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A. M. WICKWIRE, JR

1,843,377

PRINTING OR STAMPING CELLULOSE TUBES AND OTHER ARTICLES

Filed Sept. 19, 1930

2 Sheets-Sheet 1

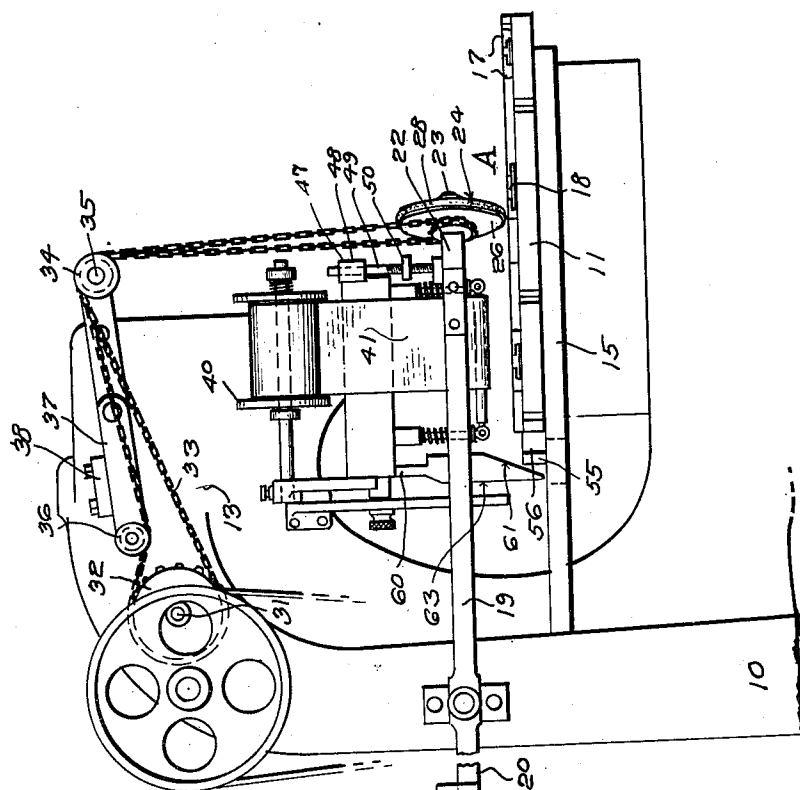


Fig. 2.

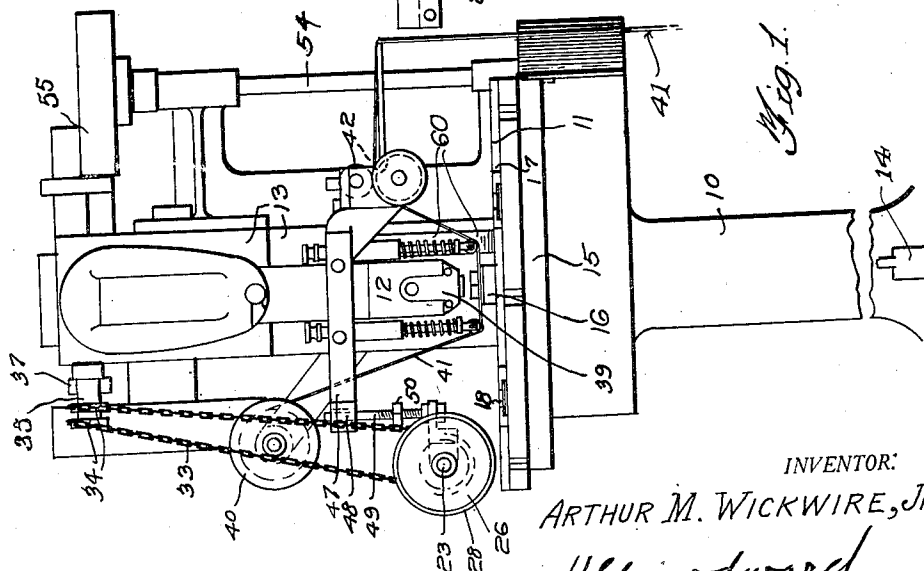


Fig. 1.

