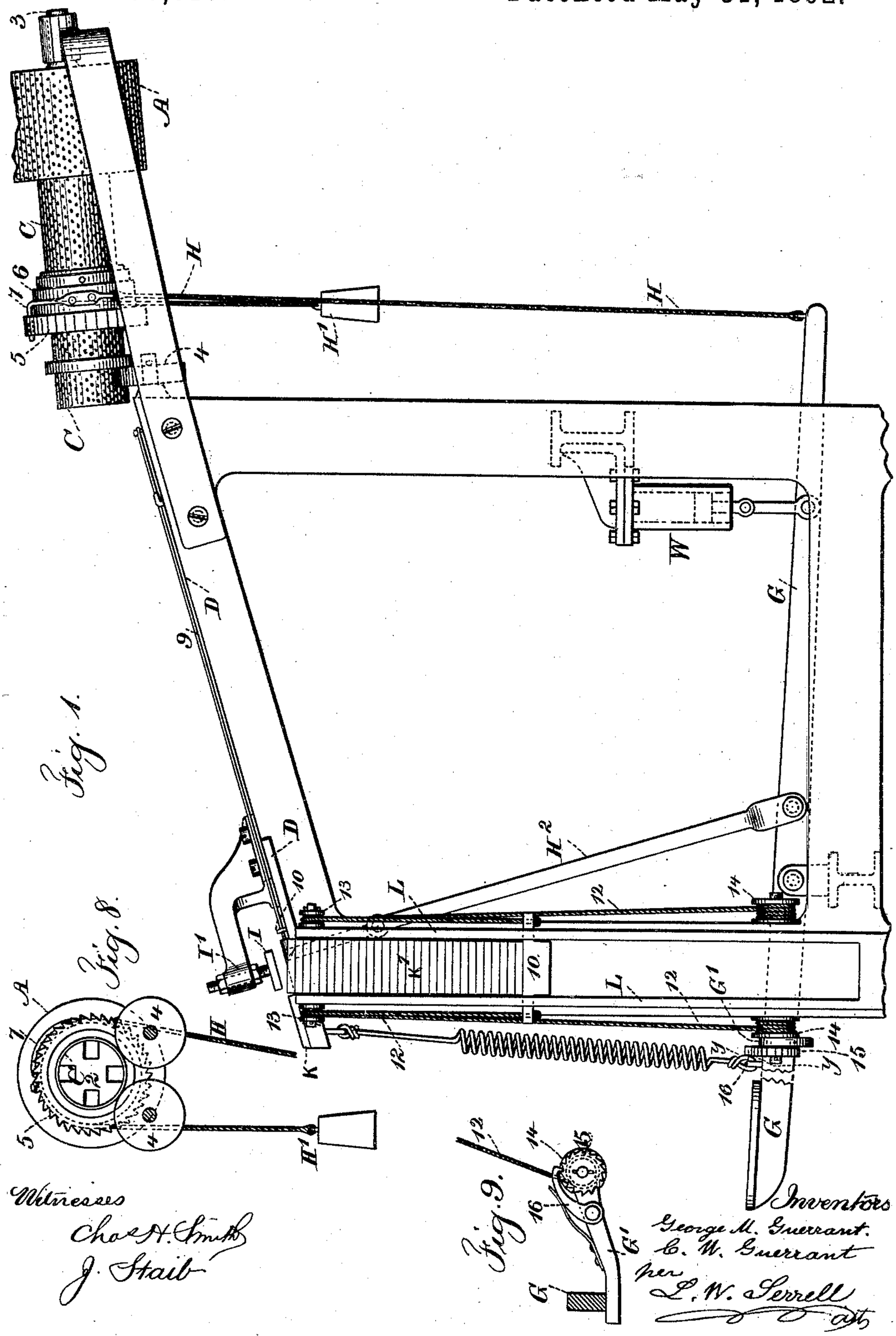
(No Model.) 2 Sheets—Sheet 1.

