

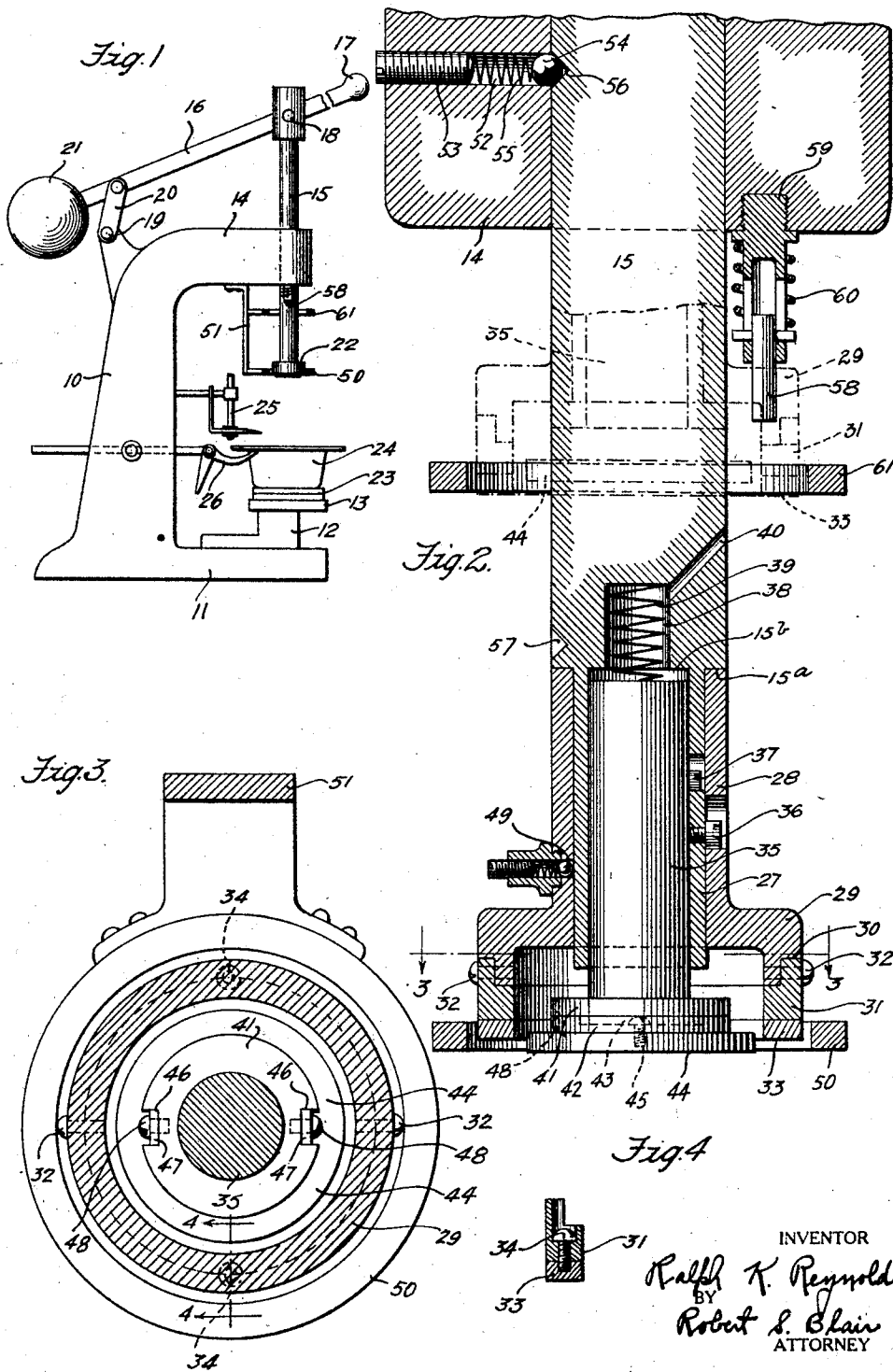
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R. K. REYNOLDS

HAT MARKING

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HAT MARKING.

Application filed October 19, 1923. Serial No. 669,480.

To all whom it may concern:

Be it known that I, RALPH K. REYNOLDS, a citizen of the United States, and a resident of Danbury, in the county of Fairfield and State of Connecticut, have invented an Improvement in Hat Marking, of which the following is a specification.

