

April 14, 1964

L. J. TALARICO
MARKING APPARATUS

3,128,692

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2 Sheets-Sheet 1

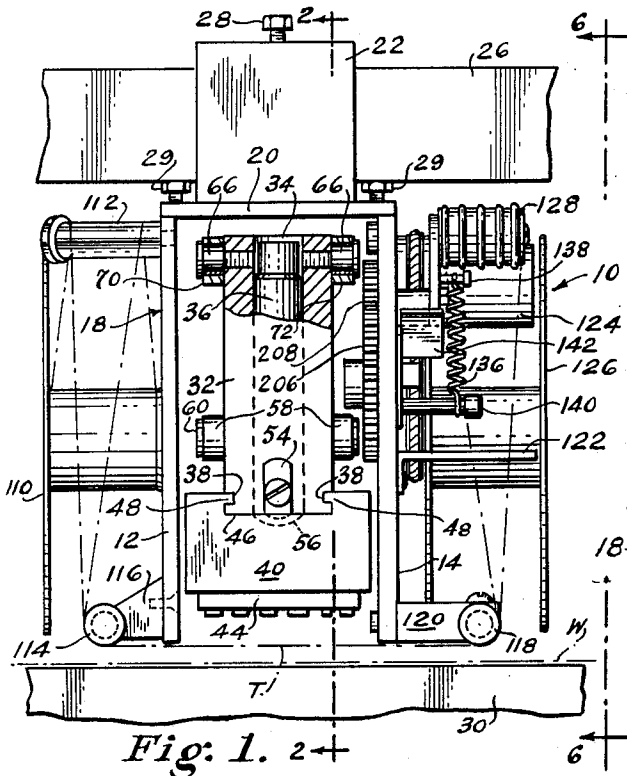


Fig. 1.

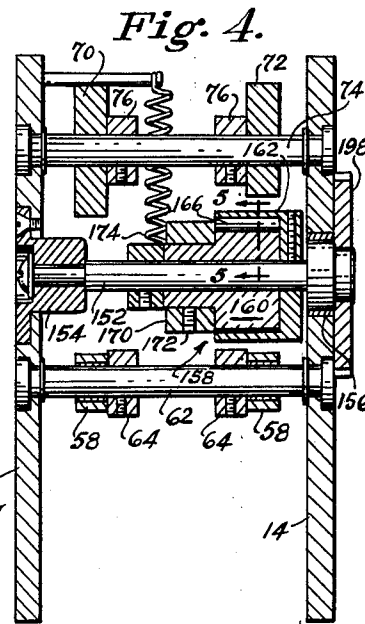


Fig. 4.

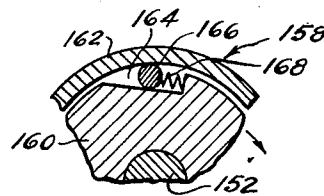


Fig. 5.

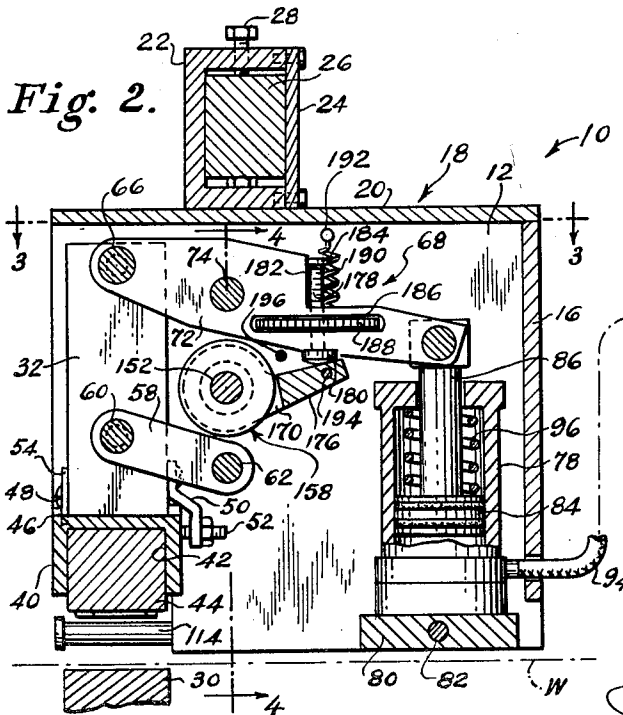
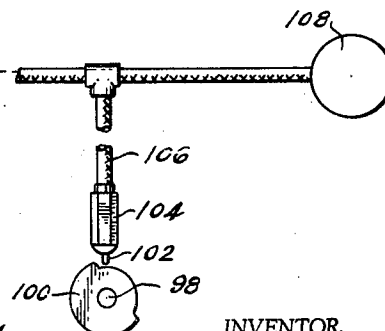


