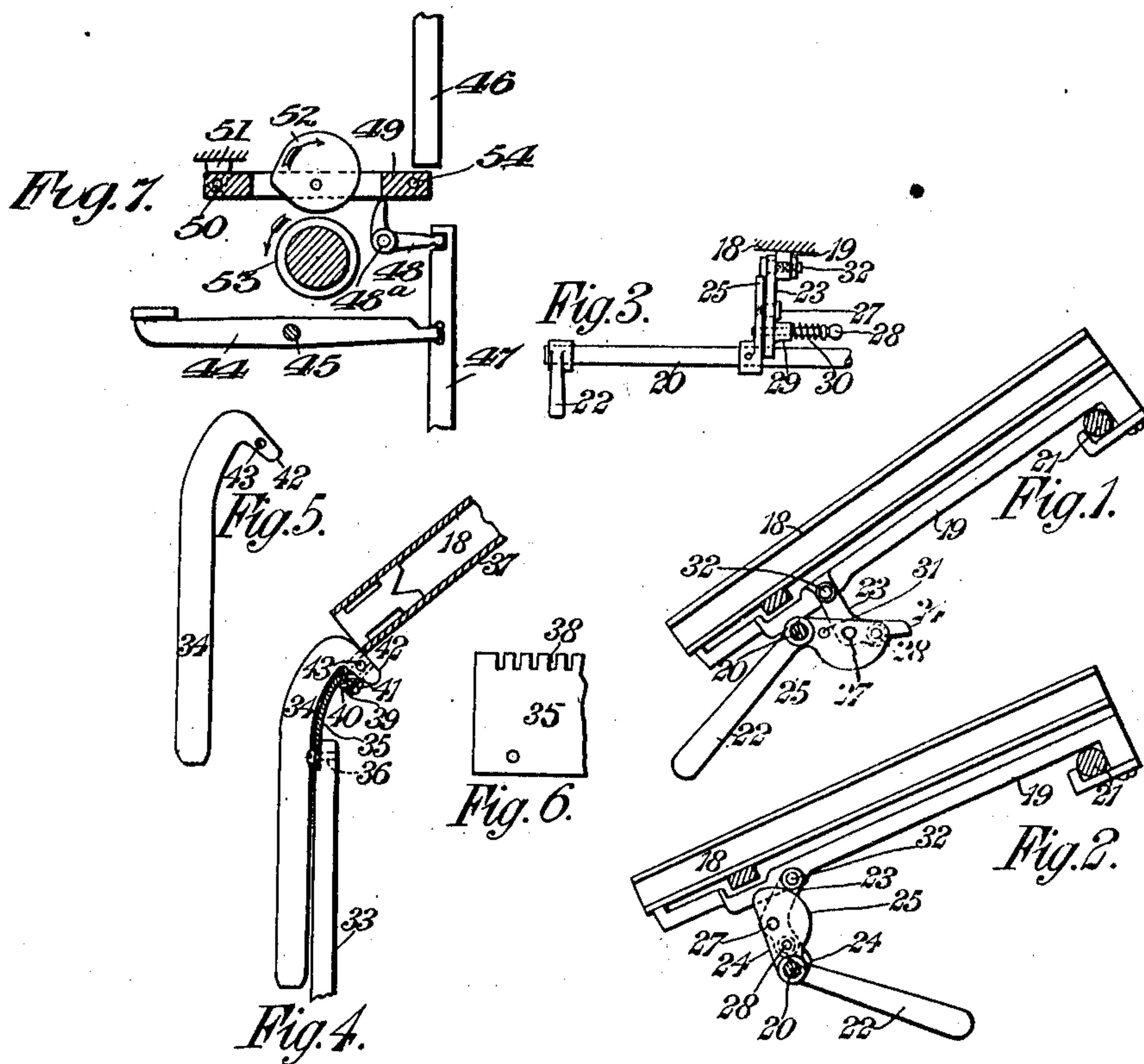


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COMPOSING AND ASSEMBLING MECHANISM OF LINE CASTING MACHINES.
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Patented May 9, 1911.



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COMPOSING AND ASSEMBLING MECHANISM OF LINE-CASTING MACHINES.