This invention relates to the marking of hats. One of the objects thereof is to provide a simple and effective art whereby hats may be marked, as with the label of the manufacturer, in a highly efficient and satisfactory manner. Another object is to provide an art of the above nature which is thoroughly practical and conveniently applicable to the conditions of practical use. Another object is to provide hat marking apparatus reliable in action and capable of applying the mark to the hat in a highly efficient manner. Another object is to provide such apparatus compact in construction and simple in operation. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, arrangements of parts and in the several steps and relation and order of each of the same to one or more of the others all as will be illustratively described herein, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown one of the various possible embodiments of the mechanical features of this invention:

Figure 1 is a side elevation.

Figure 2 is a vertical sectional elevation in enlarged detail of certain parts detached from Figure 1.

Figure 3 is a section taken substantially along the line 3—3 of Figure 2, and

Figure 4 is a section taken substantially along the line 4—4 of Figure 3.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing in detail and first to Figure 1, there is shown a supporting frame 10 upon the base 11 of which is secured in proper position a bed 12 having a table portion 13. The upper arm 14 of the frame 10 forms a bearing of any desired type for guiding a vertical reciprocating rod or plunger 15. Movement of

the rod 15 is brought about by any suitable means as, for example, by means of a lever 16 provided with a handle 17 and pivoted as at 18 to the rod 15. The rear end of the lever 16 is anchored to the frame 10 as at 19 by means of a swinging link 20 and is provided at its end with a suitable counterweight 21 of such proportions as to substantially counterbalance the weight of the parts connected with the lever. In this manner the lever 16 and the parts connected therewith will retain the position in which they are brought to rest and the operator manipulating the apparatus by means of the handle 17 can nicely judge the amount of pressure which he applies by means of the handle.

At the lower end of the rod 15 is mounted a printing mechanism indicated generally at 22 in Figure 1, which will be more fully described hereinafter. The rod 15 is aligned with the table 13 and upon the latter are placed one or more layers of a yielding substance 23 upon which the hat 24 to be printed is supported in inverted position as shown. There are shown at 25 and 26 indicating devices and mechanisms for properly positioning and centering the hat with respect to the printing device. These last parts are shown only diagrammatically in the drawing and are preferably constructed and operated substantially as described in Patent No. 1,477,282, granted November 5, 1923.

Considering now the construction of the printing device indicated generally at 22 in Figure 1, reference is had to Figure 2 wherein the lower portion of the rod 15 and the parts associated therewith are shown in enlarged detail. The lower end of the rod 15 is of reduced diameter and this portion of reduced diameter is hollowed out thus forming a sleeve-like end portion 27. About this sleeve portion 27 rests a cylindrical member 28 having its lower portion flanged outwardly and downwardly as at 29. This member 28 preferably has a substantially snug fit upon the part 27, but is slidable thereon. A screw 36 secured to the part 27 and projecting into a slot in the member 28 permits movement of the latter upwardly against the shoulder 15^a, but limits its downward movement upon the part 27 as will be later described. The lower end of the flanged portion 29 of the member 28

is under cut as at 30 and registering with this under cut lower surface is a ring member 31 secured to the member 28 as by means of a pair of oppositely disposed screws 32. Secured against the lower surface of this ring 31 is an annular die member or stamp 33 which is preferably cut in brass. As is shown in Figures 3 and 4 the die member 33 is secured to the ring 31 preferably by means of a pair of vertical screws 34 disposed at opposite points on and passing through the ring 31 from the top. In this manner the die may be conveniently mounted by first securing the die to the ring 31 by means of the screws 34 and thereupon securing the ring to the member 28 by means of the screws 32. The screws serve to correctly position and center the die.

Inside the sleeve-like portion 27 of the rod 15 is a cylindrical member 35 preferably having a substantially snug fit therein, but slidable therein as is the sleeve 28 upon the outer surface of the part 27. A screw 37 projecting from the surface of the member 35 into a slot in the part 27 permits movement of the part 35 upwardly against the shoulder 15^b, but limits its downward movement relative to the part 27 as will be later described. The rod 15 is recessed as at 38 about the shoulder 15^b above the member 35 and resting in this recess is a compression spring 39 urging the member 35 downwardly relative to the member 27. A passage 40 opening into the recess 38 provides for oiling and at the same time furnishes a vent to prevent air above the member 35 from interfering with the movement of the latter.