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

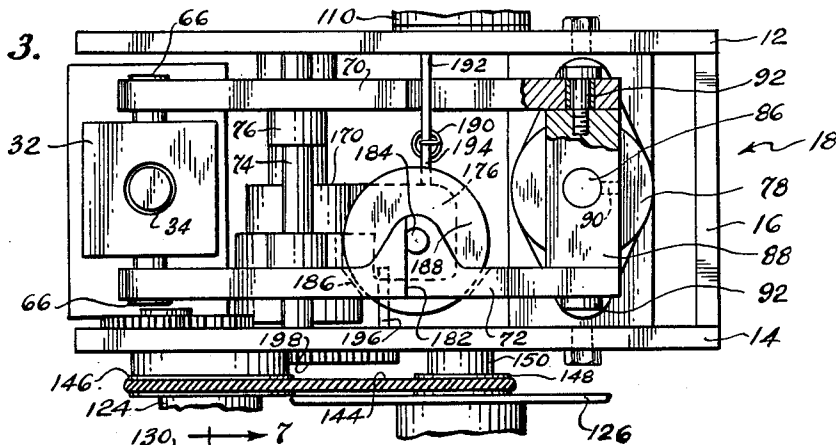


Fig. 6.

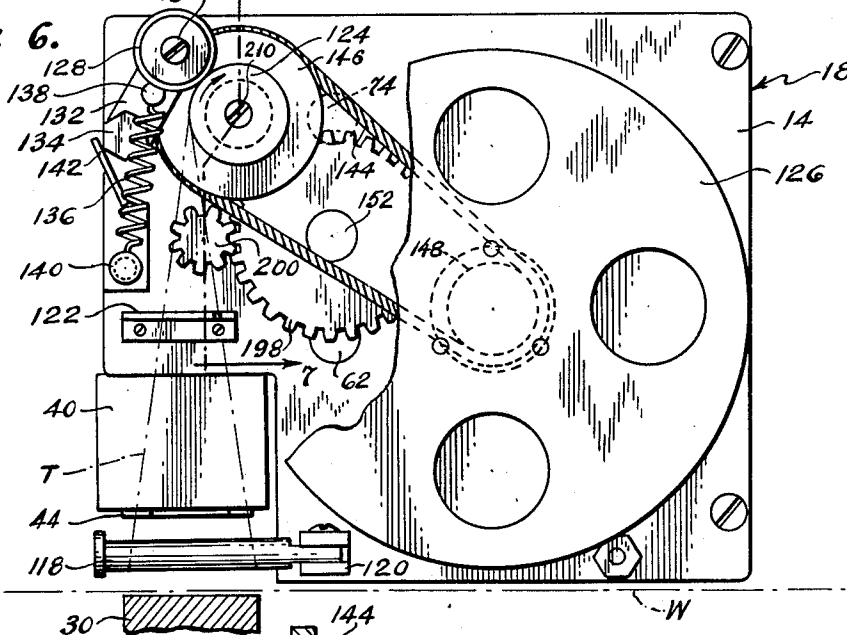
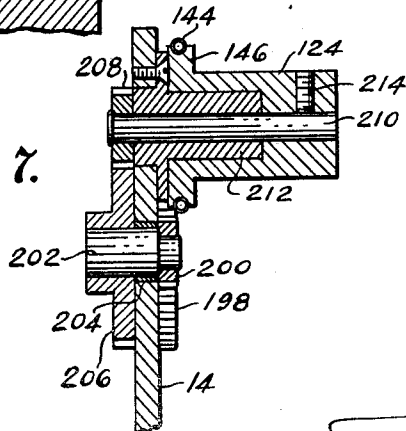


Fig. 7.



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1

3,128,692

MARKING APPARATUS

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10 Claims. (Cl. 101-11)

This invention relates generally to marking apparatus, and more particularly is directed to an improved apparatus for imprinting a web or flattened tube of plastic film or other glossy non-fibrous sheet material which is not suitable for the application of conventional inked markings.

Although apparatus has been previously proposed for imprinting webs or flattened tubes of plastic films intermittently fed to an associated wrapping or other machine by transfer of pigment from a hot roll leaf stamping tape, such existing apparatus is relatively complex in construction and cumbersome so that it is costly and not adapted for use in those situations where only a small space is available for mounting of the marking apparatus adjacent the path of travel of the web or flattened tube into the associated wrapping or other machine.

