Aug. 25, 1936. E. ROBERTS, JR 2,052,247

HOT STAMPING DEVICE

Filed July 23, 1935 4 Sheets-Sheet 1

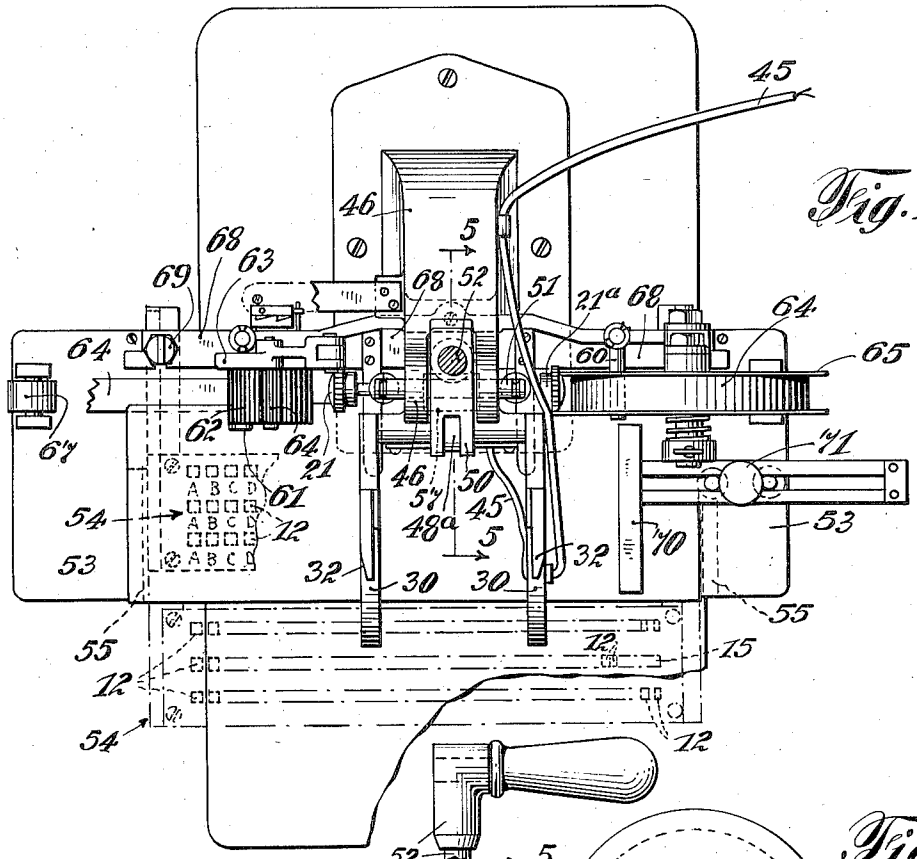


Fig. 1.

