

March 19, 1963

P. DELLIGATTI

3,081,697

MARKING DEVICES

Filed Jan. 31, 1962

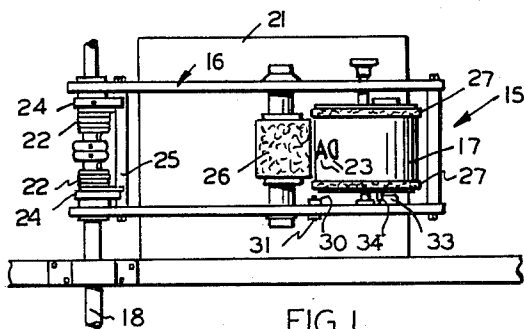


FIG. 1

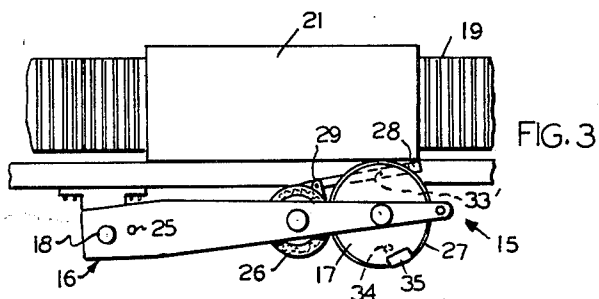


FIG. 3

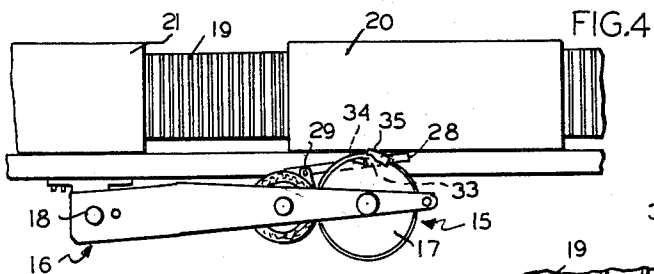


FIG. 4

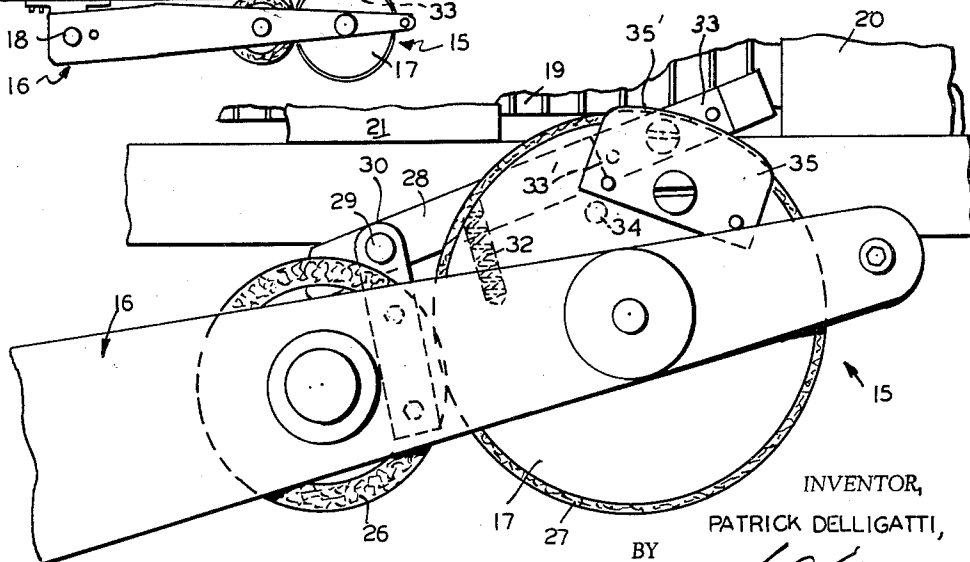


FIG. 2

INVENTOR,
PATRICK DELLIGATTI,

BY

M. D. Fussenbaum

ATTORNEY

1

3,081,697

MARKING DEVICES

Patrick Delligatti, 1203 Rogers Ave., Brooklyn, N.Y.

Filed Jan. 31, 1962, Ser. No. 170,132

4 Claims. (Cl. 101—35)

The present invention relates to marking devices for parcels on a moving conveyor, and more particularly to the type having a printing roller spring-biased to enter in part between parcels so that upon passage of a parcel, it will shift the printing roller which will then contact, roll on and mark a surface of the parcel which is parallel to the line of movement of the conveyor.

The principal object of this invention is to provide a novel and improved marking device of the character mentioned, which will always commence marking at a prescribed distance from that end of the parcel, which first meets the printing roller. In the usual run, the parcels are of uniform size, hence with my new device, it is possible to have the printing centered on each parcel it meets.

Another object thereof, is to provide a novel and improved marking device of the character set forth, which will make an imprint on parcels, in a predetermined position thereon in relation to other markings uniformly appearing on said parcels.