Accordingly, it is a general object of this invention to provide a marking apparatus which imprints a web or flattened tube by pressing a heated die against the latter through a hot roll leaf stamping tape, and which is relatively simple in construction as well as being compact so as to be less costly than the previously known apparatus, as well as being suitable for mounting in confined or restricted locations.

In accordance with an aspect of this invention, a marking apparatus of the described character is provided with a fluid pressure, preferably compressed air operated cylinder which effects both the movement of the heated die toward and away from the hot roll leaf stamping tape and the necessary feeding movements of the tape, and wherein the supplying of compressed air to the cylinder is suitably controlled from the associated wrapping or other machine to which the web or flattened tube being marked is intermittently advanced so that the heated die is pressed against the hot roll leaf stamping tape disposed upon the web or flattened tube when the latter is at rest, while the feeding movement of the tape occurs when the heated die is moved away from the tape during each advancement of the web or flattened tube.

In a preferred embodiment of the invention, the piston or ram of the fluid pressure operated cylinder is connected to a lever assembly so as to rock the latter, and a heater block from which the type elements are suspended is connected to the lever assembly so that the rocking of the latter effects movement of the heated type elements against and away from the hot roll leaf stamping tape. Further, the feeding movement of the tape is achieved by engagement of the latter with a feeding roller connected, through a one-way or over running clutch, with an angularly movable arm actuated by rocking of the lever assembly to move the tape through a predetermined distance during each movement of the type elements away from the tape.

Since the marking apparatus in accordance with the present invention has its operation synchronized with the intermittent advancement of the web or folded tube to be marked to an associated wrapping or other machine merely by actuation of a control valve by an operating part of that machine, and the only connection between the marking apparatus and the associated wrapping of other machine may consist of a flexible hose, the marking apparatus may be conveniently adjusted along the path of travel of the web or flattened tube to the wrapping

2

machine, thereby to effect registration of the applied markings with respect to successive sections of the web or flattened tube.

The above, and other objects, features and advantages of the invention, will be apparent in the following detailed description of an illustrative embodiment thereof which is to be read in connection with the accompanying drawings forming a part hereof, and wherein:

FIG. 1 is a front elevational view, partly broken away and in section, of a marking apparatus embodying this invention;

FIG. 2 is a vertical sectional view taken along the line 2-2 on FIG. 1, and further schematically showing a pneumatic control system for such apparatus;

FIG. 3 is an enlarged top plan view of the marking apparatus of FIG. 1, but with the top mounting plate thereof being removed;

FIG. 4 is a transverse sectional view taken along the line 4-4 on FIG. 2, but on a larger scale;

FIG. 5 is an enlarged fragmentary sectional view taken along the line 5-5 on FIG. 4;

FIG. 6 is an enlarged side elevational view of the marking apparatus of FIG. 1, as viewed in the direction of the arrows 6-6 on the latter, but with a portion of a tape take-up reel at that side of the apparatus being broken away; and

FIG. 7 is a fragmentary sectional view taken along the line 7-7 on FIG. 6.

Referring to the drawings in detail, it will be seen that a marking apparatus embodying the present invention, and there generally identified by the reference numeral 10, includes side frame plates or walls 12 and 14 in parallel spaced apart relation and a back wall 16 extending therebetween and cooperating with the side walls to define a downwardly opening housing 18. The housing 18 is suitably mounted so that its open bottom faces towards the web or flattened tube W (FIGS. 1, 2 and 6) which is intermittently advanced to a wrapping or other machine (not shown) utilizing successive sections of the web or flattened tube after code or other markings have been applied to each of such sections by the apparatus 10. As shown in FIGS. 1 and 2, the mounting for the housing 18 may consist simply of a top mounting plate 20 extending between, and suitably secured to the top edges of side walls 12 and 14, a C-shaped clamp or bracket 22 secured on top of mounting plate 20 and having its open side normally closed by a plate 24, and a mounting bar 26 extending laterally above the path of travel of web or flattened tube W at a suitable location along such path and having the clamp 22 loosely slidable thereon. A set screw 28 extends downwardly through the top of clamp 22 and engages the top of mounting bar 26, and screws 29 extend upwardly from tapped holes in plate 20 to engage the underside of bar 26, so that screws 28 and 29 cooperate to fix housing 18 at a desired lateral location along bar 26 and also to permit vertical adjustment of the housing toward and away from the path of web W.

