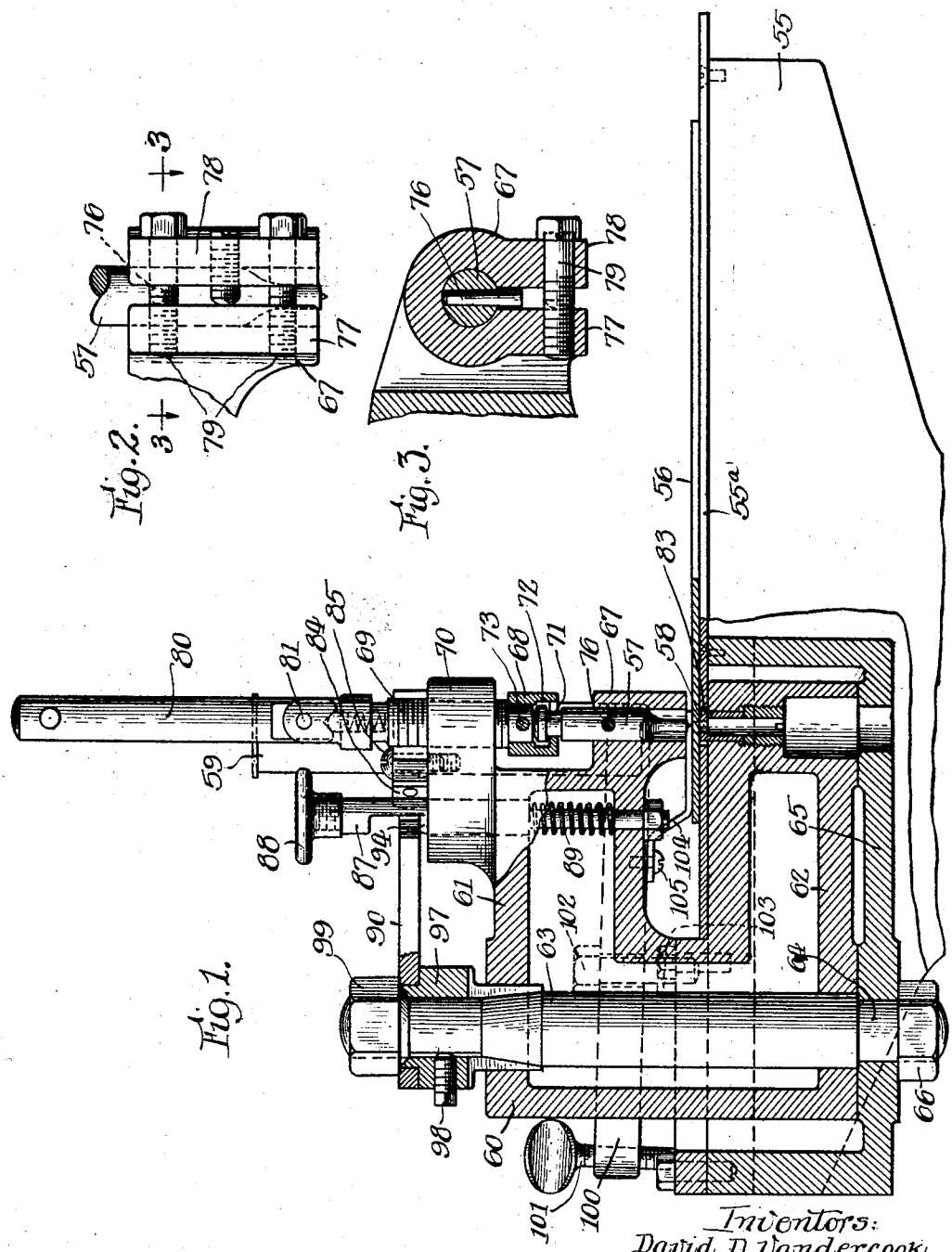
Jan. 20, 1931. D. D. VANDERCOOK ET AL 1,789,851

MACHINE FOR MARKING ARTICLES

Filed Sept. 6, 1927 2 Sheets-Sheet 1



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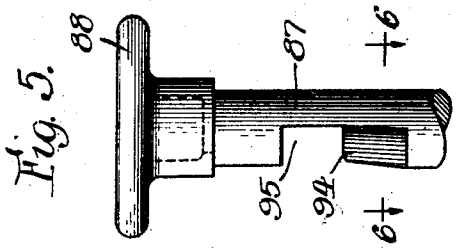


Fig. 5.