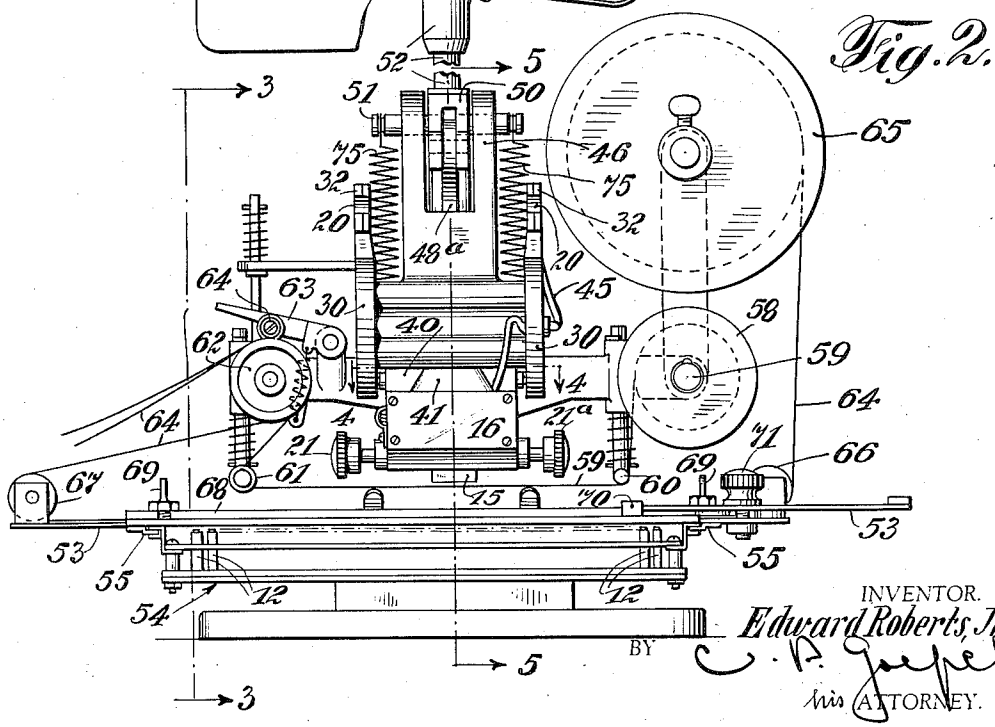


Fig. 2.

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Filed July 23, 1935 4 Sheets-Sheet 2

Fig. 3.

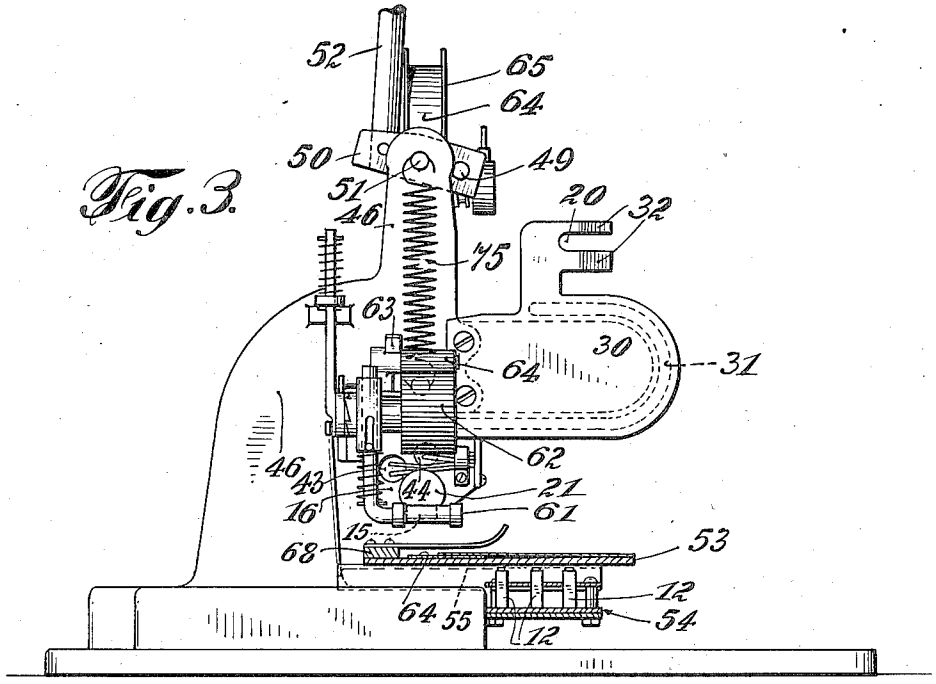
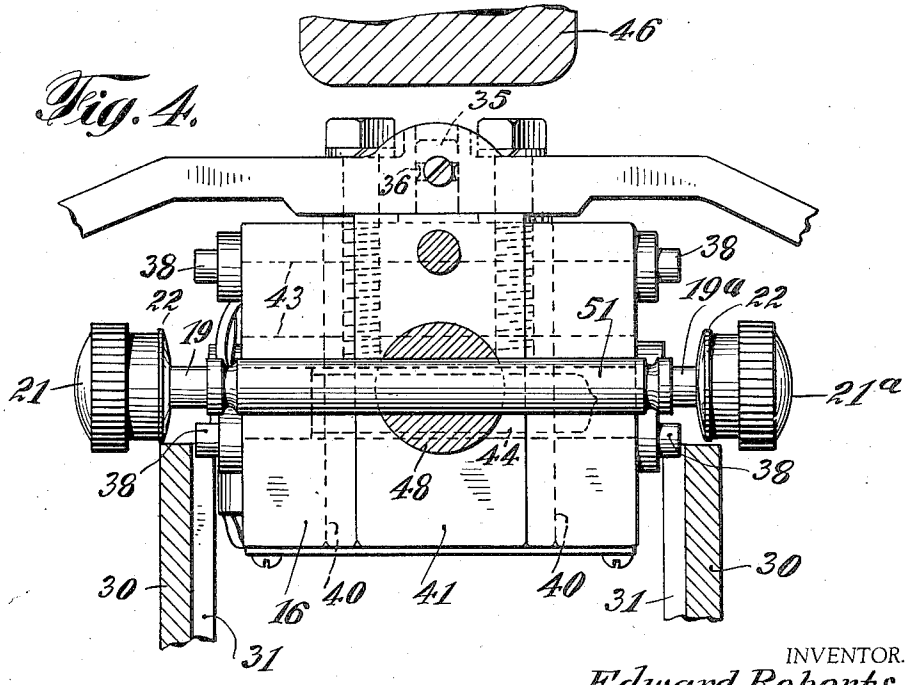