Although the mounting clamp or bracket 22 is shown extending from plate 20 at the top of housing 18, it will be apparent that the mounting bracket or clamp may extend from the back or front of the housing or even from a side of the latter so as to reduce the height of apparatus 10 and thereby permit mounting of the latter in very confined locations, for example, as at the flattened tube inlet portions of single tube or double tube form, fill and seal pouch machines.

The web or flattened tube W moving intermittently under housing 18 passes over a suitable back-up or support surface 30 located below the forward portion of housing 18. A heater block 32 is mounted within the forward portion of housing 18 for substantially vertical

3

reciprocation, as hereinafter described in detail, and has a vertical bore 34 which contains a removable electric heating element 36 (FIG. 1). The lower end portion of heater block 32 has grooves 38 extending along the opposite sides thereof. A type holder 40 having a downwardly opening cavity 42 in which suitable pieces of type 44 are mounted so as to project downwardly from the type holder (FIG. 2) is further formed with a recess 46 receiving the lower end of heater block 32 and provided with inwardly directed ribs 48 slidable in grooves 38 for suspending the type holder from the heater block.

As shown in FIG. 2, a bracket 50 extends downwardly from the back of heater block 32, and a set screw 52 extends forwardly through bracket 50 to be engaged by type holder 40 and thereby adjustably determine the position of the latter relative to the heater block. A locking finger 54 is pivotally mounted on the front surface of heater block 32 so that, when the locking finger 54 extends vertically, as in FIGS. 1 and 2, the lower end of the locking finger extends below the bottom of heater block 32 and is received in a notch 56 formed at the bottom of recess 46 for preventing forward removal of type holder 40 from the heater block.

In order to mount heater block 32 for substantially vertical reciprocation of the type 44 toward and away from the web or flattened tube W upon back-up surface 30, links 58 (FIGS. 1 and 2) are mounted, at their forward ends, on pivots 60 extending from the opposite sides of heater block 32 adjacent the lower end of the latter, while the back ends of links 58 are pivoted on a laterally extending axle 62 (FIGS. 2 and 4) located back of heater block 32 and having its opposite ends mounted in side walls 12 and 14. Collars 64 are suitably secured on axle 62 for locating the links along the latter.

Pivots 66 (FIGS. 1 and 2) also extend from the opposite sides of heater block 32 adjacent the upper end of the latter. A lever assembly 68 is provided which includes levers 70 and 72 having their forward ends connected to heater block 32 by pivots 66. Levers 70 and 72 are rockably mounted, intermediate their opposite ends, on a laterally extending axle 74 having its opposite ends mounted in side walls 12 and 14, the collars 76 are suitably secured on axle 74 for locating levers 70 and 72 along the latter.

As is apparent in FIG. 2, axles 62 and 74 have their axes lying in a common vertical plane and are spaced apart by a distance substantially equal to the distance between pivots 60 and 66 on heater block 32 so that rocking of lever assembly 68 effects substantially vertical reciprocation of the heater block.

In accordance with the present invention, rocking of lever assembly 68 is effected by a fluid pressure operated cylinder 78 disposed between the back portions of side walls 12 and 14 and mounted, at its lower end, on a base 80 which is swingable about a laterally extending axis defined by an axle 82 having its opposite ends secured to side walls 12 and 14. Cylinder 78 has a piston 84 reciprocable therein and a piston rod 86 projecting upwardly from piston 84 through the upper end of cylinder 78. A cross head or yoke 88 is secured on the upper end of piston rod 86, as by a set screw 90 (FIG. 3), and pivots 92 project from the opposite ends of cross head 88 and connect the back ends of levers 70 and 72 to the cross head.

Cylinder 78 is preferably operated by compressed air and may be of the single acting type in which compressed air is supplied to the lower end of cylinder 78 by way of a flexible hose 94 (FIG. 2) to cause upward movement of piston 84, whereas the return or downward movement of piston 84 is effected by a compression spring 96 located in cylinder 78 between piston 84 and the top end wall of the cylinder.

It will be apparent that when compressed air is supplied to the lower end of cylinder 78 through hose 94 at a suffi-

4

cient pressure to overcome the downwardly acting force of spring 96, piston 84 moves upwardly in cylinder 78 and effects rocking of lever assembly 68 in the counterclockwise direction, as viewed on FIG. 2, thereby causing downward movement of heater block 32 and type 44 toward the web or flattened tube W on supporting surface 30. On the other hand, when the pressure of air in hose 94 is sufficiently reduced, as by venting of the hose to the atmosphere, spring 96 causes downward movement of piston 84 and thereby raises heater block 32 away from the web or flattened tube W.

