April 25, 1939. H. RUMRILL 2,156,197

MARKING APPARATUS

Filed April 13, 1938 2 Sheets-Sheet 1

FIG. 1.

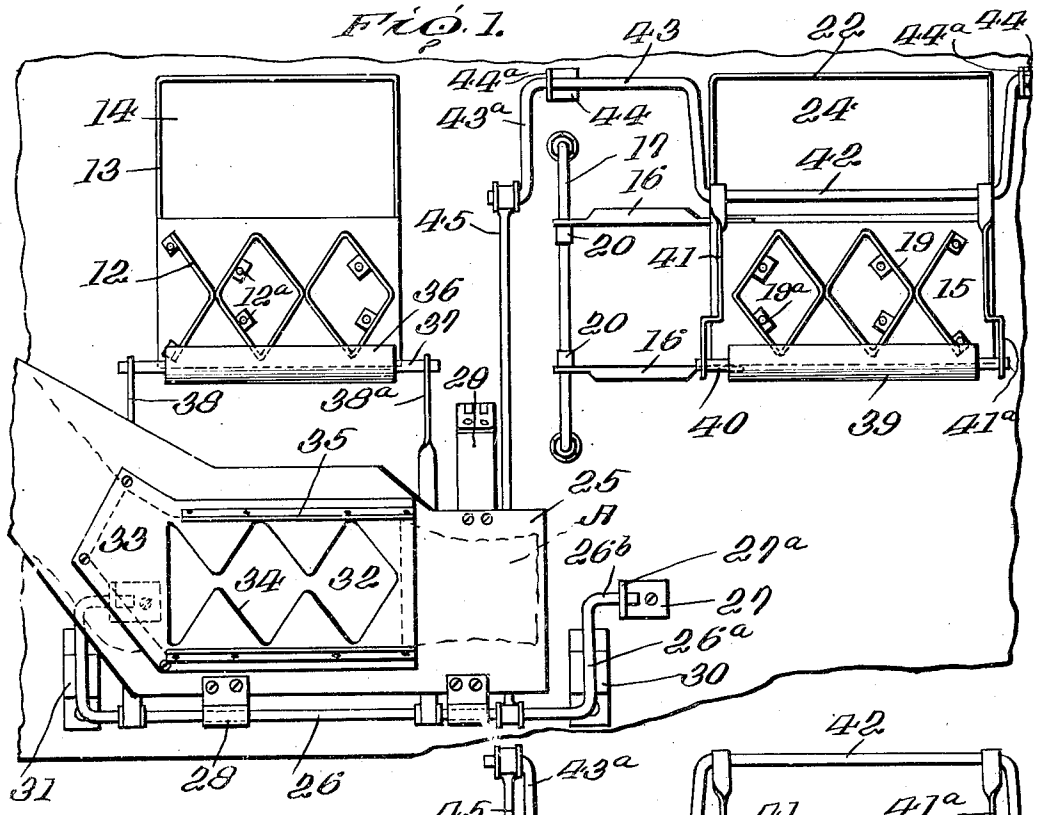
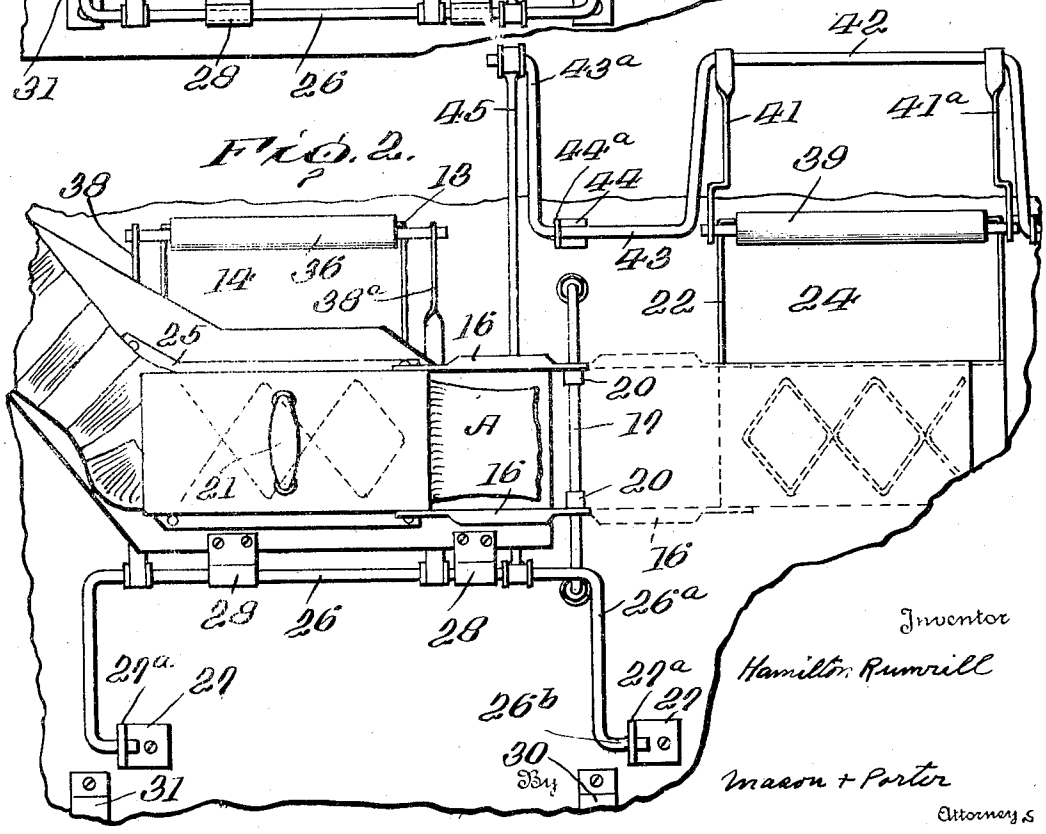