G. M. & C. W. GUERRANT.

MACHINE FOR ATTACHING TAGS TO PLUG TOBACCO.

No. 476,010. Patented May 31, 1892.



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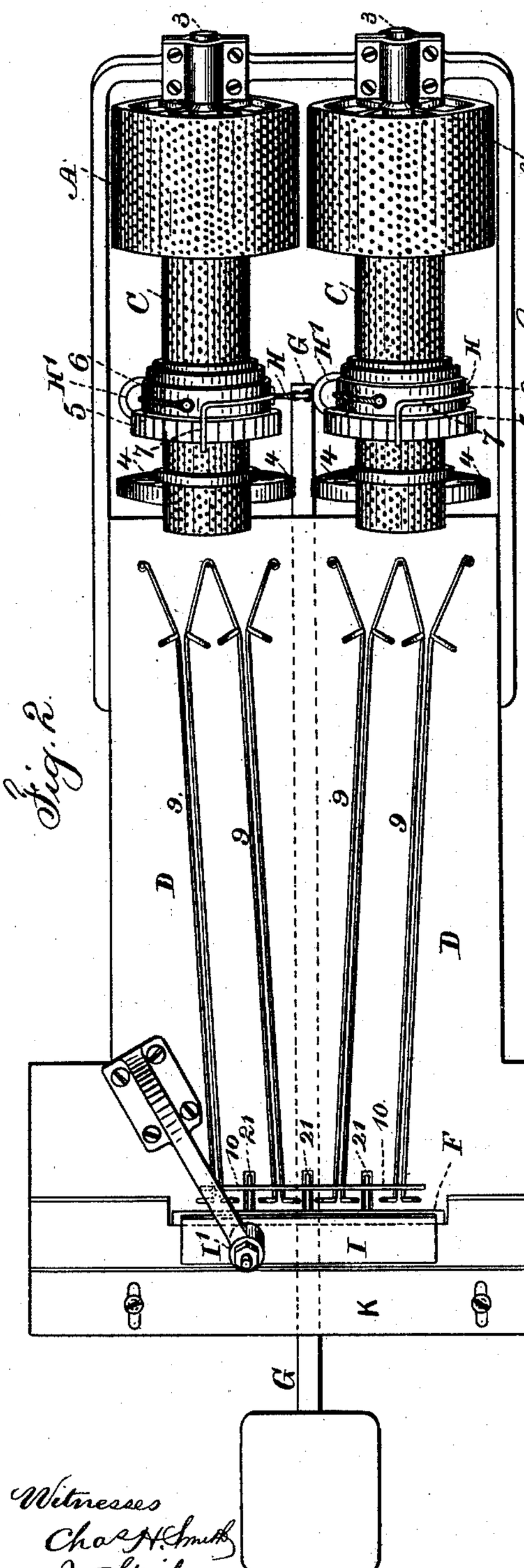

Fig. 2.

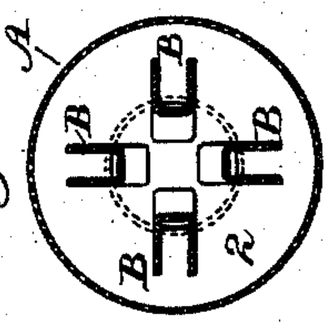

Fig. 7.