The above movements of heater block 32 are synchronized with the intermittent advancement of the web or flattened tube W toward the associated wrapping or other machine so that, during movement of the web or flattened tube, heater block 32 is raised, whereas, when the web or flattened tube is at rest, heater block 32 is moved downwardly to effect the marking operation, as hereinafter described in detail. As shown schematically on FIG. 2, the operation of marking apparatus 10 may be conveniently synchronized with the intermittent advancement of the web or flattened tube by suitable controlling the supplying of compressed air to cylinder 78 from an operating member, for example, a rotated shaft 98 of the associated wrapping or other machine.

In the illustrated pneumatic control system, which is shown merely by way of example, the rotation of shaft 98 is assumed to have a timed relation to the intermittent advancement of web or flattened tube W, and shaft 98 carries a cam 100 which is engageable with an actuating pin 102 of a normally closed poppet valve 104. The valve 104 is provided at the end of a branch line 106 extending from the hose 94 which is, in turn, connected to a suitable source 108 of compressed air. When valve 104 is normally closed, the pressure in hose 94 is that available from the source 108 of compressed air so that piston 84 is moved upwardly in cylinder 78. On the other hand, when the actuating pin 102 of valve 104 is engaged by the radially enlarged portion of cam 100, thereby to open valve 104 and vent hose 94 to the atmosphere, the decreased pressure below piston 84 permits spring 96 to effect downward movement of the piston. Cam 100 is arranged on shaft 98 so that it opens valve 104 only during advancement of the web or flattened tube to the associated machine, and otherwise permits return of valve 104 to its normally closed condition when the web or flattened tube is at rest.

Although a pneumatic control system has been illustrated and described above which employs a single acting cylinder 78, it is apparent that a double acting cylinder may be provided, that is, a cylinder having its piston stroked both upwardly and downwardly by compressed air supplied alternately to the lower and upper ends, respectively, of the cylinder through a solenoid or other suitably controlled distributor valve interposed in the compressed air supply line and having its operation controlled from the rotated shaft 98 or other suitable moving member of the associated wrapping or other machine.

The marking apparatus 10 is intended to apply heat and pressure through type 44 against a hot roll leaf stamping tape T extending laterally across the bottom of housing 18 under type holder 40 so that such heat and pressure effects the transfer of pigment from tape T to web or flattened tube W to form an imprint on the latter in the shape of the effective raised areas of type 44. Since pigment is transferred from tape T to web W during each marking operation, it is necessary that a new or unused section of tape T be disposed under type holder 40 prior to each marking operation of apparatus 10. In the apparatus 10, the tape T is fed from a roll of unused tape on a supply reel 110 which is rotatably mounted on a spindle projecting laterally from side wall 12. The tape is drawn upwardly off supply reel 110 and passes over a guide pin 112 which extends horizontally from side wall 12 at an acute angle to the plane of the latter. The tape then

5

passes under a guide pin 114 mounted on a bracket 116 at the bottom of side wall 12 and extending horizontally forward parallel to the plane of the side wall, that is, at right angles to the axis of reel 110. The tape T passes from guide pin 114 under the open front portion of the bottom of housing 18 and then upwardly around a parallel guide pin 118 (FIGS. 1 and 6) which extends forwardly from a guide bracket 120 secured on side wall 14. From guide pin 118 the used tape travels upwardly through a slotted guide 122 extending from side wall 14, and then around a feed roller 124 disposed adjacent the top of side wall 14 at the outside of the latter and having its axis extending laterally, that is, at right angles to guide pin 114. Finally, the used tape is rewound on a take-up reel 126 (FIGS. 1, 3 and 6) which is also mounted at the outside of side wall 14 for rotation about a laterally extending axis.

In order to ensure frictional drive of the used tape by feeding roller 124, the tape is held against the surface of the feeding roller by a pressure roller 128 freely rotatable on an axle 130 carried by an arm 132 which is pivoted on side wall 14, as by a screw 134. A tension spring 136 is connected, at its opposite ends, to anchor pins 138 and 140 (FIGS. 1 and 6) extending from the arm 132 and side wall 14, respectively, to normally urge arm 132 to rock in the direction pressing roller 128 against the surface of feeding roller 124. However, when threading the tape T around feeding roller 124, arm 132 can be manually rocked away from the feeding roller to the limit of movement permitted by a stop 142, at which point the line of action of spring 136 is displaced to the side of the pivoting axis of arm 132 facing away from roller 124 so that the spring 136 then tends to maintain roller 128 spaced from feeding roller 124.

