

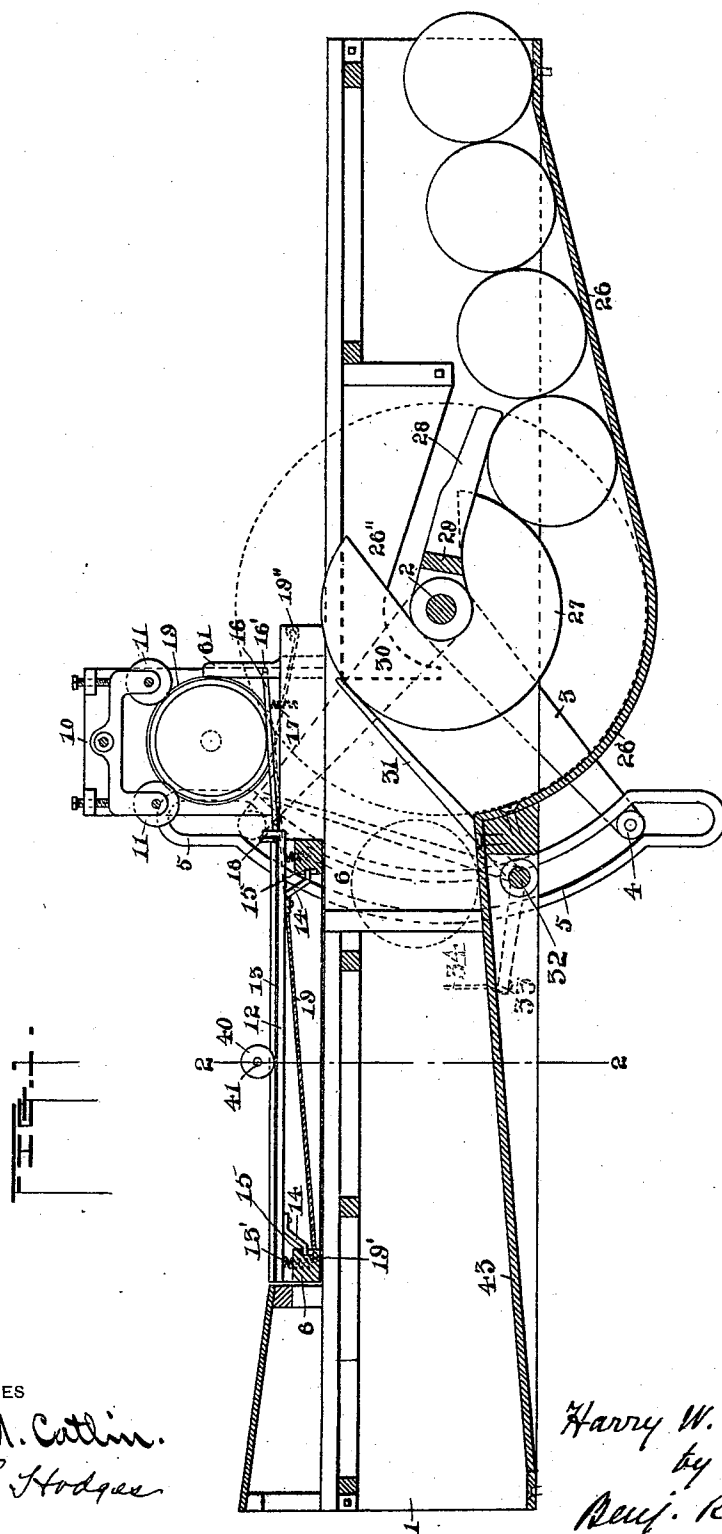
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4 Sheets—Sheet 1

H. W. MORGAN.
LABEL ATTACHING MACHINE.

No. 486,882.

Patented Nov. 29. 1892.



WITNESSES

Arch. M. Catlin.
Geo. S. Hodges

INVENTOR

Harry W. Morgan
by
Reuf. R. Catlin
Atty.

(No Model.)