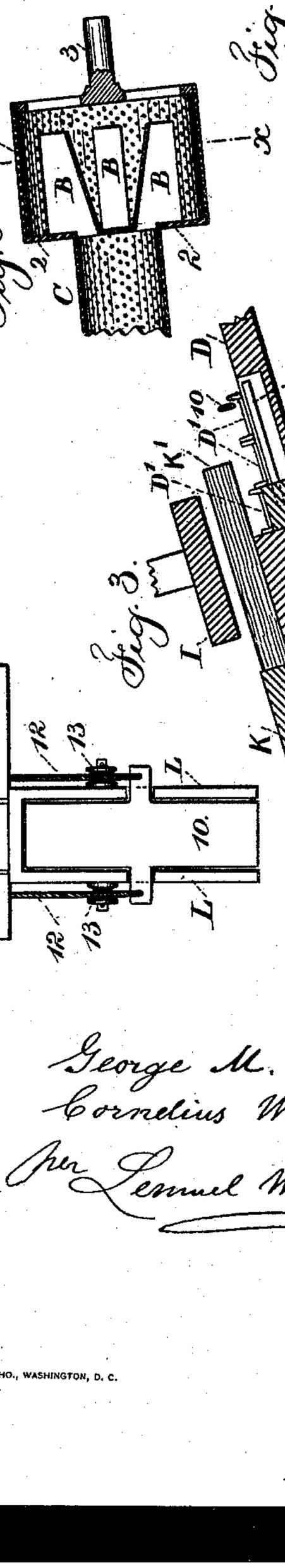

Fig. 6.

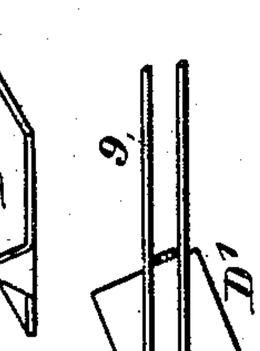

Fig. 4.

Fig. 5.

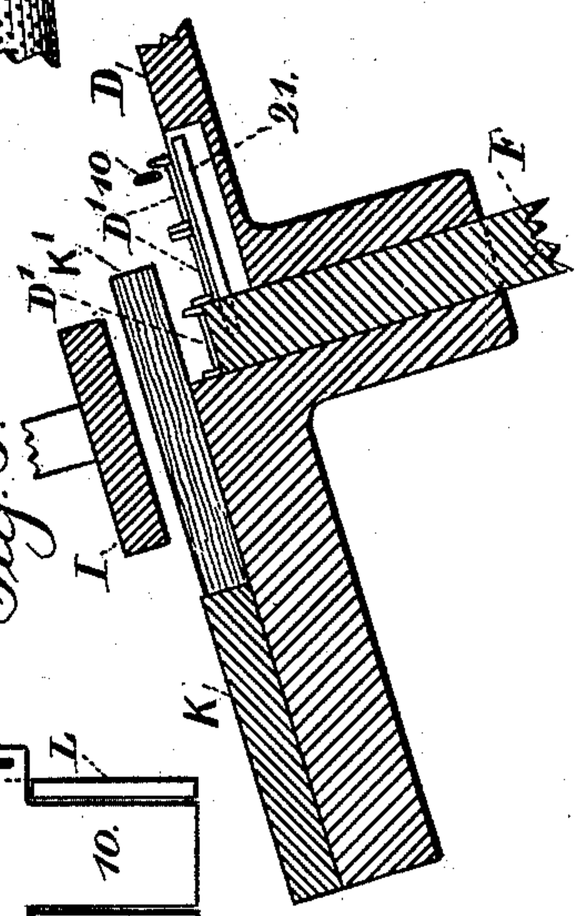

Fig. 3.

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GEORGE M. GUERRANT, OF NEW YORK, N. Y., AND CORNELIUS W. GUERRANT, OF DANVILLE, VIRGINIA.

MACHINE FOR ATTACHING TAGS TO PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 476,010, dated May 31, 1892.

Application filed February 4, 1892. Serial No. 420,353. (No model.)

To all whom it may concern:

Be it known that we, GEORGE M. GUERRANT, of the city and State of New York, and CORNELIUS W. GUERRANT, of Danville, in the State of Virginia, have invented an Improvement in Machines for Attaching Tags to Plug-Tobacco, of which the following is a specification.

