May 8, 1945. A. W. H. HIRSCH 2,375,362

AUTOMATIC CAN MARKING MACHINE

Filed July 13, 1943 2 Sheets-Sheet 1

Fig. 1.

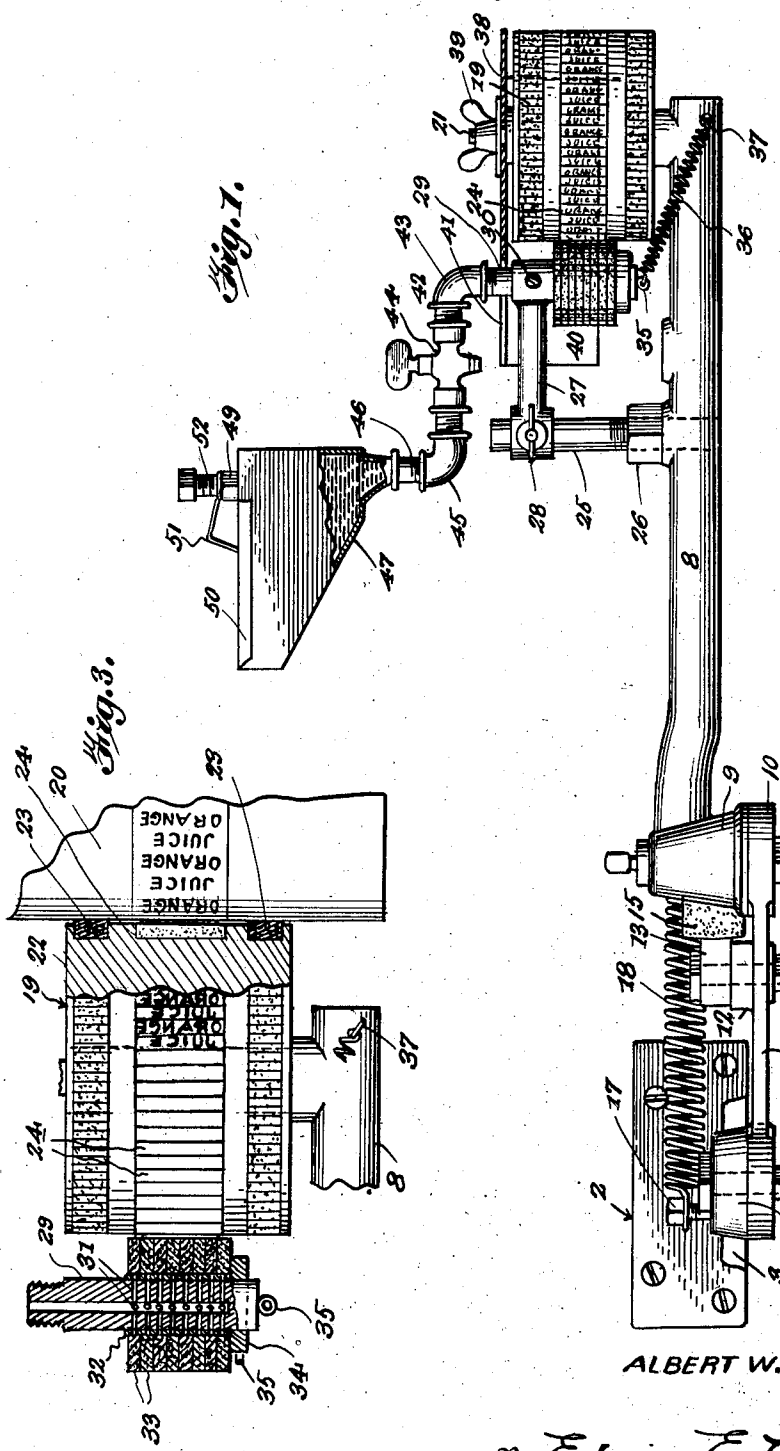

Fig. 3.

