E. W. SMITH AND D. A. CABOT.

MARKING MACHINE.

APPLICATION FILED SEPT. 16, 1918.

1,438,191. Patented Dec. 12, 1922.

2 SHEETS—SHEET 1.

Fig.1.

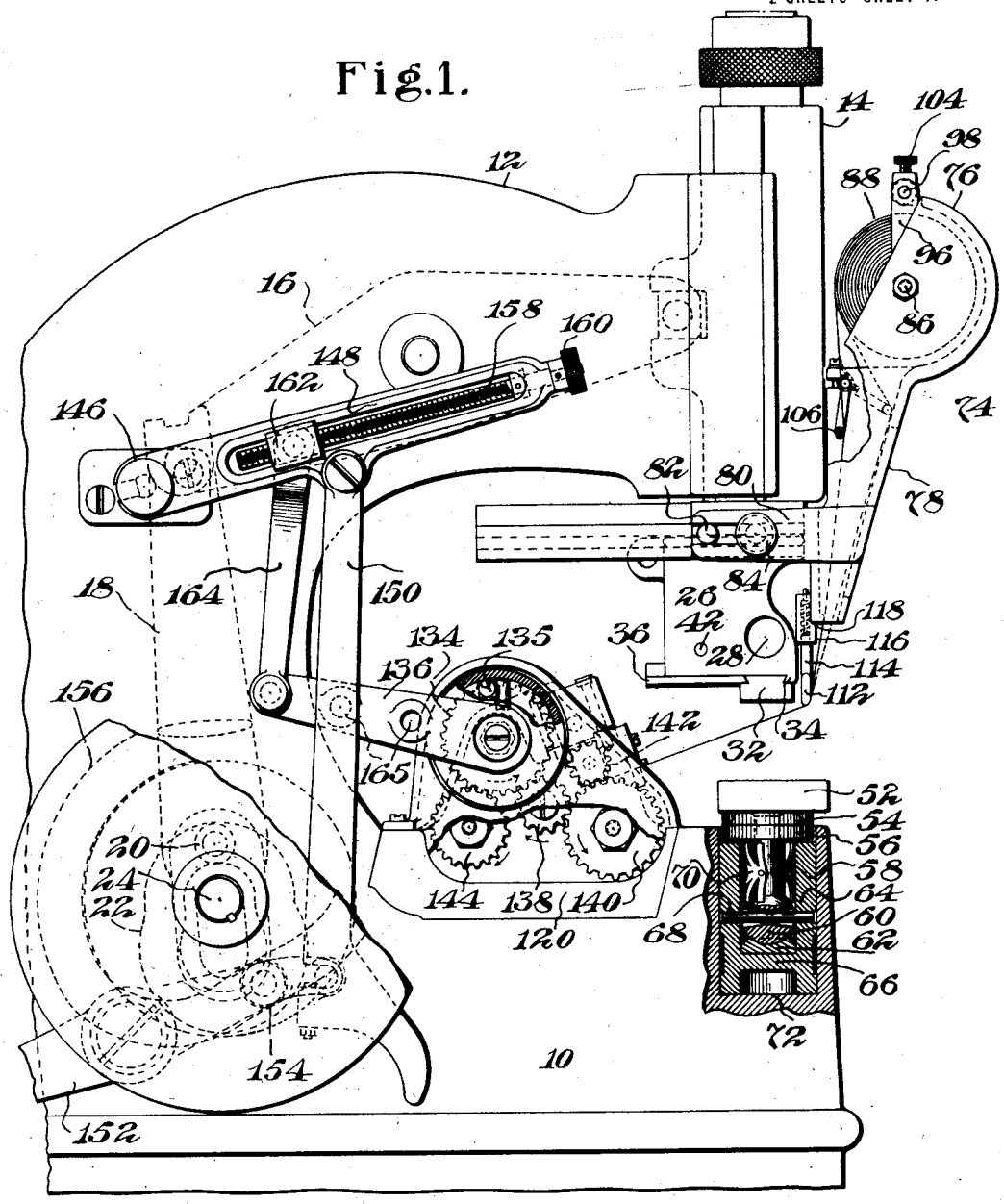
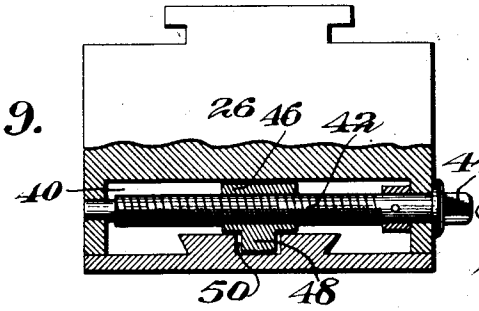


Fig.9.