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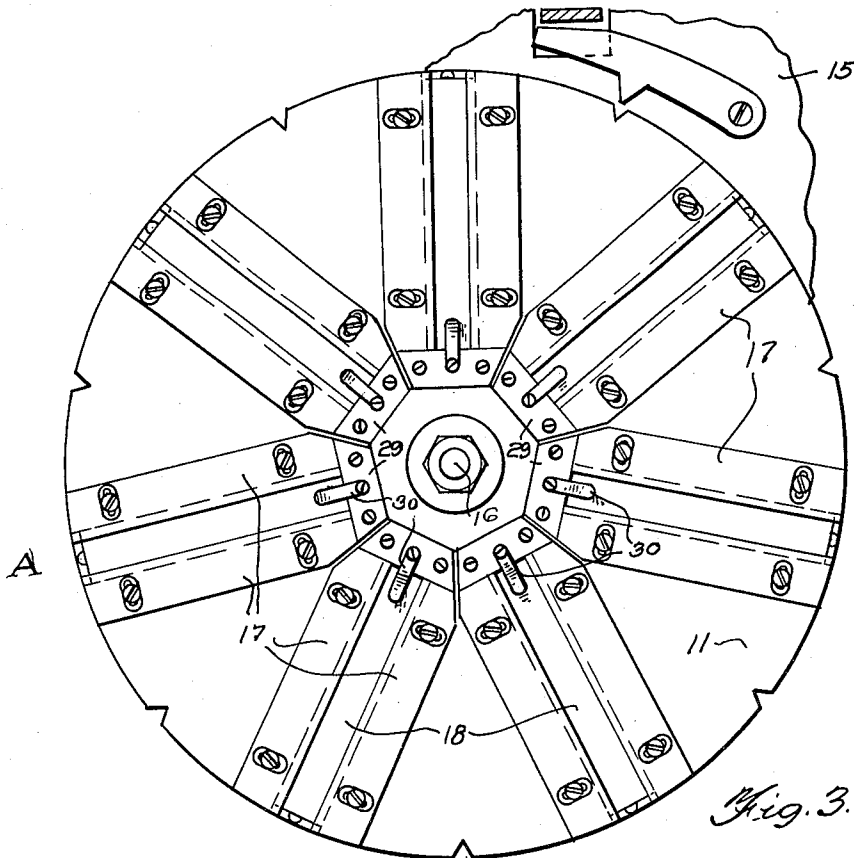


Fig. 3.

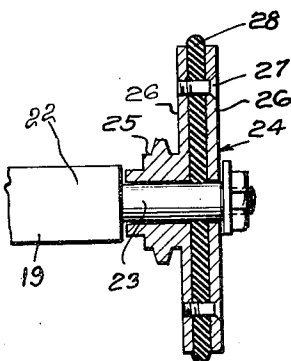


Fig. 4.

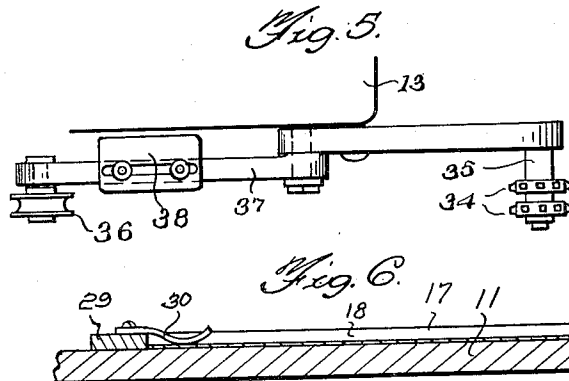


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE

ARTHUR M. WICKWIRE, JR., OF NUTLEY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO ANTHONY GUITERREZ, OF PASSAIC, NEW JERSEY, AND ONE-HALF TO PEERLESS ROLL LEAF COMPANY, INCORPORATED, OF UNION CITY, NEW JERSEY, A CORPORATION OF NEW YORK

PRINTING OR STAMPING CELLULOSE TUBES AND OTHER ARTICLES

Application filed September 19, 1930. Serial No. 483,114.

