W. E. CHOATE.

MACHINE FOR MARKING ARTICLES.

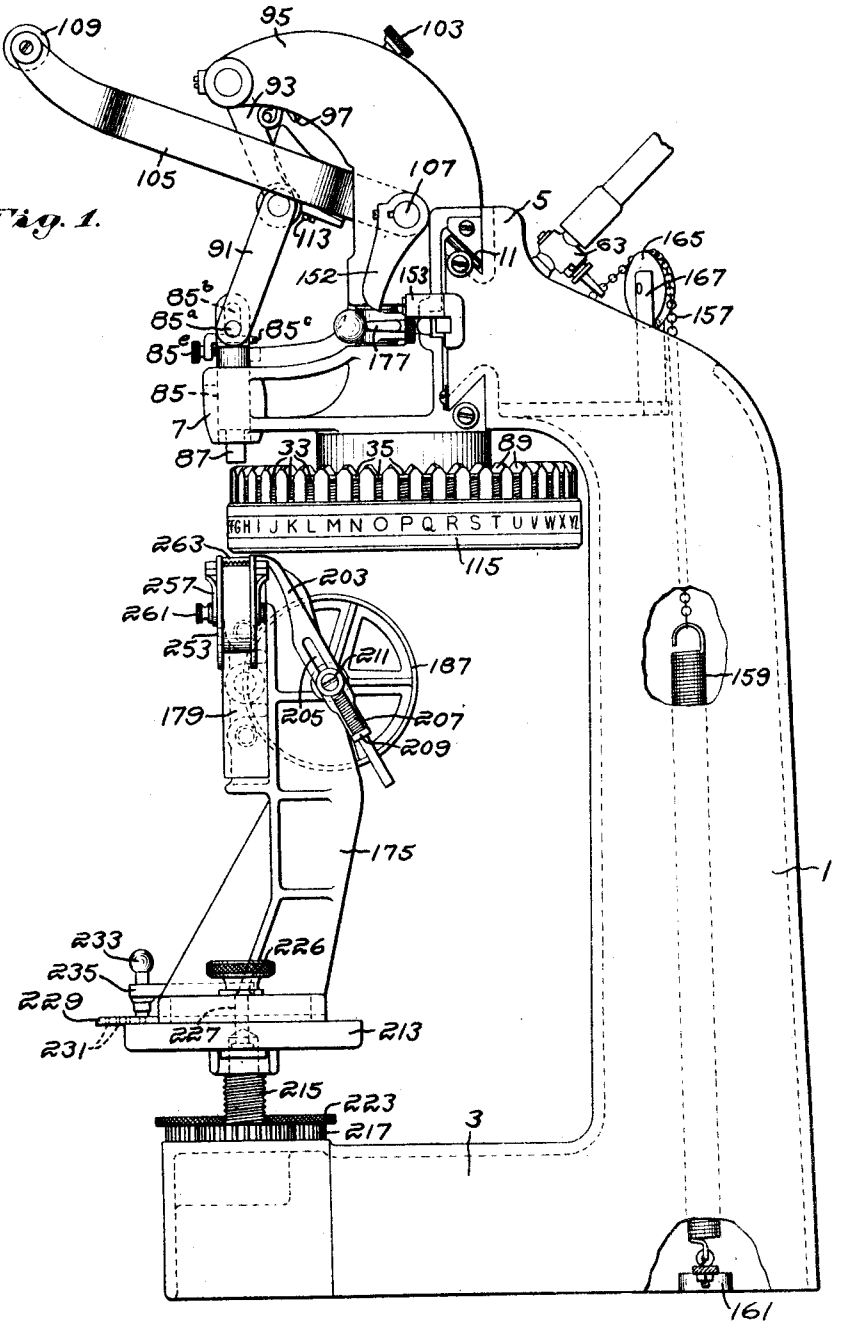
APPLICATION FILED OCT. 9, 1913.

1,128,225.

Patented Feb. 9, 1915

5 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Earl L. Choate.

Horace A. Crossman.

Inventor:

William E. Choate,

by Emery, Booth, Janney & Varney

Attys.

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5 SHEETS—SHEET 2.

Fig. 2.

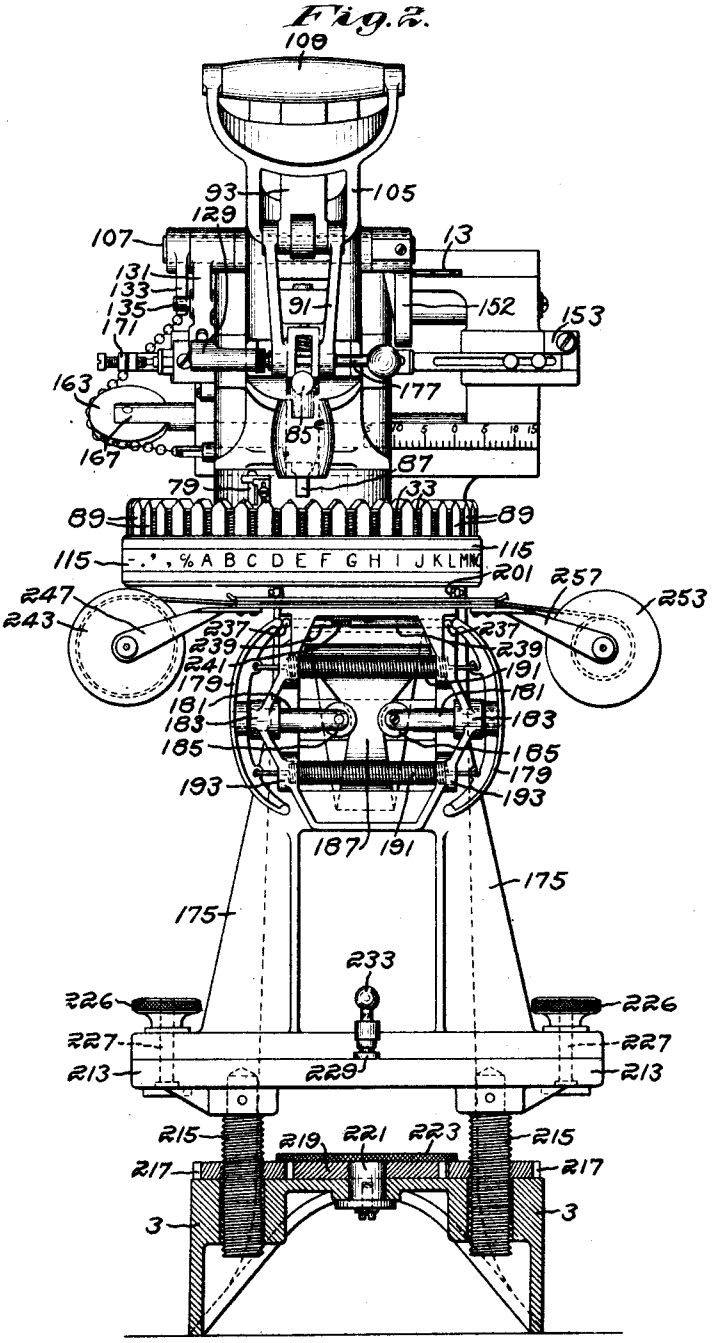

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Fig. 3.

