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PATENTED DEC. 4, 1906.

B. BARON.

APPARATUS FOR FEEDING TOBACCO TO CIGARETTE MAKING MACHINES.

APPLICATION FILED JULY 12, 1906.

3 SHEETS—SHEET 1.

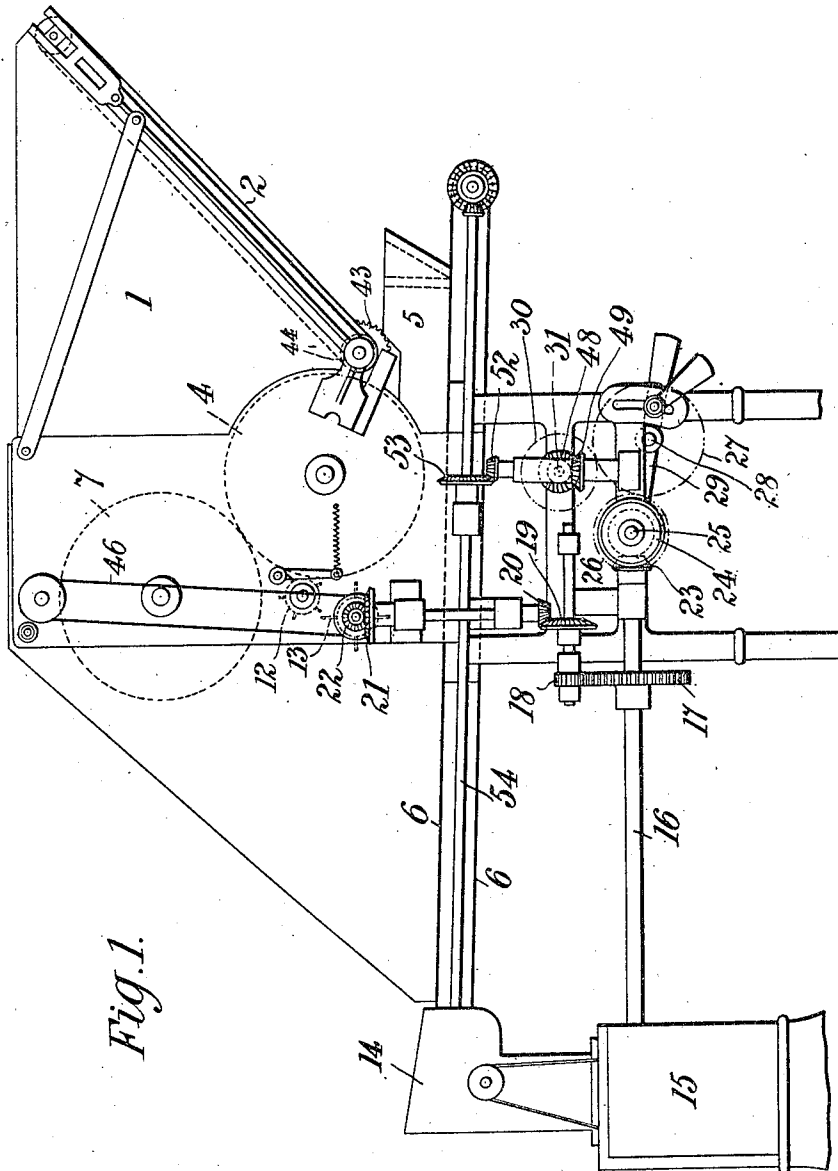


Fig. 1.

