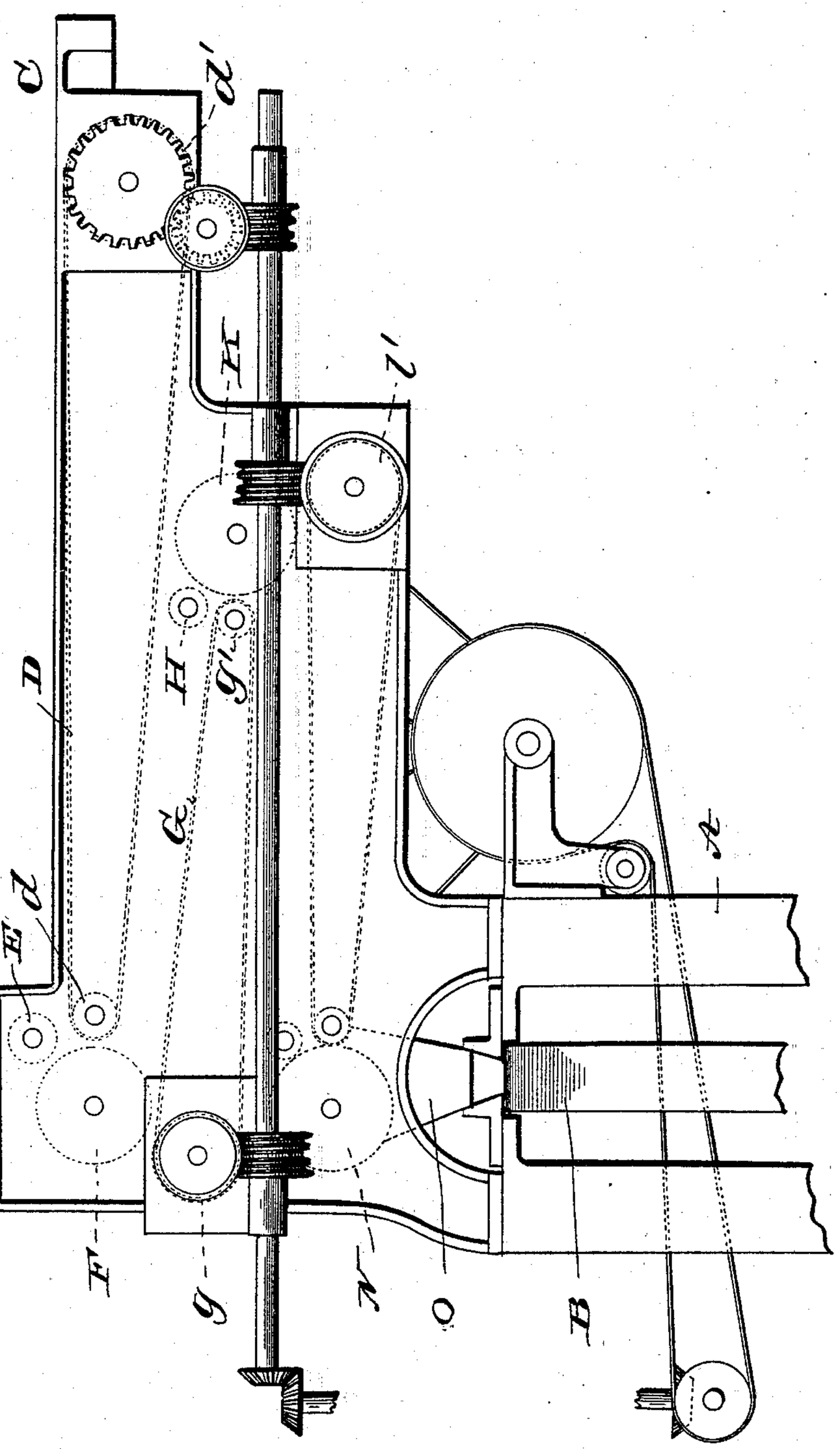
(No Model.) 3 Sheets—Sheet 1.

J. F. HARTIGAN.

TOBACCO FEEDING AND DRESSING MECHANISM.

No. 578,740. Patented Mar. 16, 1897.