The member 35 has a lower flanged end portion 41 against the lower surface of which rests a plate member 42 the upper surface of which is recessed as indicated at 43. A die member or stamp 44 circular in shape and preferably cut from brass is secured against the lower surface of the plate 42 preferably by means of a single screw 45 centrally disposed and extending downwardly from the recessed part 43 of the plate 42 through the plate 42 and into the die member. The flange 41 of the member 35 and the plate 42 are each provided on their peripheries with a pair of slots 46 respectively registering and preferably spaced substantially 180° apart. A pair of short metal strips 47 resting in these registering slots secure the plate member 42 to the flange 41 by a pair of screws 48 passing through each strip 47 and into the flange 41 and the ring 42 respectively. This mounting of the die 44 permits the die to be conveniently mounted and properly positioned and centered upon the plate 42 whereupon the registering slots 46 correctly position the plate and die upon the flange 41 of the member 35.

As has been described with regard to Figure 1, the hat 24 is supported in inverted position upon the table 13 and correctly aligned and centered with respect to the rod or plunger 15. In the operation of the apparatus the rod 15 is forced downwardly by means of the handle 17, the rod 15 carrying the printing device into engagement with the inner surface of the crown of the hat to mark the latter. The printing mechanisms assume the relative positions shown in Figure 2 of the drawing when upon the upstroke of the rod 15 subsequent to the printing of a hat and for the sake of clearness of description it will be assumed that this stage of the operation prevails in Figure 2. In printing, the dies 33 and 44 engaging the hat, the member 28 bears against the shoulder 15^a and the member 35 bears against the shoulder 15^b in which position the active surfaces of the two dies are in substantially the same plane. Upon movement of the rod 15 upwardly the member 35 is forced downwardly from the shoulder 15^b by the spring 39 to the position shown in Figure 2, its movement being limited by the stop 37. At the same time the member 28 carrying the die 33 is retained in its position against the shoulder 15^a by its friction with the outer surface of the part 27. An adjustable spring pressed ball 49 mounted in the member 28 and bearing against the surface of the part 27 may be employed if desired to increase this frictional holding of the member 28 upon the part 27 as the rod 15 is raised. It will therefore be seen that the active surface of the die 44 remains in contact with the hat after the die 33 has been lifted therefrom and that as the rod 15 is raised the plane of the die 44 is below that of the die 33 as shown in Figure 2.

In this position as shown in Figure 2, the rod 15 being raised as is shown in Figure 1 to lift the dies a convenient distance above the hat, the plane of the active surface of the die 44 is substantially coincident with that of the lower surface of a ring-shaped member 50. This ring-shaped member 50 is supported as shown in Figure 1 by a bracket 51 secured to the frame arm 14 for example and serves as a guide for inking the die member 44. The surface of the die 44 being on a level with the lower surface of the guide 50 the inking roller may be conveniently drawn across the surface and the ink thereby conveniently and evenly applied to all portions of the surface of the die 44, and without danger of striking the die 33.

As shown at the top portion of Figure 2, there is provided in the frame arm 14 an opening 52 leading to the rod or plunger 15, in which opening is threaded a screw 53 urging a ball member 54 against the

surface of the rod 15 through a compression spring 55. The surface of the rod 15 is provided with a groove or recess 56 into which the ball 54 is adapted to slide under the urge of the spring 55 when the groove 56 comes opposite thereto. This groove 56 is so positioned on the rod 15 that the member 54 rests therein when the parts of the die mechanism have reached, in their upward travel, the position shown in Figure 2 with the surface of the die 44 in the plane of the lower surface of the guide 50. The ball 54 thus yieldingly engages the groove 56 and enables the operator to readily tell where to stop the movement of the rod 15 to correctly align die 44 with the guide 50. The ball 54 therefore correctly positions the parts for inking, but does not lock the plunger against easy manipulation in raising or lowering the same.

