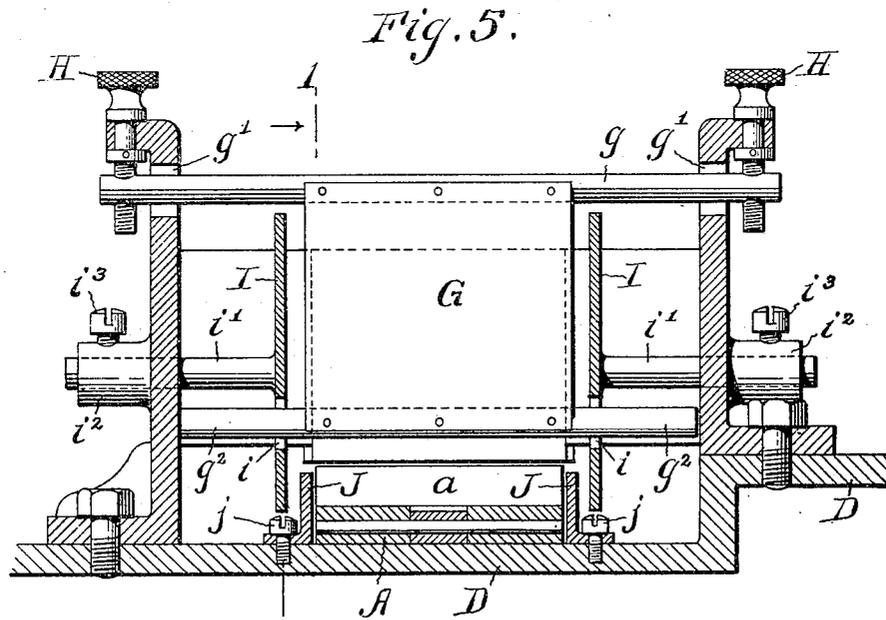
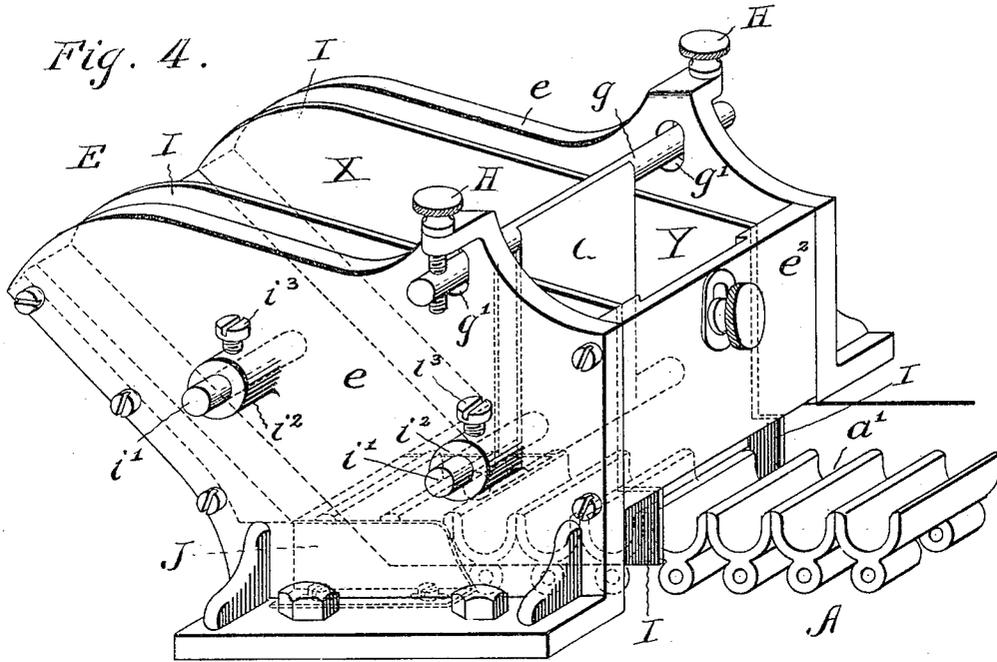


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MECHANISM FOR FEEDING CIGARS TO BANDING MECHANISMS.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM CYRUS BRIGGS, OF WINSTON SALEM, NORTH CAROLINA.

MECHANISM FOR FEEDING CIGARS TO BANDING MECHANISMS.

No. 808,067.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM CYRUS BRIGGS, a citizen of the United States, residing in Winston Salem, in the county of Forsyth and State of North Carolina, have invented certain new and useful Improvements in Mechanism for Feeding Cigars to Banding Mechanism, of which the following is a specification.

In my application for patent, Serial No. 149,836, filed March 27, 1903, I have shown a machine for applying bands or labels to cigars in which the cigars are conveyed from a hopper to the band-applying mechanism by an endless chain having pockets which receive the cigars and deliver them one at a time to the banding mechanism.