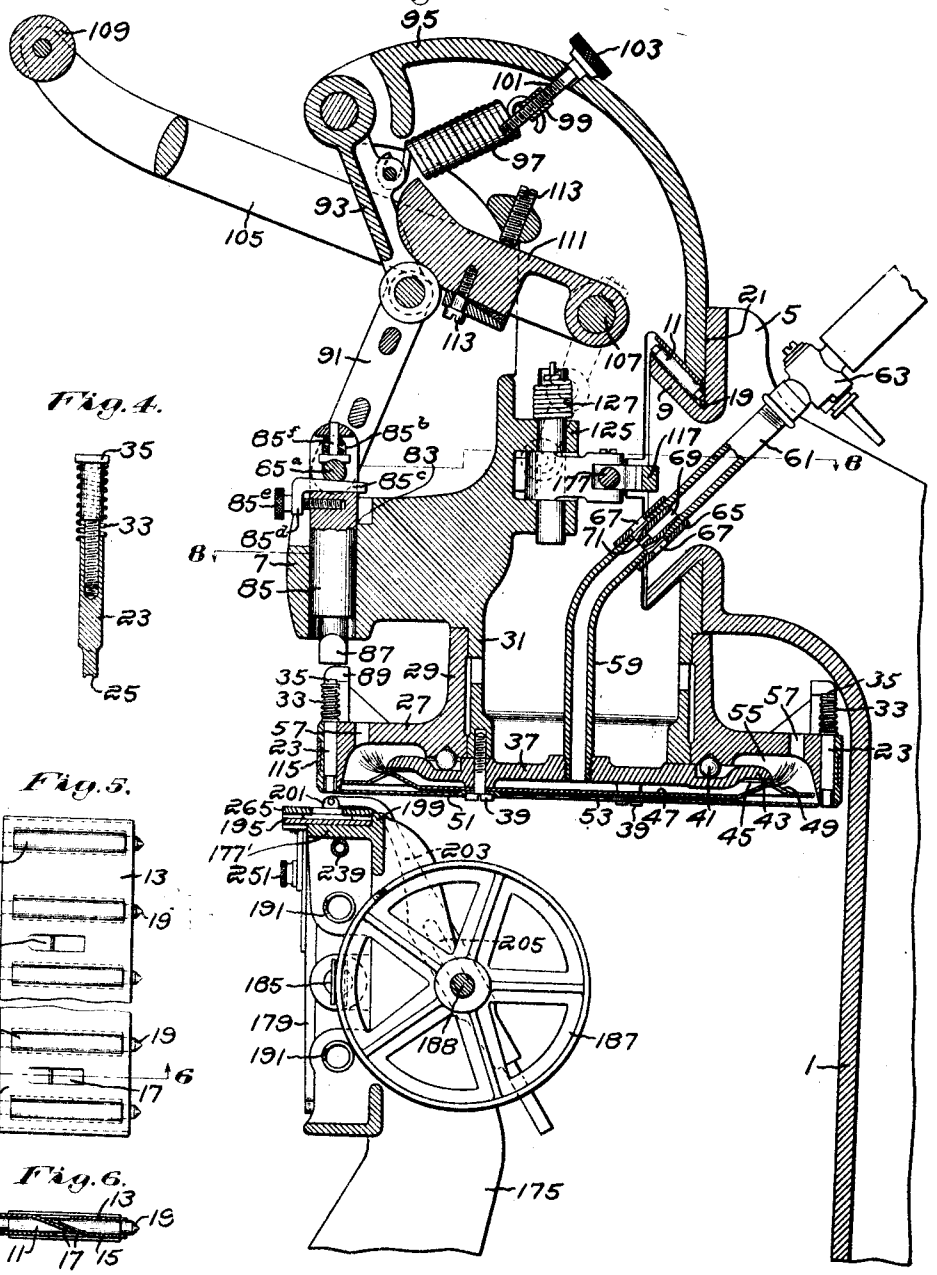

Fig. 4.

Fig. 5.

Fig. 6.

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Fig. 7.

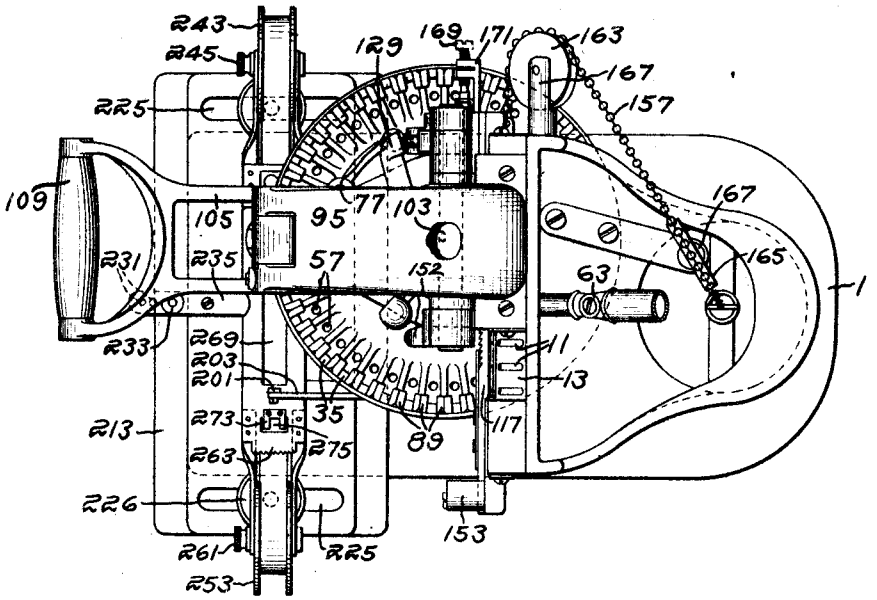


Fig. 8.