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2 SHEETS—SHEET 2.

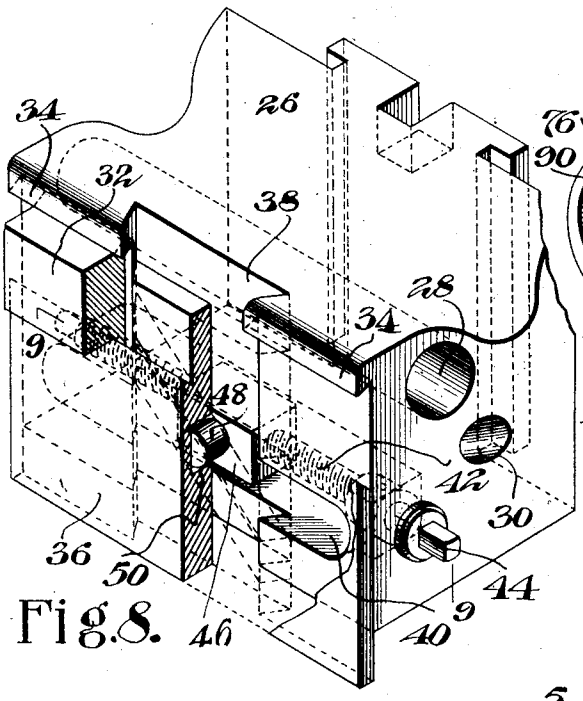

Fig. 8.

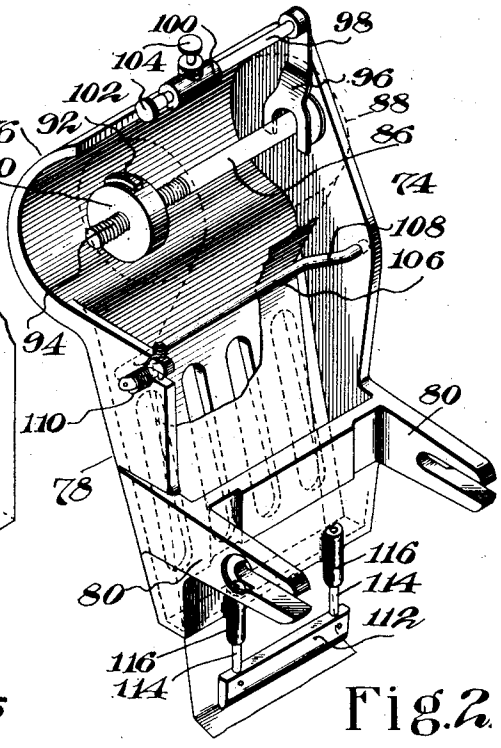

Fig. 2.

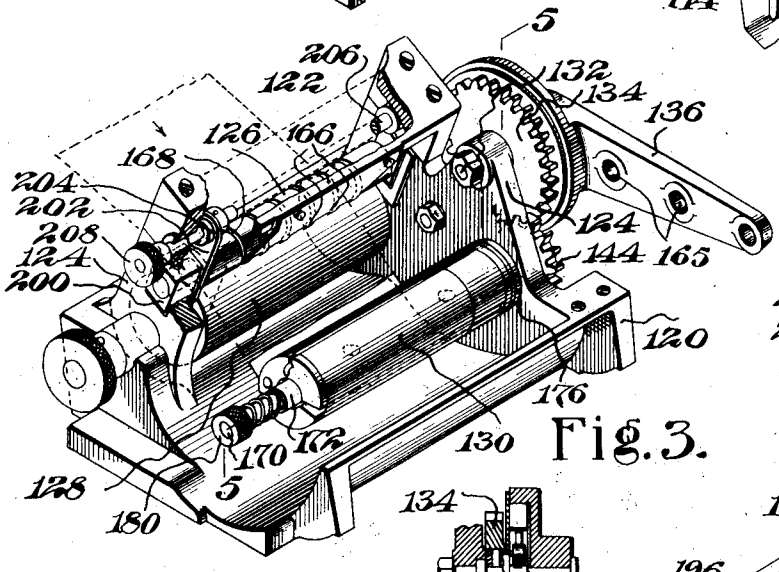

Fig. 3.

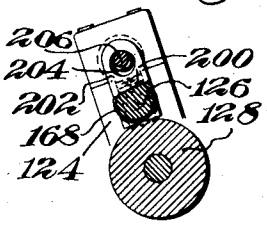

Fig. 4.