The object of my present invention is to improve the construction and operation of the hopper and conveyer in such manner that the cigars will be conveyed and delivered more uniformly.

It is important that a cigar shall be supplied to the band-applying mechanism each time that a label is supplied thereto. In the normal operation of the machine a cigar is delivered from each pocket in succession to the band-applying mechanism, and the mechanism is so timed as to at the same time receive a band or label. It is obvious that if a label or band is supplied and one of the pockets is empty the operation of the machine will be seriously interfered with.

According to my present invention I am enabled to insure that each and every pocket in the conveyer-chain shall be supplied with a cigar even when the machine is running at a high rate of speed, and thus prevent any interference with the normal operation of the machine which would, as before stated, be caused if one or more of the pockets should arrive empty over the band-applying mechanism.

In carrying out my invention I provide a hopper for the cigars beneath which a conveyer moves and which is divided into two compartments, one of which is considerably larger than the other. These compartments are separated by a vertical partition, below which there is an opening affording a communication between the two compartments which is such that at times cigars may be carried from the larger compartment into the smaller one and stored therein without being carried farther by the conveyer. Devices are provided by which the cigars are held out of the pockets of the conveyer in one part of the

larger compartment, only one pocket being exposed in the larger compartment to receive a cigar. In the smaller compartment, however, two or more pockets are exposed, and should it so happen that a pocket while passing through the larger compartment should not receive a cigar it is sure to receive one while passing beneath the smaller compartment. When the smaller compartment is empty or when it has only a few cigars in it, cigars will be carried by the conveyer-chain beneath the partition into the smaller compartment; but when the number of cigars in the smaller compartment has increased their weight will produce a pressure which will prevent other cigars from passing below the partition, and thus the piling up of the cigars within the smaller compartment to too great an extent is prevented.

There are other features of the invention which will be hereinafter more fully explained. Among these which may now be briefly referred to are means for adjusting the partition vertically to accommodate cigars of different sizes and means for adjusting vertical plates within the hopper to hold the cigars in alinement properly over the conveyer.

In the accompanying drawings, Figure 1 shows a vertical central section through a hopper and conveyer embodying my improvements on the line 1 1 of Fig. 5. Fig. 2 is a perspective view of one of the adjustable vertical plates within the hopper. Fig. 3 is a detail bottom plan view of two of the links of the conveyer-chain. Fig. 4 is a perspective view of the hopper and conveyer. Fig. 5 shows a cross-section on the line 5 5 of Fig. 1.

The endless chain or conveyer A is shown as consisting of a series of links *a*, pivotally connected and having pockets *a'*. The chain passes around sprocket-wheels B, the shafts of which are mounted to revolve in bearings in brackets C, attached to the main frame of the machine to which the mechanism is applied. The upper portion of the chain is shown as passing over a plate D, forming part of the frame, and this plate serves to prevent sagging of the chain and causes its upper or advancing portion to move in a straight path below the hopper E. The conveyer may be operated in any suitable way, preferably by pawl-and-ratchet mechanism applied to the shaft *b* in the manner described in my before-mentioned application. Such mechanism causes the conveyer to be advanced step by step. The frame or casing of the hopper consists of

two parallel sides e , flanged at their lower ends and bolted to the frame D, an inclined front e' , and a vertical rear piece e'' , secured to the sides. The conveyer passes through openings x and y in the front and rear walls of the hopper and moves in the direction indicated by the arrow. The area of the rear opening y is regulated by a vertically-adjustable slide F, which may be fixed in any desired position by a set-screw f . The hopper is divided into two compartments by a vertical partition G, extending downward from a cross-bar g , that projects through slots g' in the sides of the hopper, and which is engaged by screws H, by means of which the partition may be adjusted vertically, so that its lower end may be held at any desired distance from the conveyer. Laterally-adjustable vertical plates I within the hopper extend past the partition from the front wall to the rear wall of the hopper. They are slotted at i to permit the lower rod g'' of the partition to pass through them, and they have arms i' extending through bosses i'' in the sides of the hopper and are free to move laterally therein. They may be held in any desired position by set-screws i''' . By means of these plates the cigars are held in alinement properly over the conveyer. They prevent endwise movement of the cigars and cause them to be delivered to the conveyer in such manner that they shall project an equal extent from each side thereof. The bottom of the hopper is open, and at all times there are a plurality of pockets within the two compartments X and Y, but only one pocket is exposed to receive a cigar in the compartment X. Two or more pockets are, however, preferably exposed within the compartment Y. Within the compartment X are arranged vertical plates J, which are flanged at their lower ends and slotted to receive screws j . The plates have a limited endwise or longitudinal adjustment in an obvious manner. The upper edges of the plates are a short distance below the upper edges of the pockets; but they are close to the sides of the conveyer, as indicated in Fig. 5, so that the cigars project across the top of the plates and yet may be below the upper edges of the pockets, so that as the conveyer advances it may come in contact with the cigars and move them rearwardly, while the cigars are prevented from falling into the pockets until after the plates have been passed. The distance between the lower end of the partition G and the top of the conveyer is just sufficient to permit a cigar when not in a pocket to pass from the compartment X to the compartment Y.

