

Sept. 17, 1940.

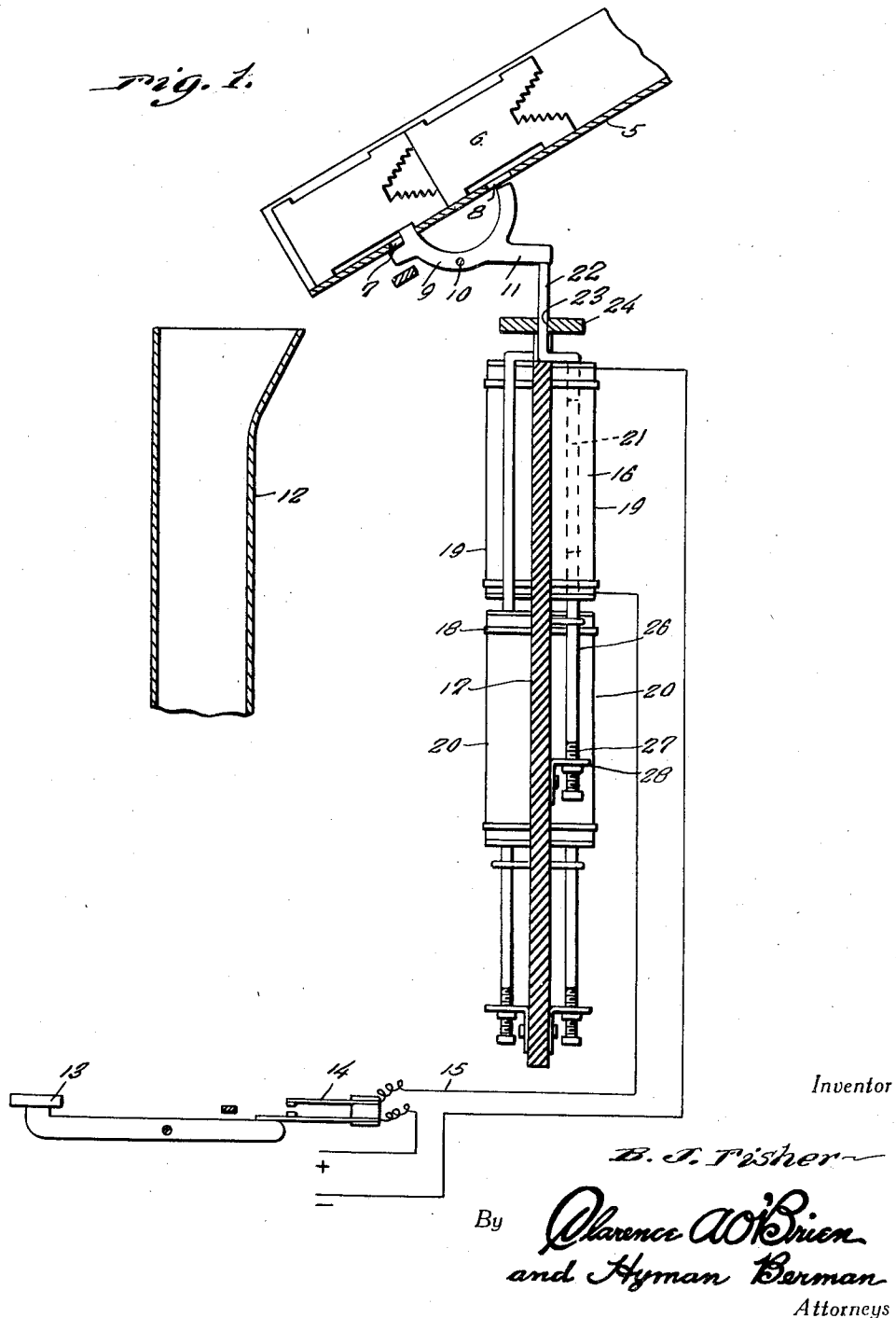
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2,215,033

ESCAPEMENT OPERATING MECHANISM FOR TYPOGRAPHICAL COMPOSING MACHINES

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Fig. 2.