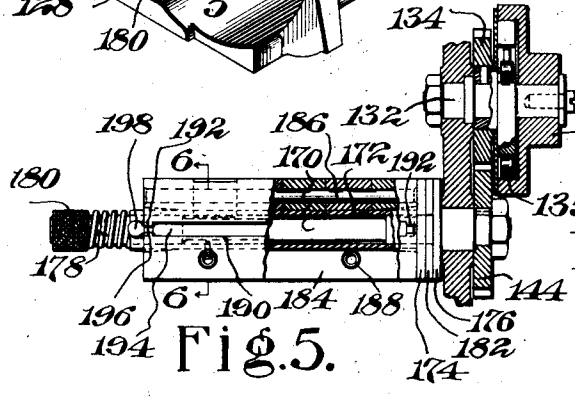

Fig. 5.

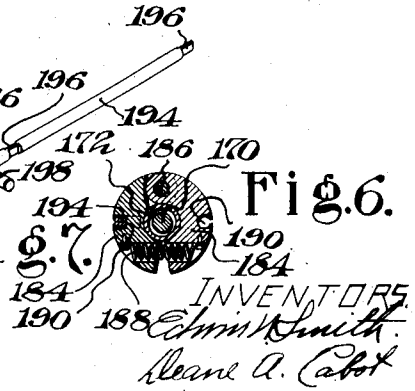

Fig. 6.

Fig. 7.

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Patented Dec. 12, 1922. 1,438,191

UNITED STATES PATENT OFFICE.

EDWIN W. SMITH AND DEANE A. CABOT, OF BEVERLY, MASSACHUSETTS, ASSIGNORS TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MARKING MACHINE.

Application filed September 16, 1918. Serial No. 254,227.

To all whom it may concern:

Be it known that we, EDWIN W. SMITH and DEANE A. CABOT, citizens of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Marking Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to marking machines, and more especially does it concern machines in which the work is impressed in color by interposing between it and a die a marking medium, as a pigment or metallic leaf.

In such apparatus the color medium is often supplied in strip form, the pigment being upon a carrier ribbon of paper. As the die or impression member is heated, and as the strip often passes in its travel from the supply reel to the feed mechanism directly over the die or in close proximity to it—as from a position upon the frame beneath the die-carrying arm, above the die and back between it and the opposite impression member or work support—the ribbon becomes so hot as to cause a separation of the pigment, spoiling the impression. This we avoid by locating the supply device and feeding mechanism at opposite sides of the impression members, as shown, one being mounted on the forwardly extending frame arm and the other between the impression members and said arm. Preferably the supply device is movable with the marking head, the feeding mechanism being mounted on the frame. Since the travel of the supply device with the head tends to produce an objectionable slack in the strip, there is herein shown a take-up device movable with the supply device. To hold the strip normally clear of the die and yet permit it to be brought into contact therewith for the impression and afterward separated therefrom, there is movably mounted on the head a yieldable guide over which the strip passes. In the illustrated embodiment of the invention a conveniently separable casing is shown attached to the marking head, in which casing the supply device, take-up device and guide are mounted.

In marking machines employing a color strip, it has been customary, after the impressions, to accumulate the strip loosely in a receptacle from which it was gathered at intervals. In some instances, as when metallic pigment or leaf is used, this waste strip has considerable value for the purpose of reclaiming the metal, and it is inconvenient to handle in its loose form. For this reason we have associated with the feeding mechanism of the machine a receiving roll upon which the strip is wound and from which it may readily be removed. To compensate for differences in the rate of movement of the strip, as the accumulation on the receiving roll increases the diameter, said roll is driven frictionally so that it may slip and prevent breaking the strip between it and the positively driven feeding mechanism. The receiving roll is shown as mounted upon a spindle and formed in collapsible sections, so that when, with the accumulated strip, it is taken from the spindle, its diameter will decrease and it may be slipped from the coil of strip material and returned to the machine for another winding.

In a strip-supplied marking machine it is desirable to be able to vary the amount the strip of marking medium is advanced for each impression. An object of the invention is to increase the range of this variation. For this purpose a lever is provided between the feed mechanism and the member from which it is driven, there being connections from the lever to the driving member and to the feeding mechanism, one of said connections being movable along the lever. Herein the non-adjustable connection appears as joined to the lever between the extremes of movement of the associated connection. This arrangement results in a compound system in which the effect of one leverage may be added to or subtracted from

that of another. The range of feed may be further increased by furnishing one of the members for joining the lever to the driving member and feeding means with a variable connection at its end opposite that united to the lever.