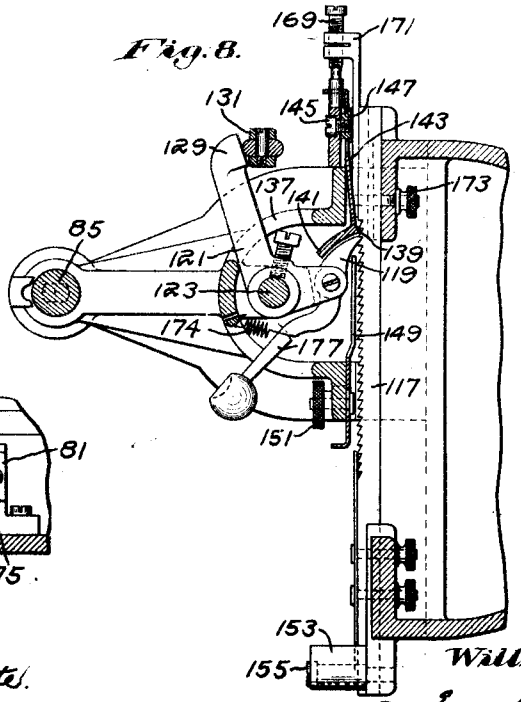


Fig. 10.

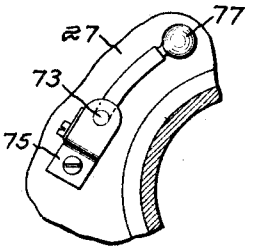
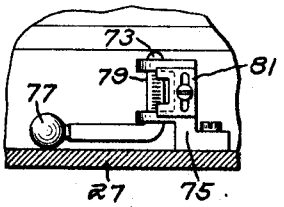


Fig. 9.



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5 SHEETS—SHEET 5.

Fig. 11.

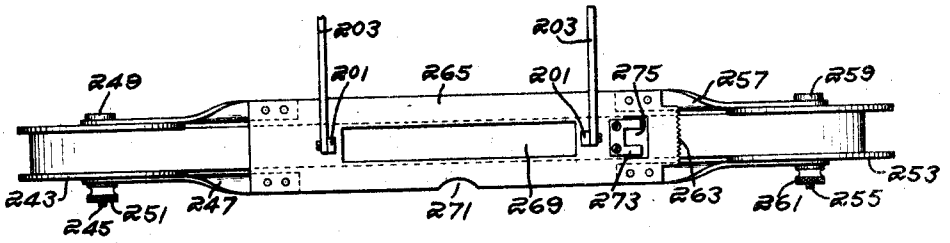


Fig. 12.

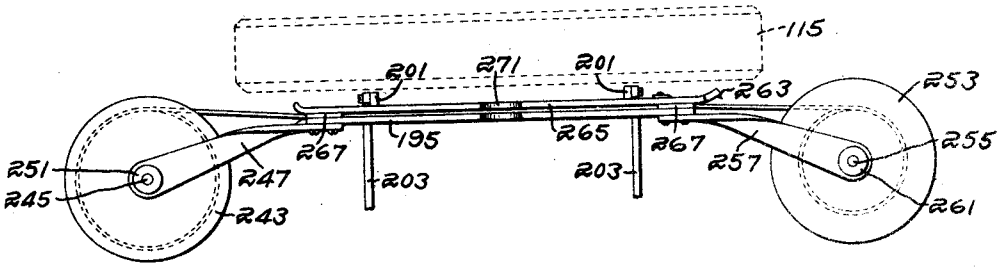


Fig. 13.

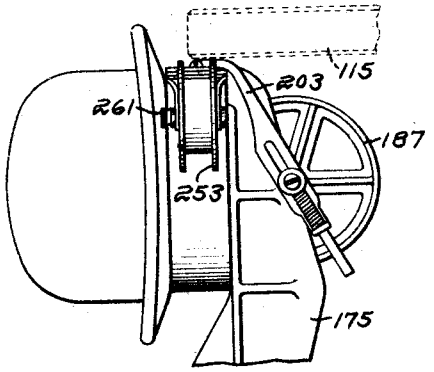
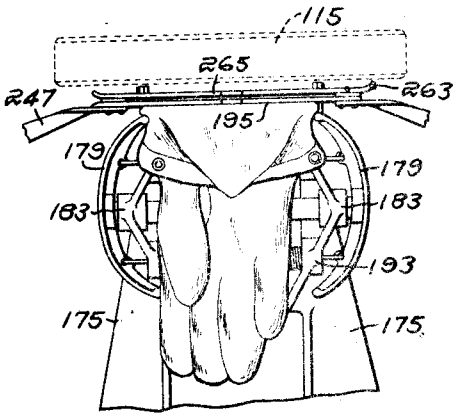


Fig. 14.



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UNITED STATES PATENT OFFICE.

WILLIAM E. CHOATE, OF HAMILTON, MASSACHUSETTS.

MACHINE FOR MARKING ARTICLES.

1,128,225. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed October 9, 1913. Serial No. 794,338.

To all whom it may concern:

Be it known that I, WILLIAM E. CHOATE, a citizen of the United States, and a resident of Hamilton, in the county of Essex and Commonwealth of Massachusetts, have invented an Improvement in Machines for Marking Articles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to marking machines, and among other objects, provides a simple, effective machine whereby different articles may be variously marked as desired.

Heretofore the marking of the owner's name on leather pocketbooks, notebooks and other articles has been effected by a slow and inconvenient process.

One of the objects of the present invention is to mark such articles more quickly, perfectly and readily than heretofore.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawings, wherein:

Figure 1 is a side elevation of an illustrative marking machine shown herein as embodying the invention; Fig. 2 is a front elevation of the machine shown in Fig. 1; Fig. 3, on an enlarged scale, is a vertical section through the machine; Figs. 4 and 5 show details to be referred to; Fig. 6 is a section taken on line 6—6 of Fig. 5; Fig. 7 is a plan of the machine shown in Figs. 1 and 2; Fig. 8 is a section taken on line 8—8 of Fig. 3; Figs. 9 and 10 are detail views to be referred to; Fig. 11, on an enlarged scale, shows a plan view of a veneer holder; Fig. 12 is a side elevation of the holder shown in Fig. 11; Fig. 13 is an end view showing a work support with a hat band thereon in position to be marked; and Fig. 14 is a front view of the work support shown in Fig. 13 with a glove thereon in position to be marked.

