



# UNITED STATES PATENT OFFICE.

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## MARKING MACHINE.

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This invention relates to marking machines. The invention is illustrated herein as embodied in a machine designed for stamping material such as shoe upper parts.

5 Marking machines used on a wide variety of leather and fabric materials in shoe factories, laundries and other kinds of establishments where it is desired to impress a considerable number of different characters

10 or combinations of characters, are each provided with a series of members, commonly disks, segments or racks, which either themselves carry markers and are adjustable to bring different markers into operative position

15 or are adjustable to operate marker-carrying members such as disks or wheels. For many of the purposes for which such machines are employed, it is necessary or desirable to adjust the markers very frequently

20 in order to print different characters or combinations of characters. On the other hand, the markers must be held frictionally or positively against displacement from adjusted positions at least during operations

25 of the machine. It is important, therefore, that adequate provision be made for releasing the markers and for setting them to impress any desired character or combination of characters.

30 In view of the foregoing, it is an object of this invention to provide a marking machine having simple and effective devices for releasing markers and for relatively adjusting them as desired. To this end, the

35 illustrated machine is provided with setting devices adapted to be connected selectively to locking devices which operate normally to restrain the markers from movement out of adjusted position and to release the locking device or locking devices of the marker

40 or markers which it is desired to adjust upon movement of the setting device or devices. In the illustrated organization, the markers are carried by a series of rotatable disks

45 normally restrained by latches and adapted to be turned by star wheels to bring various markers or combinations of markers into operative position upon releasing the appropriate latches, the connection between the

50 setting devices, that is, the star wheels, and the latches to release the latches being effected by shifting a swinging frame which carries the star wheels and is adapted in one position to release one or more of the latches.

55 The illustrated construction and arrangement have the advantage, among others, that the operator may, by using one hand only, unlock the desired marker or markers and effect the desired relative adjustment of the markers. Moreover, it will be apparent

60 that this organization is equally applicable to marking machines of the type above referred to in which the setting devices, instead of operating directly on marker-carrying disks or other members, effect the relative adjustment of the marker-carrying

65 members through intermediate disks or other devices.

70 These and other features of the invention will be more readily understood from a consideration of the following specification taken in connection with the accompanying drawings in which:

75 Fig. 1 is a side elevation of one form of marking machine to which a marking head provided with my improved setting device has been applied;

80 Fig. 2 is a transverse vertical section through the marking head; and

85 Fig. 3 is a fragmentary perspective showing a single rotatable disk and the associated latch and setting device.

90 In the machine to which my invention has been illustratively applied an automatically adjustable work-supporting table 10 is slidably mounted in a guide 12 formed in a bracket attached to a frame 14 of the machine. A locking arm 16 holds the table

95 against vertical movement when the machine is at rest. The marking mechanism is carried for up-and-down movement in a support 20 comprising laterally spaced hangers 22 and 24 which are pivoted at 26 upon a bifurcated bell crank lever 28 to which power may be supplied to move the marking head into engagement with and away from the work. The support 20 is guided for movement in parallel planes by means of a parallel arm 30 pivoted in the machine frame

100 at 32 and pivotally attached to the upper end of the support 20 at 34. An inking roll 36 is arranged to carry ink from an inking-supply roll 38 to the type faces and this

inking roll is carried on the end of an arm 40 pivotally mounted in the frame of the machine and actuated by a link 42 from an extension 44 on the parallel arm 30. A rod 46 connected to the bell crank lever 28 passes through the end of the table-locking arm 16 which is normally held in locking position by means of a spring 48 surrounding the rod 46. As the head is carried into marking position, however, the enlarged end 50 of the rod 46 raises the table-locking arm 16 and allows automatic adjustment of the table under the tension of a spring 52 and the pressure of the marking head upon the work carried by the table so that said pressure is uniform regardless of the numbers of layers of work carried thereby.

As best shown in Figs. 2 and 3, a tube 60 is carried between the lower ends of the hangers 22 and 24 and provides a support for a plurality of adjustable markers in the form of rotatable disks 62 which in the particular instance are notched disks, as shown in Fig. 3, provided with type faces upon the projecting teeth of the disks. Retaining latches for each of the disks 62, such as the latch 64 in Fig. 3, are pivotally mounted upon a rod 66 extending between the hangers 22 and 24 and are resiliently biased into engagement with the notches of the disks by springs 68 (Fig. 1). Each of these latches is provided with an upward projection 70 shaped like a miniature gear tooth for a purpose to be later explained.