FIG. 2.



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MARKING APPARATUS

Filed April 13, 1938 2 Sheets-Sheet 2

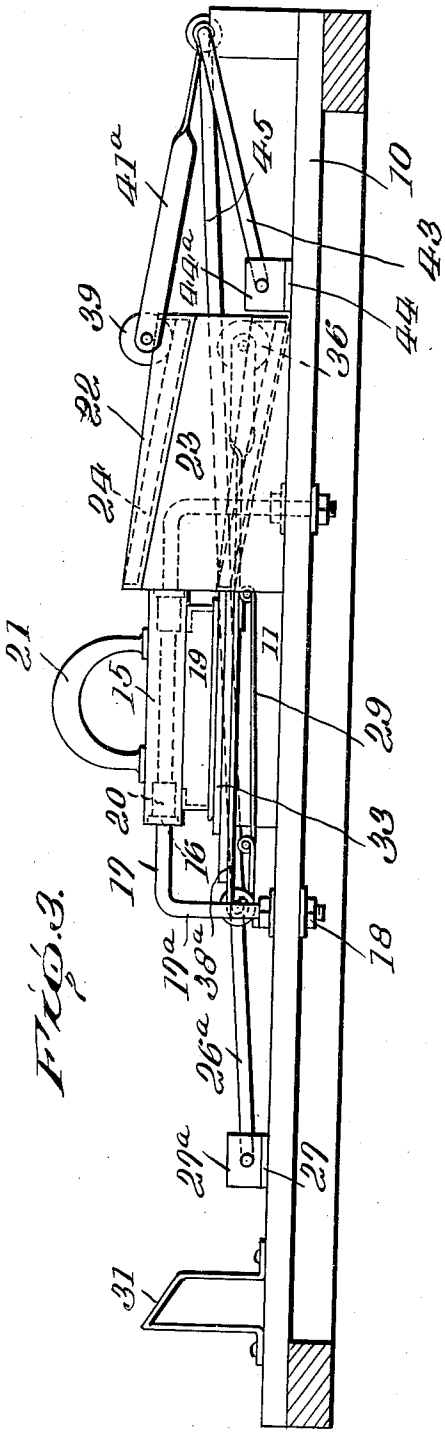


FIG. 3.