Referring to the drawing, the illustrative embodiment of the invention therein shown comprises a frame 1 having at its lower end a work supporting base 3 and at its upper end an overhanging arm 5 supporting the marking or character forming mechanism. This mechanism will first be described and then the means for supporting the work operated on will be described.

The marking devices are carried by a head 7 supported by the overhanging arm 5. To permit this head to be fed horizontally along the face of said arm the latter is provided with a rail 9 dove-tailed in section, the head being correspondingly recessed to receive the same. To reduce the friction between said rail and head there may be interposed between them a series of rollers 11 (Figs. 3, 5 and 6) journaled in opposed apertures in a pair of ribbon-like spaced plates 13 and 15, said plates being conveniently secured together by tabs 17 (Fig. 6) died and bent out of said strips to engage one another. Some of these tabs may be soldered or otherwise secured together although this is not indispensable. Each roller is provided with a conical end 19 sufficiently acute to present merely a point in rolling contact with the vertical wall 21 of the arm 5. When this friction reducing device is interposed between the upper side of the rail and the head, it will permit the heavy head to readily slide along the rail with slight friction between them.

A typical character forming tool is shown in vertical section in Fig. 4 and comprises an elongated shank 23 having a reduced end formed to provide a letter or other character 25. The characters selected herein for purposes of illustration are the letters of the alphabet and punctuation marks although it will be understood that any other characters might be used as desired. These character forming tools are set into vertical rectangular holes or chambers adjacent the periphery of an annular carrier 27 having a hub 29 journaled on a bearing neck 31 depending from the head 7.

To normally support the character forming tools in positions with their lower ends substantially flush with the lower face of the carrier 27, each tool is provided with a helical spring 33 (Fig. 4) confined between the upper end of the shank 23 and the head of a screw 35 threaded into a recess in said shank. The lower end of the spring bears on the top of the carrier and thus yieldingly supports the tool. By adjusting the screws 35 the tools may be raised or low-

ered to compensate for wear or any variation in their lengths and insure the locating of their lower active ends in the same horizontal plane. As a result, they may be relied upon to make equal impressions on the article marked.

The tools may be withdrawn readily from the carrier and others substituted therefor. This is a desirable feature since it permits the use of either upper or lower case type tools or other tools as desired. While a tool is removed it may be turned on its longitudinal axis through an arc of 90° so that when returned into its chamber it will be in a position properly located to print a vertical instead of a horizontal line.

To vertically support the hub 29 on the head neck 31 the latter is provided with a cap 37 secured to said neck by screws 39 located at appropriate intervals. This cap projects outward from the neck beneath the carrier 27 and the latter may rotate thereon. To reduce the friction between them they are provided with ball bearings comprising annular grooves containing balls 41.

In marking leather and other articles, it is desirable to heat the character forming tools. This may be for the purpose of burning the character in the article or for the purpose of softening an adhesive on a veneer for securing the latter in depressions formed in the article by the impress of the tool. To heat the tool there may be provided a burner comprising herein a lip 43 (Fig. 3) projecting from the cap 37 referred to and provided with a series of radial channels 45. Coöperating with this lip is a plate 47 located beneath said cap and spaced therefrom to form a fuel conducting chamber. The plate 47 may be secured to said cap by the same screws 39 which secure the latter to the depending head neck 31. The plate 47 is dished adjacent its rim upwardly and thence downwardly and outwardly. To supply air to the burner this plate is provided with apertures 49 adjacent the grooves 45 in the lip 43 referred to.

To shield the work from the heat or any back fire of the burner and also prevent an excess supply of air there is provided a plate 51 beneath the plate 47 and also secured to the cap 37 by the screws 39. The plate 51 is spaced slightly from the plate 47 and is provided with air inlet aperture 53. Thus air may enter said apertures and pass between said plates and out through the air supply apertures 49 in the dished plate.

The bottom of the carrier 27 is provided with an annular recess 55 forming a combustion chamber. The products of combustion may escape from this chamber through chimney ducts 57 in said carrier.

To supply fuel to the burner described a pipe 59 is threaded or otherwise connected at its lower end to the cap 37 and at its upper end is connected to a supply pipe 61 having an appropriate control valve 63. To regulate the mixture of air and gas fed to the burner the pipes 59 and 61 are connected by a sleeve 65 threaded thereto and having openings 67 therein permitting the ingress of air to said pipe 59. The pressure of gas varies under different conditions. It is, therefore, desirable to provide means for supplying the proper pressure of gas to the burner. To this end the pipe 61 is provided with a gage 69 threaded into the end of said pipe and having a constricted passage 71. A supply of these gages may be provided having passages 71 of different sizes so that by substituting one gage for another the supply of fuel may be regulated as desired.

With the construction described, on opening the valve 63, the gas is fed from the pipe 61, gage 69 and pipe 59 to the chamber formed between the cap 37 and the plate 47. The fuel is distributed by said chamber to the radially disposed burners which effectively heat the carrier 27, this heat being transmitted to the character forming tools 23. As a result, the tools may be maintained at a proper temperature to perform their work. It is desirable to maintain the tools within a predetermined range of temperature. To facilitate this, a thermometer 73 (Figs. 2, 7, 9 and 10) may be mounted on a bracket 75 secured to said carrier 27. This thermometer may have a horizontal leg carrying a bulb 77 closely adjacent to the upper face of the carrier 27 and may be supported by a vertical leg 79 in said bracket. This vertical leg is graduated. To readily indicate the predetermined limit of variation in temperature the bracket may be provided with a U-shaped index 81 having a screw and slot connection to said bracket permitting the vertical adjustment of said index. So long as the mercury reading is between the facing edges of the U-shaped index the character forming tools are within the proper range of temperature. If it is desired to vary the predetermined range of temperature the index 81 may be adjusted vertically as desired.

The carrier 27 for the tools 23 is subjected to high temperatures by the burner, which would tend to dry up any lubricant which might be applied to the carrier bearings, but by providing the ball bearing arrangement for the carrier it may freely rotate on the head without the application of lubricant thereto.