Still another object is to provide a marking device of the kind described and having the attributes mentioned, which is reasonable in cost, automatic in their action and efficient in carrying out the purposes for which they are designed.

Other objects and advantages will become apparent as this disclosure proceeds.

For the practice of this invention, one form it may assume comprises an arm swingably mounted on a post shaft which is fixed to the conveyor frame in front of the parcel surface to be marked. This arm carries a rotatable printing roller and an inking roller so that the printing roller may roll on the parcel surface to be marked thereby. Said arm is spring-biased to move so that the printing roller will enter between spaced parcels on the conveyor as the latter moves in the direction from said post to the printing roller. There is a second arm positioned intermediate the axis of rotation of the printing roller and the locus of parcel movement, extending in the general direction of the first arm, swingably mounted on the first arm for independent movement, extending free in the direction of parcel movement and spring-biased so that its free end enters between spaced parcels on the conveyor. On the printing roller there are rubber tires for frictional engagement with the parcel and an element of limited arcual length to monopolize contact with the parcel surface being marked to the exclusion of said friction tires when rotation of the printing roller is halted upon a pin extending therefrom is against a stop element on the second arm. Said contact monopolizing element, being of a material which will allow slippage while the printing roller is held against rotation, but will offer traction when the printing roller is free to revolve. The marking characters of the printing roll, said pin and monopolizing element are positioned on the printing roller, in a prescribed relation so as to accomplish what is desired of the device, all of which will now be set forth in detail.

In the accompanying drawing forming part of this specification, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 is a front elevation of a marking device embodying the teachings of this invention, mounted on the framework of a parcel conveyor.

FIG. 2 is an enlarged top plan fragmentary view of FIG. 1. Here, the marking roller has just been released

2

after a forced rest during which its pin was intercepted by the stop element on the second arm which occurrence held said roller against rotation.

FIG. 3 is a top plan view of FIG. 1, showing the marking or printing roller rolling along the surface of the parcel it will now mark before it is stopped from rotating.

FIG. 4 is a top plan view of FIG. 1, showing the printing roller stopped and the contact-monopolizing element affording slippage; such element being shown broken away in part showing the interception of the pin on the printing roller by the stop element on the second arm.

In the drawing, the numeral 15 designates generally a marking device comprising an arm frame 16 which carries at one of its ends, the revolvably mounted printing roller denoted generally by the numeral 17, and at its other end, it is swingably mounted on a fixed post 18 which is on the frame 18 of the conveyor 19 carrying packages 20, 21 to be marked. This arm frame extends in the general direction of the conveyor's movement and is spring-biased by the stressed torsion springs 22, to bring the printing roller 17 into the space between packages, so that in passing, each package will be marked with the printing characters 23. There are stops 24, fixed on said post 18, to co-operate with the rod 25 joining the arms of the frame 16, to limit the extent to which the printing roller will pass the front plane of the packages. Said frame 16 also carries an inking roller 26 made of sponge rubber for example and in rolling pressing contact with the print characters 23, which are brought thereto when the printing roller turns. In the embodiment shown, the print characters or type elements are between two soft sponge rubber rings 27, which are mounted as tires on the printing roller 17. It is evident that when the printing roller is between two packages 20, 21, it will extend behind the front plane of such packages, but as soon as said printing roller contacts a package, it will roll spring-pressed against the front face of such package, due to the frictional engagement of said rings 27 with said package face. The length of said package being greater than the circumference of the printing roller 17, it is evident that the face of said package will have imprinted thereon all insignia offered by the printing roller.

A second arm, denoted by the numeral 28, is positioned in the general direction of parcel movement intermediate the axis of rotation of the printing roller 17 and the locus of movement of the parcels. Such arm is swingably mounted at 29 in a clevis formed by the strips 30, 31 which are secured to the faces of the lower arm of the arm frame 16, whereby such arm 28 is free for independent movement that its free end enter between spaced parcels on the conveyor as effected by the spring 32 which biases said arm 28 in that direction, away from the arm frame 16. Said arm 28, or bar as it may be called, swings in a plane below the printing roller 17, and at its free end, on its upper surface, has a block 33 secured thereon. Extending downwardly from the printing roller, there is a pin 34, whose locus of movement intersects the edge 33' of said block, which edge is that which is nearest the axis 29; such intersection occurring when said bar 28 has its free end in contact with the parcel surface being marked. Hence, when the printing roller is in a particular position about its own axis of rotation, said pin will be intercepted by said edge of the block 33, and the rotation of the printing roller will be halted. When such occurs, the element 35 which is fixed to the top end of the printing roller, will contact the parcel surface to the exclusion of the rubber rings 27, because the peripheral edge 35' of the element 35 is arcual and a bit beyond the periphery of said rings. Said element 35 is of a material which will offer slippage while the printing roller is held against rotation, but will offer traction on the

3

parcel surface when said printing roller is again free to revolve. As an example, said element 35 may be a polished aluminum piece.