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(No Model.) 3 Sheets—Sheet 2

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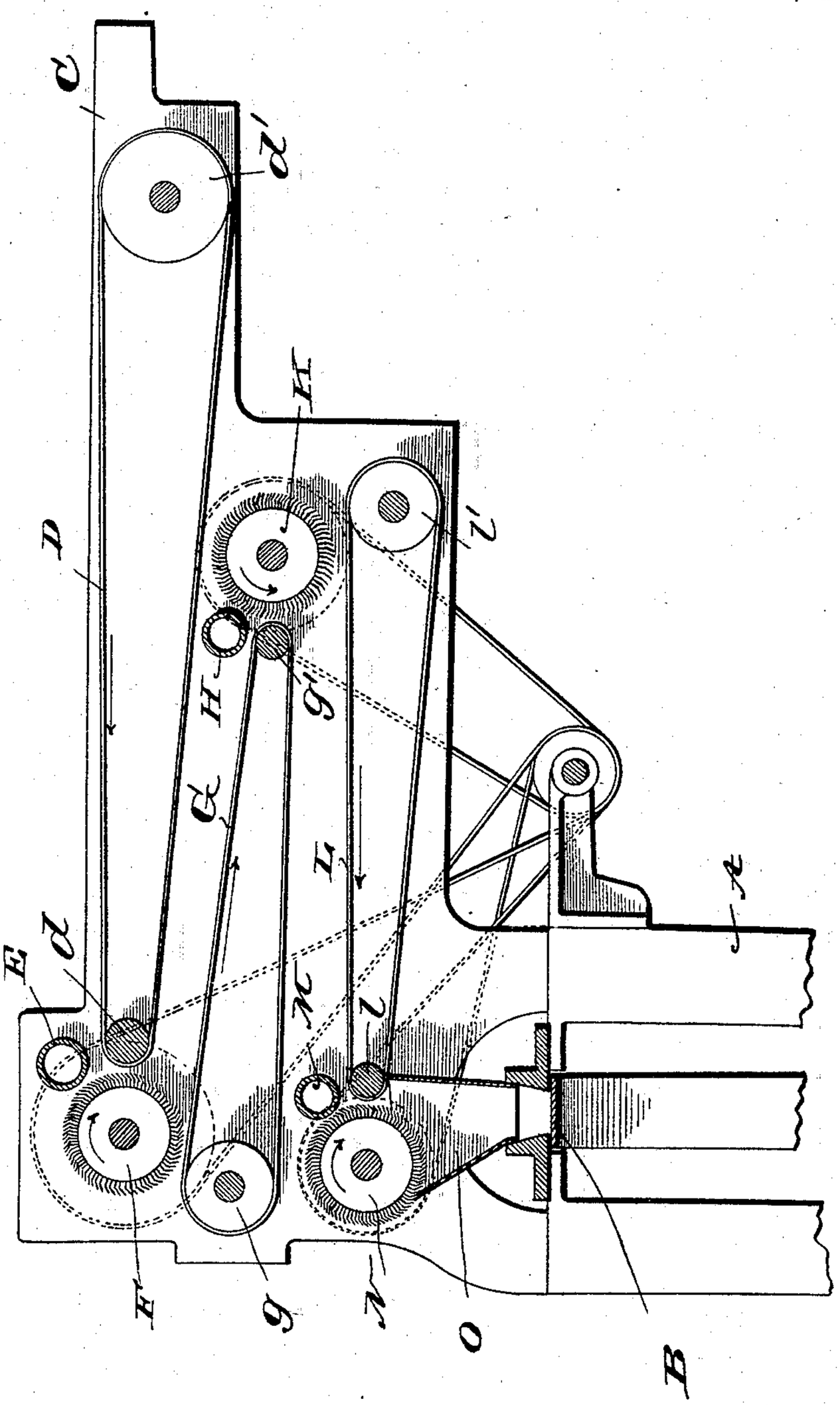

