F. A. PUTNAM & C. F. ROBBINS.
PRINTING HEAD FOR MARKING MACHINES.
APPLICATION FILED DEC. 22, 1913.

1,188,828. Patented June 27, 1916.

Fig.1.

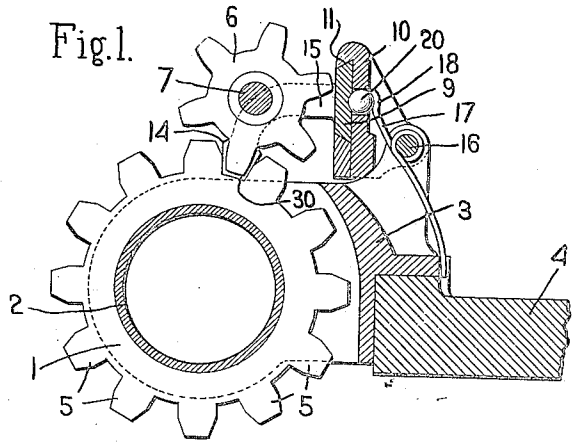


Fig.2.

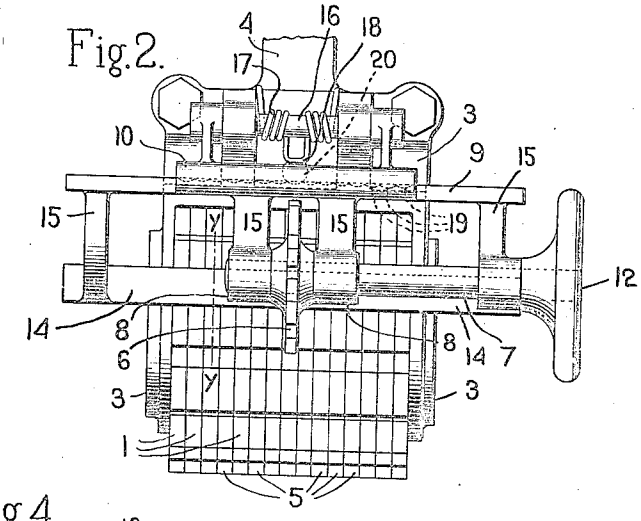


Fig.4.

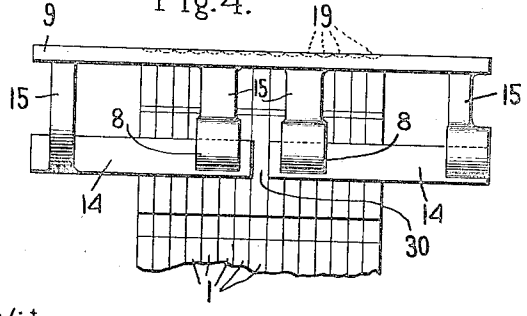
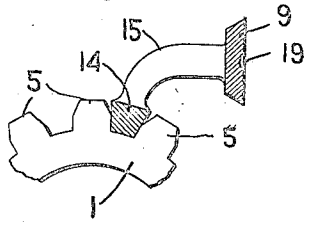


Fig.3.



Witnesses.
J. Morrill Fuller
William E. Gagen.

Inventors.
Fred A. Putnam,
Charles F. Robbins,
by Heard Smith & Tennant.
Atty'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.

PRINTING-HEAD FOR MARKING-MACHINES.

1,188,828. Specification of Letters Patent. Patented June 27, 1916.

Application filed December 22, 1913. Serial No. 808,080.

To all whom it may concern:

Be it known that we, FRED A. PUTNAM and CHARLES F. ROBBINS, citizens of the United States, residing at Melrose, county of Middlesex, and Abington, county of Plymouth, State of Massachusetts, have invented an Improvement in Printing-Heads for 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 wherein the type members are in the form of rotatably mounted disks or wheels capable of independent adjustment to bring the different type characters thereon into printing position, and particularly to the means for adjusting the type disks and for locking them in their adjusted position.

In accordance with our invention we provide a type disk setting wheel capable of being brought into mesh with any one of the type disks and a locking device associated with the setting wheel and arranged to have locking engagement with all of the type disks except the one with which the setting wheel is in mesh.