The take-up reel 126 is preferably driven from feeding roller 124 by an endless spring belt 144 running around pulleys 146 and 148 which are respectively formed integral with feeding roller 124 and a rotatable bush 150 on which reel 126 is mounted.

The tape T is advanced a predetermined distance laterally across the open bottom of housing 18 during the upward movement of heater block 32 at the conclusion of each marking operation so that a new or unused section of the tape will be disposed under type holder 40 at the commencement of the next marking operation. Such feeding movement of the tape is effected by intermittent turning of the feeding roller 124 and the take-up reel 126.

In accordance with the present invention, the intermittent turning of the feeding roller 124 is also derived from the rocking movement of lever assembly 68 by fluid pressure operated cylinder 78. As shown in FIGS. 2 and 4, this purpose is achieved by providing a laterally extending shaft 152 disposed between axles 62 and 74 and having its opposite ends journaled in bearings 154 and 156 which are mounted in side walls 12 and 14, respectively. Shaft 152 carries a one-way or overrunning clutch 158 which may be of the type commercially available from Hilliard Corporation, of Elmira, New York, under the designation No. 1-1-2AL. As shown in FIGS. 4 and 5, an overrunning clutch of the described character generally includes an inner body or driving member 160 which is freely turnable on shaft 152 within an outer housing 162 which is suitably secured, as by a set screw, to shaft 152. The periphery of inner body 160 is formed with one or more wedge shaped recesses 164 each accommodating a roller 166 which is urged by a spring 168 towards the narrow or shallow end of recess 164. Thus, when the inner body 160 is turned in the clockwise direction, as viewed in FIG. 5, roller 166 tends to wedge between the bottom of recess 164 and the inner surface of outer housing 162 to cause the latter to turn in the clockwise direction with the inner body 160. However, when the inner body 160 is turned in the opposite or counter-clockwise direction, the friction of roller 166 against the inner surface of housing 162

6

tends to move the roller against spring 168 toward the deeper end of recess 164 and thereby permits counter-clockwise turning of inner body 160 without transmission of such turning movement to the outer housing 162. Accordingly only clockwise turning of body 160 is transmitted to housing 162 of clutch 158.

An arm 170 is secured, at its forward end, as by a set screw 172 (FIG. 4) on a hub 174 projecting axially from the inner body 160 of clutch 158. Arm 170 extends generally rearwardly from the clutch (FIG. 3) and has a laterally offset back end portion 176 which projects under lever 72 of lever assembly 68. A screw 178 (FIG. 2) extends slidably through a generally vertical bore formed in lever 72 and is provided with a head 180 at its lower end adapted to bear downwardly on the laterally offset portion 176 of arm 170. Turning of screw 178 in the bore of lever 72 is prevented by a shoulder 182 formed on lever 72 parallel to the axis of screw 178 and slidably engaged by a flattened surface formed on a head 184 at the upper end of screw 178. A slot 186 extends laterally through lever 72 and accommodates a knurled adjusting nut 188 which is threaded on screw 178. Thus, turning of nut 188 adjusts screw 178 vertically relative to lever 72 so that the head 180 at the lower end of screw 178 projects more or less below the lower edge of lever 72. A tension spring 190 is connected between anchor pins 192 and 194 which respectively project from side wall 12 and arm 170, thereby to urge arm 170 to rock upwardly, that is, in the counterclockwise direction, as viewed on FIG. 2, against a stop pin 196 projecting from side wall 14.

It will be apparent that, when lever assembly 68 is rocked in the clockwise direction, as viewed on FIG. 2, to raise heater block 32, that is, during advancement of the web or flattened tube W, arm 170 is rocked in the clockwise direction away from stop pin 196 to correspondingly turn the inner body 160 of clutch 158 and, as described above, such turning movement of inner body 160 is transmitted to the outer housing 162 of the clutch and hence to shaft 152. On the other hand, when lever assembly 68 is rocked in the opposite direction to move heater block 32 downwardly during a marking operation, spring 190 rocks arm 170 upwardly against stop pin 196, and the corresponding counterclockwise turning of inner body 160 of clutch 158 is not transmitted to housing 162 and shaft 152.