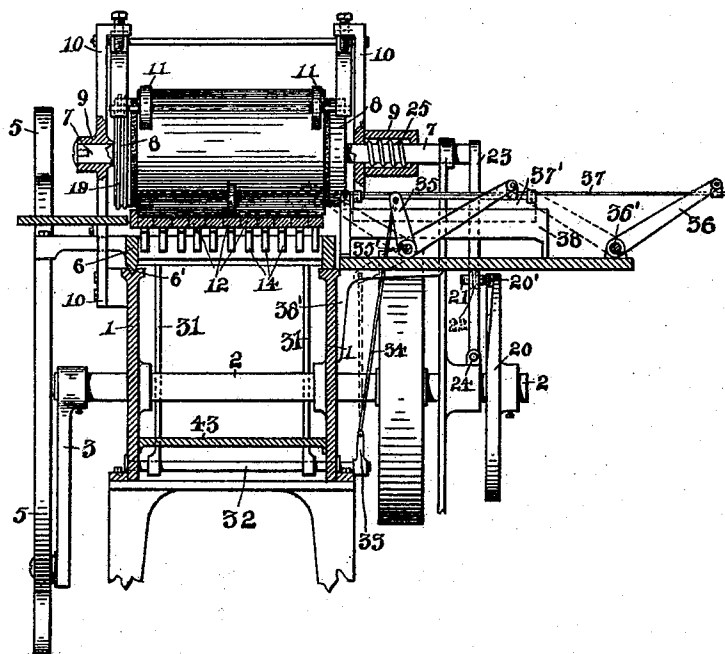
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Fig. 2.



WITNESSES

Arch. M. Catlin
Wm. S. Lodge

INVENTOR

Harry W. Morgan
by
Renj. R. Catlin
att'y

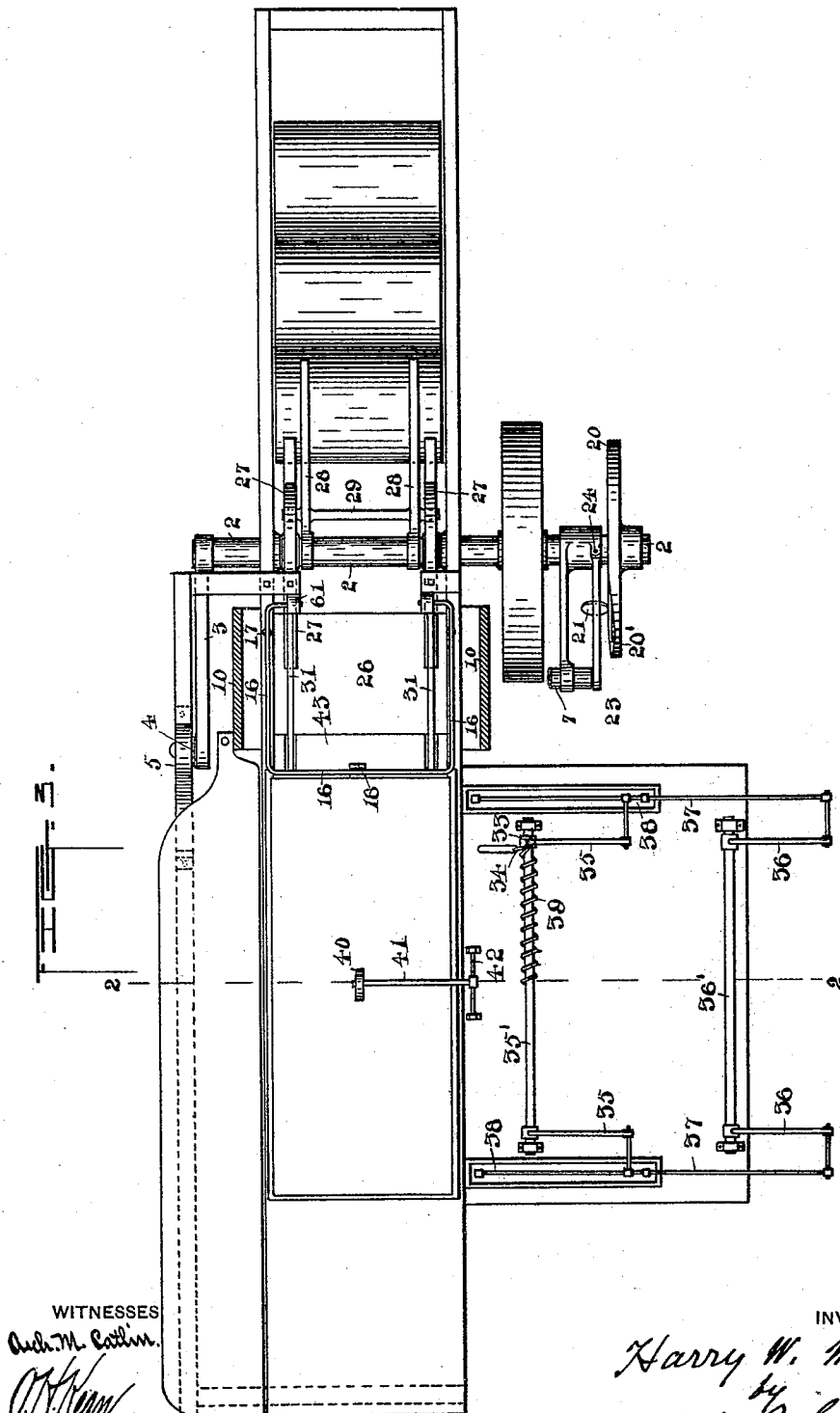
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WITNESSES