At first a few cigars may be placed in the compartment Y and the compartment X may be filled. As the conveyer advances, the cigars will be moved forwardly over the plates J toward the rear end of the hopper and will be pressed lightly against the partition G. Ordinarily a cigar will drop into a pocket just

in advance of the partition G. Occasionally, however, especially when running at high speed, the cigars will get jammed against the partition G and a pocket may pass through the compartment X without receiving a cigar; but as soon as it enters the compartment Y it is sure to receive a cigar therefrom, it having two chances to do so, and this is especially true because it will be remembered that the conveyer is advanced step by step and pauses at intervals with the pockets exposed to receive cigars from the hopper. The pressure of cigars in the compartment Y will ordinarily prevent cigars not in the pockets from passing from the compartment X beneath the partition G; but should the supply of cigars in the compartment Y become exhausted or very much reduced this pressure will be relieved, and therefore one or more cigars will be carried by the conveyer and by reason of the pressure in the compartment X beneath the partition into the smaller compartment. In practice the supply in the compartment Y is never entirely exhausted. When the supply becomes reduced and before it is exhausted, the number of cigars in the compartment Y will be augmented in the manner before described from the compartment X. By reason of the inclination of the front wall of the hopper a certain pressure or tendency to move toward the exposed pocket of the conveyer is produced. The plates J by guarding some of the pockets within the hopper prevent the cigars from being handled too roughly and enable me to fill the hopper while the machine is in operation, even after the supply has been almost entirely exhausted.

I have described my improvements as being applicable for feeding cigars to banding mechanism; but there are many other articles which could be fed by the mechanism described in a similar way, and I therefore wish it understood that I do not intend to limit my invention to the feeding of cigars.

I claim as my invention—

1. The combination with a conveyer provided with a series of pockets, of a hopper divided by a partition perpendicular to the conveyer into two compartments beneath both of which the conveyer moves and pauses to receive articles from either compartment, and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after a jam in one of the compartments has been broken.

2. The combination with a conveyer provided with a series of pockets, of a hopper divided by a vertically-adjustable partition into two compartments beneath both of which the conveyer moves and pauses to receive articles from either compartment and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after

a jam in one of the compartments has been broken.

3. The combination of an endwise-moving endless conveyer provided with a series of pockets, of a hopper divided by a partition into two compartments beneath both of which the conveyer moves and pauses to expose simultaneously one or more pockets to both compartments, and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after a jam in one of the compartments has been broken, means for adjusting the partition vertically and devices for moving the conveyer step by step.

4. The combination of a conveyer provided with a series of pockets, means for moving the conveyer in one direction only, and a hopper divided into two compartments communicating at their lower ends for the passage of only one article at a time and beneath which the conveyer moves and pauses at regular intervals to simultaneously expose pockets to both compartments.

5. The combination with a conveyer having a series of pockets, of a hopper beneath which the conveyer moves and within which a plurality of pockets are exposed, and devices for holding the articles being conveyed part way out of some of the pockets in the hopper while fully exposing a pocket within the hopper to receive one of the articles being conveyed.

6. The combination with a conveyer having

a series of pockets, of a hopper beneath which the conveyer moves and within which a plurality of pockets are exposed, and vertical plates engaging articles to be conveyed and holding them part way out of some of the pockets in the hopper while fully exposing another pocket therein to receive an article to be conveyed.

7. The combination with a conveyer having a series of pockets, of a hopper having an inclined end, a vertical partition dividing the hopper into two compartments which communicate below the partition and beneath which the conveyer moves, and devices within one of the compartments for holding the articles to be conveyed out of some of the pockets within this compartment while permitting them to come in contact with the conveyer as it moves through the hopper.

8. The combination with a conveyer, of a hopper having compartments the lower portions of which communicate for the passage of articles from one compartment to the other, one of which compartments has an inclined end and the other a vertically-adjustable gate and laterally-adjustable plates within the hopper and in both compartments on opposite sides of the conveyer.

In testimony whereof I have hereunto subscribed my name.

WILLIAM CYRUS BRIGGS.

Witnesses:

L. G. VAUGHN,
P. M. LEDFORD.