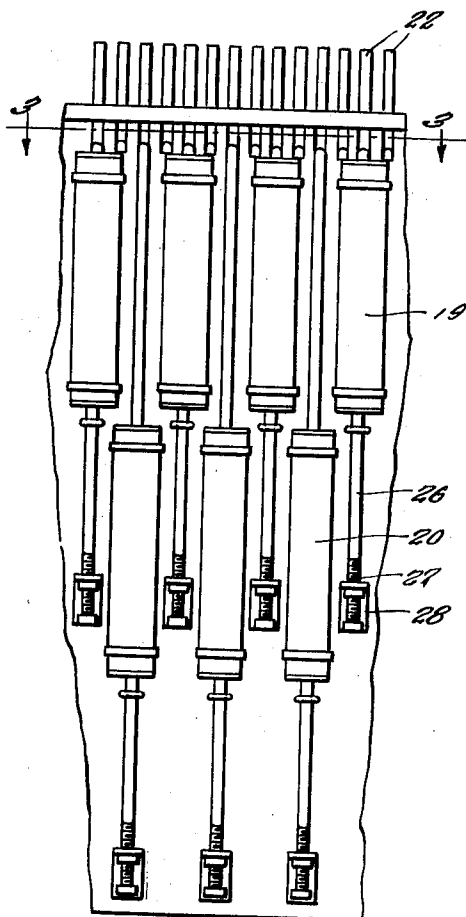


Fig. 4.

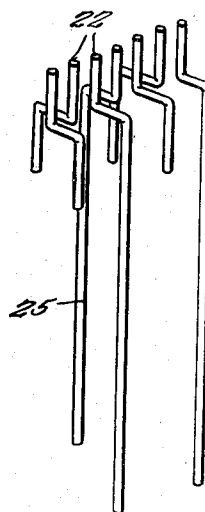
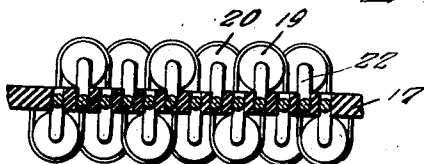


Fig. 3.



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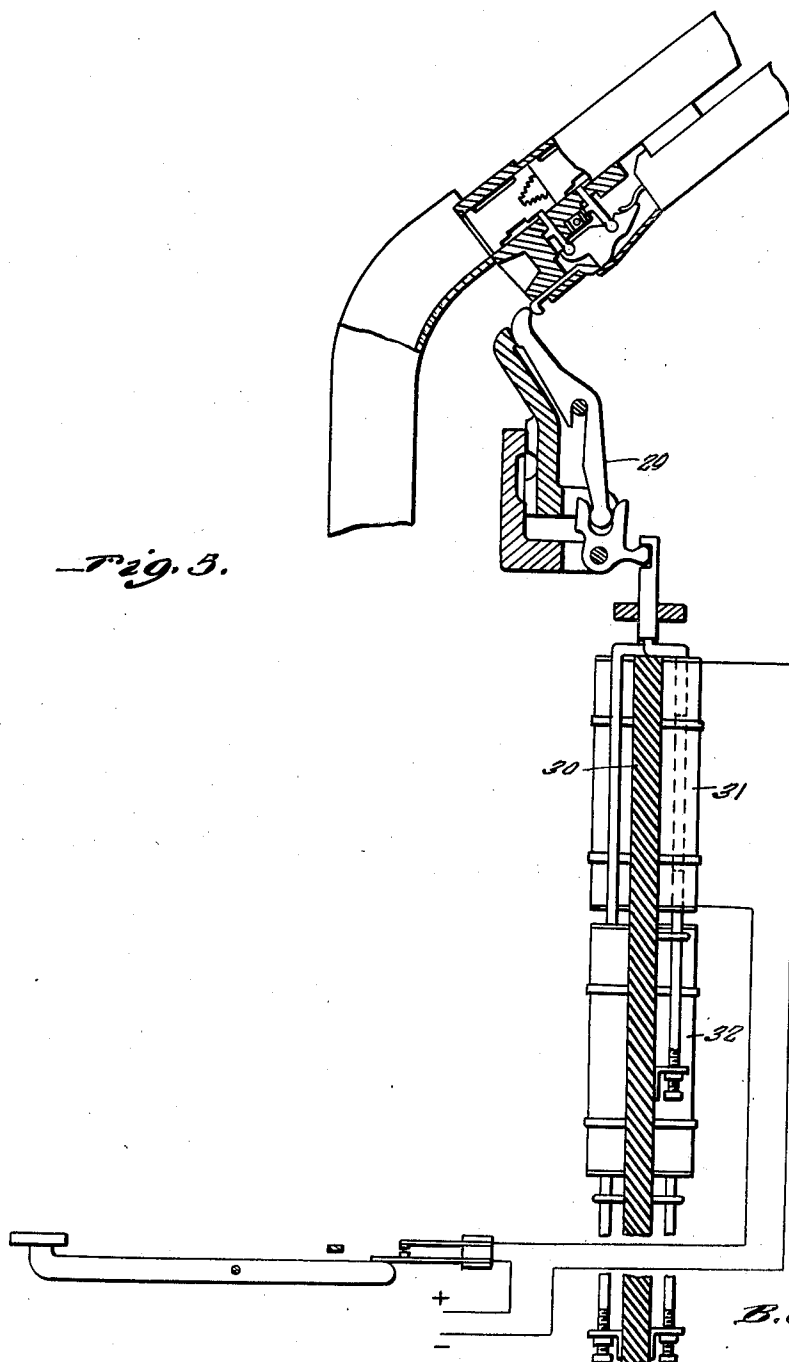
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UNITED STATES PATENT OFFICE