These and other objects are attained by a machine one arrangement of which is illustrated in the accompanying drawings, in which

Fig. 1 is a side elevation of a marking machine disclosing our invention;

Fig. 2 is a perspective view of the casing mounted upon the marking head and carrying the supply and take-up devices and the guide member;

Fig. 3 is a broken perspective view of the feeding and winding rolls;

Fig. 4 is a detail in side elevation illustrating the lifting means for the upper feed roll;

Fig. 5 is an elevation, partly in section on the line 5—5 of Fig. 3 showing structural details of the winding roll;

Fig. 6 is a transverse section on the line 6—6 of Fig. 5;

Fig. 7 is a detail illustrating the pin for securing the strip to the winding roll;

Fig. 8 is a perspective view of the die-carrying block viewed from its under side; and

Fig. 9 is a section on the line 9—9 of Fig. 8.

The frame of the machine includes a base 10 having an upwardly and forwardly extending arm 12. Located at the forward end of this arm and vertically movable in ways is a head 14 operated by a lever 16 fulcrumed in the arm. The lever is connected at its rear extremity by a link 18 and a pin 20 projecting from one side of the lower end of the link to a cam 22 carried by a power-driven shaft 24 journaled in the base. At the bottom of the head is mounted a die block 26, having extending transversely through it an opening 28 for a source of heat, as an electric unit, and an opening 30 to receive a thermometer for indicating the degree of temperature imparted to the block by the unit. The under face of the head has clamped to it an impression member in the form of a die 32 bearing the characters or design which is to be impressed upon the work. This die is held in dovetail ways furnished between a fixed abutment 34 at the front of the block and a movable abutment in the form of a slide 36 traveling in dovetail ways 38 extending from front to rear of the block. It has been a common practice to urge the movable abutment toward the fixed abutment by springs for the purpose of clamping the die, but in the presence of such heat as is employed in machines of the character hereinbefore described, these springs tend to lose their temper and become ineffective. We therefore prefer to positively move the abutment and since the strip of marking medium passes across the front of the die block, as is to be later described, and as the rear of the block is relatively inaccessible, the means for moving the abutment is located upon said block at an angle to the direction of movement, or at one side of the block. Situated in the lower face of the die block and transversely thereof is an elongated recess or slot 40, in which is mounted a screw 42 to turn in bearings on the block. This screw has at one extremity outside the block a squared head 44, or other means by which it may be rotated. In the slot, threaded upon the screw 42, is guided a block 46 from the bottom of which depends a pin or projection 48 lying within a slot 50 in the movable die holding abutment 36. The slot 50 is inclined with relation to the sides of the block 26 and the direction of movement of the slide 36, preferably at an angle of 45°. When the screw 42 is turned, forcing the pin 48 against the wall of the slot 50, a component of the thrust moves the slide toward and from the fixed abutment to clamp the die in the way 34 or to release it therefrom. It is to be observed that the head 44 by which the screw is turned is at the side of the die block, where it may be readily reached by the operator, it being entirely clear of the strip of marking medium, so that the adjustment may be effected without danger of injuring the delicate material.

Carried upon the base and alined with the die is an opposite impression member, furnished by a table or work-support 52. The table may be removably mounted, as by ways 54, upon a head 56, so that supports of different forms and sizes may be applied to the machine. From the under side of the head projects a spindle 58 having at its lower end a ball 60 seated in a hardened socket 62. The socket is mounted in a casing consisting of a sleeve 64 across which extends a supporting partition 66 for the socket. The table and its appendages may be retained in place in the casing by a pin 68 passing laterally through the casing walls and through an opening in the ball. About the spindle, contacting with it and the surrounding wall of the casing, is an annular spring 70, shown as formed of sheet metal and with separated arms which at their centers are connected by a band pinned to the spindle and at their outer ends rest against the casing. This spring normally maintains the spindle in a vertical position and the work-supporting surface horizontal. The casing is received by a cylindrical recess or bore 72 in the base, so that the work-supporting structure is removable as a unit. The lateral yield of the table about the

universal joint furnished by a ball 60 and socket 62 permits the table to automatically adjust itself to the angle of the die surface and to irregularities in the work.