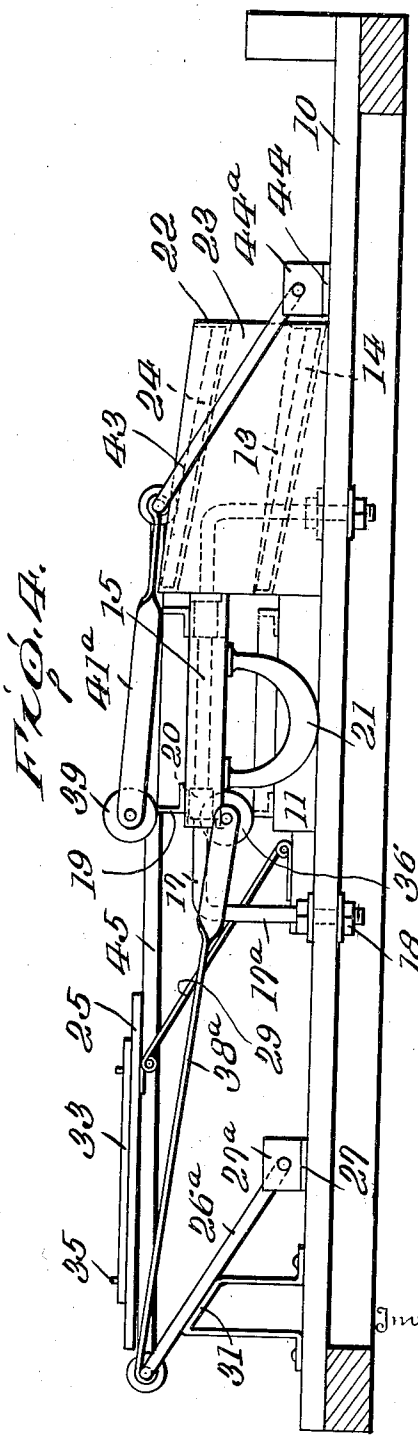


FIG. 4.

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UNITED STATES PATENT OFFICE

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MARKING APPARATUS

Hamilton Rumrill, Hillsboro, N. H.

Application April 13, 1938, Serial No. 201,814

13 Claims. (Cl. 101—296)

The present invention relates to new and useful improvements in a marking apparatus, and more particularly to an apparatus for applying to articles a temporary marking adapted to be used as a guide in a subsequent operation on the articles.

In the manufacture of a great many articles, particularly articles of apparel such as shoes, stockings or the like, it is desirable to mark the articles with a temporary pattern which can be followed and made a permanent part of the article in a subsequent operation. The present invention is illustrated in connection with the marking of stockings, but it is to be clearly understood that the invention is not limited in this respect. Thus, the stockings may be marked with an erasable temporary line which defines a pattern which can be subsequently stitched in the stockings and made a permanent part thereof. The temporary marking line serves as a guide in this subsequent operation and may be formed of any non-indelible marking substance, such as a chalk solution or the like.

An object of the invention is to provide a marking apparatus of the above type, wherein the article is carried by a support which can be moved into proper position with respect to a die for effecting the marking of the article.

A further object of the invention is to provide a marking apparatus of the above type, wherein the article support is apertured and provided with a removable plate which can be changed according to changes made in the die.

A further object of the invention is to provide a marking apparatus of the above type, wherein both sides of the article may be marked.

A still further object of the invention is to provide a marking apparatus of the above type, wherein the article support is movable into position over a stationary die, and wherein a movable die is shiftable to a position over the article support for marking both sides of the article.

A still further object of the invention is to provide a marking apparatus of the above type, wherein the marking substance is automatically applied to the dies after each marking operation.

The above and other objects of the invention will in part be obvious, and will be hereinafter more fully pointed out.

In the accompanying drawings,

Figure 1 is a fragmentary top plan view showing the improved marking apparatus with the article support and the movable die in position prior to the marking operation.

Figure 2 is a similar top plan view showing the article support in position between the stationary and movable dies for effecting marking of the article, the open position of movable die being shown in dotted lines.

Figure 3 is a side elevation of Figure 2.

Figure 4 is a side elevation of Figure 1.

Referring more in detail to the accompanying drawings, the apparatus, as illustrated, includes a supporting table 10 carrying a supporting block 11 on which a stationary die 12 is mounted. A tray 13 is suitably mounted on the table 10 and is inclined upwardly to a point immediately adjacent the block 12. This tray is provided with a glass bottom 14 which extends to a point substantially in the same horizontal plane as the outer surface of the die 12. A suitable marking solution is carried in the tray 14. The die 12 is provided with ears 12a by which it is removably secured to the block 11 so that various forms of dies may be used according to changes in style.

A movable block 15 has secured thereto a pair of arms 16, the ends of which are apertured to receive a pivot rod 17. The pivot rod 17 has the ends 17a thereof turned downwardly and extending through enlarged openings in the table 10 so that it may be properly adjusted. The ends 17a of the pivot rod 17 are threaded and secured to the table by nuts 18 or the like. A die 19 is provided with ears 19a by which it is removably secured to the block 15. The ends of the arms 16 are properly held in position on the pivot rod 17 by holding sleeves 20. The position of the rod 17 and the length of the arms 16 are such that the removable die can be swung about the pivot rod 17 to a position directly above the stationary die 12 and in alinement therewith, as shown in Figures 2 and 3. The block 15 has a handle 21 secured to the opposite face thereof, and this handle serves as a stop for properly positioning the block 15 and the die 19 when in an open position, as shown in Figures 1 and 4.

