F. A. PUTNAM & C. F. ROBBINS.

MARKING MACHINE.

APPLICATION FILED JULY 2, 1914.

1,131,865.

Patented Mar. 16, 1915.

2 SHEETS—SHEET 1.

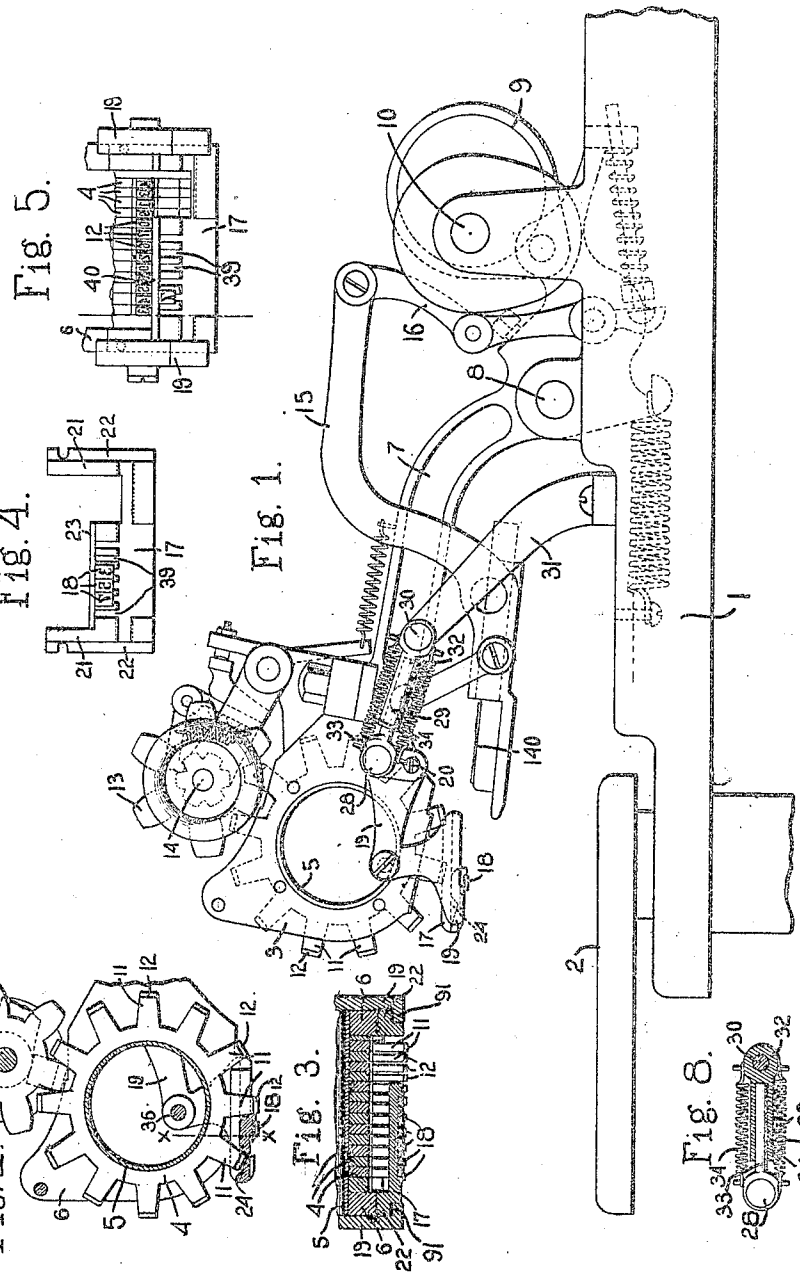


Fig. 1.

Fig. 5.

Fig. 4.

Fig. 2.

Fig. 3.

Fig. 8.

Witnesses.

J. Morrill Fuller

William B. Logan

Inventors.

Fred A. Putnam

Charles F. Robbins

by Heard Smith & Tennant.