In order to transmit the intermittent clockwise turning movements of shaft 152 to the feeding roller 124, a spur gear 198 (FIGS. 3, 4, 6 and 7) is fixed on the end of shaft 152 at the outside of side wall 14 and meshes with a pinion 200 (FIGS. 6 and 7) which is secured on the outer end of a stub shaft 202 turnable in a bearing 204 carried by side wall 14. A gear 206 is fixed on stub shaft 202 at the inside of wall 14 and meshes with a pinion 208 which is fixed on the inner end of a shaft 210 journaled in a bearing 212 carried by side wall 14 above the previously mentioned bearing 204. The feeding roller 124 is fixed, as by a set screw 214, on the outer end of shaft 210 (FIG. 7) and thereby is intermittently turned in the clockwise direction, as viewed in FIG. 6, in response to the intermittent clockwise turning movements imparted to shaft 152, as previously described herein.

It will be apparent that the angular displacement of the arm 170, and hence the extent of each turning movement imparted to the feeding roller 124 following each marking operation of apparatus 10, can be varied by adjusting the screw 178 relative to lever 72, and thereby provides means by which the length of tape fed laterally under housing 18 following each marking operation may be conveniently adjusted. Thus, if the type elements 44 extend only over a relatively small length of tape T, each feeding movement of the tape may be correspondingly reduced so as to ensure the availability of an unused portion or section of the tape for each marking

operation without wasting portions of the tape through excessive feeding movements thereof.

Since the vertical reciprocation of heater block 32 and the feeding movements of the tape are both effected by the same compressed air operated cylinder 78, the synchronous performance of these two functions of the machine is positively assured in a compact and relatively simple mechanism which can be inexpensively produced and is suitable for mounting in relatively confined areas. Further, since the only connection between the marking apparatus 10 and the associated wrapping or other machine is by way of the flexible hose 94, the mounting for the marking apparatus 10 may be conveniently displaced along the path of travel of the web or flattened tube W into the machine for effecting registration of the markings applied to the web with respect to the successive sections of the latter utilized by the wrapping machine.

Although an illustrative embodiment of the invention has been described in detail herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to that precise embodiment, and that various changes and modifications may be effected therein without departing from the scope or spirit of the invention, except as defined in the appended claims.

What is claimed is:

1. An apparatus for imprinting intermittently advanced sheet material by pressing a hot roll leaf stamping tape against the latter, comprising support means adapted to be mounted adjacent the path of travel of the intermittently advanced sheet material, heated type holding means movably mounted on said support means for reciprocation toward and away from the sheet material, supply means mounted on said support means for holding a supply of unused stamping tape, take-up means mounted on said support means for receiving the used stamping tape, guide means leading the stamping tape from said supply means to said take-up means along a path having a portion extending between said type holding means and the sheet material at right angles to the direction of the intermittent advancement of the latter, a tape feeding roller for frictional engagement with the tape to move the latter along said path of the tape, lever means rockably mounted on said support means and connected to said type holding means for moving the latter toward and away from the sheet material in response to rocking of said lever means, a rockable arm resiliently urged toward said lever means, an adjustable member carried by said lever means to rock said arm with the latter upon rocking of said lever means in the direction moving said type holding means away from the sheet material, transmission means connecting said arm with said tape feeding roller and having clutch means interposed therein which transmits only the turning movements of said arm caused by rocking of said lever means in said direction, yieldable drive means for operating said take-up means from said feeding roller, and fluid pressure operated means connected to said lever means for rocking the latter.

2. An apparatus for imprinting intermittently advanced sheet material, comprising a housing mounted above the path of travel of the sheet material and having an open bottom, supply and take-up reels rotatably mounted at the opposite sides of said housing with their axes extending laterally and being adapted to receive a supply of hot roll leaf stamping tape and to take-up the used tape, respectively, guide means leading the tape from said supply reel laterally under said housing and then onto said take-up reel, a heater block mounted in said housing for substantially vertical movement above the tape guided laterally under the open bottom of the housing, means at the lower end of said heater block to support type elements, lever means rockably mounted in said housing and pivotally connected to said heater

block to move said type elements downwardly against the tape and upwardly away from the tape in response to rocking of said lever means, fluid pressure operated means within said housing connected to said lever means for rocking the latter, a tape feeding roller rotatably mounted on said housing at the same side of the latter as said take-up reel to frictionally engage the tape after the latter passes laterally under said housing so that the tape is pulled across the housing to expose an unused portion thereof to said type elements in response to turning of said feeding roller, yieldable drive means rotating said take-up reel from said feeding roller so that the used tape is rewound on said take-up reel, and drive means for said feeding roller located within said housing and actuated by said lever means for turning said feeding roller in response to rocking of said lever means in the direction moving the type elements upwardly away from the tape.

