July 26, 1938. C. W. CURLE ET AL 2,124,652

VISE LOCK

Filed Oct. 4, 1937

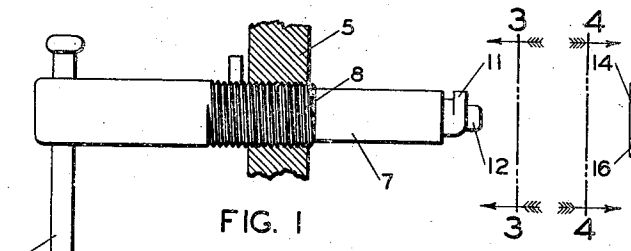


FIG. 1

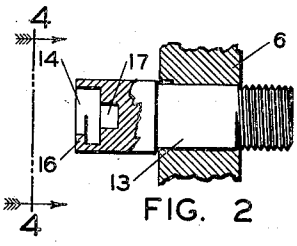


FIG. 2

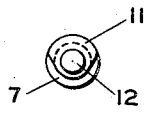


FIG. 3

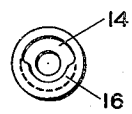


FIG. 4

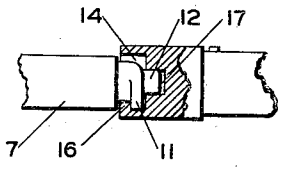


FIG. 5

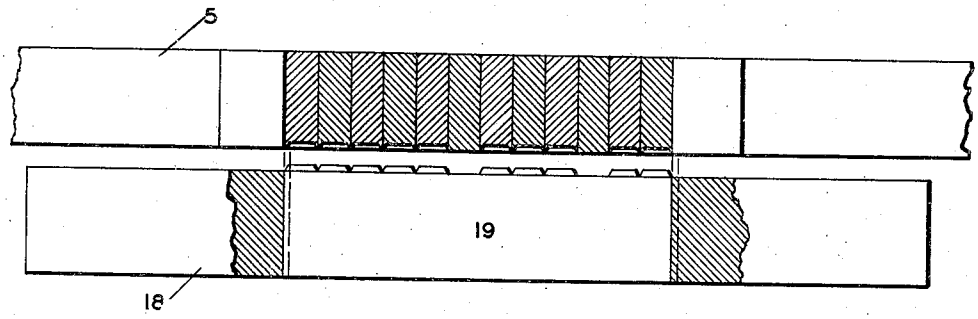


FIG. 6

CURLE MFG. CO

FIG. 8

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FIG. 9

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FIG. 10

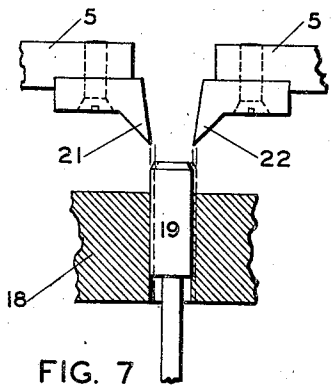


FIG. 7

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VISE LOCK

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2 Claims. (Cl. 199—50)

This invention relates to improvements in vise locks for Linotype machines and has particular reference to a device for holding the vise of a Linotype machine in a definite position with relation to the mold into which a slug is cast.

A further object is to produce a device of this character which may be employed with the ordinary Linotype machine without materially altering its construction, and a device which is economical to manufacture and simple to install.

A further object is to produce a device which will not affect the manual operation of the locking up action.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side elevation of a vise lock screw constructed in accordance with our invention;

Fig. 2 is a side elevation of the vise lock socket;

Fig. 3 is an end elevation of Fig. 1, looking in the direction of the arrows 3—3;

Fig. 4 is an end elevation of Fig. 2, looking in the direction of the arrows 4—4;

Fig. 5 is a fragmentary side elevation partly in cross section, showing the two parts of the vise in locked position;

Fig. 6 is a fragmentary cross sectional view of a portion of the vise jaw mats therein and the position the same assume with relation to the liner mold and slug therein;

Fig. 7 is a fragmentary cross sectional view of the mold wheel, showing the slug being ejected into the side cutters;

Fig. 8 shows a plan view of a slug properly cast;

Fig. 9 shows a similar slug improperly cast, which improper casting is caused by the vise moving toward the left with relation to the mold wheel; and

Fig. 10 shows a similar slug wherein the vise is moved toward the right, thus forming an imperfectly cast slug.

