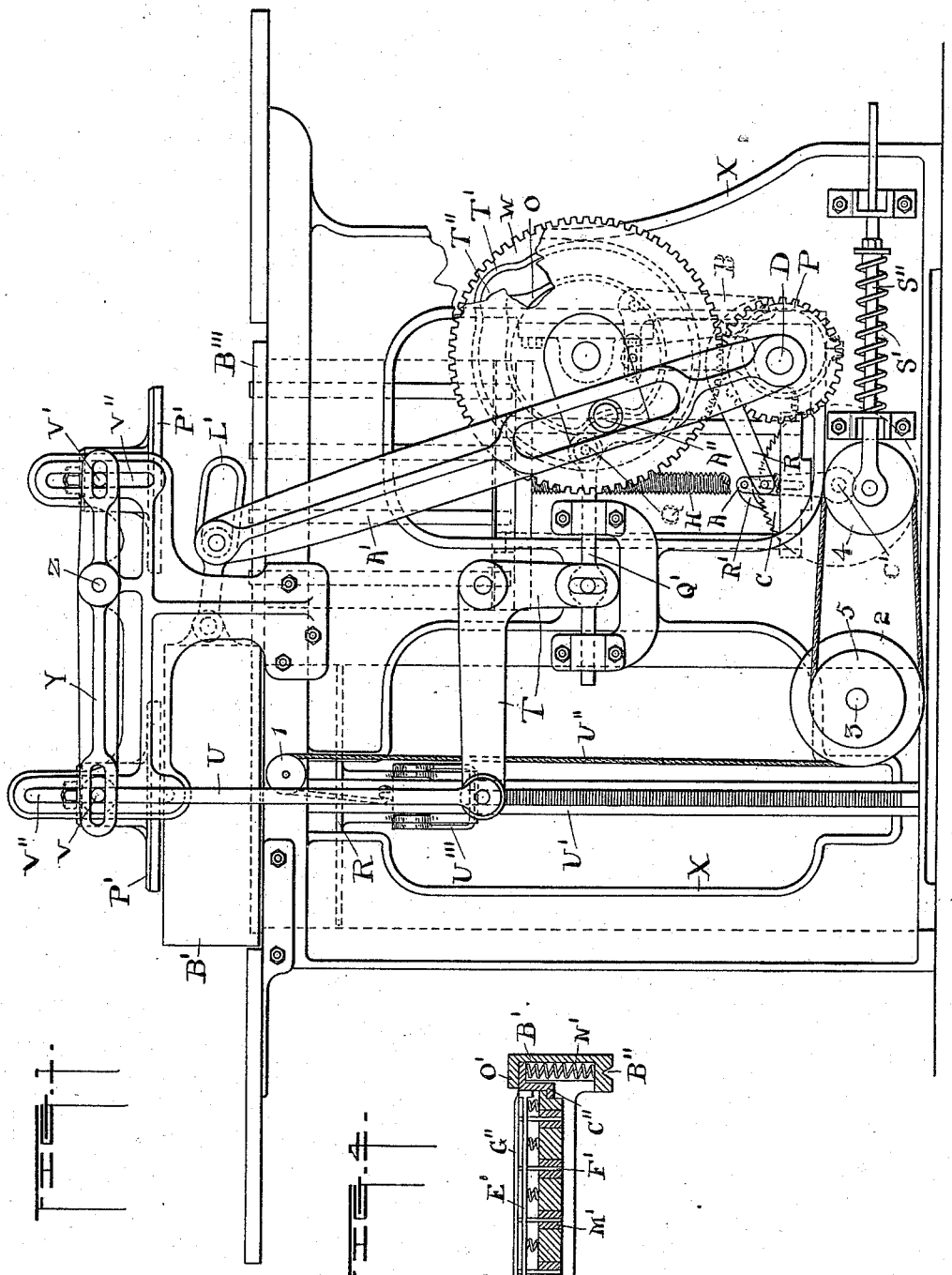
(No Model.) 2 Sheets—Sheet 1.

D. J. BURR.

MACHINE FOR ATTACHING TAGS TO TOBACCO.

No. 526,376 Patented Sept. 25, 1894.



Witnesses
Arch. M. Catlin
[illegible]

Inventor
David J. Burr
by
Benj. R Catlin Attorney

(No Model.) 2 Sheets—Sheet 2.

D. J. BURR.

MACHINE FOR ATTACHING TAGS TO TOBACCO.