Having described the character forming tools, the carrier therefor, and the burner for heating the same, I will next describe the means for actuating the tools in effecting the character forming operation. To this end the head 7 is provided with a vertical bore 83 to receive a plunger 85 having

a reduced, blunt, wedge shaped end 87. To facilitate the alining of each character forming tool with the plunger, V-shaped guides 89 are interposed between each tool and fixed to the carrier 27. As a result, when the plunger is moved down, as more fully hereinafter described, the wedge end 87 thereof will engage the V-shaped ends of one or another of the guides 89 and if necessary rotate the carrier 27 sufficiently to insure the alining of said plunger and the tool.

To reciprocate the plunger its upper end is connected to a toggle comprising links 91 and 93, one being pivotally connected to said plunger and the other being pivotally connected to an overhanging arm 95 of said head. The toggle is normally buckled by a helical spring 97 secured at one end to the link 93 and at its opposite end to a sleeve 99 threaded to a nut screw 101 projecting through a hole in the arm 95 and held by a head 103 conveniently knurled to facilitate the turning thereof. This screw and thread connection of the spring enables the spring to be readily connected to the arm 95 and with an adjustable tension as desired.

To straighten the toggle there is provided an arm 105 having one end fast on a shaft 107 journaled in boss bearings projecting from the arm 95. This arm 105 projects outwardly beyond the head and is provided with an appropriate handle 109. A cam arm 111 is provided at one end with an eye on said shaft 107 and at its opposite end with a curved face for engagement with a roller of the toggle. The relation of this cam arm to the handle arm may be varied by adjusting screws 113 on said arm.

When the handle is pulled down from its position shown in Figs. 1 and 3, the curved face of the cam arm 111 will engage and straighten the toggle links 91 and 93. This will thrust down the plunger 85 and cause the latter to thrust the character forming tool beneath it, down against the resistance of its spring 33 to make an impress on the article beneath it. On the release of the handle 109 the toggle is buckled by the spring 97, thereby withdrawing the plunger back to its position shown in Figs. 1 and 3 and the character forming tool being no longer pressed down by the plunger, is drawn upward by its spring 33.

It may be desired to vertically adjust the plunger 85 to vary the printing stroke of a tool. To this end the plunger is adjustably connected to the toggle link 91 by a pin 85^a (Figs. 1 and 3) entered through opposed elongated slots 85^b in the upper bifurcated end of the plunger. The pin may be adjusted in its slot by a wedge 85^c interposed between the lower side of the pin 85^a and the base of said bifurcated end. To adjust this wedge it is provided with an end 85^d bent substantially at right angles to said wedge and apertured to receive an adjusting screw 85^e threaded into said plunger. The pin 85^a is held yieldingly seated against said wedge by a spring pressed pin 85^f having a head for engagement with said pin 85^a and a shank adapted to slide in a vertical bore in the upper end of said plunger. By this construction the plunger may be readily adjusted merely by turning the screw 85^e to thrust the wedge 85^c in or out more or less as desired.

It will be understood that the tool carrier 27 may be rotated about the head neck 31 to present any character tool beneath the plunger desired. To facilitate the selection of the character forming tools the carrier 27 may be provided with an index band 115 (Fig. 1) set in a recess in the periphery of said carrier and having marked thereon characters corresponding to and in radial line with the character forming tools. Thus the carrier may conveniently be rotated to present the characters selectively and progressively beneath the actuating plunger as desired.

After each character forming tool has made its impress it is desirable to feed the head a step automatically in order that it may be in a position to make the next character impress. To this end means may be provided, controlled by the operating handle 105, for feeding the head step by step. This means comprises a rack 117 (Fig. 8) fast on the face of the dove-tailed rail 9 referred to. Coöperating with this rack is a pawl 119 pivoted on one arm of a bell crank 121 fast on a shaft 123 journaled in bearings in a fork 125 (Fig. 3). This shaft is urged in a clockwise direction (Fig. 8) by a helical spring 127 (Fig. 3) embracing said shaft and having one end secured thereto and its opposite end secured to the fork 125. The bell crank 121 has an arm 129 projecting outwardly beyond the head 7 in the path of an arm 131 (Fig. 2) depending from and loosely journaled on the handle shaft 107 referred to. Adjacent the arm 131 is an arm 133 fast on the shaft 107 and adapted to engage a pin 135 projecting from the arm 131.

When the handle arm 105 is rocked downward to straighten the toggle and depress the tool actuating plunger 85 it rocks the arm 133 and this movement of the latter through the intermediate arm 131 permits the bell crank arm 129, urged by its spring 127, to follow the arm 133 and rock in a clockwise direction (Fig. 8). This causes the pawl 119 to be retreated in readiness to engage a fresh tooth of the rack 117 so that when the handle 105 moves upwardly the bell crank will be rocked by the arms 131 and 133 in a contra-clockwise direction (Fig. 8) and feed the head a step.

The bell crank arm 129 is limited in its movement by its engagement with ends of a slot 137 in the arm 95 and its limit of rocking movement is less than that of the arm 133. As a result, the pawl 119 will be fully retreated before the arm 133 is rocked its fullest extent so that in finishing its rocking movement, the arm 133 moves away from the pin 135 of the arm 131. This is advantageous since it prevents any movement of the pawl 119 during the final downward movement of the plunger 85 in actuating a character forming tool and thus prevents any feeding of the tool at this time such as might cause a blurred impress.

To prevent movement of the head between its steps of feed there is provided a dog 139 (Fig. 8) having a heel 141 overlying the pawl 119 and a resilient arm 143 secured to the head 7 by holding screw 145 coöperating with a nut 147 entered through an elongated slot in said arm 143. By this adjustment the dog may be positioned in desired relationship to the pawl 119.

It may be desired to feed the head steps of different lengths. For example, it may be desired to feed the same an increment corresponding to one, two or three teeth of the rack 117. To vary the step feed, the head is provided with a finger 149 extending along a face of the rack with one end adjacent the pawl 119 and its opposite end secured to said head by a screw 151 entered through an elongated slot in said finger. By this construction the finger may be adjusted along the rack toward or from the pawl to vary the point at which the pawl may be effective to engage a fresh tooth on its movement of retreat.

The head will be automatically fed step-by-step in the course of each printing or character forming operation until it approaches an end of the rail 9. To prevent over-feed of the head it is provided with an arm 152 for engagement with a stop 153 (Fig. 8) fulcrumed on a pin 155 secured to said rail and having a wing adapted to be turned to a horizontal or a vertical position. When the wing is horizontal it will be in a position to engage said arm and limit its feed. After this, said wing may be turned to a vertical position and then permit another step feed of the head. This is very advantageous since it serves as a warning to prevent overfeeding of the head.