The invention relates to printing and stamping machines, and particularly to machines adapted to operate upon articles requiring impressions of a heavy nature, usually with a heated die. The invention has for an object to provide an improved stamping device by which marking of articles may readily be effected in an efficient manner, and particularly articles such as tube-like receptacles formed of nitrocellulose or cellulose acetate, or other articles of various materials. It is an aim to provide means coactive with an intermittently rotated table or dial work carrier to engage articles held between guide pieces and to remove the articles after stamping so as to eject them at a desired point of delivery. It is an important object of the invention to present a novel means for effecting the discharge of stamped articles from such a machine in an effective manner, and one which will be liable in a minimum degree to derangement or failure to operate, which will be producible at low cost and which will be extremely durable. Another important aim of the invention is to present an ejector device which may be mounted on a standard stamping machine on which various articles may be stamped which will require respective different ejector means, so that a given machine may be adapted for different classes of work.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention, as may be understood from the following description and accompanying drawings, wherein

Figure 1 is a front view of the machine in which my invention is incorporated.

Figure 2 is a side view of the machine from the left hand side.

Figure 3 is a top view of the dial plate or work holder.

Figure 4 is a detail cross section of the ejector wheel.

Figure 5 is a detail of the chain weight.

Figure 6 is a fragmentary section of the dial plate.

There is illustrated a stamping machine

comprising a pedestal 10, on which there is mounted a dial plate or work holder 11, rotatable and moved step-by-step by means of a Geneva gear or other intermittent action, so coordinated with the stamping head 12 that during the interval of inertia of the plate 11 the head 12 may move down and engage the work on the plate. The mechanism (not illustrated) for operating the head is mounted in the case 13, which is formed as an upward and forward extension of the pedestal. The stamping mechanism is so constructed in a familiar way as to be operated at will by depression of the foot pedal 14 shown, the operating and pedal control mechanism not being illustrated here. The plate 11 customarily rotates continuously step by step independently of the pedal. The dial plate or work holder 11 consists of a circular planiform plate laid revolvably upon a table plate 15 through which there extends a spindle 16 upon which the dial plate is fixed removably.

Upon the top of the dial plate there are provided a plurality of pairs of guide plates 17 arranged each pair in parallel relation and secured upon the plate 11 in adjustable spaced relation. Radial channels 18 are thus formed between the plates 17 in which there may be laid or inserted the articles to be stamped, to be carried to position and held while the stamping head operates thereon, and moved clear of the stamping head while the following article is moved into position for stamping. The opposed edges of the plates 17 are undercut rabbeted to better retain the articles. The step by step movement is in a counter clockwise direction, as viewed from above, so that the stamped articles, on the second stage of movement after stamping are brought to the position indicated at A, in Figures 2 and 3. The plate 17 has two longitudinally spaced transverse slots 17', through which screws 18' are engaged to clamp the plate 17 to the dial plate 11.

On the left hand side of the pedestal, just above the table 15 there is mounted an arm 19, having a counterweight extension 20 on which there are longitudinally adjustable

weights 21. The arm and extension are normally horizontal when in inoperative position, and the forward extremity of the arm is adjacent the position A, indicated. On a lateral oblique extension 22 of the arm 19, a stud 23 is fixed, on which there is revoluble a friction wheel 24, having a sprocket 25 fixed at the inner side thereof. The wheel is provided with a peripheral surface of friction material, alined with the center of the channel 18 at position A. The wheel 24 may be variously constructed, but as shown comprises two side plates 26 secured together by screws 27 in clamping relation upon a disc 28 of rubber of somewhat greater diameter than the plates 26. The arm with the wheel is depressible to bring the wheel periphery into engagement with any article lying in the channel 18 thereunder. In its initial position the wheel is spaced above the plates 17 slightly, so as to clear the dial plate and parts thereon.

At the head of each channel 18 on the dial plate there is a cross plate 29, forming the head of the channel, and on this there is mounted a spring clip 30 extending a short distance over the channel, inclined downwardly to engage yieldingly on the bottom of the channel, its extremity being curved upwardly so that an article to be stamped may be readily slipped under the clip, to be frictionally held.

The operating mechanism for the stamping head includes a constantly rotating shaft 31 projected through the left-hand side of the case 13 at the upper part, and on the outer end of this shaft a large sprocket 32 is fixed. An endless chain 33 is engaged around the sprocket 32 and the sprocket 25. Idler sprockets 34 are mounted on a lateral stud 35 on the left hand side of an arm projected forwardly from the left hand side of the case, these being nearly directly over the sprocket 25 as practicable, and the two reaches of the chain are laid over the sprockets 34 respectively.

