

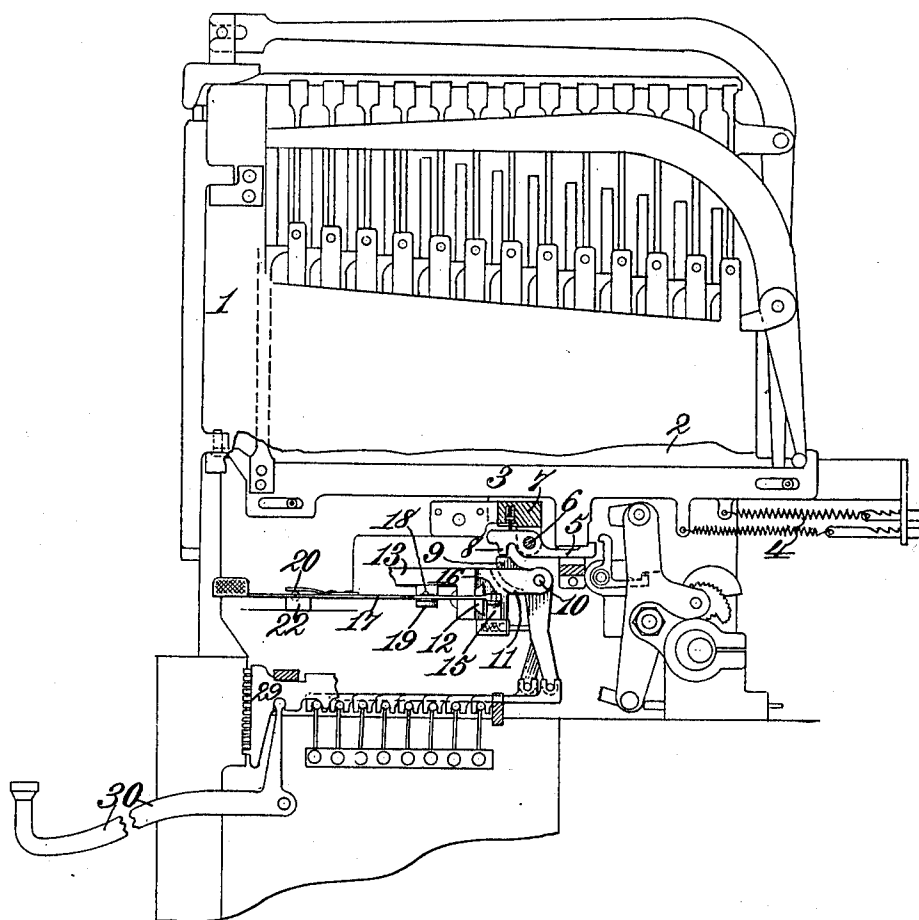
W. E. BERTRAM.
FONT SELECTING MECHANISM FOR MONOLINE COMPOSING MACHINES.
APPLICATION FILED JULY 6, 1909.

991,937.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:
James L. Morris &
Robert Everett,