We will first describe a selected embodiment of our invention and will then point out the novel features of the invention in the appended claims.

Referring to the drawings, Figure 1 is a sectional view through a printing head embodying our invention; Fig. 2 is a plan view of Fig. 1; Fig. 3 is a fragmentary section on the line *y—y*, Fig. 2; Fig. 4 is a fragmentary plan view showing part of the type wheels and showing the carrier with the setting wheel removed.

Our invention is capable of use in connection with any printing or marking machine that employs rotatable type disks which are independently adjusted to bring the desired characters thereon into printing position. As illustrating one type of marking machine of this nature, we will refer to Patents No. 1,019,971, March 12, 1912, No. 772,577, October 18, 1904, and No. 660,512, October 23, 1900. We wish to state, however, that our invention is not limited in its application to marking machines as illustrated in these patents.

In the illustrated embodiment of our invention, the separate type disks are shown at 1 and they are rotatably mounted upon a central support or shaft 2 which is carried in a head 3 mounted on a support 4 which may be a vibrating arm or any other vibrating part. In machines of this type the printing or marking is usually done by a movement of the printing head toward and from the platen. Each of the type disks is provided with a plurality of type-bearing teeth or projections 5, each tooth having on its end the type from which the impression is made. The parts thus far described are such as are commonly found in printing machines of this nature.

In using printing machines of this type it is necessary to make frequent adjustments of the individual type members 1 to bring the desired characters or type into printing position, and in the present embodiment of our invention we provide for this by employing a setting wheel 6 which is rotatably mounted on a stud or shaft 7 and the teeth of which are adapted to be brought into mesh with the teeth 5 of any one of the type members 1. The shaft 7 is shown as mounted in bearings 8 sustained by a slide or carrier 9 that is slidably mounted in a holder 10, said holder being shown as being provided with the dove-tailed guideway 11 in which the slide 9 is received, the slide 9 having a dove-tail shape to fit the guideway 11. When the type disks 1 are properly set, the teeth thereon are in alinement and by shifting the slide 9 back and forth longitudinally the setting wheel 6 can be brought into mesh with any one of the type disks. The shaft 7 extends beyond the end of the head and is provided with a hand wheel 12 by which it may be turned. We may, if desired, extend the shaft 7 in both directions from the setting wheel 6 and provide each end thereof with a hand wheel as shown in Fig. 2.

In using the device for setting the type disks, the operator grasps the hand wheel or hand wheels 12 and moves the slide 9 longitudinally thereby to bring the setting wheel 6 into operative engagement with the particular type disk 1 that it is desired to

set and when this is done the mere rotation of the hand wheel will operate through the setting wheel to turn the type disk 1 into its desired adjusted position. It will be noted that the slide 9 is freely movable in either direction at any time, and as a result it is possible for the operator to shift this slide to bring the setting wheel 6 into mesh with any desired type wheels. This makes it possible to set the type wheels in any sequence.

In machines of this type it is a desideratum to have the type wheels locked except when they are being set, and to provide for this we have incorporated in our device a locking member which operates to positively lock all the type wheels except the particular one with which the setting wheel 6 is in mesh. This locking member is herein shown in the form of a locking bar 14 which is carried by arms 15 extending from the slide 9 and which is shaped and positioned to fit in the space between the teeth of the type disks 1. This locking member is provided with a slot or opening 30 at the point where the setting wheel 6 operates and in which open space said setting wheel operates.

With this construction it will be seen that all of the type disks are locked except the particular one with which the setting wheel is in mesh and the locking member 14 is of sufficient length so that this condition will exist in every adjusted position of the slide 9.