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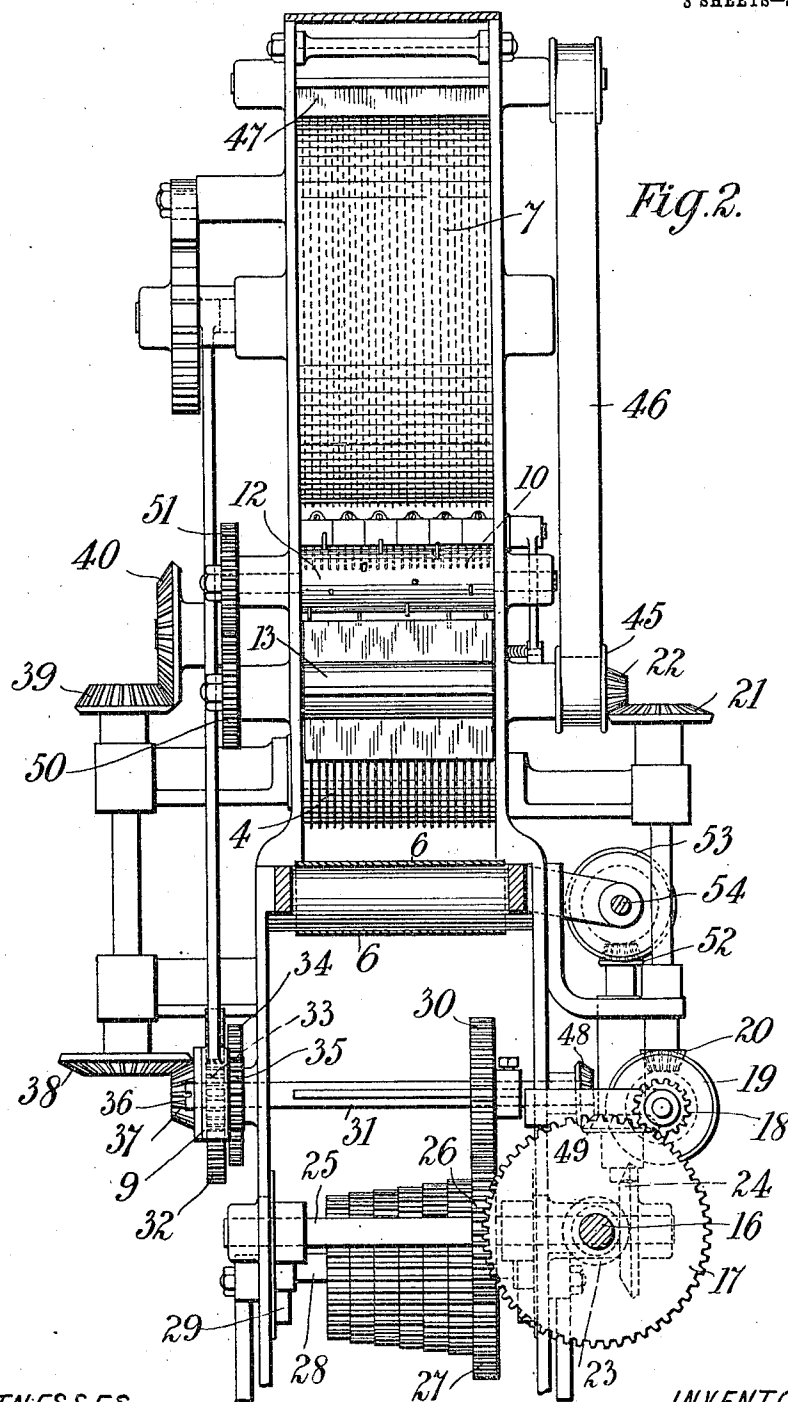
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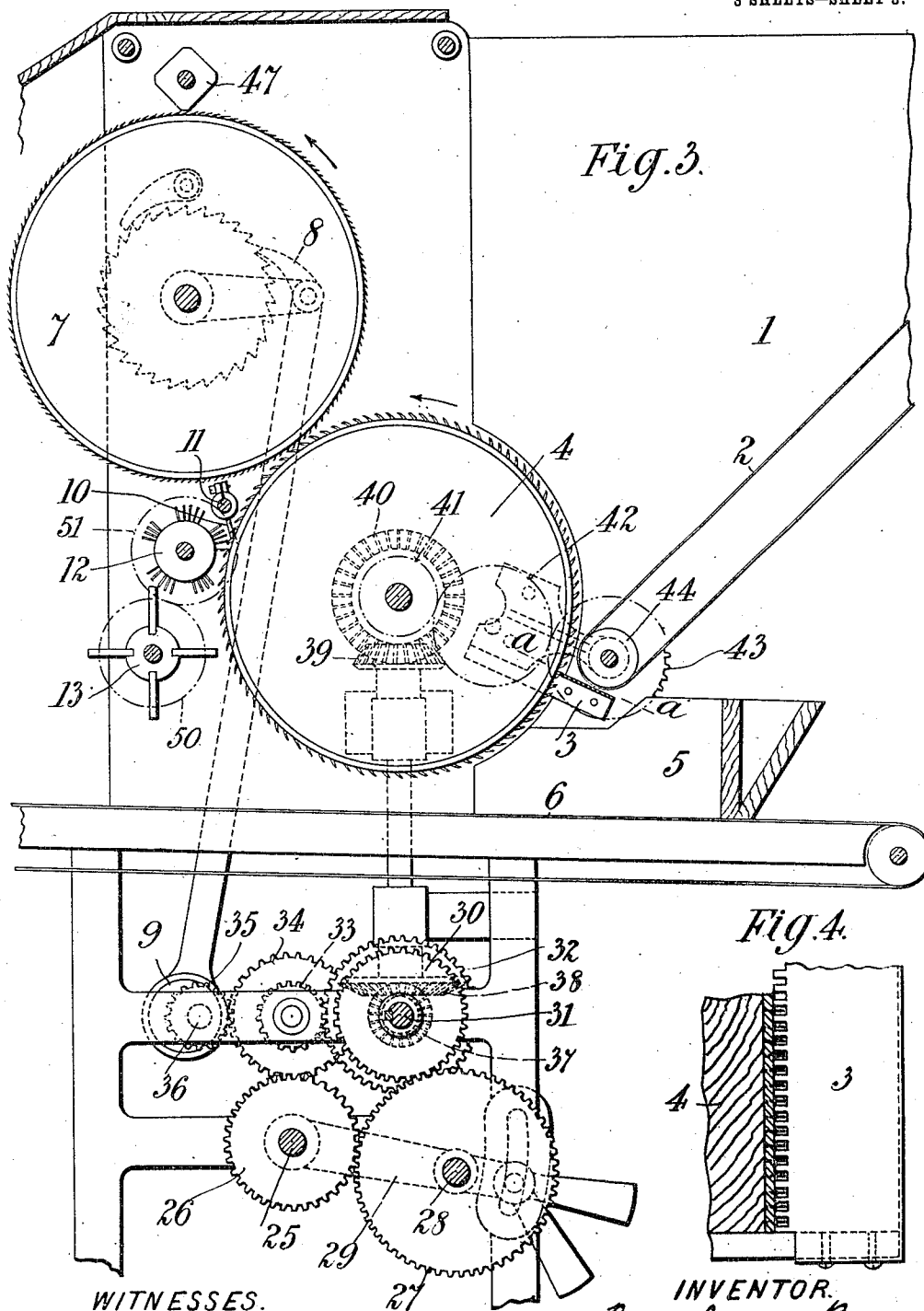
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UNITED STATES PATENT OFFICE.