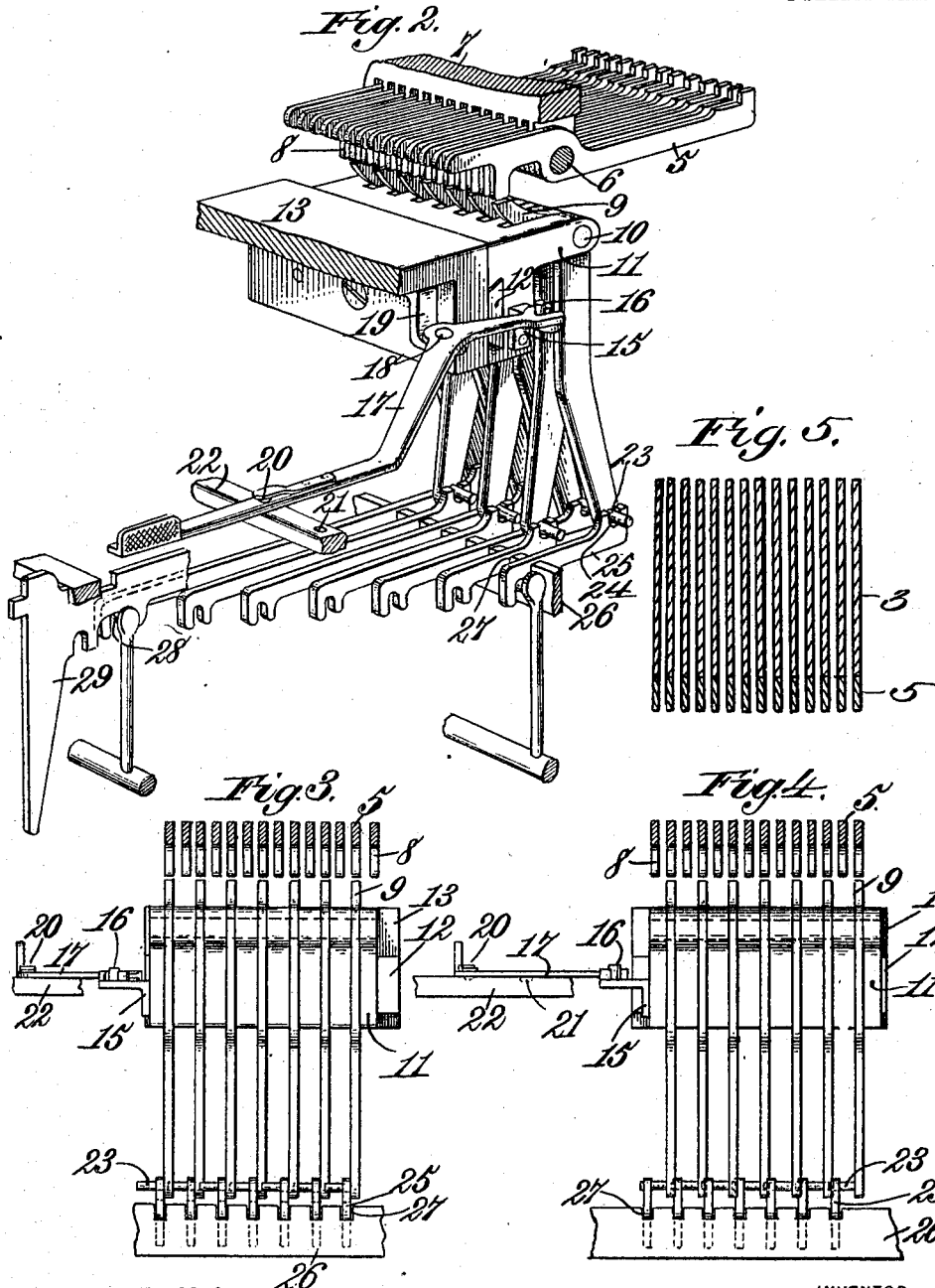
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WITNESSES
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UNITED STATES PATENT OFFICE.

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FONT-SELECTING MECHANISM FOR MONOLINE COMPOSING-MACHINES.

991,937.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed July 6, 1909. Serial No. 506,086.

To all whom it may concern:

Be it known that I, WILLIAM ERNEST BERTRAM, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Font-Selecting Mechanism for Monoline Composing-Machines, of which the following is a specification.

10 The present invention relates to improvements in composing machines, and it is more particularly adapted for use in connection with monoline composing and casting machines of the type wherein the matrices are
15 stored in the magazine and are brought to the assembling point under the control of the keyboard, and it has for its object primarily to provide simple and efficient delivery mechanism whereby a plurality of
20 fonts of matrices may be combined in the machine and matrices from any one selected font may be quickly and easily brought into use from a single keyboard, the capacity of the machine being thereby increased with-
25 out materially increasing the number of parts of the machine and, moreover, the delay and other objections incident to the interchanging of magazines or fonts as heretofore practiced are avoided.

30 More specifically, the invention provides means whereby the keyboard may be operatively associated with any one of a plurality of series of matrix delivering devices, one series of matrix delivering devices being
35 provided for each font of matrices, the transposing means being relatively simple in construction and is capable of operating with certainty.

40 To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specifi-
45 cation.

In the accompanying drawing:—Figure 1 is a diagrammatic view of a portion of a composing machine provided with matrix selecting and delivering mechanism constructed in accordance with the present in-
50 vention; Fig. 2 is a perspective view of the matrix selecting and delivering mechanism as shown in Fig. 1; Figs. 3 and 4 represent sections on the line $x-x$ of Fig. 1 showing the detent levers set in two different posi-
55 tions with respect to the detents which control the delivery of matrices of different fonts from the magazine and Fig. 5 represents a vertical section through the rear ends of the detents and the delivery gates.

Similar parts are designated by the same reference characters in the several views.

In the accompanying drawing, I have shown one embodiment of the invention and, moreover, the invention as shown is adapted
65 particularly to the monoline composing machine of the general type disclosed in Letters Patent, No. 605,141 of June 7, 1898. It will be understood, however, that the present embodiment of the invention is
70 shown and will be hereinafter described as an example of a mechanism for carrying the present invention into effect, the invention not being limited to the precise construction shown and, moreover, certain modifi-
75 cations and changes may be made therein in order that the invention may be applied to the best advantage according to the circumstances of each particular case.