Fig. 4.



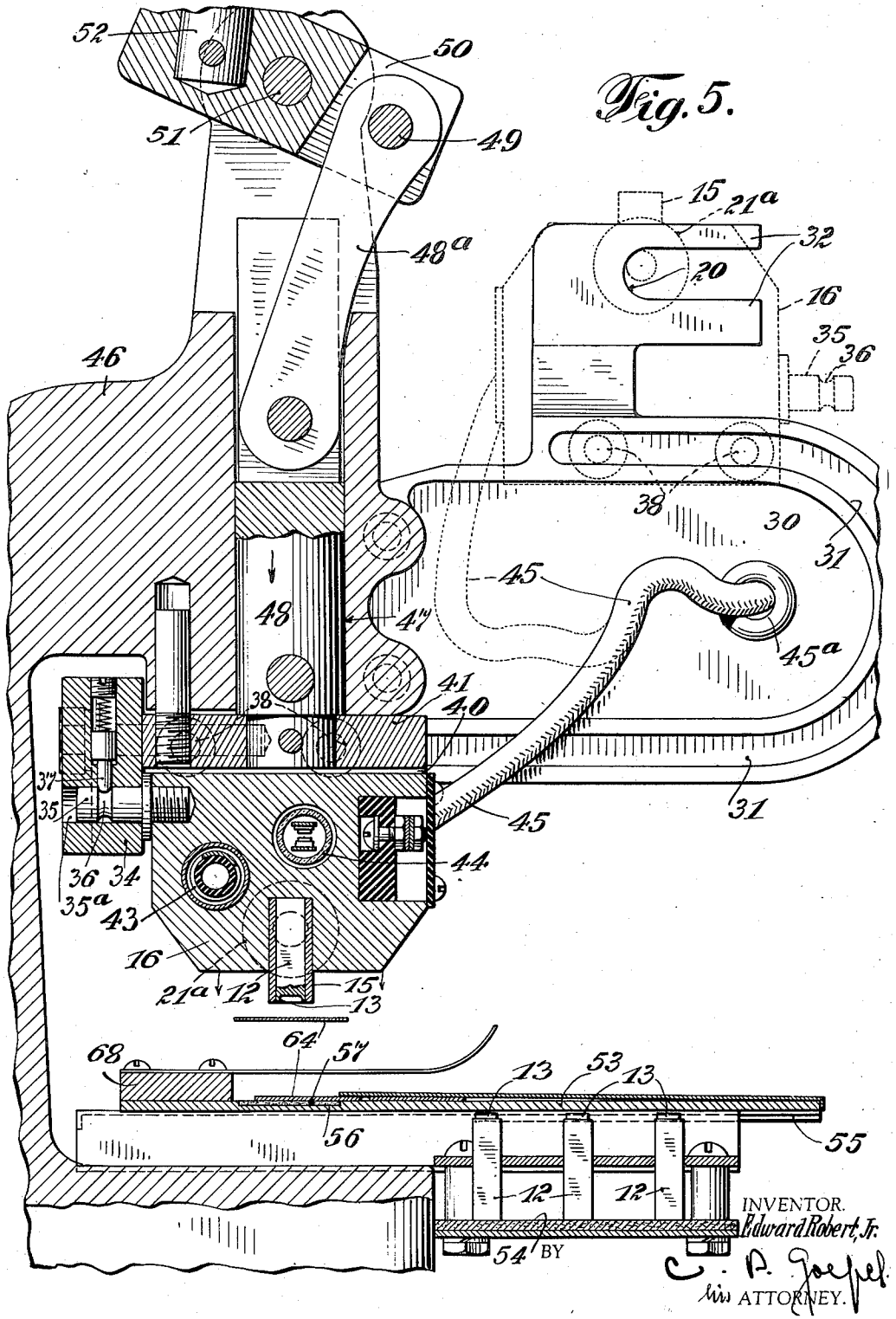
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HOT STAMPING DEVICE