No. 526,376. Patented Sept. 25, 1894.

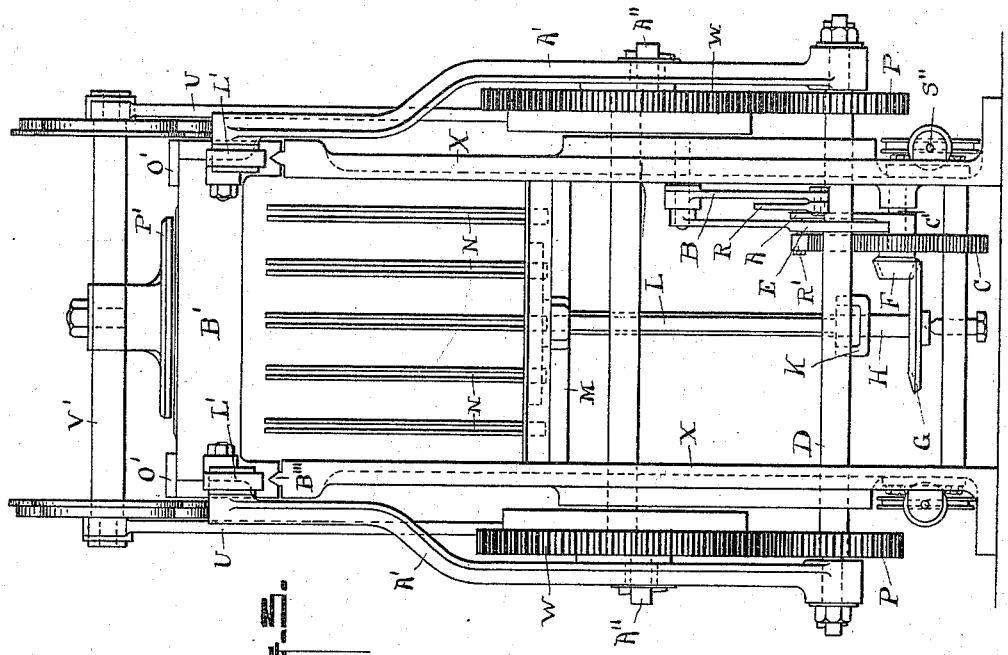


FIG. 1.

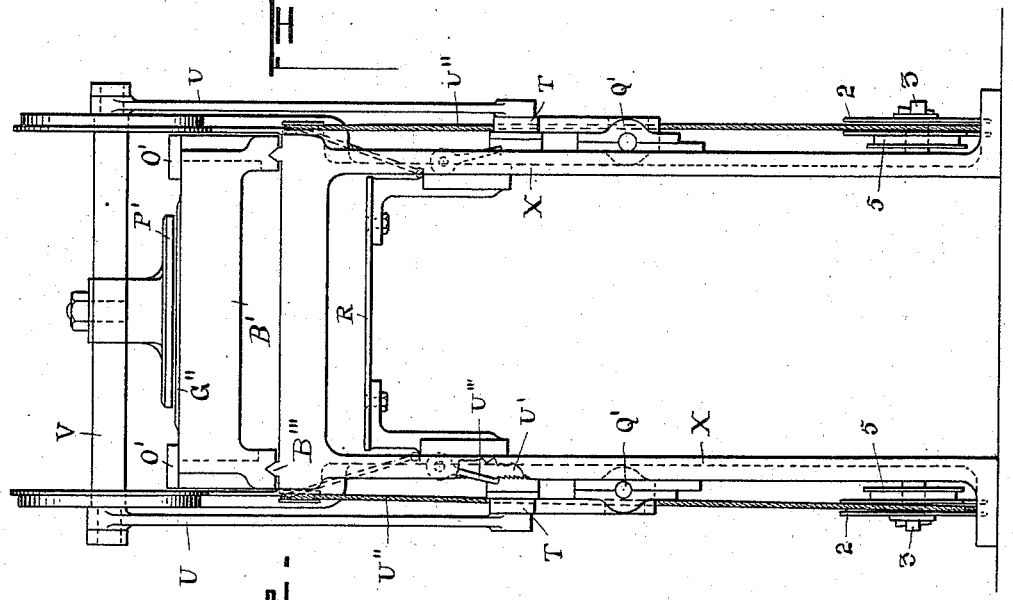


FIG. 2.

Witnesses
Arch. M. Catlin
[illegible]

Inventor
David J. Burr
by
Benj. R. Catlin Attorney.