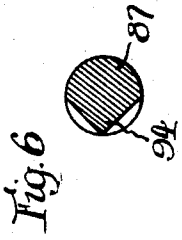


Fig. 6

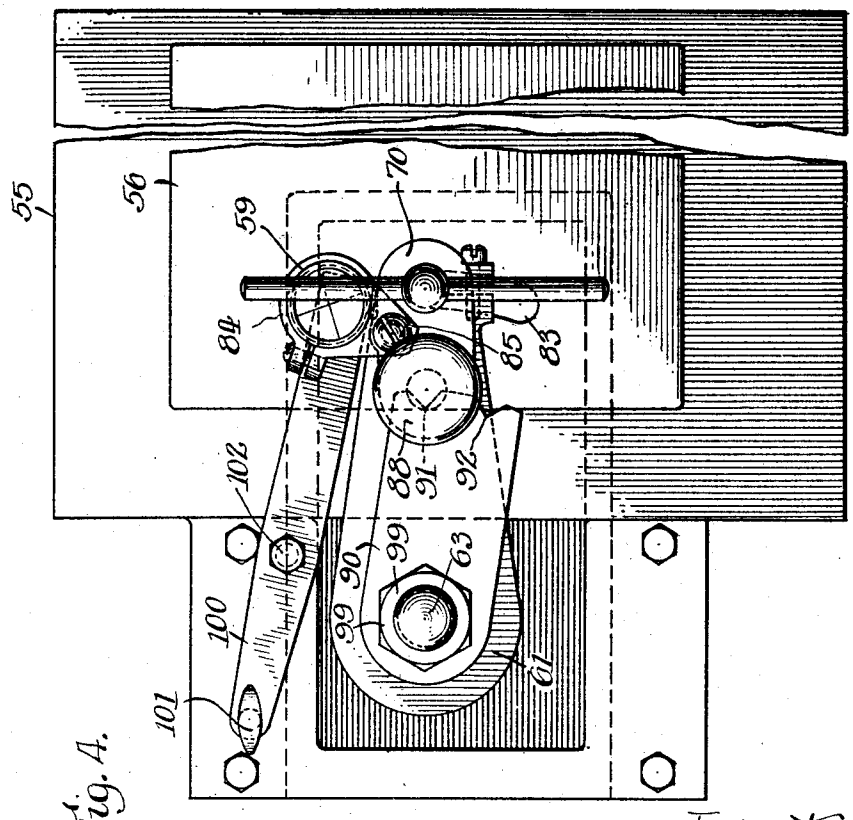


Fig. 4.

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UNITED STATES PATENT OFFICE

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MACHINE FOR MARKING ARTICLES

Application filed September 6, 1927. Serial No. 217,632.

Our invention relates to devices or machines for marking articles, and particularly to devices or machines of this kind which will permit accuracy in the marking in order that the marked articles may be accurately placed or located with reference to other articles or objects. Machines of this kind are particularly useful in connection with printing mechanism or apparatus in order that different printing plates or elements may be accurately located in a printing press, or the like, for printing successive impressions in different colors.

One of the objects of the invention is to provide a simple, practical and effective arrangement for securing the accurate marking of articles.

Another object of the invention is to secure cheapness of construction without interfering with the effectiveness of the marking.

Another object of the invention is to avoid the use of expensive and cumbersome power apparatus.

Another object of the invention is to arrange for marking articles under varying conditions and circumstances.

Another object of the invention is to arrange for the ready adjustment and holding of the article to be marked.

Other objects of the invention will appear and be pointed out hereinafter.

In the accompanying drawings:

Fig. 1 is a view partly in elevation and partly in vertical section of an apparatus embodying this invention;

Fig. 2 is a side elevation of a portion of said apparatus;

Fig. 3 is a cross-section taken on line 3—3 in Fig. 2; and

Fig. 4 is a plan view;

Fig. 5 is a view of a detail of construction; and

Fig. 6 is a cross section taken on line 6—6 in Fig. 5.