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Fig. 5.



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HOT STAMPING DEVICE

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Fig. 6.

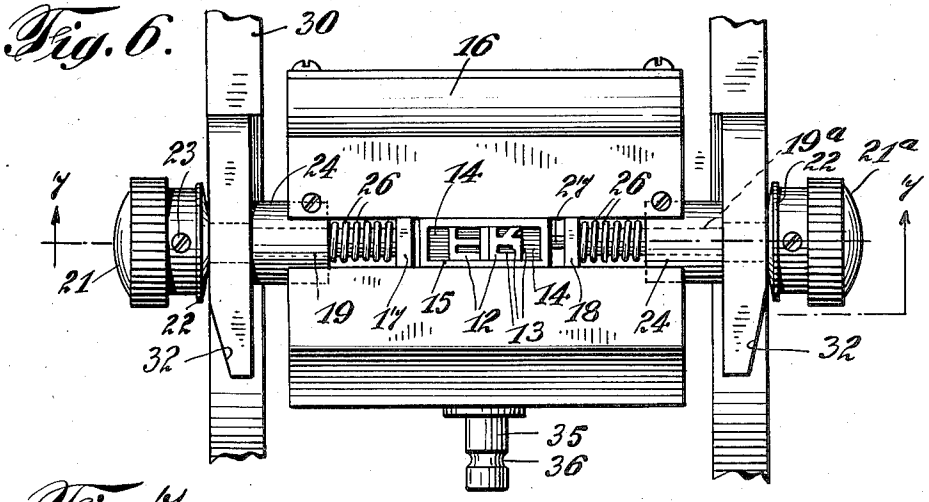


Fig. 7.

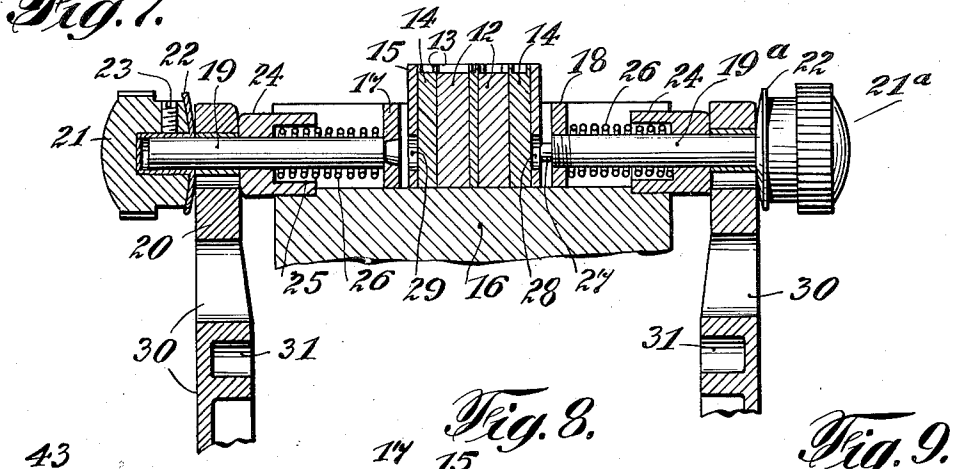


Fig. 8.