UNITED STATES PATENT OFFICE.

DAVID J. BURR, OF RICHMOND, VIRGINIA, ASSIGNOR OF ONE-HALF TO LEWIS H. LIGHTFOOT, OF SAME PLACE.

MACHINE FOR ATTACHING TAGS TO TOBACCO.

SPECIFICATION forming part of Letters Patent No. 526,376, dated September 25, 1894.

Application filed December 13, 1892. Renewed February 8, 1894. Serial No. 499,538. (No model.)

To all whom it may concern:

Be it known that I, DAVID J. BURR, a resident of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Machines for Attaching Tags to Tobacco; 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 machines for attaching tags to tobacco and has for its object to increase the efficiency and economy of such machines and it consists in the mechanism hereinafter fully described and particularly pointed out.

In the accompanying drawings: Figure 1 is a side elevation. Fig. 2 is an end elevation; Fig. 3, a similar view of an opposite end, and Fig. 4 a section of a detail.

The machine comprises mechanism for presenting tags to tag lifting devices, for picking up and carrying the tags and for attaching them to tobacco, all of which are operated from a main shaft D, which may be driven by any convenient power. This shaft has bearings in a frame X and to it is fixed an eccentric E which by means of a suitable strap and rod is connected to the horizontal arm of a bell crank lever B which lever has its fulcrum supported in the frame. The other arm of lever B is connected to a curved rod R which carries a pawl R′ adapted to drive a toothed wheel C loose on a stud C′. The pawl carrying end of rod R is suitably sustained by a rocking arm A. A bevel pinion fast on wheel C is denoted by F, and G is a bevel wheel fast on shaft H driven by said bevel pinion F. The shaft may be supported by a set screw engaging its foot as indicated in the drawings. The shaft H is screw threaded to engage a correspondingly threaded nut K in such manner that the turning of the shaft elevates said nut. The latter as it rises lifts the plate or table M by means of interposed rods L. The table is in practice made to move up piles of tags situated partially within the series of holders N which holders are supported in a fixed position, the table being provided with suitable slots to receive the holders and permit it to ascend freely toward their upper ends. The foot of each column of tags however is larger than a slot and is carried up within the holders by the ascending table.

By the mechanism thus far described a series of tags can be automatically maintained at a desired level in suitable position to be picked up by devices next to be described. The rate of speed of the vertical movement of the tags can be regulated by suitably adjusting the connection of the rod R and arm A or the connection of the eccentric rod and bell-crank lever or both connections as desired.

In Fig. 4 are shown devices for picking up tags and for applying them to tobacco plugs by punches. B′ denotes a carriage having grooves B″ adapted to fit the ways B‴ on which the carriage is made movable. C″ denotes a case or frame adapted to move vertically in carriage B′ and adapted to carry a magnet holder H′ preferably made of wood. M′ denotes magnets secured in said holder and F′ are punches movable through the magnets. These punches are fixed in a head plate E′ which latter is vertically movable within the plate C′. Stop blocks adapted to limit the ascent of the carriage B′ and frame C″ are denoted by O′. The frame C″ is pressed upwardly within the carriage B′ by springs N′. G′ denotes springs which normally hold the punches in the inoperative situation illustrated in Fig. 4. The springs G′ are collectively stronger than the springs N′ so that the latter may be compressed to permit the descent of the magnet holder frame C″ without altering the situation of the punches relative to the magnets.

To operate the punches and pass them through the magnets greater power must be applied and sufficient to compress the springs G′. These operations are effected by the following devices: the gear wheels P on the main driving shaft drive wheels W which are each provided with a cam groove T″ having the oppositely situated cam-groove curves O and T′ adapted to receive and guide a cam roller Q. By means of the rod Q′ in which the rollers are pivoted the depending arms of the bell-crank levers T pivoted in the main frame are moved to and fro. The other arms

of said levers are connected by rods U to the long arms of levers Y having each a fulcrum supported in the main frame one of which fulcrums is shown at Z. The long and short arms of these levers are connected by pins to cross bars V and V′ respectively which are supported and adapted to vertically move in grooves V″ formed in the machine frame. To each bar is fixed a platen or plunger P′ adapted to be forced down by the devices first described upon the bed G″ with the effect to lower the magnet holding frame within carriage B′. This carriage is alternately moved under each platen. The platen carried by the short arms or levers Y is depressed upon bed G″ and lowers the magnets to near the level of the uppermost tags in the holders above described and that carried by the long arms of said levers after pushing the magnets and tags supported thereby, when properly moved under them, down upon a table R continues the downward movement with the effect to push the punches through the magnets and tags and into the tobacco plugs supported on said table.