Att'y's

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2 SHEETS—SHEET 2.

Fig. 6.

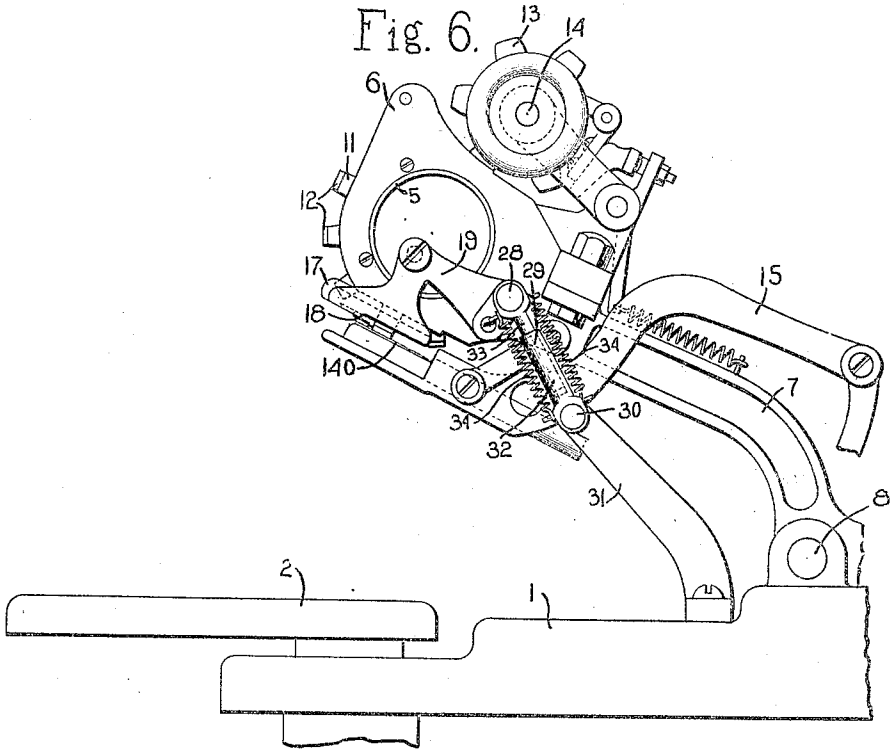
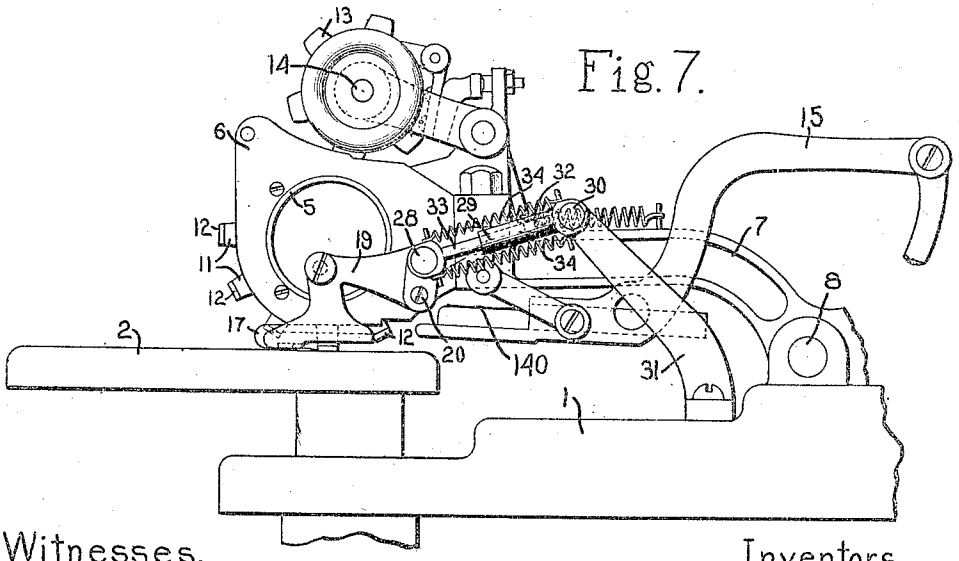


Fig. 7.