In Linotype machines a plurality of mats are held in a vise jaw in front of a mold wheel. If the mold is in perfect alignment with the mats, a slug will be produced wherein the characters on the face of the slugs will be properly spaced in end to end relation. Due to the weight of the vise jaw and its parts and the remoteness from the pivotal point of the supporting frame, taken together with wear, there is a resultant distortion during the locking up process, which is effected by a pair of threaded members, each having a lug which engages a female member on the frame of the machine. As the lug on the threaded member is offset and the female member has a cam formed therein, there is a tendency to twist the entire mechanism sidewise, which, of course, carries the mats to one side or the other and out of alignment with the mold into which the type metal is to be cast.

Applicants are aware of the fact that while their invention may appear to be a very simple one, much time and effort has been spent over a long period of years by many Linotype men in an endeavor to overcome the difficulty above referred to. Various means have been employed to maintain alignment, all of which, as far as applicants know, have been unsuccessful.

Applicants have, therefore, devised a very simple arrangement wherein the side movement of the vise jaw cannot take place due to an absolute registering of stationary parts on the machine frame and vise jaw.

In the accompanying drawing wherein for the purpose of illustration is shown a preferred embodiment of our invention, the numeral 5 designates a section of a vise jaw; and the numeral 6, a section of the Linotype frame. In ordinary practice these parts move toward and away from each other to effect a locking and an unlocking therebetween. Carried in the vise jaw is a vise lock screw 7 having threads 8, the purpose of which is obvious. This screw is turned by a handle 9 and has an offset lug 11 radially arranged with relation to the axis of the screw. A pin 12 is formed so as to extend from the screw, the axis of the pin and the axis of the screw coinciding one with the other. Secured in the frame 6 is a socket member 13 which has an opening 14 and a ledge 16, also, a counterbore 17.

As a result of this construction, when the vise jaw is moved toward the frame 6, the pin 12 and the offset lug 11 will enter the bore 14 and counterbore 17. As the pin 12 is of exactly the same diameter as the bore 17, the screw 7 and the socket 13 will be held in axial alignment. Then by rotating the handle 9, the lug 11 will pass behind the ledge 16, as shown in Fig. 5. As a consequence of this locking up action, both the vise jaw and the frame will be held in positive alignment; and as the vise jaw carries the mats, and as the frame 6 has the mold 18 fixed thereto, it will be apparent by viewing Fig. 6 that a true alignment will take place. Were it not for this arrangement, the vise jaw and the mold could be moved sidewise with relation to each other, as

indicated in dotted lines, on the slug 19 and the mold 18.

As the side trimming knives 21 and 22 are also carried on the vise lock frame, any divergence to one side or the other of the frame with relation to the mold wheel would result in uneven trimming of the slug, as indicated in Fig. 7. Dotted lines in this figure indicate the result of the slug being offset. In the full line position the slug is correctly placed to pass between the cutters and have both sides thereof trimmed, and movement to either side would spoil the slug. In Fig. 8 we have illustrated the proper appearance of a slug. In Fig. 9 we have shown the fact that the movement of the vise jaw with respect to the mold in one direction will cut off the O, or in another, will cut one end of the slug. If the vise jaw moves in the opposite direction, as shown in Fig. 10, then the C will be cut off. In these figures we have not attempted to show the effect of the side cutting, which would be caused by the trimmers of Fig. 7.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described our invention, we claim:—

1. In an aligning device for a line casting machine including a socket member mounted upon the frame of the machine, a locking screw mounted upon a movable part of the machine, said screw having a projection entering a recess of the same cross sectional area formed in said socket, the axis of said recess and the axis of said projection coinciding.

2. In combination with a line casting machine having a stationary frame and a movable vise jaw, of a socket member carried by said frame and rigidly positioned with respect thereto, a bore formed in said socket member, a counterbore formed in said socket member, a locking screw carried by said vise jaw, said screw having an offset lug capable of entering said first-mentioned bore, a projection formed on said screw and entering said counterbore, the axis of said counterbore and the axis of said projection coinciding, the cross section of said projection and said counterbore being equal.

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