The carriage B′ is moved back and forth under the platens and to the tag lifting and tag attaching positions by the following described mechanism: Upon the shaft D are pivoted swinging rods A′ having each a slot to receive a pin or roller A″ carried by a wheel W. A slotted rod or link L′ pivotally connected to the carriage has a loose connection with the free end of rod A′ as shown. As the wheels W revolve, the rods A′ are swung back and forth and the carriage B′ suitably moved over the tag holders and in turn over the tobacco as above set forth.

The sheets or plugs of tobacco to be tagged are placed upon the table R and may be left thereon after the tags have been attached, the table descending as the tagged tobacco accumulates. This table moves vertically between posts U′ and is normally supported by springs S′ surrounding sliding bars S″ being connected therewith by means of cords and pulleys. The cords U″ are each attached to the table and passed over a fixed pulley 1 situated above the highest position of the table and under a pulley 2 supported to turn on a stud 3 and thence around a pulley 4 supported to turn on a stud carried by a sliding bar S″ and thence to a pulley 5 to which it is attached said pulley 5 being fixed to pulley 2 and turning on stud 3. As the weight of accumulating tobacco increases the springs S′ are compressed and the bars S″ together with pulleys 4 are moved toward pulley 2, a portion of each cord being also unwound from pulley 5 whereby provision is made for the gradual descent of the table. The springs S′ also resist mediately the blows of the punches being aided by the inertia of the tobacco. The bars S″ are provided with shoulders to limit their movement in one direction through their bracket supports. The accidental ascent of the table is prevented by the U-shaped retaining pawls U‴ which engage teeth formed on the exterior of the bars U′.

From the foregoing it will be understood that the tags having been placed in the several holders and the mechanism suitably connected and regulated for raising the plate upon which the tag piles stand the carriage is moved over the tags and the magnets then pushed down by the platen attached to the levers so that each magnet picks up a tag whereupon the carriage is moved under the other platen, the punches, magnets and tags being thereby brought over the tobacco whereupon by the descent of the long arms of the levers the magnets and tags are lowered and the punches forced through the tags into the tobacco in manner to securely fasten them thereon. The operation is repeated so often as desired, fresh tobacco being placed upon that already tagged until the capacity of the tobacco table and its connected mechanism is reached.

The invention is not limited to the use of a particular number of magnets or punches nor any particular kind nor to the shape of the tags, nor to details of arrangement and construction and these may be varied provided substantially the same mechanical and operative principles are preserved.

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

1. In a tobacco tagging machine the combination of magnets and punches and a carriage therefor with a tobacco supporting table and with tag holders and mechanism for moving the magnets alternately over the said holders and table, and with means for depressing the magnet holders when over the tags and for depressing both the magnets and punches when over the plugs of tobacco; substantially as set forth.

2. In a tagging machine the combination of magnets and punches and a carriage therefor with a tobacco supporting table and with tag holders and mechanism for moving the magnets alternately over the said holders and table, said punches being supported in and made movable through the magnets, and with means for depressing the magnet holders when over the tags and for depressing both the magnets and punches when over the plugs of tobacco; substantially as set forth.

3. In a tobacco tagging machine the tag holders in combination with tag lifting magnets and with mechanism for automatically feeding the tags to the vicinity of the path of said magnets and magnet moving devices; substantially as set forth.

4. In a tobacco tagging machine the vertically movable tobacco holding table and punches in combination with a spring adapted to be compressed by the weight of tobacco and also to support it against the stroke of the punches, and a rack U′ and retaining pawl U‴ to prevent the accidental ascent of the table; substantially as set forth.

5. In a tobacco tagging machine the magnet and punch holding carriage the magnet holder made of non-magnetic material and movable in the carriage and the springs interposed between the carriage and the holder; substantially as set forth.

6. In a tobacco tagging machine the magnet and punch holding carriage the magnet holder made of non-magnetic material and movable in the carriage and the springs interposed between the carriage and holder, the punches and their holder made vertically movable with the magnets and also independently movable and springs interposed between the punch and magnet holders; substantially as set forth.

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

DAVID J. BURR.

Witnesses:
H. L. CABELL,
E. D. CHRISTIAN.