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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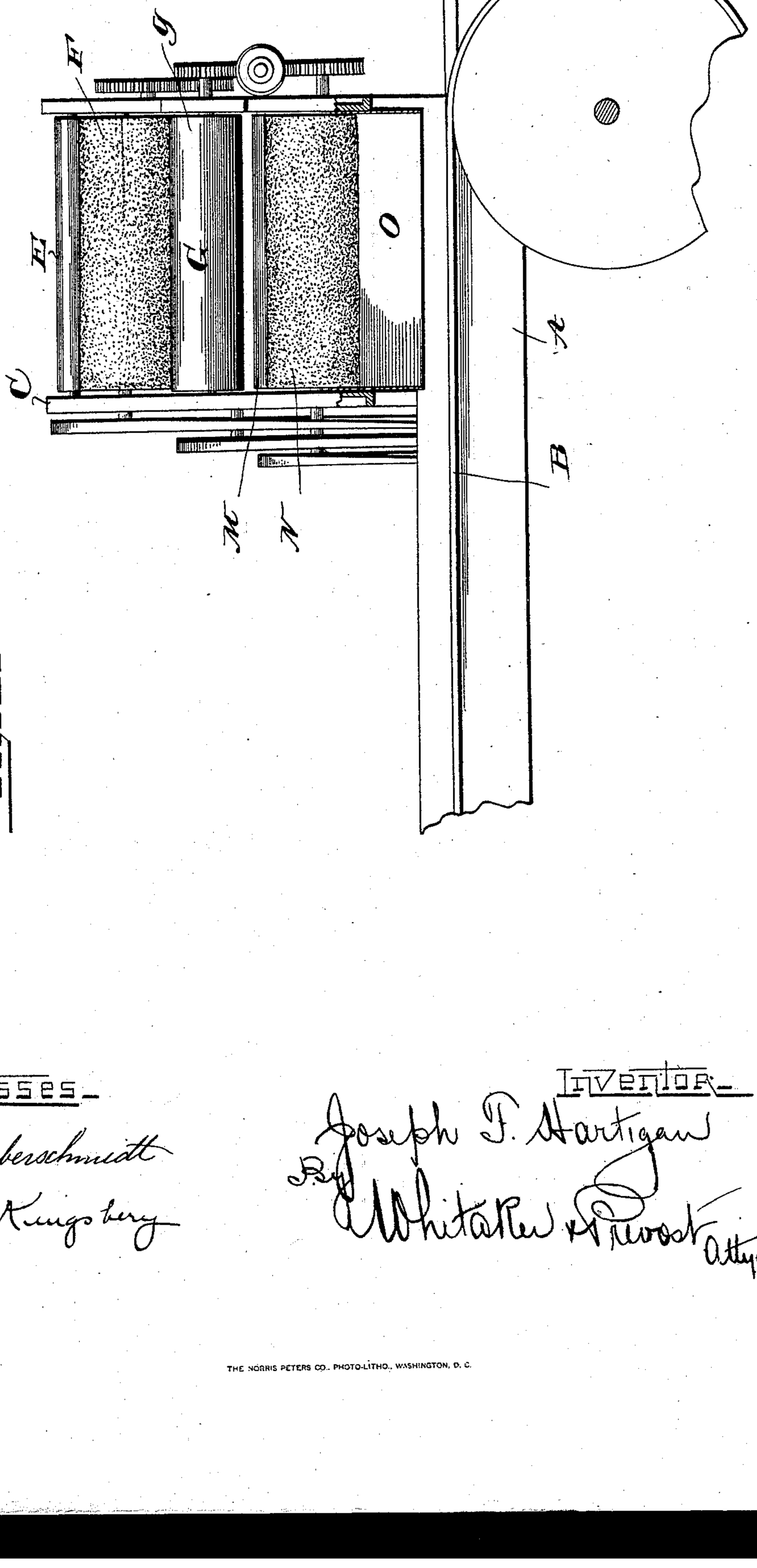

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UNITED STATES PATENT OFFICE.

JOSEPH F. HARTIGAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

TOBACCO FEEDING AND DRESSING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 578,740, dated March 16, 1897.

Application filed January 29, 1896. Serial No. 577,299. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. HARTIGAN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Tobacco Feeding and Dressing Mechanism; 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 appertains to make and use the same.

My invention consists in the novel features of construction and combination of parts hereinafter fully described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents a portion of a cigarette-machine, showing the tobacco-carrying belt and my improved tobacco feeding and dressing apparatus. Fig. 2 is a side view of the tobacco feeding and dressing mechanism. Fig. 3 is a vertical sectional view of the same on a plane transverse to the line of travel of said tobacco-carrying belt.

In the drawings, A represents a portion of the framework of a cigarette-machine, and B represents a horizontally-disposed tobacco-carrying belt which receives the tobacco from the feeding and dressing device and delivers it to devices for forming a tobacco rod and covering the same with a suitable wrapper, of which devices the belt B may in some instances form a part.

C represents the framework which supports the parts of tobacco feeding and dressing devices, and is supported upon the frame A of the cigarette-machine and preferably extends transversely thereof.