Tags for plug-tobacco have been made of sheet metal with projecting points that penetrate the tobacco. This machine is made for assorting and supplying such tags and for pressing them against the tobacco to cause the points to penetrate. The tags are placed in a reel formed of two revolving cylinders of woven wire or perforated metal, and the points of the tags passing into the perforations cause the tags to be lifted; but those tags in which the points stand upwardly slide along gradually and are delivered from the end of the second revolving cylinder and slide down an incline, and they are allowed to pass successively upon a plunger that is raised to force the tags into the under side of the plug-tobacco, which is laid beneath a stationary head. In this manner the assorting of the tags and the proper presentation of the same are automatic, and the attendant simply has to supply the plug-tobacco and remove the same.

In the drawings, Figure 1 is an elevation of this tagging-machine. Fig. 2 is a plan view of the same. Fig. 3 is a section, in larger size, of the devices for forcing the tag upon the tobacco-plug. Fig. 4 is a perspective view of one of the tags. Fig. 5 represents a portion of one of the slides with a tag in place. Fig. 6 is a longitudinal section of a portion of one of the reels. Fig. 7 is a cross-section of the reel at the line $x\ x$ of Fig. 6. Fig. 8 is an end view of one of the reels and its supporting-rollers, and Fig. 9 is a sectional elevation at the line $y\ y$ of Fig. 1.

It is advantageous to adapt this machine to apply four tags simultaneously to the plug of tobacco; but the number of tags applied each movement of the machine may be greater or less. We have represented this machine as adapted to four tags, and with this object in view we make use of two revolving cylinders, each being adapted to supply two lines of tags. Each revolving reel is made of a cylinder A, divided into two parts by a head 2, and the cylinder occupies an inclined position and is open at the upper end, and it contains troughs B, opening through the head 2 into the discharge-cylinder C. There may be three, four, or more of these troughs B. We have shown four of them in each cylinder, and the cylinder A may be supported at its upper end by a cross-bar and axle 3, and the discharge-cylinder C may be supported at its lower end upon the rollers 4, so that the tags may be put in mass into the cylinder A at its open upper end, and they are discharged in proper order from the open lower end of the cylinder C, and to rotate these connected cylinders A and C any suitable mechanism may be employed.

We have represented a ratchet-wheel 5 upon each cylinder C, with a loose ring 6 and pawl 7 acting upon the teeth 5, and the loose ring and pawl are conveniently moved by a connection H to a treadle G, and a weight H′ or spring returns the parts as the treadle rises. The speed of rotation of these cylinders is to be regulated so as to supply sufficient tags for the machine, and the number supplied will be increased by increasing the movement given to the pawl or the treadle, and the operation of each connected cylinder forming a separating device is as follows: The tags introduced into the cylinder A lie loosely upon the bottom thereof, and as the cylinder is revolved the points of the tags pass into the perforations or meshes of the cylinder A, and they are carried up and fall into one of the troughs B and pass through the same into the discharge-cylinder C. Hence the cylinder A becomes a supply-cylinder to regulate the number of tags supplied to the machine according to the speed of rotation, and the cylinder C brings the tags with the points upwardly, because any tag that falls from one of the troughs B into the inside of the cylinder C, which may have its points downwardly, is caught by the perforations or meshes of such cylinder C and detained and carried up and turned over until its smooth side falls upon the inner surface of such cylinder C, so as to slide down and out of such cylinder C upon the inclined table D. This table D is set at the proper inclination for the tags to