To return the head to the opposite end of the rail on the completion of the printing of a complete line, there is provided a chain 157 (Figs. 1 and 7) having one end connected to said head and its opposite end connected to a coil spring 159 (Fig. 1) anchored to a lug 161 at the bottom of the frame 1. The chain is guided in its run from the head to said spring by a pair of pulleys 163, 165 journaled in forked ends of studs 167 fast on said frame. To limit the return of the head by said spring there is provided an adjustable screw stop 169 (Fig. 8) threaded in an arm 171 adjustably connected to the rack 117 by a screw 173. The pawl 119 is urged toward said rack 117 by a spring 174 having one end secured to a handle arm 177 for said pawl and its opposite end secured to the head 7. When it is desired to release the head to permit the same to be returned by the spring 159, the handle arm 177 is rocked in a contra-clockwise direction (Fig. 8), thereby causing the pawl 119 to engage the dog heel 141 and rock the dog 139 out of engagement with the rack 117. The degree of return of the head may be readily controlled by the pawl arm as desired.

As shown herein, the head feeding devices are arranged for feeding the head automatically step-by-step relatively to its support to the right (Fig. 2) and on release the head is fed to the left (Fig. 2). These feeding devices may be reversed and arranged to feed the head step-by-step to the left (Fig. 2) and on release to the right (Fig. 2) if desired.

A large variety of articles may be marked by the machine and various devices may be provided for supporting them in proper relation beneath the character forming tools. Herein for purposes of illustration, a work support is shown adapted for receiving hats, gloves, note books and other articles. This support comprises a standard 175 (Figs. 1, 2, 3, 13 and 14) adjustably mounted on the frame base 3 as more fully hereinafter described. The upper end of this frame terminates in a flat anvil 177′ for receiving the article to be marked. For example, a portion of the band of a hat may be laid on this anvil. To permit hats of different sizes to be held, there are provided curved form members 179 (Fig. 2) fast on studs 181 adapted to slide in bosses 183 projecting from a face of the standard 175. On the inner, opposed ends of these studs are grooved rollers 185 for engagement with a cam wheel 187 of varying width journaled on a shaft 188 in bearings on the standard 175. The form members 179 are drawn toward each other by helical springs 191 projecting through apertures in bosses 193 on said standards and having their ends connected to said members. These springs, therefore, draw said members toward one another to positions limited and determined by the engagement of their rollers 185 with the cam wheel 187. By turning said cam wheel, the members 179 may be expanded or contracted to conform to hats of different sizes as desired. When it is desired to impress the initials or name of the owner of a hat thereon the band of the hat is pulled outwardly and placed on the anvil 177′, as shown in Fig. 13. The cam wheel 187 is then turned to

spread the form members 179 until they stretch the band tightly over said anvil. To further contribute to the retention of the article on the anvil there is provided a presser plate 195 provided with an elongated aperture, exposing a portion of the surface of the article to the character forming tools. This plate rests on the anvil and the inner edge thereof is adapted to contact with a ledge 199 at the rear of said anvil. By this arrangement the plate is properly alined and positioned on the anvil. To press said plate toward said anvil and toward said ledge, it is provided with lugs 201 pivotally connected to curved arms 203 extending rearwardly over said ledge and thence downwardly toward and beyond the shaft 188 carrying the cam wheel 187. These arms are provided with elongated slots 205 receiving said shaft, thereby permitting said arms to be adjusted to permit the lifting of the presser plate in interposing articles beneath the same. To thrust said arms downwardly they are provided with helical springs 207 (Fig. 1) confined between offset ends 209 at the lower ends of said arms and sleeves 211 on said cam shaft.

By this construction, the presser plate may be readily lifted sufficiently to clear the anvil ledge 199 and may be moved rearwardly over said ledge to a position above the cam wheel. On the release of said plate, the springs 207 will draw the arms 203 downward until limited by the upper ends of their slots 205. The presser plate will be held in this position until it is desired again to superpose the same over and clamp an article to the anvil, whereupon it may be readily lifted against the resistance of the springs 207 to its position shown in Fig. 1.

It may be desirable to vertically adjust the article carrying standard 175 more or less according to the thickness or character of the article operated on. To permit this the standard 175 is mounted on a plate 213 (Figs. 1 and 2) having screw feet 215 projecting downwardly and loosely through bores in the frame base 3. To adjust these screws vertically, pinions 217 are threaded thereto having an end thrust seating on the frame base 3. To simultaneously rotate said pinions there is provided an intermediate gear 219 journaled on a pin 221 secured to said base 3. To facilitate the turning of this gear it may have fast on the upper face thereof a knurled wheel 223. By turning said wheel the pinions 217 will be turned and the screw feet 215 will be moved up or down and elevate the standard 175 to any position desired.

In locating articles beneath the character forming tools it may be desirable to adjust the standard 175 forward or rearward on the plate 213. To this end the base of the standard 175 is provided with elongated slots 225 (Fig. 7) having hand nuts 226 threaded on screws 227 projecting through holes in the plate 213 and having heads engaging the under face of said plate. It will be understood that by releasing these nuts and screws the standard 175 may be adjusted forward or rearward to the position desired and then screws may be tightened to secure the standard in place. One use of this adjustment is for line spacing. To facilitate this there may be provided an index plate 229 (Figs. 1 and 7) fast on the plate 213. This plate is provided with a series of holes 231 appropriately spaced to correspond to the line spaces. Coöperating with these holes is a spring pressed pin 233 carried by a bracket 235 projecting from the standard 175. By this index arrangement the standard may be slipped forward or back until the pin 233 registers with the desired hole 231 in the index plate 229.

To adapt the work holder described for gloves and other articles to be marked, the standard 175 may be provided with presser fingers 237 (Figs. 2 and 14) carried on rods 239 adapted to slide in registering holes in the standard 175. These fingers 237 are in line with the upper ends of the form members 179 referred to. To spread said fingers toward said members one of the rods 239 is provided with a reduced end which telescopes into the other rod and a spring 241 is confined between said rods.

When it is desired to place a glove in position for the name of its owner printed on the inner face of the wrist of the glove, the glove is laid on the anvil (Fig. 14) and drawn tightly over the same with portions introduced between the presser fingers 237 and the upper ends of the form members 179. The cam wheel 187 is then turned sufficiently to permit the springs 191 to draw said members in toward one another and thereby stretch the glove tightly and smoothly over the top face and around under the ends of the anvil. The finger carrying rods will collapse under the yield of their spring 241 sufficiently to allow for the contracting of the form members 179 as described. After the glove has thus been stretched over the anvil the presser plate 195 is superposed on top of the glove, thereby further contributing to the retention of the articles in its proper place. The glove is now held in proper position to receive the impress from the character forming tools, the operation of which will be apparent without further description.