The present invention relates essentially
80 to the font selecting and matrix delivering mechanism together with means whereby a single keyboard may be operatively associated with the matrix delivering devices of any one of a plurality of fonts and, for this
85 reason, it is deemed sufficient to illustrate and describe the font selecting and matrix delivering mechanism and associated parts, the general construction of the monoline machine being well known to those skilled in
90 the art.

In the present instance, 1 designates that portion of the machine frame containing the magazine, the latter being provided with
95 partitions 2 to form channels to contain matrices of the same specie, and these partitions divide the matrices of one specie from those of another specie as well as the matrices of one font from those of a different font. The delivery of the matrices from
100 each channel is controlled by a delivery gate 3 which, as shown, is mounted to reciprocate and its forward end is provided with a shelf which when the gate is in forward position closes the delivery chute for the respective
105 channel of the magazine but which when released and moved rearwardly serves to permit the delivery of that particular matrix from the magazine which has been selected by manipulation of the keyboard. Suitable
110

springs or their equivalents 4 serve to retract the respective delivery gates and thus open them after such gates have been released, the gates however being normally held in closed position by detents 5, these detents being individual to the several gates and they are preferably arranged in alinement or in a row, they being shown in the present instance as pivoted at points intermediate their opposite ends on a common pivot pin 6, the latter being supported by an appropriate bracket 7. Each detent, moreover, preferably has a spring which acts thereon to yieldingly retain it in locked engagement with its respective gate, projections 8 being formed on the detents for the engagement of the releasing devices. One series of delivery gates and cooperating detents is provided for the matrices of each font and, obviously, by multiplying the number of delivery gates and detents, a plurality of series of delivery gates and detents may be provided of a number corresponding to the number of fonts of matrices which the machine is capable of containing. For example, in the present instance there are seven species of matrices for each font and there are seven delivery gates and detents to each font of matrices. In the example shown, the machine is adapted to contain two fonts of matrices and consequently there are fourteen delivery gates and detents arranged in two series, the delivery gates and detents of one series preferably alternating with those of the other series. The invention, however, is not limited to the use of two fonts as, obviously, the machine may be readily adapted to contain three or more fonts merely by the addition of one or more additional series of delivery gates and detents.

The releasing of the detents which control the delivery gates is effected in the instance shown by a set of detent levers 9 which correspond preferably in number to the number of detents and delivery gates in one series. For example, in the present instance, I have shown a set of seven detent levers which correspond to the number of detents and delivery gates of one series. These detent levers are preferably pivoted on a common pivot 10, this pivot being mounted on a carrier 11. In order to permit this single set of detent levers to serve as the releasing means for a plurality of sets of detents, the carrier for the detent levers in the present instance is shiftable in a direction transverse to the planes of movement of the detents whereby the detent levers may be brought into operative relation with any one set of detents. In the construction shown, the carrier 11 is mounted to slide on a dove-tail or other suitable guide 12 which guide is suitably secured to or supported by a bracket 13.

Different devices may be provided for shifting the detent lever carrier whereby any

one font of matrices may be selected and brought into use from the keyboard. In the present instance, the carrier is provided with a bracket or arm 15 having a pin or projection 16 thereon and an operating lever 17 is provided, one end of which is forked to engage the said pin or projection, this operating lever being pivoted or fulcrumed at 18 to a suitable part of the bracket 13, an arm 19 being shown attached to the bracket 13 to serve as a pivot or fulcrum support for the operating lever. Suitable means is also preferably provided for locking or retaining the operating lever in different set positions according to the font of matrices being used. In the present instance, I have shown the operating lever provided with a spring-pressed locking pin 20 which is adapted to engage any one of a suitable number of appropriately located recesses or notches 21 formed in a bar 22.

As the detent levers are shifted with the carrier in changing from one font of matrices to another, suitable means is provided for maintaining the detent levers in operative relation to the keyboard mechanism whereby a single keyboard may serve to control the delivery of matrices from the different fonts. In the present instance, the lower ends of the detent levers are provided with laterally projecting pins or projections 23 which are arranged to rest in recesses or grooves 24 formed in the actuating links 25, these links being guided to slide longitudinally by a block or other suitable support 26 which in the present instance has slots 27 in which the several links are slidable. These links are actuated from the keyboard and, in the present instance, the forward end of each link is adapted to cooperate with the appropriate rod 28 which rod in turn is operative by a draw bar 29. The draw bar in turn is operatively connected to the appropriate key lever 30 and is actuated thereby in a well known manner.

In order to prevent interference between the lower ends of the detent levers at the points where they are operatively connected to the key-operated actuating links, the detent levers are alternately bent forwardly and rearwardly so as to stagger the laterally projecting pins thereon. This construction also enables the detent levers to be placed close together without interfering with the movement of one another.