slide down with reasonable rapidity, and the tags with their points upwardly are directed to the proper positions on the table D by suitable means—such as wires 9—that are drawn tight and are sufficiently above the table for the sheet metal of the tags to pass below such wires and for the wires to act only upon the upturned points of the tags, as illustrated in Fig. 5, and these wires 9 are brought together in pairs at the upper ends, so as to form converging guides, and the outer wires diverge so as to produce four tracks that guide the tags in four lines down to the place where such tags are applied to the tobacco. The plunger F is preferably adapted to pass vertically through the table D, and it is actuated by a connection H^2 to the treadle G, or it may be moved automatically by any suitable power, such as a revolving shaft and crank, and above the plunger F is a head-block I, which is preferably in the form of a plate with a stem passing through the stationary head I′, so as to be clamped by a screw or nut and raised or lowered to suit the thickness of the plug of tobacco, and there is a guide or fence K against which the plug of tobacco K′ is laid by the attendant over the plunger F, and as the plunger F is raised it brings with it the tags and forces them against the under side of the plug of tobacco as such plug is resisted by the head-block I, and in so doing the points of the tags are driven into the tobacco for connecting such tags. There may be one head-block and its plate over the entire plug of tobacco, as shown; but we prefer separate head-blocks—one for each tag.

In order to prevent too many tags passing upon the plunger F, we employ a detainer 10, which is preferably in the form of a rod, which rod is acted upon by projections 21 from the plunger F, and the proximity of this detainer 10 to the plunger is such that when the detainer and plunger are raised the tags D′ will slide down the table against the side of the plunger, and when the plunger descends the detainer 10 will engage the projections upon the second range of tags, allowing the first range of tags to slide down upon the surface of the plunger, so as to be carried up by the next movement of said plunger.

The plug-tobacco may be supplied in any convenient manner. We have represented the box L as adapted to receive a vertical pile of plugs K′, and the movable bottom 10 is raised progressively, so as to bring the upper plug above the surface of the table D at each movement of the machine, and with this object in view such bottom 10 may be raised by any suitable means—such, for instance, as the cords 12, passing over the pulleys 13 to a spool or shaft 14, provided with a ratchet 15, one tooth of which is taken up each movement of the machine by a pawl 16, receiving its movement from the treadle G through a lever G′. The plugs as they are tagged are to be passed away from the machine into any suitable receptacle. Usually a treadle will be the most convenient device for applying the power; but to prevent an inexperienced person moving the treadle too fast a dash-pot and piston may be used at W.

We claim as our invention—

1. The combination, in a tagging-machine, with the incline down which the tags pass, of a revoluble perforated cylinder, and mechanism for revolving the same progressively, whereby the points of the tags are caught in the perforations and the tags turned with their points upwardly before passing out upon the incline, substantially as set forth.

2. The combination, with the incline in a machine for applying tags, of a revoluble perforated cylinder into which the tags are received, troughs within the cylinder into which the tags are dropped after being lifted by the points of the tags entering the perforations, a second perforated cylinder into which the tags pass from the troughs and by which the tags are turned with their points upwardly, and mechanism for revolving the perforated cylinders, substantially as set forth.

3. The combination, in a tagging-machine, of an incline down which the tags slide, a perforated revoluble cylinder for lifting the tags by their points, a trough receiving the tags as they fall, a perforated cylinder into which the tags pass from the trough and by which the tags are turned with their points upwardly, and a ratchet-wheel and pawl for giving a progressive movement to the perforated cylinders, substantially as set forth.

4. The combination, in a tagging-machine, of an inclined table down which the tags pass, guides above the surface of the table and parallel with the same for directing the tags by acting upon their upwardly-projecting points, a plunger upon which the tags are allowed to pass, a head-block beneath which the plug-tobacco is placed and by which it is held, and mechanism for moving the plunger to force the tags upon the tobacco, substantially as set forth.

5. The combination, in a tagging-machine, of an inclined table down which the tags pass, guides above the surface of the table and parallel with the same for directing the tags by acting upon their upwardly-projecting points, a plunger upon which the tags are allowed to pass, a detainer and means for moving the same for allowing one set of tags to pass upon the plunger, a head-block beneath which the plug-tobacco is placed and by which it is held, and mechanism for moving the plunger to force the tags upon the tobacco, substantially as set forth.

Signed by us this 29th day of January, 1892.

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