Witnesses.

J. Morrill Fuller

William C. Gagen

Inventors.

Fred A. Putnam

Charles F. Robbins

by Heard Smith & Fennent.

Att'y's

UNITED STATES PATENT OFFICE.

FRED A. PUTNAM, OF MELROSE, AND CHARLES F. ROBBINS, OF ABINGTON, MASSACHUSETTS, ASSIGNORS TO MARKEM MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

MARKING-MACHINE.

1,131,865. Specification of Letters Patent. Patented Mar. 16, 1915.

Application filed July 2, 1914. Serial No. 848,678.

To all whom it may concern:

Be it known that we, FRED A. PUTNAM and CHARLES F. ROBBINS, citizens of the United States, and residents of Melrose, county of Middlesex, State of Massachusetts, and Abington, county of Plymouth, State of Massachusetts, respectively, have invented an Improvement in Marking-Machines, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to marking machines of that type employing a printing head having a plurality of independently-adjustable rotary type members and means for moving said printing head toward and from the platen. Marking machines of this nature are used for a variety of purposes, among others being that of marking certain data such, for instance, as the case number, size number, etc., on the lining, quarters and other parts going to make up a boot or shoe, these parts being marked after they are cut out so that they can be readily identified as they are assembled in the completed shoe. In some marking machines of this type it is desirable to have the printed data appear on two lines, and this is accomplished by providing a type plate which is sustained by the printing head and which carries the type for printing one line, the other line being printed by the adjustable type members. In some instances, it is desirable that the printing impression made by the type plate should be situated closely adjacent to the line on which the rotary type members make their impression, and it is one of the objects of our invention to provide a novel marking machine in which this end can be accomplished without any danger that the goods will be smeared by the type characters on the type members which are adjacent to those that are in printing position.

Another object of our invention is to provide a novel marking machine of this nature having provision for moving the type plate relative to the type members so that when the printing head is in its operative printing position the type characters on the printing plate will be situated closely adjacent the operative type characters on the type members, while when the machine is brought to rest the type plate will be separated from the type members so as to allow them to be freely adjusted to present any desired type character into operative or printing position.

The invention also provides a construction whereby the type plate can be inked at the same time that the type members are inked.

Other features of our invention are to improve marking machines of this general nature, all as will be more fully hereinafter described and then pointed out in the appended claims.

In order to give a proper understanding of the invention we have illustrated herein a selected embodiment thereof which will now be described.

Figure 1 represents a side view of a printing machine embodying our invention; Fig. 2 is a vertical transverse sectional view through the printing head; Fig. 3 is a longitudinal view through the type plate on substantially the line *x*—*x*, Fig. 2; Fig. 4 is a bottom plan view of the type plate; Fig. 5 is a fragmentary under side view of the printing head with the type plate in operative position; Figs. 6 and 7 are side views of the printing head showing the latter fully raised from the platen and in printing position; Fig. 8 is a section of the connection for operating the type-plate carrier.

As stated above, our invention relates to that well-known type of marking machine having a printing head provided with independently-settable rotatable type members and means for moving said printing head toward and from the platen. In the drawings we have shown at 1 a frame having a platen 2 on which the work to be printed is supported and at 3 we have shown a printing head which includes a plurality of rotatable type members 4 that are independently settable. These type members are herein shown as rotatably mounted on a central tubular supporting member 5 which is carried in the two side pieces 6 of the printing

head, and these side pieces are mounted on a vibrating arm 7 pivoted at 8 to the frame and actuated by a suitable cam 9 mounted on the driving shaft 10. The type members 4 are each provided with radially-extending type-bearing portions 11 on the extremities of which are formed type characters 12, and suitable means are provided for independently rotating each type member to bring any character thereon into printing position. The type-setting members may be of any suitable construction, but as they form no part of our present invention it is not deemed necessary to illustrate them herein in detail. It is sufficient for the present purposes to say that this construction comprises a setting wheel 13 shiftable longitudinally on a shaft 14 and capable of being brought into mesh with the type-bearing projections 11 of any one of the type members.