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ESCAPEMENT OPERATING MECHANISM
FOR TYPOGRAPHICAL COMPOSING
MACHINES

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7 Claims. (Cl. 199—18)

The present invention relates to typographical composing machines and has for its primary object to provide solenoid operating means for the escapement for controlling the feeding of the matrices from the magazine of the machine.

5 An important object of the present invention is to provide solenoid forming an operative connection between each of the keys of the machine and the escapement mechanism for controlling the actuation of the same.

A still further object is to provide a mechanism of this character adapted for use either upon Intertype composing machines or upon Mergenthaler composing machines.

15 A still further object is to provide a mechanism of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

20 Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout and in which:

25 Figure 1 is a vertical transverse sectional view through the panel on which the group of solenoids are mounted and showing the same in operative relation with the escapement mechanism of an Intertype composing machine.

30 Figure 2 is a fragmentary front elevational view thereof.

35 Figure 3 is a sectional view taken substantially on a line 3—3 of Fig. 2.

40 Figure 4 is a perspective view of a group of the operating reeds forming the operative connection between the verge of the escape mechanism and the solenoid and

45 Figure 5 is a vertical sectional view through the panel for the group of solenoids and showing the same in operative relation with the escapement mechanism of the Mergenthaler type of composing machine.

50 Referring now to the drawings in detail, and with particular reference to Figs. 1 to 4 inclusive of the drawings the numeral 5 designates the magazine of the machine within which the matrices 6 are positioned, the underside of the magazine being provided with spaced openings 7 and 8 through which the opposite ends of the arcuate shaped verge 9 are adapted to work for controlling the successive releasing of the matrix. The verge is pivotally mounted intermediate its

an arm 11 normally extending in a horizontal direction. The chute into which the matrix is deposited is shown at 12.

In the standard composing machine approximately 90 of the channels 5 and control verges 9 are provided and each of the verges are arranged for actuation through a key 13. A switch 14 is arranged for circuit closing movement upon a depressing movement of the key, the switch being included in an electric circuit 15 leading to a solenoid 16.

The group of solenoids for the respective escapement mechanisms are mounted on a Bakelite or other insulation panel 17. In view of the compact arrangement of the channels 5 and the escapement mechanisms therefor the solenoids are arranged in upper rows 19—19 positioned at opposite sides of the panel and in lower rows 20—20 likewise positioned at opposite sides of the panel beneath the upper rows of solenoids. Furthermore, as clearly shown in Fig. 2 of the drawings the upper and lower rows of solenoids at each side of the panels are arranged in staggered relation for a purpose to be presently described. Likewise the two upper rows of solenoids are arranged in staggered relation with respect to each other and the two lower rows of solenoids are similarly arranged, as will be apparent from an inspection of Fig. 3 of the drawings.