A sufficient amount of slack is provided in the chain 33 to permit the wheel 24 to be depressed to engage articles or material in the channels 18, and one reach of the chain from the sprockets 34 to the sprocket 32 has engaged therewith an idler sprocket 34 carried on a pivoted and weighted lever 37 mounted on the side of the case 13 midway between the sprockets 37 and 34. The lever is positioned so as to be nearly or slightly above horizontal when the wheel 24 is depressed to engage an article in one of the channels 18. The weight 38 on the lever 37 is longitudinally adjustable to vary its effect as required. The weight 38 serves to raise the wheel 24 to initial position, the weight 21 serving merely as a counter balancer. In place of the weights other equivalent coun-

ter-balancing or lifting means may be employed for the wheel 24.

The stamping head may be of a usual construction, but as illustrated includes a vertically reciprocable body slidably mounted in the forward part of the case, and also a removable die-chase 39. The head carries in an elevated position at the left a roll of sheet material carrying pigment, metal leaf, or other coloring adapted to be impressed upon articles by the stamping head. A feed for this sheet is carried at the opposite side of the head, consisting of a frame mounting two meshed corrugated rollers 42, operated by means shown in my copending application (Case B) of even date, or other approved means.

An arm 47 is extended toward the left from the front side of the head 12, to a position over the forward end of the arm 19. An eye or sleeve 48 is formed at the extremity of the arm 47, receiving slidably a threaded up-standing stud 49 fixed suitably at the end of the arm 19 or an extension thereof. A nut 50 is engaged on the stud adapted to engage the lower side of the eye 48 and cause the arm 19 to be depressed by the final part of downward movement of the stamping head. The nut 50 may be utilized to assure proper engagement of the wheel in the channels 18.

The rotation of the dial plate is effected by means similar to that shown at 8 in the patent to Douglas, No. 1,026,790, from vertical shaft 54 operated by bevelled gear at 55 from the drive to the stamping device.

In operation, an operator seated before the machine simply feeds or lays the articles to be stamped in the channels 18 as the plate 11 rotates, although an automatic feeding device may be employed, if desired. The head 17 being in operation, as each article is brought into alinement with the die chase, the plate 11 will cease movement while the head 12 descends and the impression is made upon the work. The head 17 rises and the plate 11 then continues its intermittent step-by-step movement, bringing the article in line with the roller 24 and stopping thereat, while the roller descends and by its frictional bearing on the article while rotating, kicks the latter out of the channel 18.

I claim:

1. In combination a work carrier constructed to carry a plurality of articles in a given path, means to work upon said articles at a part of the path, a constantly rotated wheel in a plane vertical and transverse to said path having a friction periphery and movable into engagement with the articles, and means to move the wheel downward into such engagement coincidently with the alinement thereof with articles moved in said path, and means to return the wheel to initial cleared position.

2. The structure of claim 1 in which said

work carrier has a step-by-step movement, and the work carrier is a circular plate having work receiving members spaced so that when one is alined with the means to work on said articles, another is alined with said wheel.

3. In a machine of the character described, a work removing means for machines of the character described comprising a work holder, a revolubly mounted vertically disposed and vertically reciprocable friction-faced wheel, means to support the wheel yieldingly clear of the work, means to depress the wheel, a drive for the wheel including an endless chain having slack equal to the vertical operative movement of the wheel, and yielding means bearing laterally upon the chain, yieldable to the means to depress the wheel.

4. In a machine of the character described, a work carrier adapted to move articles in a given path, a stamping head operable to work upon the articles at one part of the path, a revoluble friction wheel revoluble in a plane vertical to and transverse to said path, means to rotate the wheel, said wheel being movable in its plane toward and away from said path, yielding means to hold the wheel away from the path, a mounting for the wheel, a wheel-operating member on the stamping head, a stud on said wheel mounted having slidable relation to the operating member and engageable thereby to move the wheel.

5. In a machine of the character described, a rotating work holding plate having a plurality of radially arranged work receiving channels open on the outer edge of the plate, stops at the inner ends of the channels, spring clips in the channels adapted to receive articles frictionally thereunder, a vertically movable friction faced wheel mounted over the plate positioned to aline with the slots at times, means to rotate the wheel, means to depress the wheel into the channels at times, and means to raise the wheel.

In testimony whereof I affix my signature.

ARTHUR M. WICKWIRE, JR.