We have shown at 140 an inking pad carried by a lever 15 which is actuated by a cam 16 mounted on the shaft 10.

The parts thus far described may have any suitable or usual construction and do not constitute part of our present invention which relates to a construction by which a type plate separate from the type members 4 can be used in conjunction therewith for making a printed impression. The type plate is shown generally at 17 and it is provided with a plurality of type characters 18 and is so sustained that when the parts are in operative printing position the type characters 18 will be situated closely adjacent those type characters 12 which are in printing position, as seen clearly in Fig. 2. This type plate 17 is adapted to extend transversely of the printing head 3 and it is mounted in a carrier herein shown as comprising the two side members 19 situated at either end of the printing head and capable of movement relative thereto, these side members being pivotally mounted on the studs 20 extending from the head. In the preferred embodiment of our invention the type plate is removably sustained in the side plates 19 so that it can be readily taken out therefrom and replaced by another type plate. While the type plate may have any suitable construction which will permit it to perform its proper functions, the type plate we have herein illustrated is formed with a body portion 17 having at each side thereof two arms 21 which are provided with ribs 22 that are adapted to rest on lips formed in the members 19 of the carrier, as seen in Fig. 3, so that the plate can be readily withdrawn from the front of the carrier or inserted into position from the front thereof. The type 18 on the type plate are situated closely adjacent the rear edge 23 thereof and the type plate is so constructed that when it is in operative position said edge 23 comes adjacent to and preferably in contact with the type-bearing projections 11 that are in operative printing position, as shown in Fig. 2. Said type plate may be provided with a recess 24 in its upper face to receive the next adjacent projections 11. The type-bearing projections 11 of the type members 4 are of sufficient length and are sufficiently spaced apart so that when the type plate is in the position shown in Fig. 2 the type 18 thereon stand closely adjacent to the type 12 on the members 4 that are in printing position, and the adjacent type-bearing projections 11 are sufficiently far removed from the type which is in printing position so that there is no danger that they will smear or mark the goods when the printed impression is made.

Inasmuch as the type members 4 must be capable of adjustment to bring different type thereon into printing position, it is necessary to provide means for moving the type plate 17 out of engagement with the type members at such times as they are to be adjusted. We have provided a mechanism by which the type plate is automatically moved toward and from the type members as the printing head is moved toward and from the platen so that when the printing head is in printing position the type plate will be in its operative position shown in Fig. 2, while when the printing head is raised and the parts brought to rest, the type plate will be removed from the type members sufficiently to permit them to be adjusted. The above mechanism also operates to bring the type plate into operative position relative to the type members at the time that the inking pad is moved forwardly to ink the type members, so that the type plate and type members, will be inked at the same time. Our invention therefore provides for placing the type plate in its operative position relative to the type members at the time that the printing impression is being made and at the time that the type members are being inked and for maintaining the type plates separated from the type members at the time when the type members are in position for being adjusted. This end is herein accomplished by pivotally mounting the members 19 of the type plate carrier on the printing head, said members being pivotally mounted on the studs 20 in the present embodiment of the invention. Means are also provided for giving the type plate carrier a rocking movement about the pivotal studs 20 as the printing head rises and falls. While any suitable device for accomplishing this may be employed, we have herein shown a connection between the type carrier 19 and the frame by which the up and down movement of the