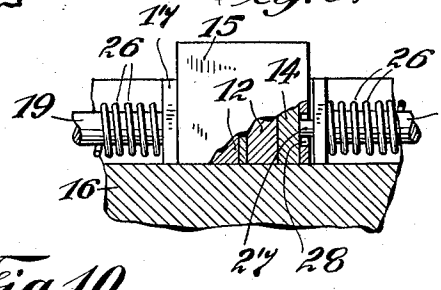


Fig. 9.

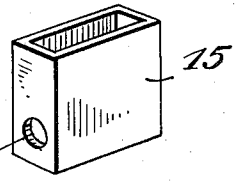


Fig. 10.

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UNITED STATES PATENT OFFICE

2,052,247

HOT STAMPING DEVICE

Edward Roberts, Jr., Hohokus, N. J., assignor to Roberts, Cushman & Company, New York, N. Y., a corporation of New York

Application July 23, 1935, Serial No. 32,690

11 Claims. (Cl. 101—9)

This invention relates to hot stamping devices particularly adapted to cut out monogram-forming type.

The object of the invention is to provide a simple and efficient machine which, with very little instruction, can be used by any operator for the purpose of stamping monograms into letterheads or similar uses, and preferably to do this any color compared to the color of the paper to which the monogram is applied can be used.

The invention has for its object to provide an improved means for holding the type during its operation, which however is very simple in operation to permit the hot type to be discharged therefrom, to enable interchange type to be used for the next monogram.

The invention also has for its object to provide a simple and efficient means for holding the type which is hidden from view of a bystander but is capable of being utilized by the operator when using the machine.

For these purposes, the invention consists of a hot stamping device especially adapted for cut-out type in which a novel chase supports the type and permits it to be released therefrom, and which chase is brought into position for stamping operation by a very simple operation.

The invention consists further in the arrangement of the type holding tray below the body of the machine whereby it is out of view when not used and is within the scope of the work of the operator when being used and away from any bystanders.

The invention consists further in the novel arrangement of parts necessary to carry out the stamping operation.

The invention consists further in certain combinations of parts, embodiments of which are shown in the accompanying drawings and which will be described hereinafter and finally pointed out in the claims.

In the accompanying drawings,—

Figure 1 is a plan view of an embodiment of my invention of a hot stamping machine;

Figure 2 is a front view of the same;

Figure 3 is a vertical section taken on the line 3—3 of Figure 2;

Figure 4 is a horizontal section taken on line 4—4 of Fig. 2;

Figure 5 is a vertical section taken on line 5—5 of Figs. 1 and 2;

Figure 6 is a top view of the chase which is shown in closed position in Fig. 5;

Figure 7 is a section taken on line 7—7 of Fig. 6;

Figure 8 is a detailed view partly in section of the type holding case held in operative position;

Figure 9 is a perspective view of the type holding case; and

Figure 10 is a diagrammatic view of the electrical connections used for the thermostat and heater, utilized to heat the type during the operation of the machine.

Similar characters of reference indicate corresponding parts throughout the various views.