Spaced downwardly along the rod 15 from the groove 56 is a similar groove 57. Upon the die 44 having been inked as above described the operator raises the plunger 15 further until the ball 54 rests in this second groove 57. Before the rod 15 reaches this position the upper surface of the flanged part 29 of the member 28 carrying the die 33, strikes a stop 58 secured to the frame arm 14 as at 59. This stop 58 is preferably yielding through a compression spring 60. The stop 58 thus engaging the flange 29 forces the member 28 downwardly relative to the part 27 of the rod 15 and away from the shoulder 15^a, such movement being limited by the stop 36. Such movement of the member 28 brings the die member 33 into position relative to the die 44 as indicated in dotted lines in Figure 2, that is, the plane of the surface of the die member 33 is now below that of the surface of the die member 44. The two dies are therefore in such relative positions when the rod 15 has moved upwardly until the groove 57 is engaged by the roller 54. When this latter condition prevails the plane of the active surface of the die 33 is substantially coincident with that of the lower surface of a ring member 61 supported by the bracket 51 in conjunction with the member 50. The lower surface of the member 61 therefore serves as a guide to facilitate inking of the die member 33 in substantially the manner that the guide member 50 facilitates inking of the die 44. The positions of the two dies relative to the guide 61 when the groove 57 is in engagement with the ball 54 and the die 33 is in position for inking, are shown in dotted lines in Figure 2.

From the above it will be seen that there is provided means for dependably inking the two active surfaces of the printing device independently of each other and in a highly satisfactory and convenient manner. The operator is enabled without difficulty to

properly position the plunger 15 to align the dies successively with their respective inking guides which greatly facilitate the inking process. The two die portions may be inked in different colors or with different printing materials without danger of the colors overlapping or running into each other.

The dies having been inked as above described and another hat having been correctly positioned upon the supporting table, the plunger 15 is lowered by manipulation of the handle 17 carrying the dies into the interior of the hat and against the inner surface of the crown. The outer die 33 being now in a relatively lower plane than the inner die 44 engages the surface of the hat first and upon further downward movement of the rod 15 the member 28 carrying the die 33 moves upwardly upon the part 27 until it bears against the shoulder 15^a. During this movement of the member 28 the inner die 44 comes into engagement with the hat and the member 35 carrying the die 44 moves upwardly along the part 27 compressing the spring 39 until its upper end comes against the shoulder 15^b. The two dies are now in the same plane both in engagement with the hat and the operator by means of the handle 17 and the balanced lever 16 may nicely apply the required pressure for proper printing. The yielding members 23 supporting the crown of the hat permit the material of the hat to yield, but yet afford such resistance as to prevent injury to the hat and as is required to result in a clear clean-cut impression.

There is thus provided in this invention an art of marking hats which may be conveniently and rapidly carried on and which results in a marking of the hat which is highly satisfactory in appearance. The marking may be applied in separate distinctive colors which add greatly to its attractive appearance inside the hat. Furthermore, the markings are incapable of removal or substitution. The apparatus described above is simple in operation and performs its functions in a positive and dependable manner without the need of great manual skill. The parts are adapted for rapid operation and are disposed for convenience in positioning and removing the hats without danger of deformation or soiling thereof.

As many possible embodiments may be made of the mechanical features of the above invention and as the art herein described might be varied in various parts all without departing from the scope of the invention, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In hat marking apparatus, in combina-

tion, means adapted to support a hat in inverted position, a printing die mounted for vertical movement into and out of engagement with the inner surface of the crown of said inverted hat, means for moving said die, and a member substantially embracing the path of movement of said die at a point above said hat and having a smooth lower face across which an inking roller is adapted to be drawn contacting the operative surface of said die to ink the same subsequently to the positioning of said hat in inverted position for printing thereon.

2. In hat marking apparatus, in combination, means adapted to support a hat, a printing die, means for moving said printing die to operate upon said hat, a device adjacent the path of movement of said die for guiding an inking roller over the surface thereof, and a stop device for positioning said die with respect to said guide.

3. In hat marking apparatus, in combination, means adapted to support a hat, a printing die adapted to move into and out of operative relation to said hat, means for guiding an inking device over said die, and yielding means adapted to retain said die in operative position relative to said guide.

4. In hat marking apparatus, in combination, means adapted to support a hat, a printing die, a movable member to which said die is connected adapted to carry the same into contact with said hat, means adjacent the path of travel of said die adapted to facilitate inking thereof, and yielding means adapted to engage said movable member to position said die in operative relation to said last means.

5. In hat marking apparatus, in combination, means adapted to support a hat, a printing die, a movable member to which said die is connected adapted to carry the same into engagement with said hat, means adjacent the path of travel of said die adapted to facilitate inking thereof, and a spring pressed member adapted to engage a recess in said movable member to yieldingly arrest the movement thereof and position said die in operative relation to said last means.