printing head causes the rocking movement of the type plate carrier. Each of the members 19 has extending therefrom, a stud 28 to which is pivoted one end of a telescopic connection 29, the other end of said connection being pivoted at 30 to an arm 31 secured to the frame 1. This telescopic connection 29 is shown as comprising a tubular member 32 pivoted on the stud 30 and into which telescopes the other member 33 of the connection which is pivoted on the stud 28. Springs 34 yieldingly connect the two ends of the telescopic connection and tend to hold it in its contracted position. The construction of the operating mechanism for the vibrating arm 7 is such that when the parts are brought to rest the arm 7 is situated between its extreme upper and extreme lower positions, as shown in Fig. 1, and the ink pad is withdrawn from the type members. When the machine is started up the arm 7 first moves upwardly to the extreme upper limit of its movement, as shown in Fig. 6, during which time, the ink pad moves forward to ink the type members 4, and then the printing head moves downwardly into printing position, as shown in Fig. 7, during which time the ink pad is withdrawn. This is the way in which machines of this particular nature commonly operate.

The parts are so constructed and arranged that when the printing head is in its intermediate position the studs 20 and 30 are nearer together than when the printing head is in either its raised or lowered position seen in Figs. 6 and 7, respectively, and the telescopic connection 29 is of such a length when it is completely contracted with the inner end of the member 33 against the bottom of the recess in the tubular member 32 that when the printing head is in an intermediate position shown in Fig. 1, the members 19 will be rocked forwardly on the studs 20, thus carrying the type plate away from the type members 4. When the printing head moves downwardly into printing position, however, the studs 20 move away from the studs 30 and the telescopic connection is extended, the springs 34 being stretched, as shown in Fig. 7, and by their action on the members 19 operating to yieldingly draw the type plate up into its operative printing position. The same operation occurs when the printing head moves to the upper extreme limit of its movement, as shown in Fig. 6. As the type head rises and falls, therefore, the type plate will be moved toward and from the type members 4, and when the type members are in printing position, the type plate is automatically brought into its operative position, while when the machine is brought to rest the type plate is automatically removed from the type members so as to permit the latter to be adjusted. Furthermore when the printing head is in its upper position and the inking pad 140 is brought into inking position, as shown in Fig. 6, the type plate is at such time moved into its operative position so that the type 18 thereon will be inked simultaneously with the inking of the type 12 on the type members. It will thus be seen that with the mechanism as above described the type plate is moved into operative position and maintained there while the printing impression is being made and while the type characters are being inked and is moved away from the type members at the time that the printing head is brought to rest so that said type members can be readily adjusted.

We have herein shown the two members 19 of the type plate carrier as connected by a rod 36 which extends through the tubular support 5 although this particular construction is not essential to the invention. We have also shown the type 18 as removably sustained on the type plate 17 so that different type can be used on the type plate. Various ways of detachably mounting the type 18 on the type plate may be employed. As herein shown the type plate is provided on its under face with a plurality of dovetailed grooves 39 into which the individual type 18 can be inserted from the front, said type plate having a type-positioning rib 40 at its rear edge against which the type 18 are placed.

While we have illustrated herein a selected embodiment of our invention we do not wish to be limited to the constructional features shown.

We claim:

1. In a marking machine, the combination with a platen, of a printing head having adjustable type members, a type plate, means to move the platen and printing head relative to each other to make a printed impression, and means to move the type plate toward and from the printing head during such relative movement of the printing head and platen.

2. In a marking machine, the combination with a platen, of a printing head having adjustable type members, a type plate, means to move the platen and printing head relative to each other to make a printed impression, and means operated by such relative movement of the platen and printing head to move the type plate toward and from the printing head.

3. In a marking machine, the combination with a platen, of a printing head having adjustable type members rotatably mounted thereon, means to move the printing head toward and from the platen, a type plate, and means to move the type plate

relative to the printing head to bring said type plate into position to print when the printing head is in printing position and to separate it from the printing head when the latter is separated from the platen.