As to the operation of the device, first refer to the condition shown in FIG. 2, where both the printing roller 17 and the bar 28 extend between the parcels 20 and 21, due to the action of the springs 22 on the arm frame 16 and because of the action of the spring 32 on said bar. The direction of movement of the conveyor 19 is towards the right, so parcel 20 is the last one which has been marked and the parcel 21 is now approaching the device 15, to be marked. The pin 34 has been released from its contact with the block stop 33, because as soon as the parcel 20 had cleared itself from the bar 28, the latter moved to its position between the parcels 20, 21. No part of the printing roller 17, being in contact with a parcel, it will be at rest in the condition shown in FIG. 2.

Now, as soon as the parcel 21 comes into contact with the tires 27 on the printing roller 17, said roller will turn, and by the time the bar 28 has its tip end in contact with the front surface of the parcel 21, said bar will have assumed the position shown in FIG. 3, where the block's pin-stopping edge 33' is again in position to be in the locus of movement of the pin 34 while the printing roller is in contact with the front surface of said parcel 21. It is to be noted, that when the bar has assumed its position shown in FIG. 3, that the pin 34 has moved away and is now in the position shown in FIG. 3.

As the parcel 21 continues moving, it is imprinted with the composition 23 on the printing roller 17. This occurs in FIG. 4, before the pin 34 is intercepted by the stop block 33, which is the condition specially shown here. Upon such interception, the printing roller is held at rest and its position now is where no type 23 thereof is in contact with the parcel, but the sole contact with the parcel is by the slippage-affording element 35, and of course, the tip end of the bar 28. Now as soon as the parcel 21 leaves the bar 28, the device 15 again assumes the condition shown in FIG. 2, and is ready to act on any parcel following 21.

The position of the printing composition on the printing roller 17 is such, that its starting point is a pre-determined distance from the stopped position of said roller, measured on the peripheral surface of said roller. This accomplishes that the matter printed on each parcel, will commence a certain distance from the corner of the parcel which first meets the printing roller and hence all parcels will be marked on a uniform location thereon respectively.

Since the printing roller 17 will be turned one revolution per parcel marked, the printing composition 23 will be inked by the inking roller 26, once per parcel.

Although in the embodiment illustrated, the device is used to mark a vertical surface, it may be suitably mounted for marking the top surface of parcels, in which set-up the rollers would be horizontal over the conveyor. In all instances, the direction of roller axes would be perpendicular to the direction of parcel movement.

This invention is capable of numerous forms and various applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiment shown herein shall be

4

deemed illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific description herein to indicate the scope of this invention.

I claim:

1. In a device for marking spaced parcels carried along by a conveyor moving on a frame, a second frame movably mounted on the conveyor frame, a printing roller rotatably mounted on said second frame in a manner so that when said second frame is moved toward the surface of the parcel to be marked, said printing roller will be in rolling contact with said surface, said second frame being spring-biased to move so that said printing roller intersects the plane of the parcel surface to be marked, a bar pivotally mounted at one of its ends to one of said frames and extending with its free end in the general direction of conveyor movement, said bar being spring-biased to move so that its free end shall enter between parcels on the conveyor, an element extending from one end of said printing roller, a second element on said bar in such position thereon that said second element is in the locus of movement of the first element when both said printing roller and the free end of said bar are in contact respectively with the parcel surface to be marked, whereby on the turning of said printing roller, the first element will be intercepted by the second element and thereby halt the rotation of said printing roller when said elements are in contact with each other, means on said printing roller to frictionally engage the parcel on said surface, whereby on movement of said parcel with the conveyor, said printing wheel will be rotated and a slippage member fixed on said printing roller at such position that said slippage member will contact said parcel surface when the second element intercepts the first element, to the exclusion of said frictional engagement means on said roller, said slippage member offering traction on said parcel surface when the printing roller is free for rotation and slippage when said rotation is halted, the circumference of the circle determined by the surface of the printing characters on the printing roller, being less than the length of the parcel to be marked, such length being in the direction of conveyor movement.

2. A marking device as defined in claim 1, wherein the second frame is an arm pivotally mounted at one of its ends on the conveyor frame and extending with its free end in the general direction of conveyor movement.

3. A marking device as defined in claim 2, wherein the mentioned bar is carried by said arm.

4. A marking device as defined in claim 1, wherein the frictional engagement means on the printing roller is a rubber-like tire thereon and said slippage member extends laterally from the printing roller; the surface of said slippage member for contacting the parcel, being arcual and concentric with the printing roller.

References Cited in the file of this patent

UNITED STATES PATENTS

1,983,921	Persson	Dec. 11, 1934
2,195,135	Serai	Mar. 26, 1940
2,636,436	Mann	Apr. 28, 1953
2,746,380	Gottscho	May 22, 1956
2,923,232	Worth	Feb. 2, 1960
3,031,956	Worth	May 1, 1962