Referring to the embodiment shown in Figs. 1 to 6 inclusive, this embodiment involves an arrangement by which the sighting of the point or index to be marked is first accomplished preferably by means of a sighting device and then the sighting device is moved out of position and a marking device moved into the same position and then operated to make the mark.

In the arrangement shown, which, it is understood, is only one of a number of different arrangements that could be employed, a base 55 is shown supporting an article 56 which is to be marked. A marking device such as a punch 57, is shown and this preferably cooperates with a die 58. A sighting device such as a microscope 59 is also shown and arrangement is preferably made so that the sighting of the point or index to be marked may be accomplished by the microscope 59 and then the microscope moved away and the punch 57 and cooperating die 58 moved into identically the same position as previously occupied by the microscope and then the punch operated.

As a convenient and advantageous arrangement for accomplishing this purpose, a swinging frame 60 is shown having an upper substantially horizontal member 61 and a lower substantially horizontal member 62. Member 61 carries the punch 57 and microscope 59 and the lower member 62 carries the die 58. This member 60 may be supported by a vertically arranged post or shaft 63 having its lower end provided with a reduced portion 64 fitted into a frame portion 65 and held firmly in position by a nut 66. This post 63 serves as the pivot, or axial member about which the member 60 may swing horizontally.

The punch 57 is arranged to work vertically in a supporting member 67 formed as a projection on horizontal member 61 and said punch 57 is connected at its upper end by connection 68 and threaded screw 69 fitting in a threaded socket in an arm 70 likewise formed as a projection on member 61. The connection 68 is adapted to permit the turning of screw 69 without turning punch 57 and to such end said connection comprises a head 71 on punch 57 fitting in a socket 72 on member 68 and a pin 73 passed through the lower end of screw 69 and holding sleeve 68 so that it may rotate with screw 69, but in so doing will not rotate punch 57, since the latter may turn freely in sleeve 68. At the same time

punch 57 will be raised and lowered with screw 69.

Punch 57 is arranged to slide in foot 67 and is provided with a pin 76 which will prevent it from turning. This pin 76 may slide between members 77 and 78 forming foot 67, which members 77 and 78 are properly held and spaced by screw bolts 79.

The handle 80 is pivoted at 81 to the upper end of screw 69 so that it may be swung into vertical position, as shown and also into horizontal position. This handle may be employed for turning screw 69 to raise and lower punch 57 and cause it to act upon and mark article 56. The action of punch 57 against article 56 may be strong enough merely to mark article 56 without passing through it, or it may be made sufficiently strong to actually pass through and punch a hole in article 56.

The die 58 being carried by swinging member 62 is arranged immediately below punch 57 so as to cooperate with the same and said punch 57 and die 58 will swing correspondingly upon the swinging members 61 and 62 and consequently will always be in operative position relatively to one another. To permit die 58 to swing with member 62 so as to cooperate with punch 57, the top plate or table 55^a of base 55 is provided with a slot 83 to permit circular swinging movement of die 58.

The miscroscope 59 is carried by swinging frame or member 60 and to such end may be attached thereto by a frame piece 84 and screw 85. Thus, microscope, punch and die will all swing simultaneously and correspondingly when member 60 is swung and this permits a sighting of the index or point to be marked by microscope 59 and then the swinging of member 60 so as to move microscope 59 out of sighting position and move punch 57 and die 58 into the position occupied previously by the miscroscope, the microscope and punch being at exactly the same distance from the center of rotation of swinging member 60, whereby after the sighting is accomplished and the miscroscope moved away and the punch moved into its place, a marking of the article may be accomplished by properly actuating the punch.

It is desired to maintain or hold member 60 in proper position to hold either microscope or punch in sighting or operating position and to such end suitable stop or holding means are provided. As one arrangement we show a vertically reciprocable plunger 87 having a hand top member 88, which said member 87 is also carried by swinging member 61 and provided with a spring 89 tending to hold said member 87 always in proper position. A fixed arm 90 is arranged to cooperate with member 87 and this arm 90 has two (2) notches, 91 and 92, each of which is adapted to cooperate with a triangular-shaped member or portion 94 on plunger 87, the latter also having a cut-away portion 95 above member 94. Thus, by depressing plunger 87, member 94 may be moved below arm 90 and so brought out of engagement with either notch 91 and 92, whereby member 87 may be swung either to the right or left and consequently swinging member 60 may be swung either up or down (Fig. 4) so as to permit either the microscope 59 or punch 57 to occupy the sighting or punching position. When plunger 87 is released it will rise, due to action of spring 89, and projection 94 will engage either notch 91 or notch 92 according to the position of the swinging frame 60 and thereby hold said frame against movement, maintaining either microscope or punch in operative position with reference to article 56.