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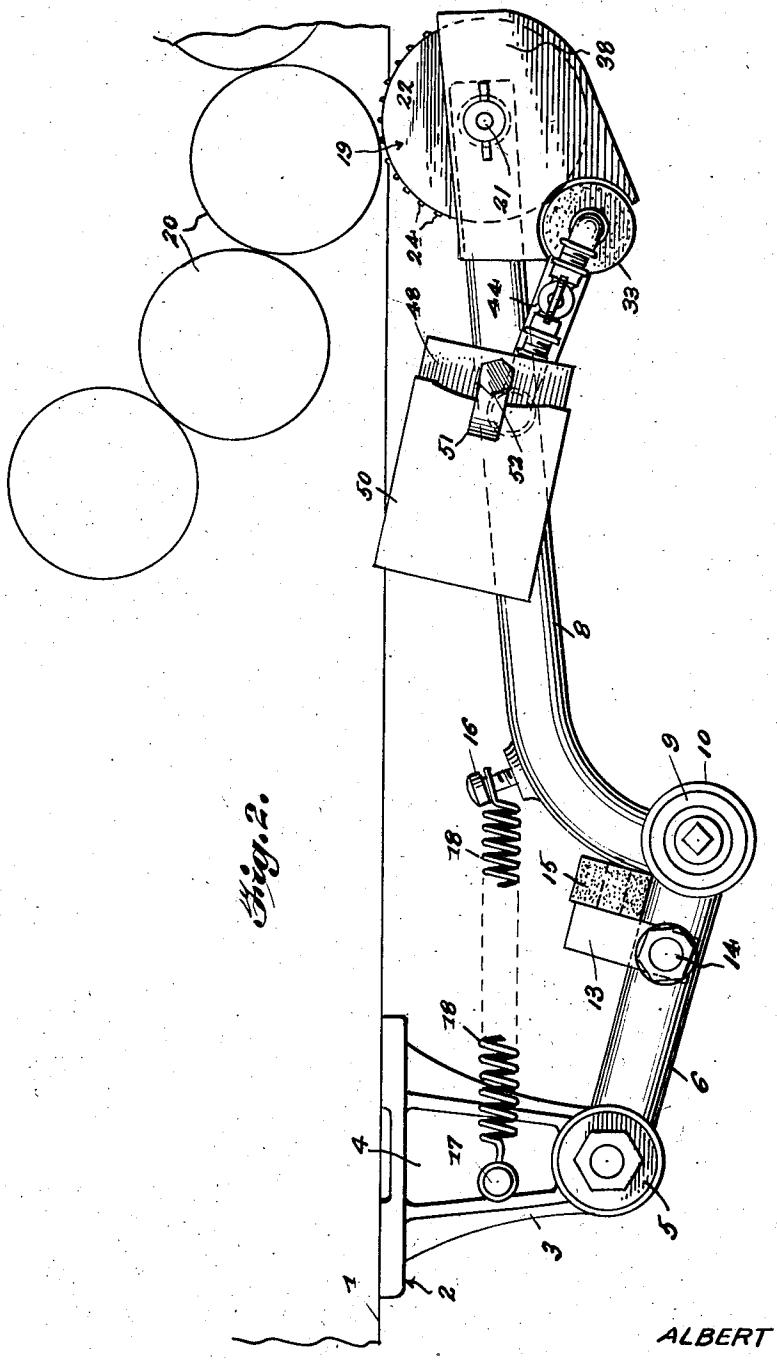

Fig. 2.

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AUTOMATIC CAN MARKING MACHINE

Albert W. H. Hirsch, Tampa, Fla.

Application July 13, 1943, Serial No. 494,521

2 Claims. (Cl. 101—330)

This invention relates to an automatic can marking machine.

Canners are now requested to mark contents indelibly on each tin can of food stuff consigned to our over-sea fighting forces, assuring positive product identification should labels be destroyed or washed off.

Therefore, an object of this invention is the production of a sturdy machine designed for quick, easy installation on vegetable, fruit, or juice fillers, on No. 10 hand pack lines or at any place in the line where containers are moving in fixed position or can be made to move in fixed position—marks products on can cylinder with non-corrosive, instant drying ink—not affected by immediate immersion in hot water or steam.

Another object of this invention is the production of a simple, efficient, and comparatively inexpensive can marking machine.

A still further object of the invention is the construction of a novel and efficient marking or printing machine, for operating upon containers, cans or the like, which can be easily attached to and cooperate with the can filling machine, or any other canning or packaging equipment.

With the foregoing and other objects in view my invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of a machine constructed in accordance with the present invention, while

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged fragmentary view of the machine, showing particularly the printing and inking rollers.

Referring to the drawings, in which the preferred embodiment of this invention is illustrated, 1 designates in general the casting or frame of a filling machine. The bracket 2 is provided with an integral extension 3; the extension 3 has a solid web 4 and at its outer end is a hub 5 (Fig. 1). A straight auxiliary arm 6 has its inner end against the bottom of hub 5 (Fig. 1) and by means of a bolt and nut 7 the arm 6 is adjustably secured in a fixed position upon the bracket 2. A swinging primary arm is provided at its inner end with a hub 9. Hub 9 engages the hub 10, which hub 10 is formed on the outer end of auxiliary arm 6. By means of the bolt 11 the hubs 9 and 10 are pivotally connected together.

An upstanding boss 12 is formed on the auxiliary arm 6 intermediate its ends, and on boss 12 is positioned adjustable stop plate 13. By means of the bolt and nut structure 14 the plate 13 is held in the desired adjusted position. Mounted upon one side of said plate 13 is a rubber bumper 15. The primary arm 8 is adapted to bear against rubber bumper 15.

A bolt 16 is mounted upon the inner curved portion of arm 8 and a bolt 17 is mounted upon the web 4. A coil spring 18 has one end mounted on bolt 16 and its other end is mounted upon bolt 17, whereby a normal pull is exerted upon primary arm 8 for holding the printing roller 19 in contact with the can as it passes along the track of the filling machine.