Arch. M. Collins
O. N. Keam

INVENTOR

Harry W. Morgan
by
Reinj. R. Collins
Atty

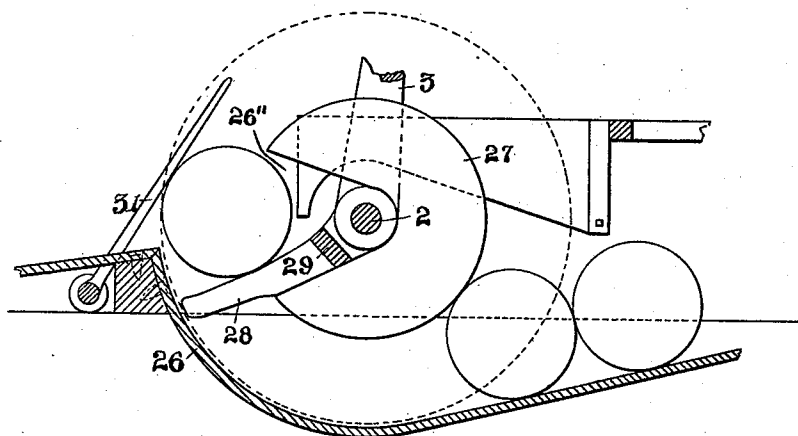
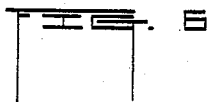
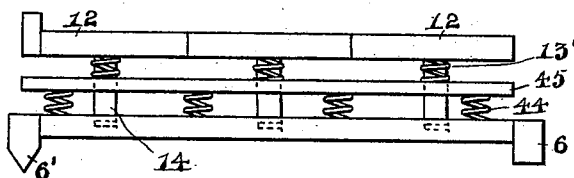
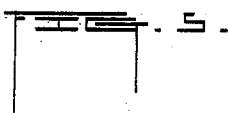
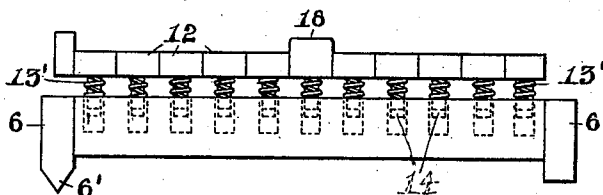
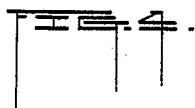
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Patented Nov. 29, 1892.



WITNESSES

Rich. M. Catlin.
Wm. S. Hodges.

INVENTOR

Harry W. Morgan
by
Benj. R. Catlin
Atty

UNITED STATES PATENT OFFICE.

HARRY W. MORGAN, OF ROCHESTER, NEW YORK.

LABEL-ATTACHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 486,882, dated November 29, 1892.

Application filed February 5, 1892. Serial No. 420,420. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. MORGAN, a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Label-Attaching Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to that class of label-attaching machines in which the can is pushed up into position in the can-grippers from below and in which the table carrying the pasted label is passed under the can, which is simultaneously revolved, thereby affixing the label to said can. It is subsequently released from the can-gripping devices and discharged from the machine.

Heretofore in the particular type of machines to which the present improvement relates the label-carrying table having been passed under the can, as stated, has then been moved back under the newly-labeled can before the latter was released from the grippers. This operation has the objectionable effect of smearing the movable label-table with paste, thereby incapacitating it for continued service.

By the present construction the can having a label pasted thereon is dropped from the grippers to a position below the plane of the label-pasting table before the return of the latter to its initial position, by which means said smearing of the table is avoided.

The invention contemplates improvements in mechanism for the above and other objects; and it consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a side elevation, partly in section. Fig. 2 is a section on line 2 2 of Figs. 1 and 3, respectively. Fig. 3 is a plan, the upper part of the supplementary frame being cut away. Fig. 4 is an end view of the table. Fig. 5 is a similar view of a modified table. Fig. 6 is a partial section showing the parts in a different position from that shown in Fig. 1.

Numeral 1 indicates a frame supported in any usual or suitable manner, in which is journaled a driving-shaft 2, provided with a crank-arm 3, having a stud upon which is

journaled a wheel 4, which engages the cam 5. This cam is rigidly attached to horizontal table-frame 6, which has a tongue-and-groove or equivalent connection 6' with the main frame, that will permit the table to be moved to and fro horizontally on the said latter frame by means of the crank and cam aforesaid.