Referring to the drawings, and more particularly to Figures 6 to 9, wherein the type and the type holding case are shown, the type used in the hot stamping machine forming the invention of this application, is a cut-out monogram type. In Figure 7, a side view of the type is shown by 12 having the sharp and very narrow pojections 13 forming portions adapted to cut out paper so as to provide perforations in the letterheads, the letters forming the monogram of a letterhead being in outline form with the parts of the letter paper cut away so as to form outlines of the initial against the background of the paper itself. These type have the projections 13 in very sharp contour. Interposed between the type are the usual spacers such as used in printing indicated at 14, and these types necessary to form the adapted monogram and the spacers are loosely held in a type case 15 shown in perspective in Figure 9. This type casing 15 is supported upon the body portion of a chase 16 and the type casing 15 is adapted to be placed upon the said body portion between two oppositely disposed spring actuated walls 17 and 18. The wall 17 is formed as part of the movable shaft 19, which passes through the trunnions 20 and has at its exterior end a knob 21. Around the movable shaft 19 is a cap portion 22 which embraces the free end of a shaft 19 and which is secured to knob 21 by means of a screw 23. At one side of the trunnion 20 a member 24 having a recess 25 is placed, and within the recess one end of a spring 26 is seated, the other end of the spring 26 acting against one face of the wall 17.

The normal tendency of the spring 26 is to force the wall member 17 inwardly, and when the knob 21 is pulled outwardly towards the left of the prong shown in Fig. 7, the wall member 17 is moved therewith and compresses the spring 26. The right hand of Fig. 7 shows a similar structure in all the parts described operating in the same way, but in this case the shaft 19a has a stubbed projection 27 adapted to enter an opening 28 in the end wall of the type casing 15. This type casing 15 is provided with a similar

opening 29 at its other side so that no matter in what position the type casing 15 is inserted between the walls 17 and 18, at least one of the openings either 28 or 29 is engaged by the stub projection 27. The function of the projection 27 is to enter one of the openings 28 or 29 and thus hold the type casing in position.

In Figure 8, there is shown a position of the type casing 15 as held in position by the action of the oppositely disposed pressure members 19 and 19a, with the stub 27 engaging the opening 28 of the casing, and also exerting a pressure upon the types and spacers within the casing. It is in this position that the type is used to cut the monograms in the paper, when the type is brought into stamping position. When it is desired to permit the type to fall out of the casing 15, the knob 21a is pulled outwardly a slight distance to release the stub 27 from pressure upon the type whereupon the type can fall out of the casing. If it is desired to release the casing 15, the knob or knobs 21, 21a are pulled out slightly further to disengage the stud from the opening 28, and to disengage the pressure of the wall members 17 and 18 from the end walls of the holder 15, whereupon the holder can also drop out by gravity. The action of the knobs 21 and 21a has been described as operated by hand. This action can also be brought about by automatic means, in that supporting rails 30 for the chase are arranged parallel to each other having guideways 31. Wedge shaped members 32 serve to press the knobs 21 and 21a outwardly, whereby the pressure on the type and casing is released and the type and spacers may be taken out of the chase, and other type and spacers substituted. If desired, the casing 15 may also be removed. The drawing of Figure 6 shows a top view of the parts described, with all of the type facing vertically upwards for insertion and removal.

Figures 3 and 5 show side views of the chase rails 30 and guideways 31, and the wedged shaped members 32. The chase 16 is provided with a cylindrical extension 35 having a groove 36, which is adapted to fit into a locking device in the member 34 of the machine, which locking device consists of a spring actuated pin 37 fitting into the groove 36 when the extension member 35 is inserted into the bore 35a. This serves to temporarily lock the chase in position, so as to hold it during the stamping operation, as shown in Figure 5. The chase is provided with rollers 38 on each side thereof to engage with the guideways 31. Normally the chase is in type-up position as shown in dotted lines in Figure 5 for the setting of the type; then it is moved from the position in dotted lines to the position in full lines in Figure 5, in position for the stamping operation, the movement being along the guideways 31. The chase, as shown in Figure 2, is provided with a V-shaped recessed portion 40, adapted to engage a correspondingly shaped downwardly projecting member 41 on the press so as to lock the parts together for the stamping operation.

When the chase reaches the position shown in full lines in Figure 5, its rollers have left the guideways 31, since these terminate, and since the chase is guided by the wedge shaped members 40 and 41.

The chase is operated for its stamping operation by any suitable press. In the embodiment, the standard 46 of the machine is provided with a bore 47 in which a plunger 48 moves vertically upwardly or downwardly, this plunger being operated by a pivoted link 48a pivoted also at 49 to lever 50, pivoted at 51 to the standard 46, which lever 50 is in turn operated by a hand lever 52. The downward movement of the plunger 48 moves the chase support and chase downwardly for its stamping operation.