As an arrangement for holding stop plate 90 in position, the upper end of post or spindle 63 may be provided with a sleeve 97 and this may be held in position by screw 98 and arm 90 may be mounted on this fixed member 97 and held in firm, stationary position by a nut 99.

As an arrangement for clamping the work, such as article 56, upon table 55^a, we show a swinging arm 100 having its left end (Fig. 1) provided with a thumb screw 101 adapted to act upon the frame of the machine and thus swing member 100 up or down. Said member 100 is pivoted upon a pin 102 screwed into the frame of the machine and held by a nut 103 so that up or down movement of the left end of member 100 (Fig. 1) will cause a reverse movement of the opposite end. A foot 104 is carried by clamping member 100, being conveniently secured thereto by screw 105 and this foot 104 is adapted to come down and press against the work or article 56 when member 100 is swung so as to depress its clamping end by elevating its left hand end by screw 101. Thus, the work may be clamped tightly in position at the very beginning of the operation and after this is done the sighting may be done by the microscope and then the carrier or holder carrying the microscope and punch may be released and swung so that the punch and die are in operative relationship with the article to be marked, at which time the locking device 87 may be operated to lock the instrument holder in position and then the punch may be actuated to mark the article.

It will be understood that changes and modifications may be made without departing from the spirit of the invention.

What we claim is:

1. A device of the class specified having a work holder and a swinging frame mounted for swinging movement about a vertical axis, said frame having a horizontally arranged member above the work supporting surface of the work holder, and another horizontally

arranged member below said surface, a sighting device carried by the upper horizontal member and cooperating parts of a marking mechanism, one of which parts is carried by the upper member and the other by the lower member.

2. A device of the class specified having a work holder and a swinging frame mounted to swing about a vertical axis, said frame having upper and lower members, one arranged above and the other below the work supporting surface of the work holder, a microscope carried by the upper swinging member, and a punch and die mechanism, one part of which is mounted on the upper member and the other part of which is mounted on the lower member.

3. A device of the class specified comprising a work holder, a swinging frame having upper and lower members whereof the upper member is above the work supporting surface of the work holder and the lower member below said surface, a microscope carried by the upper member of said frame, a punch and die mechanism whereof the punch is carried by the upper swinging member and a die by the lower swinging member, means for mounting the punch so that it may be adjusted and operated, said means comprising a screw carried by the upper member and an operating handle for the same, an arm carried by the supporting spindle or post for the swinging frame and made rigid with said post, a stop device comprising a plunger having a projection adapted to enter one of several notches in said arm, said plunger being carried by the upper member of said swinging frame so as to hold the latter in adjusted position, and a work holding device comprising a pivoted lever having a foot adapted to rest upon the work on the holder, and a thumb screw for engaging and actuating said lever.

4. In a device of the class described, the combination with a stationary work-holding frame, of a swinging member provided with a sighting device and marking mechanism and arranged to swing so as to interchange the sighting device and marking mechanism in operative position on said work-holding frame, means for locking said swinging member in either of its two positions, and means for clamping the work in position on said work-holding frame, said last-named means consisting of a bar fulcrumed on the work-holding frame and having a screw threaded through one end engaging the work-holding frame and a spring pressed foot on the other end engaging the work.

5. In a device of the class described, the combination of a work-holder with a swinging frame having upper and lower members, whereof the upper member is above the work-supporting surface of the work-holder and the lower member below said surface, a microscope carried by the upper member of said frame, a punch and die mechanism whereof the punch is carried by the upper swinging member and a die by the lower swinging member, and means for mounting the punch so that it may be adjusted and operated, said means comprising a screw carried by the upper member and an operating handle for the same.

In witness whereof, we hereunto subscribe our names this 31st day of August A. D., 1927.

DAVID D. VANDERCOOK.
EDWARD O. VANDERCOOK.
FREDERICK R. VANDERCOOK.