8 denotes can-gripping disks secured to the interior ends of the shafts 7. These latter have bearings in sleeves 9, supported in a supplementary frame 10, mounted upon the main frame 1.

11 are can-centering rollers having suitable journals in said supplementary frame. Upon the sliding table-frame is a label-pasting table composed of several slats 12 and a superposed rubber cushion or elastic mat 13. Each slat is supported upon springs 13' at both ends thereof.

14 denotes bars or bent fingers attached to the slats and adapted to engage under stops 15 to prevent any one of the slats rising too high when their supporting-springs 13' are suddenly relieved from pressure. A suitable arrangement can be secured by making the table of three slats, if that number is preferred, and supporting these by a spring 13' under each end and supporting said springs upon cross-pieces 45, which are themselves upborne by springs 44, as indicated in Fig. 5. By the use of several slats with separate springs and stops provision is made for their acting independently to a limited extent, whereby the table will better accommodate itself to any accidental unevenness in the can and pasted label.

16 denotes a frame made of wire, having the short arms 16', pivoted in posts 61 on the table-frame. The forward end of the frame 16 rests on the slats under their rubber cover and just in front of the label stop or gage 18 on the end of the middle slat.

17 are springs that normally hold the frame against the gripping-disks.

The table-frame is moved back and forth on the main frame by means of the crank-arm 3, having a friction-wheel 4, traveling in the groove of the cam 5, fixed on said frame. As indicated in Fig. 1, the cam is in the position it occupies when the table is at its extreme left or initial position, which it occu-

pies while a can is being lifted to the gripping-disks and the friction-roller is about moving through the curved part of the cam-groove, during which part of the movement it has no effect upon the cam and table, the curve of the cam being a part of a circle described from the axial line of shaft 2. As soon, however, as the crank-roller enters the upper straight portion of the cam-groove it moves the cam, and consequently the table, to the right, and continues to do so until the roller passes below the vertical center of the cam and begins to bear on the opposite side of the groove, and thereby to reverse the movement of the table.

The gripping-disks are rotated by the above-described movement of the table through the medium of a belt or rope 19, secured at 19' and 19'' to the table and passed about an outer end of one of the grippers, the other gripper being caused to turn in unison by means of the can passed between them.

The gripper-disks are made to hold the can by means of pressure applied to one of the gripper-shafts.

20 denotes a cam-wheel, and 20' a cam adapted at suitable times to bear on a friction-wheel 21, turning on an axis 22, made fast to a lever 23, having a fulcrum or pivot at 24. The upper end of said lever is adapted to bear upon one end of a gripper-shaft made capable of sliding in its bearing.

25 indicates a returning-spring for the gripper-shaft. The arrangement is such that at the proper time the gripper-shaft is moved and its disk forced against a can and said can pressed against the opposite disk, being securely gripped thereby between the two until the lever or its friction-wheel is relieved from the cam by the continued revolution of the cam-wheel, whereupon the spring retracts the gripper-shaft and releases the can.

Cans are introduced between the gripper-disks by the following means: 26 denotes a trough or guideway supported on the main frame below the plane of the table and having a portion at 26' concentric with two segmental disks 27 and with shaft 2, to which said disks are fixed. The disks are cut away at 26'', and within the segmental space thus produced are arranged two lifting-arms 28, connected by a bar 29 and loosely supported on shaft 2. As shaft 2 and disks 27 revolve the arms 28 fall upon a can resting against and held by said disks until the latter are sufficiently turned to bring the segmental recesses 26'' over a can, whereupon it is moved along toward the curved part 26' of the guide. The next can following by gravity is checked in its progress by the end of arms 28, until said arms are moved away by the descending upper edges of the disks, at which time the said following can rests against the periphery of the disks and is held until a repetition of the operation occurs at the next revolution of the shaft, when the lifting-levers 28 are brought down upon the top of the same. The can car-

ried into the curve 26' is lifted therein by the arms and guided by the stationary arms 30, movable levers 31, and posts 61 against the centering-rollers 11 and between the grippers.

31 and 33 are levers fast on a shaft 32, suitably journaled in the frame of the machine.

34 denotes a cord attached to an arm of a bell-crank lever 35, having a fulcrum at shaft 35'.

36' indicates the shaft or fulcrum of an arm 36, which is loosely connected with lever 35 by a rod 37. Upon rod 37 is secured a strip 37', of metal or other material, adapted to carry paste to a label on the table.