The operation of the invention may be briefly described as follows: Assuming that the key bar 30 is depressed by the operator, the motion from the key bar is transmitted to the draw bar 29, causing the latter to move forwardly, the draw bar also operating upon the respective rod 28 and thereby causing the link 25 to which this rod is connected to be drawn forwardly. During the operation of the machine the carrier, together with

the detent levers, will be set in a predetermined position whereby the detent engaging portions of the levers will register with and rest immediately beneath the detents which control the delivery of matrices of one font. The forward movement of the appropriate link 25 will, therefore, rock the detent lever connected to it and in that manner the corresponding detent will be tripped and the delivery gate 3 controlled by this detent will fly rearwardly under the action of its spring, thereby causing the delivery of the selected matrix from the magazine. When, however, it is desirable or necessary to bring into use a different font of matrices, the lever 17 is unlocked and shifted into a different position whereby the detent levers will be brought into operative relation with the detents which control the delivery of matrices of the selected font, the laterally projecting pins upon the detent levers permitting the latter to be shifted, although they remain in operative relation with the keyboard mechanism. Obviously, the detent levers will release the detents for one font of matrices only, the remaining detents for one or more different fonts remaining locked owing to the fact that the detent levers have been shifted out of operative relation with respect to them. By shifting the detent levers to select the different fonts, a relatively few parts may be used and greater rapidity and certainty in operation is attained, especially as the detent levers according to the present invention directly cooperate with the controlling detents for the delivery gates.

I claim as my invention:—

1. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, one series of gates being provided for each font, a series of releasing devices individual to said gates, and arranged in a row, the releasing devices for one font being arranged in alternate relation with those of another font and a single series of detent levers corresponding to a series of gates and capable of being bodily moved longitudinally of said row to set them in operative relation with one or another of said series of releasing devices.

2. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, a plurality of series of detents individual to said gates and arranged in a row, the detents for one font being arranged in alternating relation with those of another font, and a series of detent levers shiftable bodily in a direction longitudinally of the row of detents and capable of being operatively associated with the detents of one or another series.

3. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different

fonts, a plurality of series of detents individual to said gates, a set of detent levers capable of being bodily moved and set in operative relation with different series of detents, and non-shiftable key-operated actuating devices capable of remaining in operative relation with the detent levers when the latter are bodily shifted to deliver matrices of one or another of said fonts.

4. In a composing machine, the combination of a plurality of series of matrix delivering devices, a row of controlling detents cooperative therewith, a single series of releasing devices capable of being bodily shifted longitudinally of said row of detents to set such releasing devices in operative relation with the detents for one or another of said series of delivery devices, non-shiftable key-operated actuating devices, and an operative connection between said actuating devices and releasing devices capable of permitting a relative lateral movement between them and maintaining said devices in operative relation.

5. In a composing machine, the combination of a plurality of series of matrix delivery gates, detents individual to and cooperative with said gates, a series of detent levers adjustable so as to cooperate with and trip the detents of different series, said detent levers having laterally extending pins or projections, and key-operated actuating devices cooperative with said pins or projections and capable of maintaining operative connection therewith when the detent levers are shifted into different positions.

6. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, one series of gates being provided for each font, detents for controlling the releasing movement of said gates and individual thereto, a single series of detent levers having portions thereof offset alternately in opposite directions and provided with laterally extending pins or projections, and actuating devices cooperative with pins or projections of the respective detent levers and capable of permitting relative lateral movement between the detent levers and the actuating devices.

7. In a monoline composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, a plurality of series of detents for controlling the delivery movements of said gates, said detents being arranged in a single row with those of a series for one font alternating with the series of detents for another font, a series of detent levers, and a carrier having said detent levers pivotally supported thereon and shiftable in a direction longitudinally of said row of detents whereby said detent levers may

be operatively associated directly with the detents of one or another series.

8. In a monoline composing machine, the combination of a plurality of series of gates
 5 for controlling the delivery of matrices of different fonts, a plurality of series of detents for controlling said gates, said detents all having their operating portions arranged in alinement and in a single row, a carrier
 10 guided to shift in a direction parallel to said row of detents, a single series of detent levers pivotally supported on said carrier and bodily shiftable therewith whereby such detent levers may be operatively associated
 15 directly with one or another series of de-

tents, key-operated actuating devices movable in a direction transverse to the direction of movement of said carrier, and means for maintaining operative connections between said actuating devices and detent levers when the latter are shifted into different positions by said carrier. 20

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

WILLIAM E. BERTRAM.

Witnesses:

CLARENCE A. BATEMAN,
 ROBERT EVERETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