At the front of the impression head 14 is carried a supporting casing 74, having an upper partly cylindrical portion 76 and a downwardly narrowed extension 78. Near the bottom of the extension are horizontal arms 80, in which are slots to receive pins 82 projecting from the sides of the lower extremity of the head and screws 84 threaded into the head, these holding the casing firmly in place yet allowing it to be easily removed when desired. Situated in the axis of the portion 76 of the casing is a spindle 86 to receive a supply roll 88 of a marking medium or color ribbon co-operating with the die to mark the work. The supply roll is retained upon the spindle by a movable head 90, this head having a spring-pressed dog 92 engaging any one of a series of circumferential grooves 94 situated at the outer end of the spindle 86. The head may be adjusted by means of the dog to properly contact with supply rolls of different lengths. At the opposite end of the roll is a brake member furnished by a fork 96 of spring metal depending from one extremity of a rod 98 passing through an opening in a lug 100 fixed to or integral with the upper edge of the casing portion 76. The rod may be moved to bring the member 96 into more or less firm engagement with the end of the supply roll by a finger piece 102 and fixed in its chosen position by a set screw 104 threaded through the lug and contacting with the rod 98. The pressure of the member 96 acts to prevent the supply roll from spinning, or turning too freely as the ribbon is drawn off.

From the source of supply the ribbon passes over a take-up member consisting of a rod 106 having at its opposite ends crank arms 108, 108 mounted to turn in side walls of the casing 74. Co-operating with one of the arms is a spring 110 exerting its tension to move the horizontal portion 106 of the rod outwardly toward the front of the casing. It is thus pressed against the strip, holding taut any slack therein. Leaving the take-up member, the ribbon runs through the portion 78 of the casing into contact with a guide bar 112. This bar is carried upon vertical arms 114 operating in sockets 116 depending from the bottom of the casing, there being in each socket between its upper extremity and a shoulder on the corresponding arm a spring 118 acting to force the bar downwardly until its lower edge lies below the impression surface of the die. As the die is moved toward the table to effect the impression, the guide bar across which the marking ribbon extends bears upon the surface of the work and yields, thus laying the ribbon upon the work in advance of the die ready to receive the impression. Then when the head rises the ribbon and guide bar for a time maintain their co-operation with the work while the die is separated therefrom, thus stripping the ribbon from the die surface.

Located upon the base of the machine, between the table 52 and the arm 12, is a separable frame section 120 upon which is mounted feed and winding mechanism 122 for the ribbon. In opposite upwardly extending walls 124, 124 of this frame section are journaled upper and lower feed rolls 126 and 128, respectively, and a receiving or winding roll 130. Rotatable upon a stud 132 projecting from the outer face of one of the walls 124 is a gear 134 arranged to turn through successive steps under the influence of a one-way clutch 135 of any suitable type and an actuating arm 136. The gear 134 is connected by an idler 138 with a gear 140 fixed upon the shaft of feed roll 128, while upon the shaft of feed roll 126 is a pinion 142 meshing with the gear 140. This gearing turns the feed rolls in opposite directions, as indicated by the arrows in Fig. 1 of the drawings, and when the ribbon from the supply roll is introduced between them, draws therefrom successive portions for presentation between the die and work. The winding roll is rotated by a gear 144, as shown by the arrow, meshing directly with the gear 134 and serves to receive in a coil the used ribbon, as will later more clearly appear. The arm 136 is operated from the cam shaft 24 by a compound lever system. Fulcrumed at 146 on the arm 12 of the frame is a lever 148 joined near its center by a link 150 to a lever 152 fulcrumed in the base of the frame. A roll 154 upon the lever 152 co-operates with a cam 156 fast upon the shaft 24. The lever 148 is shown as slotted longitudinally, and passing through this slot with a bearing at its outer end is a screw 158, which may be turned by a head 160. Threaded upon the screw and movable in the slot is a block 162, to which and to the arm 136 is articulated a link 164. Thus the motion is transmitted from the driving shaft to the feeding and winding mechanism through a double lever system, and as the link 150 is connected to the lever 148 between the opposite extremes of adjustment of the block 162 the effect of one lever may be caused to diminish or increase that of the other. By this means a relatively long range of adjustment is obtained. This may be further increased by joining the lower extremity of the link 164 to the arm 136 at different points by means of a series of openings 165 therein. As the lever system is shown in Fig. 1, it is arranged for an amount of feed of the ribbon approaching the minimum. This may be increased either

by moving the block 162 along the lever 148 by the screw 158 or by shifting the connection of the link 164 to different openings 165 in the arm 136, or both.