A swinging frame made up of side members 72 and 74 (Fig. 2) joined by a rod 76 is pivotally mounted upon the outer ends of the tube 60 so that it may be swung through a limited arc determined by the engagement of the rod 76 with notches 78 (Fig. 3) provided in the hangers 22 and 24 of the marking head support. One or more spring plungers 80 (Fig. 1) are arranged to bias the swinging frame to its rear limiting position. A setting device mounted for rotative setting movement and lateral selecting movement in the swinging frame is provided with star wheels 82 and 84 (Figs. 2 and 3) shaped for engagement in the notches of the rotatable disks 62 to rotate said disks when brought into co-operative relation therewith by lateral movement in the swinging frame. The star wheel 82 is secured to a rod 86 passing through the swinging frame and provided with an operating wheel 88 while the other star wheel 84 is mounted upon a sleeve 90 surrounding a reduced outer end 92 of the rod 86 and the sleeve 90 is provided with an operating wheel 94. The rod 86 and the sleeve 90 are provided with a succession of grooves for engagement by suitable plunger latches 96 and 98 to make it easy for the operator to bring the star wheels into the desired lateral position so that they will accurately engage each with a

single disk 62. Latch-releasing devices 100 and 102 are pivotally mounted upon the rod 86 and the sleeve 90 respectively and are held against the star wheels 82 and 84 by means of collars, as shown in the drawings. The upper end of each of these latch-releasing devices is notched for engagement with the rod 76 to prevent rotation of said devices when the star wheels are rotated. A notched rearward extension 104 is provided upon the latch-releasing device 100 and is bent at its outer end into the plane of the star wheel 82 so that it will engage with the projection 70 upon the corresponding latch 64. A similar extension (not shown) upon the latch-releasing device 102 is bent laterally in the opposite direction to bring it into the plane of the star wheel 84 so that it will engage the projection upon the retaining latch which corresponds to the disk with which that star wheel is in co-operative relation. Swinging movement of the frame carrying the setting device and the latch-releasing members will therefore raise the latches out of engagement with the corresponding disks by reason of the fact that said latches are pivoted upon a rod in the hangers while the swinging frame carrying the latch-releasing members is movable relatively to said hangers.

If desired, a name plate 110 may be used in connection with the marking head and releasably held with its printing face in the same plane with the printing face of the particular row of characters which is to be used. This name plate will be held in position by a finger latch 112 (Fig. 1) or may be removed from the marking head by releasing said latch.

In setting the markers upon the marking head the operator, grasping one or the other of the handles 88 and 94, will bring the star wheels of the setting device into engagement with the disks which it is desired to rotate, and then bias the swinging frame to its forward position so that the latch-releasing devices will, by reason of the relative movement of the swinging frame and the head, lift the corresponding latches out of engagement with the rotatable disks. The operator is then free to set the corresponding disks by rotating the operating handles 88 and 94. After the desired characters have been brought into printing position the release of the setting device allows the swinging frame to be biased to its rear position and thereby allows the corresponding latches to drop into engagement with the disks which have been set, to hold them in adjusted position. It will be understood that, in the use of such a machine for shoe work as above mentioned, the disks carrying the size and half size characters are those which will need to be changed most frequently and in such use the setting star

wheels will normally be left in position for engagement with said disks. It then becomes necessary in setting a size disk, for example, for the operator to grasp the corresponding handle 88 or 94, pull forward the swinging frame to release the latch, rotate the disk, let go of the handle and allow the latch to be swung back into operative position. When it is desired to rotate the other disks, the setting device may be moved laterally in the swinging frame to bring the star wheels into engagement with the disks which it is desired to change. During such lateral movement the latch-releasing extension 104 will move into position for engagement with a tooth 70 on the corresponding latch and will be ready for latch-releasing movement when the frame is swung forward again as just described. In other machines the disks 62 might not themselves be provided with printing types but might be arranged to transfer movement from the setting device to the disks or corresponding members which do carry the printing types.

Having described the invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a machine of the character described, an adjustable marker, a pivoted locking device arranged in one position to prevent adjustment of the marker, a rotatable setting device for adjusting the marker in engagement therewith, and means for connecting the setting device to the locking device arranged to release the locking device upon lateral displacement of the setting device without disturbing the engagement between the setting device and the marker.

2. In a machine of the character described, a marking device arranged for movement to bring a selected type face into printing position, a setting device co-operating with said marking device arranged for rotation to adjust the marking device and for movement in another direction, a locking device for said marking device arranged to be moved to operative position independently of said setting device, and means for connecting said setting device to said locking device arranged to release the locking device upon movement of the setting device to allow adjustment of the marking device by rotating the setting device.