While the work holder has been described in its use as supporting hats and gloves, it will be readily understood that its construction is such as to facilitate the supporting of portions of note books, pocket books and a large variety of other articles.

The machine described lends itself ad-

mirably to the use of veneers in forming the characters. For example, a layer of gold leaf or other veneer may be introduced over the presser plate 195 and the article to be marked and be securely held on the article so that when the character forming tools are brought down they impress and countersink the portions of the veneer beneath the tools into the article to be marked. When the article is released from the machine, the gold leaf layer may be wiped therefrom by the use of a usual plastic cement ball and the impressed portions of the leaf will remain countersunk in the face of the article presenting clear cut characters different in color from the article.

A device is shown herein coöperating with the presser plate for facilitating the use of veneers. This device comprises a supply or let-off roll 243 (Figs. 11 and 12) on which is wound a ribbon of veneer. This roll is journaled on a pin 245 carried by arms 247 secured to and projecting downwardly and laterally from the presser plate 195. To retard the rotation of said roll the pin 245 is provided on one end with a head 249 and on its opposite end with a thumb screw 251 threaded on said pin. By tightening this screw the arms 247 may be caused to press more or less against the sides of the roll 243 and thereby sufficiently retard rotation of the latter.

The ribbon is adapted to be fed across the top of the presser plate 195 to the opposite end thereof. To take up the ribbon after portions have been died out therefrom in marking an article there is provided a take-up roll 253 journaled on a shaft 255 carried by arms 257 secured to the presser plate 195, said shaft being provided with a head 259 and a thumb screw 261 for retarding rotation of the roll as desired. By manually turning the take-up roll 253 on its shaft the ribbon may be drawn or fed relatively to the plate.

In some instances it may not be desired to take up the ribbon on a roll but it may be desired simply to tear off the end of the ribbon. To this end there is provided a lip 263 bent up from the presser plate 195 and having cutting teeth on the edge thereof. By this arrangement the ribbon may be lifted up into engagement with said teeth and the end of the ribbon torn off.

To contribute to the guiding of the ribbon across the presser plate 195 a second plate 265 is superposed on the presser plate 195 and spaced slightly therefrom by blocks 267. The ribbon is led from the let-off roll 243 between the presser plate 195 and the plate 265 through the opening formed between the blocks 267 (see Fig. 11), thence on between said plates to and between the blocks 267 at the opposite ends of the plate and thence on to the take-up roll. Thus the ribbon of veneer is efficiently guided and controlled. This upper plate 265 has an elongated aperture 269 registering with the aperture in the presser plate 195 referred to. In some instances it may be desired to introduce a short card or short strip of veneer between the plates 195 and 265 instead of employing the ribbon strip fed from the rolls as described. Such a card or short strip may be readily introduced laterally in the mouth presented between the plates 195 and 265 as well shown in Fig. 12. To facilitate the introduction and removal of such a card said plates may be cut away to present a thumb recess 271 (Fig. 11).

To contribute to the positioning of the ribbon-like strip and especially when the practice of tearing off the end strip is followed there is provided a presser shown herein in the form of a fork 273 (Fig. 11) secured to the plate 265 and having resilient arms entered down through an opening 275 in the plate 265.

The veneer ribbon holding device described is so light and small that it may be readily carried by the presser plate 195 without interfering with the insertion and removal of said plate from its active position over the work supporting anvil.

It will be understood that it is not indispensable that all of the features of the invention should be used conjointly since some of them may be used separately to advantage.

Having described one illustrative embodiment of the invention without limiting the same thereto, what I claim as new and desire to secure by Letters Patent is:

1. A machine of the class described comprising in combination, a support, a carrier thereon having a series of tool receiving chambers therein, means for simultaneously heating said chambers, tools mounted in the latter, and means to project said tools from said chambers to make an impress on an article.

2. A machine of the class described comprising in combination, a support, a carrier thereon having a series of tool receiving chambers therein, means located exteriorly of said chamber for heating the walls thereof, tools having their active ends normally within and subject to the heat of said chambers, and means for projecting said tools from said carrier to make an impress on an article.

3. A machine of the class described comprising in combination, a support having an overhanging arm, a head, means permitting said head to feed horizontally relatively to said arm, a carrier journaled on said head and having a series of tool receiving chambers therein, means for heating said chambers, tools normally contained within said

chambers, and plunger means carried by said head for projecting said tools from said carrier to act on an article.

4. A machine of the class described comprising in combination, a work support, a standard, a head adapted to feed horizontally along said standard, a carrier adjacent said work support and having series of tool receiving chambers therein, means for simultaneously heating said chambers, tools mounted in the latter, means normally supporting said tools in said carrier up out of range with said work support, and means carried by said head for projecting said tools from said carrier to act on an article on said support.

5. A machine of the class described, comprising in combination, a work support, a standard, a carrier journaled thereon adjacent said support and having a series of tool receiving chambers therein, heater means carried by said carrier closely adjacent to said chambers quickly to heat the same, means interposed between said heater means and said work support to shield the latter from the heat of the former, tools mounted in and heated by said chambers, and means for moving said tools toward said work support to act on an article thereon.

6. A machine of the class described comprising in combination, a standard, a carrier journaled thereon; heater means on said carrier; a series of tool receiving chambers in said carrier, each having a thin wall separating the same from said heater means; tools normally in said chambers; and means for operating said tools to cause them to project from said chambers and act on an article.

7. A machine of the class described comprising in combination, a standard having a horizontal trackway thereon, a head mounted to slide along said track and having a depending neck, a carrier journaled on the latter and having a series of tool receiving chambers therein, means contained within said carrier for heating said chambers, tools mounted in the latter, means tending to maintain said tools within said chambers and subject to the heat thereof, and means carried by said head for projecting said tools from their chambers to act on an article.

8. A machine of the class described comprising in combination, a support, a carrier journaled thereon having a series of tool receiving chambers therein, and printing tools removably mounted in said chambers and having provision for causing them to occupy different predetermined positions of rotative adjustment for printing vertical or horizontal lines at will.