The ribbon when fed between the rolls 126 and 128 is prevented from curling over or sticking upon the upper roll by fingers 166 projecting from a carrier bar into grooves 168 in said upper roll. It is then led to the winding roll, which surrounds a spindle 170 rotatable in one of the walls 124 by the gear 144. About the spindle is a sleeve 172, having at its end toward the gear a flange 174 pressed toward a flange 176 on the spindle by a spring 178 interposed between the opposite end of the sleeve and a nut 180 threaded upon the spindle. Between the flanges 174 and 176 we prefer to place a friction washer 182 of leather or other suitable material. This arrangement causes the sleeve and winding roll carried thereby to rotate with the spindle under the influence of the gearing, yet to slip if its rate of rotation is greater than that at which the ribbon is fed by the rolls 126, 128. The gearing is so proportioned that the rate of advance of the ribbon by the winding roll and by the feed rolls is the same for the minimum diameter of ribbon upon the winding roll, the latter slipping as the coil accumulates. The winding roll is in sections 184, 184, pivoted at 186 and drawn into firm engagement with the outer surface of the sleeve 172 by a pair of helical springs 188, 188. These springs are situated in alined openings in the roll sections at the side of the spindle 170 opposite the pivot and have their ends fixed to said sections. The space between the open ends of the pivoted sections is such, that when the roll is removed from the sleeve the sections are drawn by the springs toward one another, thus collapsing to permit the roll to be slipped from the accumulated coil of used ribbon. It may then be returned to the sleeve for the purpose of winding another coil. The end of the ribbon may be attached to the roll in either of two recesses 190, 190 extending longitudinally of the sections near their circumferential centers and opening through the surface. The end portions of the slot openings are contracted at 192, 192. Either slot may receive a rod 194, of such diameter as to permit it to pass through the opening in the surface of a section. The rod has end portions 196, 196 flattened at opposite sides, so that when these flattened portions are alined with the contracted openings 192 they may enter them and be locked therein to secure the rod in the slot by turning the portions 196 at an angle to the openings. With the rod removed from the slot the end of the ribbon to be coiled is laid in it, the rod forced down through the surface opening and then rotated to secure the rod and ribbon against displacement. When the roll is removed from the sleeve the end of the ribbon may be freed from it by withdrawing the rod longitudinally through the end of the slot by grasping an angular end portion 198.

It is sometimes necessary to take a supply roll of the marking ribbon from the machine before it is all used, and it is desirable to leave upon it a used end which will reach from the inner edge of the die to the winding roll, so that in returning it to the machine this used length may again be attached to the winding roll to render the entire unused surface available. With the rolls 126, 128 in feeding contact, it is impossible to tear off the ribbon except at their outer sides, and, on again employing the same supply roll, this will lead to the waste of an unused length equal to the distance between the bite of the feed rolls and the supply roll. To avoid this, the bearings 200 of the roll 126 are shown as movable in ways in the wall 124. These bearings have upward extensions 202, in which extensions are openings to receive eccentrics 204 fast upon a shaft 206 journaled in the walls 124. By means of a finger piece 208 upon the shaft 206 the latter may be turned with the eccentrics, thus raising the bearings 200 and separating the roll 126 from its companion roll. This frees the ribbon, so that it may be drawn back to enable the operator to tear off the strip at a point which will give the length necessary upon restoration to the machine to fully reach to the winding roll.

In using the machine, a roll of the desired marking medium is placed upon the spindle 86 with the head 90 and fork 96 adjusted to hold it in the proper position and against too free rotation. The end of the ribbon is passed over the take-up rod 106, beneath the guide bar 112, across the face of the die and between the feed rolls 126, 128. Then the end is introduced into one of the slots 190 and there secured by the rod 194. The compound lever system interposed between the cam shaft and the feeding and winding mechanism is adjusted to cause the feed rolls, upon each rotation of the cam shaft, to draw off from the supply roll a fresh length of the ribbon sufficient to cover the impression face of the die. The operator lays the work to be marked upon the table 52 and starts the machine by applying power through a clutch mechanism not shown. The head descends, carrying the die toward the work, and, as the distance between the supply roll and feed rolls is shortened, the take-up device 106, under the influence of its springs, assumes the position indicated in dotted lines in Fig. 1 of the drawings, removing the slack from the ribbon. The guide bar 112 lays the ribbon upon the work and then yields against the

tension of its springs, and the die following the guide into contact with the ribbon, produces an impression, the table yielding if necessary upon its universal support to compensate for irregularities in the surface of the die or the thickness of the work. The head rising, the ribbon is carried away from the die face by the downward movement of the guide bar acted upon by its springs. When the head reaches its highest position, the feed rolls are rotated to draw from the supply roll a fresh length of the ribbon, this bringing the take-up member to the position shown in full lines in Fig. 1. At the same time the used material is wound upon the receiving roll 130 for removal and reclamation when desired.