3. In a marking machine, a series of rotatable disks, individual locking devices for said disks arranged in one position to prevent rotation of the disk and resiliently biased to that position, a rotatable setting device for rotating any selected disk, and means for connecting the setting device to the locking device for the selected disk arranged to release the locking device upon displacement of the setting device, thereby to allow rotation of the setting device and the disk with which it is in engagement.

4. In a marking machine, a rotatable disk, a setting device co-operating with said disk arranged for rotation and for movement in another direction, a locking device for said disk arranged to lock the same disk with which the setting device is cooperating and at the same time, and means for connecting said setting device to said locking device arranged to release the locking device upon movement of the setting device to allow the rotation of the disk by rotating the setting device.

5. In a marking machine, a support, a plurality of disks rotatably mounted upon said support, a rotatable setting device movable along said disks to bring it into engagement with the desired disk and rotatable to set the latter, a locking device for each of said disks, and means for connecting said setting device to a particular locking device arranged so that movement of the setting device will release the locking device and allow the corresponding disk to be rotated by the setting device.

6. In a marking machine, a support, a disk rotatably mounted upon said support, a swinging frame pivoted on said support, a setting device rotatable in said swinging frame, a locking device for said disk, and means for connecting said swinging frame to the locking device arranged to release the locking device when the frame is swung, thereby to allow the rotation of the rotatable disk by the setting device.

7. In a marking machine, a support, disks rotatably mounted upon said support, a swinging frame pivoted on said support, a setting device rotatable in said swinging frame and movable laterally therein to bring it into engagement with the desired disk, a locking device for each of said disks, and means for connecting said swinging frame to the locking device associated with the disk upon which the setting device is positioned arranged so that swinging movement of the frame releases the locking device and allows rotation of the corresponding disk by the setting device.

8. In a marking machine, a support, a plurality of disks rotatably mounted upon said support, a swinging frame pivoted on said support, a setting device rotatably mounted in said swinging frame and arranged for lateral movement to transfer it from one to another of said disks, a pivoted latch associated with each of said disks, and an arm slidably mounted upon said frame for movement with the setting device constructed and arranged to be brought into engagement with the corresponding latch and arranged so that swinging movement of the frame releases the latch and allows rotation of the setting device to set the disk which has been unlocked.

9. In a marking machine, a support, a

plurality of disks rotatably mounted on said support, a swinging frame pivoted on said support, means for limiting the swinging movement of said frame, resilient means urging said frame into one of its limiting positions, a setting device movably mounted in said swinging frame adapted to be brought into engagement with any one of said rotatable disks, and a latch-releasing device movably mounted in said swinging frame for movement with the setting device so that it is brought into co-operative relation with the latch holding the disk with which the setting device is associated, said latch-releasing device being arranged to lift the latch when the swinging frame is biased into its other limiting position, whereby the setting device may be moved to set the disk which has been released.

10. In a marking machine, a support, a plurality of disks rotatably mounted upon said support, a swinging frame pivoted upon said support, toothed setting wheels rotatably mounted upon said swinging frame and arranged for lateral movement to bring them into engagement with the desired disks on the support, manual operating devices for each of said toothed setting wheels, latches for said disks, and latch-releasing arms mounted for movement with said setting wheels and arranged to be brought into co-operative relation with the latches which are holding the disks with which the setting wheels are in engagement, said latch-releasing means being arranged so that swinging movement of the frame releases the latches

and allows the rotation of the toothed wheels to set the corresponding disks.

11. In a marking machine, a plurality of marking devices arranged side by side for movement to bring a selected type face into printing position, a setting device including a rotatable handle geared to said marking devices and arranged for selecting movement to bring the setting device into cooperative relation to any desired marking device and for rotatable setting movement to bring the desired type face carried by that marking device into printing position, and a plurality of locking devices for said marking devices, said setting device being constructed and arranged so that when it has been brought into cooperative relation with any desired marking device it is operatively related to and arranged to release the corresponding locking device.

12. In a marking machine, a marking device arranged for setting movement to bring a selected type face into printing position, a setting device arranged for lateral movement to bring it into cooperative engagement with said marking device and for movement in another direction, and a locking device for said marking device constructed and arranged to be released by movement of the setting device in said other direction while the setting device remains in engagement with the marking device.

In testimony whereof I have signed my name to this specification.

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