6. In hat marking apparatus, in combination, means adapted to support a hat in inverted position, a printing device mounted for vertical movement into and out of engagement with the inner surface of the crown of said hat, said printing device having a plurality of operative faces adapted to be separately inked, means for moving said die, and a plurality of members spaced along the path of movement of said printing device above said hat, substantially embracing said path of movement and having lower faces across which inking rollers are adapted to be passed respectively to contact said plurality of operative faces to separately ink the same subsequently to the positioning

of said hat in inverted position for printing thereon.

7. In hat marking apparatus, in combination, means adapted to support a hat, a printing device adapted to move into and out of engagement with said hat, said printing device having a plurality of operative surfaces adapted to be separately inked, means spaced along the path of travel of said printing device adapted respectively to facilitate inking of said plurality of surfaces, and means for consecutively positioning said printing device in operative relation to each of said last means.

8. In hat marking apparatus, in combination, means adapted to support a hat, a printing device adapted to move into and out of engagement with said hat, said printing device having a plurality of operative surfaces adapted to be separately inked, means spaced along the path of travel of said printing device adapted respectively to facilitate inking of said plurality of surfaces, and means adapted yieldingly to arrest the movement of said printing device to consecutively position the same in operative relation to each of said last means.

9. In hat marking apparatus, in combination, means adapted to support a hat, a printing device adapted to move into and out of engagement with said hat, a plurality of guiding devices positioned along the path of movement of said printing device adapted to guide an inking device into engagement therewith, and means adapted to consecutively position said printing device in operative relation to each of said plurality of guiding devices.

10. In hat marking apparatus, in combination, means adapted to support a hat in inverted position, a plurality of marking devices adapted to be separately prepared for marking, means mounting said devices for movement downwardly into engagement with the inner surface of the crown of said hat, and means above said hat for facilitating the separate preparation of said separate marking devices for marking said hat.

11. In hat marking apparatus, in combination, means adapted to support a hat, a plurality of marking devices adapted to be separately prepared for marking, means mounting said marking devices for movement as a unit downwardly into engagement with the inner surface of the crown of said hat, and means adjacent the path of movement of said marking devices above said hat adapted to coact with said devices and position them with respect to one another so as to facilitate separate preparation thereof for marking said hat.

12. In hat marking apparatus, in combination, means adapted to support a hat in inverted position, a marking device having a plurality of relatively movable marking

surfaces adapted to be separately prepared for marking, means mounting said device for movement downwardly into engagement with the inner surface of the crown of said hat, and means coacting with said device adapted along its path of movement above said hat to separately advance each of said marking surfaces to facilitate separate preparation thereof for marking said hat.

13. In hat marking apparatus, in combination, means adapted to support a hat, a marking device having a plurality of relatively movable marking surfaces, means mounting said device for movement into and out of engagement with the inner surface of the crown of said hat, and means coacting with said device adapted along its path of movement to separately advance each of said marking surfaces to facilitate separate preparation thereof for marking said hat, said surfaces being adapted upon engagement with said hat to move substantially into a common plane for marking.

14. In hat marking apparatus, in combination, means adapted to support a hat, a marking device comprising a pair of marking surfaces one substantially embracing the other and relatively movable, means mounting said device for movement into and out of engagement with the inner surface of the crown of said hat, and means coacting with said device adapted along its path of movement to separately advance each of said marking surfaces to facilitate separate preparation thereof for marking said hat.

15. In hat marking apparatus, in combination, means for supporting a hat, a member adapted for movement into the interior of the crown of said hat, and a plurality of marking devices mounted upon said member adapted to be carried thereby into engagement with the inner surface of the crown of said hat, said marking devices being adapted to be separately prepared for marking and being each movable relative to said member upon which they are carried to permit their relative positioning for separate preparation for marking.

16. In hat marking apparatus, in combination, means adapted to support a hat, a member adapted for movement into the interior of the crown of said hat, and a plurality of marking devices mounted upon said member adapted to be carried thereby into engagement with the inner surface of the crown of said hat, said marking devices being adapted to be separately prepared for marking and being relatively movable upon said member upon which they are carried to permit advancement separately of their active surfaces for separate preparation for marking.

17. In hat marking apparatus, in combination, means for supporting a hat, a member adapted for movement into the interior

of the crown of said hat, and a plurality of marking devices mounted upon said member adapted to be carried thereby into engagement with the inner surface of the crown of said hat, said devices being adapted to be separately prepared for marking and being mounted upon said member for relative movement into different planes for separate preparation for marking and being adapted to yield upon engagement with said hat and moved substantially into a common plane for marking.