992,030.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL MUEHLEISEN, a citizen of the United States of America, residing at 88 Chausseestrasse, Berlin, N. 4, in the Empire of Germany, have invented new and useful Improvements in the Composing and Assembling Mechanisms of Line-Casting Machines, of which the following is a specification.

The present invention consists of improvements in the composing and assembling mechanisms of the line-casting machines known commercially under the trade mark "Linotype."

The accompanying figures illustrate preferred constructional forms of the said invention.

Figures 1 and 2 are side elevations from the right hand side of the machine, and Fig. 3, a detail front elevation of the improved means for locking a magazine and its frame in their raised position; Figs. 4 and 5, side elevations from the right-hand side of the machine, and Fig. 6 a detail plan, together illustrating the improved construction of assembler entrance. Fig. 7 a sectional side elevation from the right-hand side of the machine, of the improved keyboard cam-carriage.

Referring to Figs. 1 to 3, 18 is a matrix or type die magazine carried by frame 19, and 20, 21, two rods extending transversely of the machine frame and on which the magazine frame 19 rests. In removing the magazine from the machine, it is usual to raise its front by cams, to disengage it from the matrix-escapement mechanism. The object of the improvement is to lock the said front in its raised position, so as to prevent a sudden jar accidentally making it drop down upon the machine. The mechanism for accomplishing this object, is the same on both sides of the machine and is as follows: 22 is a lever on the outer end of the rod 20; 23, a bent link pivoted to the frame 19 at 32 behind the rod 20 and having a nose 24; and 25, a flat plate fast on the rod 20 by the side of the link 23. When the magazine 18 and its frame 19 are down upon the machine frame, the nose 24 and plate 25 project to the rear, as shown in Fig. 1. 27

is a stud parallel with the rod 20, projecting from the bend in the link 23 and connecting it pivotally with the plate 25; 28 a bolt working in a socket 29 in the link 23 between the nose 24 and the stud 27, and constantly urged by a spring 30 toward the plate 25; and 31 is a socket in the latter for the bolt 28 to engage in so as to lock the magazine 18 and its frame 19 in their raised position whenever a magazine is to be "quick changed." To raise the magazine 18 and its frame 19, the operator rocks the levers 22 from the position shown in Fig. 1, into that of Fig. 2. When both magazine and frame are in the raised position, the nose 24 is bearing against the rod 20, the pivot 27 has moved from behind the rod 20 to the front of it, the said bearing being then on one side of a line drawn through the pivot 32 and the rod 20 and the pivot 27 on the other side, the socket 31 registers with the bolt 28 and the spring 30 makes the latter engage in the said socket, whereby both magazine 18 and its frame 19 are securely locked in their raised position. It will be observed that according to the construction illustrated, the rod 20 is depended on for two functions, (a) to be the axis of the lever 22 and (b) to stop the links 23 by standing in the path of their noses 24. Nevertheless the invention is not limited to both these functions being discharged by the rod 20—the stop may be of any suitable type distinct from this rod. Instead of there being a lever 22 on each side of the frame 19, there may be only one, and it may be on either side.

Referring to Figs. 4 to 6, 33 is the assembler entrance back plate and 34, one of its vertical ribs; 35, a plate not of cast metal as hitherto but, say, of rolled (and therefore flexible) brass, fixed by screws 36 passed through its bottom margin into the top margin of the plate 33, and bent back until its top edge registers with the bottom plate 37 of the magazine 18. Or, the two plates 33 and 35 may be in one piece of the said material. The top margin of the plate 35 has slots 38 in it. 39 is a bar similarly slotted and held behind the plate 35, its slots registering with those in the plate 35,

by a distance piece 40 and screws 41 passed through both bar 39 and distance piece 40. The usual rearwardly bent tops 42 of the ribs 34, are passed through the respective pair of slots in the plate 35 and the bar 39 behind it, and fixed there by a rod passed through the holes 43 in the said tops.