4. In a marking machine, the combination with a platen, of a printing head having adjustable type members rotatably mounted thereon, means to move the printing head toward and from the platen, a type plate, and means operated by the movement of the printing head to move the type plate relative to said printing head to bring said type plate into position to print when the printing head is in printing position and to separate said type plate from the printing head when the latter is raised.

5. In a marking machine, the combination with a platen, of a printing head having rotary adjustable type members, means to move the printing head toward and from the platen, a type plate movable relative to the printing head, said type plate when in operative position having means to engage the adjustable type members and lock the latter from rotating, and means to move the type plate away from the type members when the printing head is raised whereby said type members may be adjusted.

6. In a marking machine, the combination with a platen, of a printing head having rotary adjustable type members, means to move the printing head toward and from the platen, a type plate movable relative to the printing head, said type plate when in operative position having means to engage the adjustable type members and lock the latter from rotating, and means operated by the movement of the printing head to move the type plate away from the type members when the printing head is raised whereby said type members may be adjusted.

7. In a marking machine, the combination with a platen, of a printing head having a plurality of adjustable type members, each presenting a plurality of type-bearing projections, means to move said head toward and from the platen, a type plate carried by the head and having a type-bearing portion adapted to be received between those type-bearing projections of the members that are in printing position and the adjacent projections whereby the impression made by the type plate is closely adjacent to that made by the type members, and means actuated by the movement of the printing head to move the type plate toward and from the type members.

8. In a marking machine, the combination with a platen, of a printing head having adjustable type members, actuating means for the printing head by which the latter is moved toward and from the platen and is brought to rest in an elevated position, a type plate sustained by the printing head, and means actuated by the movement of the printing head to move the type plate into operative position as the printing head approaches the platen and into an inoperative position separated from the type members when the printing head is raised.

9. In a marking machine, the combination with a platen, of a printing head having adjustable type members, and means to adjust the same, a type plate pivotally mounted on the printing head, means to move the printing head toward and from the platen, and means to give the type plate a movement relative to the printing head as the latter moves toward and from the platen.

10. In a marking machine, the combination with a frame carrying a platen, of a vibrating arm pivoted to said frame, a printing head carried thereby and provided with adjustable type members, a type plate carrier pivoted to the printing head, a type plate sustained thereby, and connections between said carrier and frame whereby the type plate is moved toward and from the type members as the printing head rises and falls.

11. In a marking machine, the combination with a printing head carrying adjustable type members, of a type plate carrier comprising two connected side pieces at the ends of the printing head and pivoted thereto, a type plate sustained by said carrier, a platen, means to move the printing head relative thereto, and means connected to said carrier to move the type plate relative to the printing head as the latter moves toward and from the platen.

12. In a marking machine, the combination with a platen, of a printing head having adjustable type members, means to move the printing head and platen relative to each other, means to ink the type members when the printing head is raised from the platen, a type plate, and means to move said type plate into operative position when the printing head is carried into printing position and into inking position and to separate the type plate from the type members when the printing head is in an intermediate position.

13. In a marking machine, the combination with a platen, of a printing head having adjustable type members and means to adjust said members, means to move the printing head and platen relative to each other, an inking pad, means to bring said pad into contact with the type members to ink the latter when the printing head is separated from the platen, a type plate, and means to move the type plate into operative position at the times when the printing head is in printing position and in inking position and to separate said type plate from the type members when the printing head is in an intermediate position.

14. In a marking machine, the combination with a platen, of a printing head having adjustable type members, means to move the platen and printing head relative to each other to make a printed impression, a type plate, means to move the type plate into operative position as the printing head comes into printing position and to separate said type plate from the printing head when the printing head is in inoperative position, and means to ink the type plate and type members simultaneously when the printing head is separated from the platen.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

FRED A. PUTNAM.
CHARLES F. ROBBINS.

Witnesses:
E. C. LONGFELLOW,
CONRAD W. TUPPER.