3. An apparatus for imprinting intermittently advanced sheet material, comprising a housing mounted above the path of travel of the sheet material and having an open bottom, supply and take-up reels rotatably mounted at the opposite sides of said housing to receive a supply of hot roll leaf stamping tape and to take up the used tape, respectively, guide means leading the tape from said supply reel laterally under said housing and then onto said take-up reel, a heater block mounted in said housing for substantially vertical movement above the tape guided laterally under the open bottom of the housing, means at the lower end of said heater block to support type elements, lever means rockably mounted in said housing and pivotally connected to said heater block to move said type elements downwardly against the tape and upwardly away from the tape in response to rocking of said lever means, fluid pressure operated means connected to said lever means for rocking the latter, a tape feeding roller rotatably mounted on said housing to frictionally engage the tape after the latter passes laterally under said housing so that the tape is pulled across the housing to expose an unused portion thereof to said type elements in response to turning of said feeding roller, yieldable drive means rotating said take-up reel from said feeding roller so that the used tape is rewound on said take-up reel, a rockable arm mounted in said housing, drive means for turning said feeding roller in one direction in response to angular displacement of said arm in a corresponding direction, spring means urging said arm in the direction opposed to said corresponding direction, and means carried by said lever means and engageable with said arm to angularly displace the latter in said corresponding direction during rocking of said lever means in the direction for moving the type elements upwardly away from the tape.

4. An apparatus as in claim 3; wherein said means engageable with the arm to angularly displace the latter includes an adjustable screw extending from said lever means a variable distance so that a predetermined rocking movement of said lever means can be made to effect different angular displacements of said arm in said corresponding directions for varying the length of tape fed by said feeding roller during each upward movement of said type elements.

5. An apparatus as in claim 3; wherein said drive means for turning the feeding roller includes a one-way clutch operative to transmit only the angular displacements of said arm in said corresponding direction.

6. An apparatus as in claim 3; wherein said yieldable drive means rotating the take-up reel from the feeding roller includes pulleys rotatable with said take-up reel and feeding roller, respectively, and an endless spring belt running around said pulleys.

7. An apparatus for imprinting sheet material advanced intermittently to an associated machine which utilizes sections of the sheet material and has an operating member moved in timed relation to the intermittent advancement of the sheet material; said apparatus com-

prising support means mounted adjacent the path along which the sheet material is advanced intermittently to the associated machine, supply means mounted at one side of said support means for holding a supply of hot roll leaf stamping tape, guiding means leading the tape from said supply means laterally across said path of the sheet material to the other side of said support means, a tape feeding roller at said other side of the support means engaging the tape to feed the latter upon turning of said feeding roller, take-up means at said other side of the support means operative to take up the tape fed by said feeding roller, a heater block movably mounted on said support means and carrying type elements for movement of the latter toward and away from said path of the sheet material with the tape interposed between said type elements and the sheet material, lever means rockable on said support means and connected to said heater block to move the latter in response to rocking of said lever means, a rockable arm carried by said support means, drive means between said arm and said feeding roller to turn the latter only in response to angular displacement of said arm in one direction, means on said lever means engageable with said arm to angularly displace the latter in said one direction upon rocking of said lever means in the direction moving the type elements away from said path, spring means for returning said arm in the opposite direction, a cylinder carried by said support means and having a piston reciprocable therein and connected to said lever means to rock the latter, and means for supplying compressed air to said cylinder to cause said piston to reciprocate therein and including control means actuated by said operating member of the associated machine to cause rocking of said lever means

in said direction moving the type elements away from said path during advancement of the sheet material and rocking of the lever means in the opposite direction when the sheet material is at rest.

8. Apparatus as in claim 7; wherein said drive means between the arm and the feeding roller includes a one-way clutch operative to transmit only angular displacement of said arm in said one direction.

9. Apparatus as in claim 7; wherein said means on the lever means engageable with the rockable arm includes a screw axially slidable in said lever means and engageable at one end with said arm, and an adjusting nut engaging said screw and turnable in said lever means to vary the projection of said screw from said lever means and thereby adjust the angular displacement of said arm and the turning of said feeding roller caused by rocking of said lever means.

10. Apparatus as in claim 7; wherein said take-up means includes a take-up reel rotatable on said support means, pulleys rotatable with said feeding roller and said take-up reel, respectively, and an endless spring belt running around said pulleys to drive said take-up reel in response to turning of said feeding roller.

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