Having thus described our invention, we claim as new and desire to secure by United States Letters Patent:

1. In a marking machine, a base having a forwardly extending arm, opposite impression members carried by the base and arm, a supply device for a marking medium mounted on the forward extremity of the arm, and feeding mechanism mounted on the base between the impression members and the arm.

2. In a marking machine, a base having a forwardly extending arm, opposite impression members carried by the base and arm, respectively, one of said members being movable, and a supply roll and feeding mechanism for the marking medium, one of these elements being movable with the impression member and the other mounted on the base between the impression member and the arm.

3. In a marking machine, the combination with a frame, of a marking head movable thereon, a work-support into co-operation with which the marking head moves, a supply device for a marking medium movable with the head, and feeding mechanism mounted on the frame.

4. In a marking machine, a base having an arm, a marking head movable on the arm, a supporting device for a marking medium movable with the head, a work support mounted upon the base, and feeding mechanism situated upon the base between the work support and arm.

5. In a marking machine, a base having a forwardly extending arm, a marking head movable at the forward extremity of the arm, a work support mounted upon the base beneath the head, a supply roll rotatable upon the head, and feed rolls rotatable upon the base at the rear of the work support.

6. In a marking machine, an impression member, a movable supply device for a marking medium, and a take-up device movable with the supply device.

7. In a marking machine, a movable impression member, and a supply device and a take-up device for a marking medium mounted to move with the impression member.

8. In a marking machine, a movable impression member, and a supply device and a yieldable guide member for a marking medium mounted to move with the impression member.

9. In a marking machine, a movable impression member, and a supply device, a take-up device and a yieldable guide member for a marking medium mounted to move with the impression member.

10. In a marking machine, the combination with a frame and impression members mounted thereon, of a casing, a supply roll for a marking medium journaled in the casing, and a guide for the marking medium carried by the casing.

11. In a marking machine, the combination with a frame and impression members mounted thereon, of a casing, a supply roll for a marking medium journaled in the casing, and a take-up device for the marking medium carried by the casing.

12. In a marking machine, the combination with a movable impression member, of a support mounted to move with the impression member and being separable therefrom, and a supply device for holding a marking strip and a strip-engaging member carried by the support and removable therewith as a unit.

13. In a marking machine, the combination with a movable impression member, of a support mounted to move with the impression member and being separable therefrom, a supply roll for a marking strip journaled in the support, and a yieldable guide for the strip mounted on the support adjacent to the impression member and removable with said support as a unit.

14. In a marking machine, the combination with a movable impression member, of a support mounted to move with the impression member and being separable therefrom, a supply roll for a marking strip journaled in the support, and a spring-actuated tension member contacting with the strip and being mounted on the support and removable therewith as a unit.

15. In a marking machine, the combination with a movable impression member, of a support mounted to move with the impression member and being separable therefrom, a supply roll for a marking strip journaled in the support, a yieldable guide for the strip mounted on the support adjacent to the impression member, and a spring-actuated tension member contacting with the strip between the roll and guide member and being mounted in the support.

16. In a marking machine, a frame, impression members mounted thereon, a casing carried with an impression member at the

front of the frame, a spindle fixed to the casing to receive a roll of a marking medium, a carrier member secured to the frame, securing means for the carrier member arranged to vary its position on the frame, and a brake member mounted on the carrier member at the top of the casing for contact with the roll.

17. In a marking machine, a frame, impression members mounted thereon, a casing carried with an impression member and having a lug, a spindle fixed to the casing to receive a strip-supply roll, a rod extending through an opening in the casing lug, means for adjustably securing the rod in the opening, and a spring member fixed to the rod and contacting with the supply roll.

18. In a marking machine, supplying means for a strip of marking medium for application by an impression member to the work, and strip receiving means including a spindle, means for rotating the spindle, a sleeve surrounding the spindle, frictional connections between the spindle and sleeve and a receiving roll surrounding the sleeve.

19. In a marking machine, supplying means for a strip of marking medium for application by an impression member to the work, and strip receiving means including a spindle provided with a flange, means for rotating the spindle, a sleeve surrounding the spindle and having a flange co-operating frictionally with that upon the spindle, a spring for pressing the flanges toward one another, and a receiving roll surrounding the sleeve.

20. In a marking machine, supplying means for a strip of marking medium for application by an impression member to the work, a strip receiving roll provided with a spindle, means for rotating the spindle, a sleeve surrounding the spindle, and a receiving roll having collapsible sections surrounding the sleeve.