A tray 22 is supported on the table 10 by means of a block 23 so that the tray 22 is disposed in a higher plane than the tray 13. The tray 22 is similarly inclined so that the elevated end thereof is disposed adjacent the block 15 when the block is resting on its handle 21. The tray 22 is also provided with a glass bottom 24 which extends to a point substantially in the horizontal plane of the outer or marking surface of the die 19. This tray is also adapted to carry a suitable supply of a marking substance, such as a paste or solution.

An article supporting member 25 is shown in Figures 1 and 2 as being of the same general outline as the sock or stocking A. The supporting member 25 is provided with spaced bearing members 28 which are connected to an oscillating bar 26, the ends 26a of which are turned downwardly. The extreme ends 26b of the bar 26 are again turned at right angles so as to extend into the apertured flanges 27a of the supporting brackets 27 which are secured to the table 10. The op-

posite edge of the supporting member 25 is pivotally connected to one end of a link 29, the opposite end of which is pivotally secured to the table 10. A pair of stops 30 in the form of U-shaped brackets are secured to the table 10. These brackets 30 are provided with inclined surfaces 31 against which the ends 26a of the bar 26 are adapted to rest when the supporting member 25 is in a position for receiving an article, as shown in Figures 1 and 4.

The article supporting member 25 is provided with an aperture 32 which is of substantially the same size as the blocks 11, 15. A plate 33 is removably secured to the supporting member 25 and is disposed over the opening 32. This plate 33 is provided with an opening 34, the edges of which define an opening which is symmetrical with respect to the configuration of the marking surfaces of the dies 12, 19. The plate 33 is also provided with guiding flanges 35 which serve to locate the article A when placed over the opening in the plate 33. The article may be removably secured to the supporting member 25 in any suitable manner.

A roller 36 is mounted on a shaft 37, the ends of which are connected to links 38, 38a. The roller 36 is of a length permitting it to pass between the sides of the tray 13. The links 38, 38a are connected to the bar 26 and extend beneath the supporting member 25. Thus, when the supporting member is moved to a position over the stationary die 12, the roller 36 will be shifted into the tray 13 over the surface of the glass bottom 14 so that it will pick up a supply of the marking substance. When the supporting member is moved to an open position, as shown in Figure 1, the roller 36 will pass over the elevated end of the glass bottom 14 and over the marking surface of the die 12 so as to deposit the marking substance on the die.

A roller 39 is mounted on a shaft 40, the ends of which are secured to a pair of links 41, 41a. This roller 39 is of a length less than the length of the tray 22 so that it will pass into the tray and over the glass bottom 24. The opposite ends of the links 41, 41a are connected to an offset portion 42 of an oscillating bar 43. The bar 43 is pivotally mounted in the apertured flanges 44a of brackets 44 which are secured to the table 10. The end 43a of the oscillating bar 43 is disposed between the trays 13, 22 and is connected to a link 45 which is pivotally connected to the oscillating bar 26. The link 45 extends from the end 43a of the bar 43 beneath one end of the supporting member 25. The offset portion 42 and the end 43a of the oscillating bar 43 do not reach a horizontal position at either limit of movement. In other words, the offset portion 42 and the end 43a are always disposed above the plane of the table 10. Thus, when the article supporting member 25 is moved to a position over the stationary die 12, the roller 39 will be moved off the surface of the die 19 and into the tray 22, as shown in Figures 2 and 3. When the article supporting member 25 is returned to the position of Figure 1, the roller 39 will be shifted over the marking surface of the die 19, thus depositing the marking substance thereon. The link 45 effects this movement of the roller 39 by its operation of the oscillating bar 43 and the connecting links 41, 41a.

In operating the marking apparatus, the article supporting member 25 is shifted to the position shown in Figures 1 and 4 with the downwardly extending ends 26a of the rod 26 abutting against the inclined surface 31 of the bracket 30. In this position of the supporting member 25, the stocking A is placed thereon with the intermediate portion of the stocking disposed between the guiding flanges 35 on the plate 33. The stocking may be secured in any suitable manner in this position. The supporting member 25 is then shifted, causing similar movement of the oscillating bar 26 and the link 29, to the position shown in Figures 2 and 3. In this position of the supporting member 25, the opening 34 in the plate 33 coincides with the stationary die 12. During this movement of the supporting member 25, the roller 36 is moved by means of the links 38, 38a into the tray 13 so as to pick up an additional supply of the marking substance.