18. In hat marking apparatus, in combination, means for supporting a hat, a member adapted for movement into the interior of the crown of said hat, and a pair of marking devices adapted to be carried by said member into engagement with the inner surface of the crown of said hat, said marking devices being adapted to be separately prepared for marking and each being slidably mounted upon said member whereby each may be advanced before the other for separate preparation for marking.

19. In hat marking apparatus, in combination, means for supporting a hat, a hollow member adapted for movement into the interior of the crown of said hat, and a pair of marking devices adapted to be carried by said member into engagement with the inner surface of the crown of said hat, said marking devices being adapted to be separately prepared for marking, one thereof being slidably mounted within said hollow member and the other thereof being slidably mounted exterior of said hollow member whereby each may be advanced before the other for separate preparation for marking.

20. In hat marking apparatus, in combination, means adapted to support a hat, printing means adapted for movement into the interior of the crown of said hat and into engagement with the inner surface of said crown, said printing means comprising a plurality of separate marking surfaces, and means for positioning said marking surfaces to permit inking thereof in different colors by drawing an inking roller over each of said surfaces separately without affecting the others.

21. In hat marking apparatus, in combination, means adapted to support a hat, a pair of dies, and means mounting said dies for movement together toward the inner surface of the crown of said hat, adapted to permit yielding of said dies upon engaging said surface, one of said dies being permitted a greater yield than the other.

22. In hat marking apparatus, in combination, a plurality of dies, means for supporting a hat in operative relation to said dies, means adapted to move said dies into engagement with said hat, and means mounting said dies to be alternatively movable relative to each other to bring the active

surface of each forward separately for separate inking.

23. In hat marking apparatus, in combination, a plurality of dies, means for supporting a hat in operative relation thereto, means for moving said dies as a unit into engagement with said hat, and means mounting said dies to permit movement of their active surfaces into relatively different planes to separately bring the active surfaces of each separately forward of the other for separate inking and into a common plane for printing upon engagement with said hat.

24. In hat marking apparatus, in combination, a plurality of relatively movable dies, means for supporting a hat in operative relation thereto, means for moving said dies as a unit into engagement with said hat, and means adapted upon removal of said dies from engagement with said hat to separately advance the active surfaces thereof in succession for separate inking.

25. In hat marking apparatus, in combination a pair of relatively movable dies, one embracing the other, means for supporting a hat in operative relation to said dies, means for moving said dies as a unit into engagement with said hat, and means mounting said dies for movement into relatively different planes for inking and adapted to permit yielding thereof upon engagement with said hat, one of said dies being permitted a greater yield than the other to bring the active surfaces of said two dies into substantially the same plane for printing.

26. In hat marking apparatus, in combination, a plunger, means for supporting a hat in alignment with said plunger, a pair of dies mounted in relatively movable relation upon said plunger and adapted to be carried thereby into engagement with said hat, and means adapted upon movement of said plunger away from said hat to separately advance the active surfaces of each of said two dies before the other for separate inking.

27. In hat marking apparatus, in combination, a plunger, means for supporting a hat in alignment with said plunger, a pair of dies mounted in relatively movable relation upon said plunger and adapted to be carried thereby into engagement with said hat, an inking guide positioned adjacent the path of travel of said dies carried by said plunger, and means adapted upon said dies reaching a position adjacent said guide to advance the active surface of one before that of the other and in alignment with said inking guide.

28. In hat marking apparatus, in combination, a plunger, means for supporting a hat in alignment with said plunger, a pair of dies mounted in relatively movable relation upon said plunger and adapted to be carried thereby into engagement with said hat, an inking guide positioned adjacent the path of travel of said dies carried by said plunger, means adapted upon said dies reaching a position adjacent said guide to advance the active surface of one before that of the other and in alignment with said inking guide, a second inking guide positioned adjacent the path of travel of said dies, and means adapted upon said dies reaching a position adjacent said second guide to advance the active surface of the other die before that of said first die and in alignment with said second inking guide.

29. The herein described art of marking hats, which consists in supporting a felt hat in predetermined position, drawing an inking roller across the surface of a printing die to ink the same in one color, drawing an inking roller across the surface of a second printing die to ink the same in a different color, and moving said dies as a unit into the interior of the crown of said hat and against the inner surface of a portion of the felt supported against outward deformation, to print said felt in two colors.

In testimony whereof, I have signed my name to this specification this eighth day of October, 1923.

RALPH K. REYNOLDS.