38 is a paste-receptacle supported on brackets 38'. In practice these parts are duplicated, as indicated, in order to paste each end of the label. By the operation of the cord and bell-crank levers the pasting-strips are carried from the paste-receptacles onto the label. They are returned by the action of springs 39 on one or both of the shafts 35' and 36'. The cord is pulled to operate the above-described pasting devices by the upward pressure of the can, which is pushed up under levers 31, thereby partially turning shaft 32 and depressing the outer end of lever 33, to which the cord is attached. As soon as the label is pasted the table is moved under the can in the grippers by means of the crank and cam already described and the grippers and can are simultaneously rotated by the cord 19. The front end of the label lies above the rear end of the wire frame 16, and as the table passes under the can the stop 18 is depressed and the label carried against the can and held against its lower side by the wire 16, which is upheld by springs 17, by which means the edge of the label is caused to adhere to the can and follow its revolution.

40 is a wheel or roller journaled on an arm 41, loosely supported on a rod or shaft 42. The purpose of the said roller is to prevent the label from being moved laterally as it is carried toward and under the can. At the time the table has been carried to its right-hand position by the crank-arm and cam, as stated, the cam 20' passes off from the friction-wheel 21 and thereupon the spring 25 retracts the gripper-shaft, and the can thereby released falls upon the levers 31 and rolls down the incline 43. The table being thereupon returned to its initial position a fresh can is lifted to the grippers and another label pasted and the whole operation repeated.

The machine can be operated with a continuously-running shaft or it may be stopped and started by ordinary clutch mechanism operating between the application of labels, and other details of the described machine can be varied by mechanical skill without substantially changing the construction and mode of operation.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. In a machine for attaching labels to cans,

the combination of can-gripping devices, a pasting-table movable under said devices and adapted to press a label upon a can, devices for lifting the can to the grippers, and means for operating the latter, adapted to release the can before the return of the table, whereby the pasted can is discharged without danger of smearing the pasting-table, substantially as set forth.

2. In a machine for attaching labels to cans, the combination of can-gripping devices, a pasting-table movable under said devices and adapted to press a label upon a can, devices for lifting the can to the grippers, and means for operating the latter, adapted to release the can before the return of the table, whereby the pasted can is discharged without danger of smearing the pasting-table, and an inclined way for guiding the discharged can out of the machine, substantially as set forth.

3. In a machine for attaching labels to cans, the combination of the lifting-arms with the guideways 26 and 43 and levers 31, pivoted near their intersection, substantially as set forth, whereby the ingoing can raises said lever and permits it to fall when the can has passed it, so that it can subsequently guide said can into the discharge-guideway.

4. In a machine for attaching labels to cans, the segmental disks fixed on the driving-shaft provided with segmental recesses, in combination with inclined guideway 26, whereby a can is momentarily held and then moved in said way, and with lifting-arms loosely supported on said shaft within the recesses and adapted to momentarily bear upon a can to prevent its following its predecessor into the segmental recesses, substantially as set forth.

5. In a machine for attaching labels to cans, the combination of the driving-shaft and can-lifting arms with levers 31, fixed on shaft 32 and situated in the path of the can lifted by said arms, said shaft suitably supported in journal-bearings, levers 33, also fixed on said shaft, and pasting devices adapted to be op-

erated by the driving-shaft through the medium of the arms and levers, substantially as set forth.

6. In a machine for attaching labels to cans, a pasting-table, a thin pasting-strip arranged with its width in a vertical plane to avoid bending of the same, a paste-receptacle supported at the side of said table, and mechanism for moving said strip from the receptacle to the table and back, consisting of the bell-crank lever on shaft 35', the crank-arm 36 on shaft 36', the connecting-rod 37, and means for operating the same, substantially as set forth.

7. In a machine for attaching labels to cans, the spring-supported removable pasting-table composed of slats, in combination with can-gripping mechanism adapted to hold a can against the table and a series of stops 14, one for each end of each slat, arranged across the table under the can to prevent the slats from jumping when released from pressure, substantially as set forth.

8. In a machine for attaching labels to cans, the combination of the pasting-table having a spring-supported slat provided with a label-stop, can-gripping mechanism, and means for moving the table under a can held in the grippers, whereby said stop is pushed down by the can, substantially as set forth.

9. In a machine for attaching labels to cans, the combination of the grippers, the pasting-table, mechanism for moving the table under a can held in said grippers, and a spring-supported wire or frame adapted to press the end of the label against the can, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HARRY W. MORGAN.

Witnesses:

DE LANCY CRITTENDEN,
POMEROY DICKINSON.