Beneath the plunger 48 is a table 53, under which a type holding tray 54 is placed which is guided drawer-fashion in the guideways 55 extending from the lower surface of the table. The tray is shown in extended open position in Figure 1, in plan view, in end view in Figure 2, in end view in Figures 3 and 5. The tray has arranged thereon suitable holding devices to enable the types to be alphabetically disposed therein with a supply of spacers, and if desired, a few extra type holders like that shown in Figure 9, to replace the hot one. Also, if desired, a plurality of type parts may be used. The advantage of having the type tray below the table is that it is readily accessible to the operator, and out of the way of the inquisitive bystander who is likely to play with the type or take one or more out of the tray and then misplace it on returning it. Also, when the hot type drops out upon the table, it is most readily separated and placed in its proper position in the tray.

The table 53 has a cut-out portion 56, which is preferably filled in by a fiber plate 57, so that when for any reason the paper to be stamped and its backing do not sufficiently break the force of the type, the type is not forced full force against a hard metal surface such as is used for the table.

The paper to be stamped may also be coated with a silver or gilt or other colored finish and for this purpose a supply roller 58 suitably supported on a shaft 59 is in turn supported by a part of the frame or standard of the machine; and this colored strip 59a then extends over a spring actuated roller 60, also supported on the frame of the machine, and then passes below the sphere of influence of the type of the chase; then over a similar spring actuated roller 61, and then over a clutch roller 62 supported to the frame of the machine, which clutch roller 62 has a spring actuated lever 63 with a roller 64 pressing on the strip passing over the roller 62, all as shown in Figure 2.

To serve as a soft backing for the colored strip, another strip 64 of fiber-like material passes from the supply roller 65 over a roller 66, then across the sphere of influence of the type and then over the roller 67 to the clutch roller 62, all as shown in Figure 2.

The paper to be stamped is placed on the table 53 as shown in Figure 1 and to facilitate accurate stamping, gauges are provided against which the papers may be placed. One such gauge 68 is at the rear of the table 53, and is regulated by set screws 69, and is parallel to the front of the machine; and another gauge 70 substantially vertical thereto regulates the side of the paper to be stamped and is held in position and regulated by set screws 71.

The operation is as follows:

The type is selected and then after the casing has been placed into the chase, the type and spacers are placed into the casing, when the chase is in the position shown in dotted lines in Fig. 5. The current is then turned on and the heating element serves to heat the type. The chase is then moved in its guideways from the position shown in dotted lines in Figure 5 to the full line

position in Figure 5. The handle is then operated and the plunger and chase and heated cut-out type brought down against the colored paper, this against the paper to be stamped, and all against the fiber backing strip; and against the platen of the fiber, until the stamping of the monogram is completed, when the handle is released and the parts return to their initial position by the action of the springs 75. The chase with its type is used as often as desired, the chase remaining in its position as shown in full lines in Figure 5.

When a new monogram is desired, the chase is moved on its guideways to the dotted line position as shown in Fig. 5, and the new type and spacing can be inserted upon the removal of the old, by means of tweezers or the like, in view of the heated condition of the type. Or the chase can be moved to about a position directly below the dotted line position, but in upside down position and still on the guideways, and by normally pulling outwardly the knobs 21 and 21a, either the type first or then the casing 15, or both can be dropped out by gravity. The chase is then moved up to the dotted line position in Fig. 5, and a new casing and a new type, as the case may be, can be inserted.

The paper to be stamped can, if desired, be provided with a colored background at the place where stamped which then provides a two color effect.

My invention has been illustrated and described with some degree of particularity, but it is understood that changes may be made in the form of details and in the construction and arrangement of parts without departing from the spirit and scope of the invention or the scope of the appended claims.