Each of the solenoids are formed with a hollow bore 21 into the upper end of which is inserted the lower end of a reed 22, the lower and upper ends of the reed being offset, the upper ends of each of the reeds being arranged in a row above the panel 17 and slidably inserted through openings 23 in a guide board 24 positioned above the panel. The upper ends of the respective reeds terminate immediately below the arms 11 of the verges 9.

The reeds 25 for the lower rows of solenoids 20 have their lower ends of increased length in order that the same may extend into the bore of the lower solenoids.

Extending upwardly into the lower end of the bore 21 of each of the solenoids is a plunger 26, the lower end of the plunger normally resting on an adjusting screw 27 threadedly engaged in a bracket 28 secured to the face of the panel 17. The screw 27 forms an adjustable stop for the plunger. In the form of the invention illustrated in Fig. 5 of the drawings the Mergenthaler type of escapement mechanism is shown at 29 and beneath which is positioned the Bakelite panel 30 on which the upper and lower solenoids 31 55

and 32 respectively are secured for actuating the mechanism of the machine.

In the operation of the device it will be apparent that as the key 13 is depressed the solenoid associated therewith will be energized whereby the plunger 26 will be pulled upwardly into the solenoid for contacting the reed 22 to actuate the same and which in turn will result in the actuation of the verge of the escapement mechanism to release the matrix 6.

It is believed the details of construction, advantages and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

What is claimed is:

1. An operating mechanism for the matrix releasing verge of typographical machines and comprising a key controlled solenoid having a bore extending therethrough, a reed having one end positioned in the bore and arranged with its other end engaging the verge and a plunger slidably mounted in the bore of the solenoid for actuating the reed upon energization of the solenoid, said reed having a shoulder engaging the solenoid to limit return movement of the reed.

2. An operating mechanism for the matrix releasing verge of typographical machines and comprising a key controlled solenoid having a bore extending therethrough, a reed having one end positioned in the bore and arranged with its other end engaging the verge, a plunger slidably mounted in the bore of the solenoid for actuating the reed upon energization of the solenoid and an adjustable support for the plunger.

3. An operating mechanism for the matrix releasing verges of typographical machines and comprising a panel beneath the verges, a plurality of solenoids mounted in upper and lower rows at opposite sides of the panel, the upper rows of solenoids being offset from the vertical plane of their adjacent lower rows of solenoids, said solenoids having bores therein extending vertically, reeds having a lower end in each of the bores and projecting upwardly, a guide for the upper ends of the reeds for directing the reeds into engagement with the respective verges, and plungers slidably mounted in the bores of the solenoids for actuating the reeds upon energization of the magnets.

4. An operating mechanism for the matrix

releasing verges of typographical machines and comprising a panel beneath the verges, a plurality of solenoids mounted in upper and lower rows at opposite sides of the panel, the upper rows of solenoids being offset from the vertical plane of their adjacent lower rows of solenoids, said solenoids having bores therein extending vertically, reeds having a lower end in each of the bores and projecting upwardly, a guide for the upper ends of the reeds for directing the reeds into engagement with the respective verges, and plungers slidably mounted in the bores of the solenoids for actuating the reeds upon energization of the magnets, and adjustable stops on the panel supporting the plungers in a predetermined spaced relation from the reeds.

5. An operating mechanism for the matrix releasing verges of typographical machines, said verges being pivotally mounted in horizontal alignment and said operating mechanism comprising reeds having one end engaging the respective verges, a solenoid for each reed, a plunger actuated by each solenoid for operating the reeds and means for supporting said solenoids in staggered relation, said reeds having their verge engaging ends offset from the axis of their associated solenoids for engaging the verges in vertically aligned position.

6. An operating mechanism for the matrix releasing verges of typographical machines and comprising a panel beneath the verges, a plurality of solenoids mounted in upper and lower rows at opposite sides of the panel, the upper rows of solenoids being offset from the vertical plane of their adjacent lower rows of solenoids, said solenoids having bores therein extending vertically and verge operating rods projecting upwardly from each solenoid, the upper ends of the rods being aligned in a vertical row for engaging the respective verges.

7. An operating mechanism for the matrix releasing verges of typographical machines and comprising a solenoid supporting member, a plurality of solenoids mounted in staggered vertical rows on said member and verge operating rods projecting upwardly from each solenoid, the upper ends of the rods being aligned in a vertical row for engaging the respective verges.

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