21. In a marking machine, supplying means for a strip of marking medium for application by an impression member to the work, and strip receiving means including a spindle, means for rotating the spindle, a sleeve surrounding the spindle, a receiving roll having pivoted collapsible sections surrounding the sleeve and a spring connecting the sections.

22. In a marking machine, supplying means for a strip of marking medium for application by an impression member to the work, a strip receiving roll provided with a longitudinal recess having contracted ends, and a strip-retaining rod having portions reduced in one dimension to enter the recess and lock by turning therein.

23. In a marking machine, means for feeding a marking medium to an impression member, actuating mechanism for the feeding means including a lever, a driving member, and connections between the lever and the feeding means and driving member, one of the connections being adjustable along the lever and the other connection being joined to said lever between the extremes of movement of the associated connection.

24. In a marking machine, means for feeding a marking medium to an impression member, actuating mechanism for the feeding means including a lever, connections between the lever and feeding means adjustable longitudinally of the lever, a driving member, and connections for the driving member joined to the lever at a point between the extremes of movement of the connections for the feeding means.

25. In a marking machine, means for feeding a marking medium to an impression member, actuating mechanism for the feeding means including a lever, a driving member, members connecting the lever with the driving member and feeding means, and connections for one of the members at the end opposite that joined to the lever arranged to permit a variation in the extent of feeding movement.

26. In a marking machine, means for feeding a marking medium to an impression member, actuating mechanism for the feeding means including a lever, a driving member, members connecting the lever with the driving member and feeding means, and connections for both extremities of the member joining the lever and feeding means arranged to permit of variation in the extent of feeding movement.

27. In a marking machine, means for feeding a marking medium to an impression member, actuating mechanism for the feeding means including a lever, a driving member, members connecting the lever with the driving member and feeding means, and connections for both extremities of the member joining the lever and feeding means arranged for adjustment independently to permit of variation in the extent of feeding movement.

28. In a marking machine, movable feeding means for a strip of marking medium for application by an impression member to the work, driving means for the feeding means, a lever interposed between the driving and feeding means, a screw extending longitudinally of the lever and being rotatable therein, a block threaded upon the screw, and links connecting the driving means and lever and the block and feeding means, the connection of the link to the lever being between the extremities of the screw.

29. In a marking machine, movable feeding means for a strip of marking medium for application to an impression member, driving means for the feeding means, a lever interposed between the driving and

feeding means, a screw extending longitudinally of the lever and being rotatable therein, a block threaded upon the screw, an arm joined to the feeding means, a link pivoted to the driving means and lever, and a link pivoted to the block and arm, the pivotal connection between the arm and its link being variable in position along the arm.

30. In a marking machine, a block provided with fixed and movable die-holding abutments, means for feeding a strip over a side of the block in the direction in which the abutment moves, and means for moving the abutment, said means accessible at another side of the block.

31. In a marking machine, a block provided with a fixed abutment, an abutment movable in a direction from the front to the rear of the machine, means for feeding a strip over the front of the block, and means for moving the abutment, said means projecting from the block at one side of the machine.

32. In a marking machine, a block provided with a die-holding abutment, an opposite abutment movable on the block, a screw rotatable in the block at an angle to the direction of travel of the movable abutment, connections between said abutment and the screw, and means for feeding a strip over a side of the block in the direction in which the abutment moves.

33. In a marking machine, a block provided with a die-holding abutment, an opposite abutment movable on the block and being provided with a slot inclined to the direction of movement of the abutment, a screw rotatable in the block, a member threaded upon the screw and entering the slot, and means for feeding a strip over a side of the block in the direction in which the abutment moves.

34. In a marking machine, a block provided with a die-holding abutment and a way, an opposite abutment movable upon the block and being provided with a slot, a screw rotatable in the block at an angle to the direction of travel of the movable abutment, a member guided in the way and being threaded upon the screw and having a projection extending into the slot, and means for feeding a strip over a side of the block in the direction in which the abutment moves.

In testimony whereof we have signed our names to this specification.

EDWIN W. SMITH.
DEANE A. CABOT.

Certificate of Correction.

It is hereby certified that in Letters Patent No. 1,438,191, granted December 12, 1922, upon the application of Edwin W. Smith and Deane A. Cabot, of Beverly, Massachusetts, for an improvement in "Marking Machines," an error appears in the printed specification requiring correction as follows: Page 6, lines 40 and 41, claim 20, strike out the words "a strip receiving roll provided with a spindle" and insert *and strip receiving means including a spindle;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 16th day of January, A. D., 1923.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.