Referring to Fig. 7, 44 is a key lever; 45 its pivot, and 46 an escapement rod. 47 is a key rod engaged by its key lever 44, engaging a bell-crank lever 48 turning on a stationary fulcrum 48^a, and made, by its key rod 47, to hold the respective end of a lever 49 or so-called cam-carriage, fulcrumed on a fixed point 50 on the machine frame 51, in engagement with its escapement rod 46; 52, a cam pivoted on its cam carriage 49; and 53, a constantly running roller supported at a short distance below the series of cams 52. The depression of a key lever 44 rocks the top end of the respective lever 48 from under the solid end of the respective carriage 49, whereupon the latter drops until its cam 52 rests upon the roller 53. The latter turns the cam through one revolution, thereby raising the escapement rod 46 and causing it to release a matrix from the magazine. Experience with the construction just described, has shown that there is enough wear between the cam carriage 49 and its escapement rod 46, to practically shorten the rise of the latter and thereby thwart its matrix-delivering action.

According to the present invention the cam carriage is reversible both end for end and side for side, so that four different surfaces may be brought into position to contact with the rod 46. This reversibility of the cam carriage is conveniently effected by forming pivot holes 50 and 54 in both ends of the same, which holes are midway between the upper and lower faces of the carriage, as well as being equally spaced from the axis of the cam 52.

Having described my invention, I declare that what I claim and desire to secure by Letters Patent is:—

1. In a line casting machine, the combination of the main frame, a magazine supporting frame movable up and down thereon; a lever pivoted to the supporting frame, a plate pivoted to the lever and to the main frame and adapted when rocked in one direction to raise the lever and elevate the supporting frame, a socket in the plate, a locking bolt carried by the lever and adapted to enter the socket in the plate, the said lever being provided with a nose adapted when raised to engage a fixed stop on the main frame, and means for rocking the plate.

2. In a line casting machine, the combination of the main frame, a magazine supporting frame movable up and down thereon, a plate pivoted to the main frame on a trans-

verse axis, a link pivoted to the supporting frame and pivoted also to the plate, whereby when the plate is rocked, the link will be raised and will elevate the supporting frame, and a stop on the main frame adapted to be engaged by the link when the latter is raised, the relation of the pivotal axes of the plate and link being such that when the link is raised, its pivotal connection with the plate will be to one side of a line intersecting the pivotal axis of the link with the supporting frame and the stop on the main frame, and means for rocking the plate.

3. In a line casting machine, the combination of the main frame having a stop, a magazine supporting frame movable up and down thereon, a plate pivoted to the main frame, a link pivoted to the supporting frame and to the plate and provided with a surface adapted to cooperate with the stop, and means for rocking the plate.

4. In a line casting machine, an assembler entrance having a back plate provided at intervals in its upper end with notches to receive the assembler guides, in combination with a bar extending at the rear of the back plate and spaced therefrom and provided with notches alining with those in the back plate.

5. In a line casting machine, an assembler entrance having a back plate provided in its upper end with two series of alining notches, one series behind the other, to receive the assembler guides.

6. In a line casting machine, an assembler entrance provided with assembler guides having openings therethrough, in combination with a removable confining rod extending through said openings and acting to fasten the same in the assembler entrance.

7. In a line casting machine, an assembler entrance having a back plate provided at its upper end with two series of alining notches, one behind the other, in combination with the assembler guides engaged in the said notches, and a confining rod extending through the ends of the guides and between the two series of notches.

8. In a line casting machine, an assembler entrance having a back plate provided at intervals in its upper edge with notches, in combination with a bar extending at the rear of the back plate and provided with notches alining with those in the back plate, a distance piece between the plate and bar, and fastening devices extending through the bar and distance piece and into the plate, and securing said parts in fixed relations.

9. In a line casting machine, a keyboard mechanism provided with a cam carriage reversible end for end, and a cam mounted on the carriage between its ends.

10. In a line casting machine, a keyboard

mechanism provided with a cam carriage reversible side for side, and a cam mounted on the carriage between its ends.

11. In a line casting machine, a keyboard
5 mechanism provided with a cam carriage reversible both end for end and side for side.

12. In a line casting machine, a keyboard
mechanism having a cam carriage provided
10 at its ends with solid portions, and having

pivot holes in said solid portions situated midway between the upper and lower faces of the cam carriage.

In witness whereof I have hereunto set
my hand in the presence of two witnesses. 15

CARL MUEHLEISEN.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.