We have also herein shown the holder 10 as pivotally mounted on the head 3 so that the setting wheel and locking member can be swung up out of operative engagement with the type disks. This holder 10 is pivotally sustained on a pin or shaft 16 carried in the head 3, thus permitting the holder to be swung about the pivotal pin 16 into dotted line position Fig. 1. Means are provided for yieldingly holding the holder in its operative position and in the illustrated embodiment of our invention we employ for this purpose a spring 17 carried by the pin 16, one end 18 of which acts against the holder. This same spring 18 is also employed for yieldingly locking the slide 9 in any adjusted position. Said slide is shown as having a plurality of notches 19 on its rear face which are spaced apart distances equal to the distance between adjacent type disks 1 and the holder 10 has an aperture in which is received a ball or locking member 20 that is adapted to engage one of the notches 19 and which is acted upon by the end 18 of the spring 17. This construction provides a yielding lock for frictionally holding the slide 9 in any adjusted position but it permits of the longitudinal adjustment of the slide to bring the set wheel into mesh with one of the type disks 1. It will be seen from the above that with our invention the operation of setting the type disks 1 is a very simple one it merely involving a longitudinal adjustment of the carrier 9 to bring the setting wheel 6 into mesh with the desired type disk and the subsequent turning of the hand wheel 12 to effect the desired adjustment of said type disk. The locking device 20 assists the operator in bringing the slide to rest at the correct position. The swinging of the holder 10 into its inoperative position unlocks all the type wheels so as to permit them all to be set simultaneously by a suitable implement or by hand.

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

Having fully described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a marking machine, the combination with a head, of a plurality of type wheels rotatably mounted therein and each provided with type-bearing projections, a carrier slidably mounted on the head, a toothed-setting wheel rotatably mounted on the carrier and adapted to have one of its teeth brought into mesh with the projections of the various type wheels by the sliding movement of the carrier, and a locking member rigid with said carrier and situated in line with the tooth of the setting wheel which is in operative engagement with one of the type wheels, said locking member being constructed to have locking engagement with all of the type wheels except the one with which the setting wheel is in mesh.

2. In a marking machine, the combination with a head, of a plurality of type wheels rotatably mounted thereon and each having type-bearing projections, a holder pivoted to the head, a carrier slidably mounted in the holder and adapted at all times to be freely moved in either direction, and a toothed setting wheel rotatably sustained by said carrier and adapted to be brought into mesh with the various type wheels by the sliding movement of the carrier, the swinging movement of the holder about its pivot permitting the setting wheel to be moved out of mesh with all of the type wheels.

3. In a marking machine, the combination with a head, of a plurality of type wheels rotatably mounted therein and each having type-holding projections, a holder pivoted to the head above the type wheels and provided with ways, a carrier slidably mounted in said ways, a shaft sustained in said carrier and provided with a hand-wheel by which it may be turned, a toothed setting wheel fast to the shaft and adapted to be brought into mesh with the various type wheels by sliding movement of the carrier

in the ways, and a locking member rigid with the carrier and adapted to have locking engagement with all of the type wheels except the one with which the setting member is in mesh.

4. In a marking machine, the combination with a head, of a plurality of type wheels rotatably mounted therein and each having type-bearing projections that project below the head, a carrier slidably mounted on the head, a shaft sustained in said carrier and provided with a hand-wheel by which it may be turned, a toothed-setting wheel fast on the shaft, sliding movement of the carrier operating to bring a tooth of the setting wheel into mesh with the various type wheels in any desired sequence, and a locking member rigid with the carrier and situated in line with said tooth of the setting wheel, said locking member having locking engagement with all of the type wheels except the one with which the setting wheel is in mesh.

5. In a marking machine, the combination with a head, of a plurality of type wheels rotatably mounted thereon and each provided with type-bearing projections, a holder pivoted to the head, a carrier slidably mounted in the holder and adapted to be moved in either direction at will, a toothed setting wheel rotatably sustained by the carrier, longitudinal movement of the carrier bringing a tooth of the setting wheel into mesh with the various type wheels in any desired sequence, and swinging movement of the holder about its pivot carrying the setting wheel out of mesh with all the type wheels, said carrier having a plurality of positioning notches, one for each type wheel, a positioning member sustained by the holder and coöperating with said notches, and a spring acting both to hold the positioning member yieldingly in one of the notches and to retain the holder yieldingly in operative position.

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:
ETHEL C. LONGFELLOW,
HARRY R. FLETCHER.