The printing roller 19 is rotatably mounted on bolt 21 which bolt is carried on the outer end of primary arm 8. The printing roller comprises a body 22 that has traction bands 23 partly seated therein (Fig. 3) and at its center is a type unit 24. This type unit can be of any desired structure, carrying the means of designation, to be printed directly on the can or container for positively indicating the contents of the can. This printing roller freely rotates upon the arm 8 with the passing cans causing the roller to rotate by reason of the frictional contact.

A rotary post 25 is mounted upon the primary arm 8 with a nut 26 on said post and engaging the arm 8. An arm 27 is fixedly mounted by lock screw 28 upon post 25. The outer end of arm 27 surrounds hollow tube 29, and tube 29 is kept from rotating within the fixed arm by means of a set screw 30. The hollow tube 29 is provided with a plurality of apertures 31 (Fig. 3), which permit the ink to pass therethrough. On tube 29 is a rotatable sleeve 32 that has apertures or openings permitting ink to pass from apertures 31 through the sleeve and onto the felt washers 33, whereby the inking roller is supplied with ink for inking the type unit 24. A collar 34 is fixedly secured by set screw 35 on the lower end of hollow tube 29, holding the inking roller in position. The outer end or hub-end of the arm 27 acts as the holding means at the top of tube 25 preventing upward sliding movement of the inking roller on tube 29. An eye 35 is formed on the lower end of tube 29, and one end of coil spring 36 is fastened to said eye; the other end of said coil spring is fastened at 37 to the swinging arm 8.

This spring 36 holds the inking roller in contact with the type unit 24.

A cover 38 is placed on bolt 21 above the printing roller 24 and by means of nut 39 the cover is held in place. This cover has two depending flanges 40 (Fig. 1) and a slot 41. The slotted portion 41 of cover 38 partly surrounds the hollow tube 29.

A pipe unit 42 is employed, including an elbow 43, valve 44, and an elbow 45. The elbow 43 is screwed upon the upper threaded end of hollow tube 29 and the extension 46 of reservoir 47 is threaded into elbow 45.

The reservoir 47 is of a general hopper-like structure and has a closed portion 48 (Fig. 2) at its top. A stud 49 extends upwardly from the closed portion 48. A removable cap 50 is placed on the top of reservoir 47, normally entirely closing the same. An angle clamp 51 is placed against cap 50 and a holding bolt 52 extends through the outer end of angle clamp 51 and is threaded into stud 49. When bolt 52 is screwed down tight upon clamp 51 the cap 50 will be securely held upon the reservoir, tightly closing the same.

The arm 27, type unit 42 and reservoir 47 are locked upon the posts 25 against independent movement, whereby when post 25 is rotated, the reservoir and the inking roller will bodily move together.

If for any reason the primary arm 18 is swung outwardly upon its pivot, constituted by bolt 11, and is permitted to rebound in the direction of the cans it will strike the bumper 15 and take up the sudden shock, the tendency of the inward movement of the arm being caused by the relatively powerful spring 18. Under normal operating conditions the spring 18 is sufficiently strong to hold the printing roller in contact with the passing cans. The spring 36 is strong enough to normally hold the inking roller in contact with the printing roller for efficient results.

By loosening the nut on bolt 14 the stop or bumper plate 13 can be accurately adjusted to take up all shock and then the operator can tighten the nut, sufficiently to hold the stop plate in the desired adjusted position.

By means of the valve 44 the supply of ink from reservoir 47 to the inking roller can be nicely adjusted. The cover 38 partly shields the operator against coming in contact with the inking and printing rollers.

While I have described the preferred embodiment of my invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In a machine of the class described, the combination of a bracket, an auxiliary arm adjustably and fixedly secured to said bracket, said auxiliary arm provided with an upstanding boss, a horizontal stop plate adjustably mounted on said boss, means securing said horizontal stop plate in an adjusted position upon said boss, said stop plate provided with a yieldable bumper on one side thereof, a swinging arm on said auxiliary arm adapted to engage said yieldable bumper, and printing and inking means carried by said swinging arm.

2. In a machine of the class described, the combination of a bracket provided with an extension and a solid web, said extension provided at its outer end with a hub, an auxiliary straight arm having its inner end engaging the bottom of said hub, means securing said auxiliary arm and said hub together, said auxiliary arm provided at its outer end with a hub, a primary swinging arm provided at its inner end with a hub, said last-mentioned hub engaging the hub on the outer end of said auxiliary arm, said auxiliary arm provided intermediate its ends with a bumper device, said swinging arm being curved near its inner end and said curved portion normally engaging said bumper device, a coil spring and means connecting one end to the curved portion of the swinging arm and the other end to a portion of the web of the bracket, a printing roller and means pivotally mounting said printing roller on the outer end of said swinging arm, a rotary post extending at its lower end into said swinging arm, a fixed arm on said rotary post, said fixed arm having a hub-like portion on its outer end, and inking roller normally against said printing roller, said inking roller having a hollow tube extending through said hub-like portion, a reservoir, and valved means bodily supporting said reservoir upon the upper or outer end of said hollow tube.

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