During the movement of the supporting member to the position shown in Figures 2 and 3, the roller 39 is also caused to move into the tray 22 in order to pick up an additional supply of the marking substance. This movement of the roller 39 is effected through the link 45 which is connected to the oscillating bar 26. The link 45, being connected to the oscillating bar 43, causes oscillation thereof about the pivots so as to draw the roller 39 into the tray 22 by means of the links 41, 41a. Thus, the movable block 15 can be shifted about the pivot rod 17 so that the die 19 will be superimposed over the article on the supporting member 25. The dies and the supporting member 25 are so positioned relative to one another that they are disposed one above the other when in a marking position. Thus, the stationary die 12 will effect a marking of one side of the article through the opening 34 in the plate 33. The die 19 will effect an exactly similar marking of the article on the opposite side thereof. When in a marking position, the supporting member 25 is disposed in a horizontal position between the stationary die 12 and the movable die 19.

When the marking of an article is completed, the movable die support 15 is rotated about the pivot 17 to the position shown in Figure 1, and the supporting member 25 is returned to the position shown in Figures 1 and 4 so that the marked article can be removed. During this movement of the supporting member 25, the roller 36 is drawn out of the tray 13 across the marking surface of the die 12 so as to apply more of the marking substance thereon. Similarly, the roller 39 is forced out of the tray 22 across the marking surface of the die 19 so as to apply more of the marking substance thereto.

From the foregoing description, it will be clearly seen that articles, such as hosiery, can be efficiently marked on one or both sides thereof by employing the marking apparatus of the present invention. After the marked article is removed from the supporting member 25, the temporary erasable marking line can be used as a guide in stitching or otherwise applying the design permanently to the article.

While one specific embodiment of the invention has been shown in the accompanying drawings, it is to be clearly understood that various changes in the details of construction and arrangement of parts may be made without departing from the scope of the invention as set forth in the appended claims.

I claim:

1. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member pivotally mounted on said table and having an opening

therethrough, said article supporting member being movable in one direction away from said die and being movable in the opposite direction to a position with said die extending through said opening for marking the article, receptacle means for containing a supply of marking substance, a roller, and links connecting said article supporting member with said roller for effecting movement of the roller into said receptacle means when the article supporting member is moved into position over said die and for effecting movement of said roller over said die when the article supporting member is moved away from the said die.

2. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member pivotally mounted on said table and having an opening therethrough, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, a pivot rod in the form of a bracket mounted on said table at one side of said stationary die and extending parallel to the direction of movement of said article supporting member, and a movable die pivotally connected to said pivot rod and movable at right angles to the direction of movement of said article supporting member to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article.

3. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member pivotally mounted on said table and having an opening therethrough, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, a movable die pivotally mounted on said supporting table and movable to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article, and means operated by said article supporting member for applying additional marking substance to said movable die when the movable die is in an open position and when the article supporting member is moved away from said stationary die.

4. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member pivotally mounted on said table and having an opening therethrough, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, a receptacle for containing a supply of marking substance and disposed adjacent said movable die when in an open position, a roller, an oscillating bar mounted on said table, links connecting said oscillating member with said roller, and a link connecting said oscillating bar with said article supporting member and disposed between said dies for effecting oscillation of said bar upon movement of said article supporting member whereby to effect movement of the roller into said receptacle when the article supporting member is moved into a position over said stationary die and to effect movement of said roller over said movable die when the article supporting member is moved away from said stationary die.

5. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member having an opening therethrough over which the article is adapted to be secured, an oscillating bar having depending ends pivotally mounted on said table, means for pivotally connecting one edge of said article supporting member with said oscillating bar, link means pivotally mounted on said table and connected to the opposite edge of said article supporting member, said article supporting member being movable in one direction away from said die and being movable in the opposite direction to a position with said die extending through said opening for marking the article, and stop means on said table for limiting movement of said article supporting member away from said die by engagement with the depending ends of said oscillating bar.

6. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member having an opening therethrough over which the article is adapted to be secured, an oscillating bar having depending ends pivotally mounted on said table, means for pivotally connecting one edge of said article supporting member with said oscillating bar, link means pivotally mounted on said table and connected to the opposite edge of said article supporting member, said article supporting member being movable in one direction away from said die and being movable in the opposite direction to a position with said die extending through said opening for marking the article, stop means on said table for limiting movement of said article supporting member away from said die by engagement with the depending ends of said oscillating bar, a receptacle containing a marking substance and disposed adjacent said stationary die, a roller adapted to apply additional marking substance from said receptacle to said die, and links connecting said roller with said oscillating bar and disposed beneath said article supporting member for effecting movement of said roller into and out of said receptacle and across the surface of said die upon movement of said article supporting member.

7. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member having an opening therethrough over which the article is adapted to be secured, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, a movable die pivotally mounted on said table at one side of said stationary die and adapted to be rotated about its pivot to a position over the article and in alignment with said stationary die for marking the opposite side of the article, handle means secured to the opposite side of said movable die and serving as a stop for maintaining the movable die in a substantially horizontal position when moved to an open position, a receptacle disposed adjacent said movable die when in an open position and adapted to contain a marking substance, a roller adapted to be moved into and out of said receptacle and across the face of said movable die, an oscillating member pivotally mounted on said table, parallel links connecting said roller with said

oscillating member, and a link connecting said article supporting member with said oscillating member for effecting movement of said roller upon corresponding movement of said article supporting member whereby to apply marking substance to said movable die when the article supporting member is moved away from said stationary die.

8. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member pivotally mounted on said table and having an opening therethrough, guide means at opposite sides of said opening for positioning the article to be marked over said opening, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, a movable die pivotally mounted on said supporting table and movable to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article within said guide means, and means associated with each of said dies and operable by movement of said article supporting member for applying a marking substance to the faces of said dies when said movable die is moved to an open position and when said article supporting member is moved away from said stationary die.

9. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member, means including a pair of links for mounting said article supporting member on said table for movement relative to said die, one of said links having one end thereof pivotally connected to the front edge of said article supporting member and the other of said links having one end thereof pivotally connected to the rear edge of said article supporting member, and each of said links having the opposite ends thereof pivotally connected to said supporting table and positioned with respect to said die in such a manner that the article supporting member is movable in one direction away from said die and in the opposite direction for positioning an article in contact with said die for marking one side of the article.

10. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member, means including a pair of links for mounting said article supporting member on said table for movement relative to said die, one of said links having one end thereof pivotally connected to the front edge of said article supporting member and the other of said links having one end thereof pivotally connected to the rear edge of said article supporting member, and each of said links having the opposite ends thereof pivotally connected to said supporting table and positioned with respect to said die in such a manner that the article supporting member is movable in one direction away from said die and in the opposite direction for positioning an article in contact with said die for marking one side of the article, and a movable die pivotally mounted on said supporting table on an axis disposed at right angles with respect to the axis of said links and movable to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article.

11. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member, means including a pair of links for mounting said article supporting member on said table for movement relative to said die, one of said links having one end thereof pivotally connected to the front edge of said article supporting member and the other of said links having one end thereof pivotally connected to the rear edge of said article supporting member, and each of said links having the opposite ends thereof pivotally connected to said supporting table and positioned with respect to said die in such a manner that the article supporting member is movable in one direction away from said die and in the opposite direction for positioning an article in contact with said die for marking one side of the article, a movable die pivotally mounted on said supporting table on an axis disposed at right angles with respect to the axis of said links and movable to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article, and means associated with each of said dies and operatively connected to said links for applying additional marking substance to the faces of said dies when said movable die is moved to an open position and when said article supporting member is moving away from said stationary die.

12. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member having an opening therethrough, means for pivotally mounting said article supporting member on said table for movement with the upper surface of the article supporting member always facing upwardly and accessible, said article supporting member being movable in one direction to a position with said stationary die extending through said opening for marking one side of the article and in the opposite direction away from said stationary die, and a movable die pivotally mounted on said table for movement in a direction at right angles to the direction of movement of the article supporting member from an inoperative position to a position directly above said stationary die with the article disposed between said dies for marking the opposite side thereof.

13. A marking apparatus comprising a supporting table, a stationary die mounted on said table, an article supporting member having an opening over which the article is supported, said article supporting member being movable in one direction away from said stationary die and being movable in the opposite direction to a position with said stationary die extending through said opening for marking one side of the article, means operated by said article supporting member for applying an additional marking substance to said stationary die when the article supporting member is moved away from said stationary die, and a movable die pivotally mounted on said supporting table on an axis disposed at right angles with respect to the pivotal axis of said article supporting member and movable to a position directly above said stationary die with the article disposed between the said dies for marking the opposite side of the article.

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