9. A machine of the class described comprising in combination, a support, a tool carrier journaled thereon having a series of tool receiving chambers therein, means for heating the walls of said chambers, and tools reciprocable in and heated by said chambers and having provision permitting their free removal therefrom and the substitution of others therefor.

10. A machine of the class described comprising in combination, a work support, a standard, a carrier journaled thereon having a series of tool receiving chambers therein, means for heating the walls of said chambers, means for directing the heat away from said work support, tools reciprocable in and heated by said chambers, and means for moving said tools toward said support to act on an article thereon.

11. A machine of the class described comprising in combination, a support, a carrier journaled thereon having a series of tool receiving chambers therein, means mounted on said carrier for heating the walls of said chambers, tools mounted in and heated by said chambers, and means for supporting said tools in said chambers and having provision permitting a nonrotative adjustment of a tool relatively to another to aline the same, insure an even impress and compensate for differences in the wear of the tools.

12. A machine of the class described comprising in combination, a work support, a standard, a head adapted to slide horizontally along said standard, a carrier journaled on said head having tool receiving chambers therein, means for heating the walls of said chambers, tools mounted in the latter, a plunger carried by said head, and means including a toggle for moving said plunger to cause said tools to project from said carrier and make an impress.

13. A machine of the class described comprising in combination, a support, a head, horizontal track means connecting said head to said support, a spring connected to said support and head for urging the latter in one direction along said track, means including a pawl and rack for feeding said head step-by-step in an opposite direction along said track, a carrier journaled on said head and having tool receiving chambers therein, tools mounted in said chambers, and means including a plunger located directly above said tools for causing the same to project from said barrier to make an impress on an article.

14. A machine of the class described comprising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising a stationary anvil and means including relatively adjustable elements for stretching the article across the face of said anvil and securing the same to the latter in fixed position.

15. A machine of the class described com-

prising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising an anvil and form members at opposite sides of said anvil expansible relatively thereto for stretching an article across the face of said anvil and means including a cam for adjusting said form members.

16. A machine of the class described comprising in combination, a support, marking tools carried thereby, means for operating said tools, and an article support comprising an anvil, and expansible members formed to fit a hat band and stretch a portion of the latter across said anvil and means including a spring for adjusting said members.

17. A machine of the class described comprising in combination, a support, marking tools carried thereby, means for operating said tools, and an article support comprising an anvil, form members for introduction into an article means tending to draw said members toward said anvil, and cam means for spreading said members against the resistance thereof to spread a portion of the article across said anvil.

18. A machine of the class described comprising in combination, a support, marking tools carried thereby, means for operating said tools, and an article support comprising an anvil and means adjacent opposite ends of said anvil for nipping hold of portions of an article to stretch the article across said anvil.

19. A machine of the class described comprising in combination, a support, marking tools carried thereby, means for operating said tools, and an article support comprising an anvil and spring pressed means adjacent ends of said anvil or gripping portions of an article and stretching the same across the face of said anvil.

20. A machine of the class described comprising in combination, a support, marking tools carried thereby, means for operating said tools, and an article support comprising an anvil, a pair of nipping elements adjacent opposite ends of said anvil, and means for causing the same to nip portions of the article and stretch the same across the face of said anvil.

21. A machine of the class described comprising in combination, a standard, a head thereon, an assembly of marking tools carried by said head, a work support adjacent said head, means permitting the adjusting of said support relatively to said head for line spacing, and a gage stop coöperating with a series of holes in a fixed scale for determining said spacing.

22. A machine of the class described comprising in combination, a standard, a head thereon, an assembly of marking tools carried by said head, a work support adjacent said head, and means for securing said support in different fixed positions of elevation relative to said head including a plurality of screws and means connecting the same having provision permitting the simultaneous adjustment thereof.

23. A machine of the class described comprising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising an anvil, a presser member, swinging arms connecting said member to said support, and spring means tending to press said member toward said anvil.

24. A machine of the class described comprising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising an anvil, a presser frame, arms pivotally connecting said frame to said support, and spring means tending to press said frame toward said anvil.

25. A machine of the class described comprising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising an article holding frame and means connecting said frame to said article support having provision permitting the adjustment of said frame to and from said article support.

26. A machine of the class described comprising in combination, a support, an assembly of marking tools carried thereby, means for operating said tools, and an article support comprising an anvil having alining means, a presser member and means connecting said member to said support having provision for automatically drawing an edge thereof against said alining means.

27. A machine of the class described comprising in combination, means for marking an article, a work support, means movable to and from a position for holding the article on the support, and means carried by and movable with said holding means for supplying a veneer strip to the article and having provision for severing the strip.

28. A machine of the class described comprising, in combination, a standard, a head, a tool carrier on said head, track connections between said standard and head, and friction reducing means interposed between said track and head.

29. A machine of the class described comprising, in combination, a standard, a head adjustable relatively thereto, a tool carrier for said head, a dove-tailed track projecting from said standard into a recess in said head, and a friction reducing device interposed between said head and track.

30. A machine of the class described comprising, in combination, means for marking an article; a work support; means movable

to and from a position for holding the article on the support: and means carried by and movable with said holding means for supplying a veneer strip to the article.

31. A machine of the class described comprising, in combination, means for marking an article; a work support; and means for supplying a veneer strip to the article comprising spaced plates for receiving the veneer between them; and means for feeding the latter between said plates.

32. A machine of the class described comprising, in combination, means for marking an article; a work support; and means for supplying a ribbon-like veneer to the article comprising spaced plates for receiving the veneer between them; and means for stretching said veneer smoothly between said plates.

33. A machine of the class described comprising, in combination, an assembly of marking tools; means for actuating the latter selectively to mark an article; a work support; means for holding the article on said support and having provision permitting adjustment thereof to and from an active holding position; and means carried by said article holding means for positioning a veneer on the article.

34. A machine of the class described comprising in combination, a support, a carrier thereon having a series of tool receiving chambers therein, means for simultaneously heating said chambers, marking tools mounted in the latter, means to project said tools from said chambers to mark an article, means for supporting an article adjacent to said tools, and means for supplying a veneer strip to said article.

35. A machine of the class described comprising in combination, a support, a carrier thereon having a series of tool receiving chambers therein, means for heating the walls of said chambers, tools normally contained within and subject to the heat of said chambers, means for causing said tools to project from said carrier to mark an article, means for supporting the article adjacent said tools, and means for supplying a veneer strip to the article.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM E. CHOATE.

Witnesses:
JOHN R. MOULTON,
HENRY T. WILLIAMS.