D represents the receiving-belt of the feeding and dressing devices, supported by suitable rolls *d* and *d'*, mounted in the upper part of the frame C, so as to hold the upper lap of the belt in a horizontal position. Adjacent to the roll *d* and slightly above the same is the feeding and compressing roller E, between which and the belt-roll *d* the tobacco is fed, and a brushing-roller F is mounted in frame C adjacent to the roller *d* for brushing the tobacco downwardly from the belt D as it passes around the said roll *d*. I prefer to employ for this purpose a cylinder provided with backwardly-bent wire teeth, as shown, similar to a carding-cylinder, but I do not limit myself to this construction, as other forms of brushing-rolls may be employed for this purpose.

Beneath the brushing-roller F is an intermediate or spreading belt G, supported by rolls *g* and *g'* in such a position that the upper side of the spreading-belt G is substantially parallel to the lower side of belt D. I prefer to make the supporting-roll *d'* of belt D larger in diameter than the roll *d*, so that the under side of belt D lies in an inclined position, and by making the roll *g* larger than the roll *g'* the upper face of spreading-belt G will lie parallel to the lower face of belt D, while the lower part of belt G will be substantially horizontal. The spreading-belt G is driven much more rapidly than the belt D, and adjacent to the roll *g'* is a feeding and compressing roller H, which is placed nearer the roll *g'* than the roller E is to the roll *d*, for a reason appearing hereinafter. Adjacent to the roll G is a brushing-roller K, similar to the roller F, for brushing the tobacco downwardly from the belt G.

Below the roller K is the delivery-belt L, which is supported upon the rolls *l* and *l'* and preferably has its upper side parallel to the lower side of the belt G and in a substantially horizontal position. Adjacent to and above the roll *l* is a feeding and compressing roller M and the brushing-roller N, similar to the brushes F and K, and below the brush M is a hopper O, into which the tobacco is delivered by the brush.

The hopper O has its discharge-orifice just above the belt B of the cigarette-machine, so that the tobacco is delivered upon the latter. The delivery-belt L is driven at a slower speed than the intermediate belt G, the driving mechanism for the several belts and other moving parts being indicated in Fig. 2, but any other preferred arrangement of belts, &c., for driving the parts can be employed that will give the proper movements to the said parts.

The operation of the device is as follows: The tobacco is spread by the operator in an

even layer upon the top of belt D and is gradually moved toward the rollers E and F, passing under the feeding-roller E, after which it is brushed down upon the rapidly-moving spreading-belt G by the brush F. As the spreading-belt G travels at a higher speed than the belt D the tobacco is deposited in a thin layer upon said belt G and is carried under the compressing-roller H, after which it is brushed down upon the delivery-belt L by the brush K. As the belt L moves at a slower speed than the spreading-belt G the tobacco, now thoroughly loosened by two successive brushings and by being spread thinly upon the belt G, collects upon the belt L and is fed along by it in a thicker layer than that upon belt G. The tobacco then receives its final compression under roller M and is then brushed down into hopper O to the carrying-belt B by the brush N.

It will be seen that by employing a feeding and compressing roller adjacent to each brush the tobacco will be held gently between said compressing-roller and the belt, and the brush will thus exert a combing action, which tightens up the tobacco and prevents it from passing on in a lumpy or matted condition, and as this operation is repeated several times the tobacco is in a very even and light condition when it is finally delivered to the belt B.

What I claim, and desire to secure by Letters Patent, is—

1. In a tobacco feeding and dressing mechanism, the combination with the tobacco-receiving belt and a carding-roller therefor, of a spreading-belt adapted to receive the tobacco from said carding-roller, means for driving said belt at a greater speed than the receiving-belt, a carding-roller for said spreading-belt, a delivery-belt adapted to receive the tobacco from the carding-roller for the spreading-belt, and means for driving said delivery-belt at a lower rate of speed than the spreading-belt to accumulate the loosened tobacco upon the delivery-belt, substantially as described.

2. In a tobacco feeding and dressing mechanism, the combination with the receiving-belt, a compressing-roller and a carding-roller adjacent to its delivery end, the spreading-belt adapted to receive tobacco from said carding-roller, a compressing-roller adjacent to the delivery end of said spreading-belt located closer to said belt than the distance between the receiving-belt and its compressing-roller, a carding-roller for said spreading-belt, means for driving said spreading-belt at greater speed than the receiving-belt, a delivery-belt adapted to receive the tobacco from said carding-roller for the spreading-belt, means for driving the receiving-belt at a lower rate of speed than the spreading-belt to accumulate the loosened tobacco upon said receiving-belt, and a compressing-roller for said delivery-belt located closer thereto than the distance between the spreading-roller and its compressing-roller, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH F. HARTIGAN.

Witnesses:
T. C. LANE,
J. M. GALLOND.