I claim:

1. A hot stamping machine comprising a press, a type chase movable by the press, means for moving the type chase into and out of position for action by the press, a colored strip below the type chase when in position to be operated by the press, means for moving the strip with each movement of the press, a backing strip below the colored strip, and means for moving the backing strip with each movement of the press, both the colored strip and backing strip being operated by the press at the same time, to present new parts thereof to the next stamping.

2. A hot stamping machine comprising a press, a type chase movable by the press, cutting type therein, means for heating the same, means for moving the type chase with the cutting type and the heating means into and out of position for action by the press, a table, a colored strip below the type chase when in position to be operated by the press, and spaced from said table above the paper to be cut, means above the table for moving the strip outwardly under the type with each movement of the press, a backing strip below the colored strip and resting on the table and below the paper to be cut, and means above the table for moving the backing strip with each movement of the press, outwardly under the type in consonance with the movement of the colored strip.

3. A hot stamping machine comprising a press, a type chase movable by the press, cutting type in said chase, means for moving the type chase into and out of position for action by the press, a colored strip below the type chase when in position to be operated by the press, means for moving the strip with each movement of the press, a backing strip below the colored strip, means for moving it with each movement of the press, and a separable shock absorbing plate below the backing strip, said plate being adapted to take up the pressure of the cutting type, when cutting the colored strip.

4. In a hot stamping machine, a movable chase, means for holding type therein, manual means for releasing said type from said chase, means for guiding the movement of said chase into and out of press action position, and means in the path of movement of said chase when moving on said guiding means, said guiding means coacting with said manual means for loosening the hold on said type for removing the type from said chase.

5. In a hot stamping machine, a movable chase, means for holding type therein, manual means for releasing said type from said chase, a type holding casing in said chase, means for guiding the movement of said chase into and out of press action position, and means in the path of movement of said chase when moving in said guiding means coacting with said manual means for loosening the hold on said type for removing the type and casing from said chase.

6. In a hot stamping machine, a press, a chase, guiding means for said chase for holding it in position to set the type therein and for guiding the chase to a position in line for the press action, type-holding means in said chase, and release means for said type-holding means on said guiding means operative when the chase is moved to type setting position.

7. In a hot stamping machine, a chase having a thermostatic heating means therein, a type casing adapted to be placed therein, cutting type adapted to be placed in the casing, pressure means at opposite sides of the casing to hold the casing and the type therein in the case, means for releasing said pressure means for either releasing the type or the type and casing from said chase, means for guiding said chase into and out of press action position, and means in the path of movement of said chase when moved in said guiding means, for releasing said pressure means.

8. In a hot stamping machine, a chase having a thermostatic heating means therein, a type casing adapted to be placed therein, cutting type adapted to be placed in the casing, an opening in the opposite ends of the casing, pressure means at opposite sides of the casing to hold the casing and the type therein in the case, said pressure means having a spring actuated pin entering one of said holes and pressing upon the type, means for releasing said pressure means for either releasing the type or the type and casing from said chase, means for guiding said chase into and out of press action position, and means in the path of movement of said chase when moved in said guiding means, for releasing said pressure means.

9. In a hot stamping machine, a press, a wedge shaped member operated by said press, a chase having a member adapted to cooperate with said wedge shaped member, a spring catch on said press, members on said chase adapted to cooperate with said spring pressed member of the press when the wedge shaped members engage each other, and means for guiding the chase into and out of position for engagement of said wedge shaped members or disengagement thereof.

10. In a stamping machine, a standard, a press

above said standard, a table for said press extending forwardly of the standard and press, means for holding type not in use below the table in front of the standard, a tray under the table at the front of the standard for holding loose type, means under the extending table for guiding the tray for moving it forward of the table to exposed position, and a movable chase above the table adapted to discharge its type on the table adjacent the tray.

11. In a stamping machine, a press, a chase, type held by said chase, means for guiding the chase to and from the press, said means being of curved shape to guide the chase from position with type facing uppermost, to a position with type facing in the opposite direction, means for holding the type in the chase, and means for releasing said holding means, whereby on the release of the type the type may drop out of the chase by gravity when said chase is in a position with its type in face down position.

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