BERNHARD BARON, OF LONDON, ENGLAND.

APPARATUS FOR FEEDING TOBACCO TO CIGARETTE-MAKING MACHINES.

No. 337,776.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed July 12, 1906. Serial No. 325,933.

To all whom it may concern:

Be it known that I, BERNHARD BARON, a citizen of the United States of America, residing at London, England, have invented a certain new and useful Improvement in Apparatus for Feeding Tobacco to Cigarette-Making Machines, of which the following is a specification.

It has heretofore been proposed to employ what are practically carding-cylinders for breaking up a mass of tobacco and feeding more or less regulated quantities thereof to a traveling belt or carrier; and the present invention relates to an improved construction of machine of this general class with a view to obtaining a greater efficiency in action and securing a more uniform feed either to the cigarette compression and wrapping devices or, preferably, to the ordinary feed-hopper of a cigarette-making machine.

In the accompanying drawings, Figure 1 is a side sectional elevation; Fig. 2, a front elevation with the front board removed; Fig. 3, a side elevation, on a larger scale, of the carding-cylinders and parts adjacent thereto; and Fig. 4 a detail view, on a still larger scale, on the line *aa* of Fig. 3.

According to this invention the tobacco is fed in bulk into the hopper 1, in which is a traveling belt, the lower end of which is in close proximity to a fixed toothed plate 3, extending across the hopper, the teeth being adapted to pass between the teeth on revolving feed-cylinder 4, the relative position of the teeth being most clearly seen in Fig. 4. The object of this arrangement is that all fine particles of tobacco carried down by belt 2 shall be delivered to the continuously-rotating cylinder 4 and, if too small, to be held and carried up by the teeth thereon may pass down plate 3 into receptacle 5, the bottom of which is formed by the endless belt 6, which carries forward such fine particles and causes them to be intermixed with the rest of the tobacco delivered to belt 6 in a manner to be hereinafter described.

The tobacco taken from the mass by cylinder 4 is in part held back by the motion of cylinder 7, intermittently rotated by ratchet-tooth 8, operated from eccentric 9. It will be seen that as cylinders 4 and 7 rotate in the same direction one tends to feed forward while the other prevents an undue feed. The tobacco fed forward is lightly held to cylinder 4 by spring-actuated presser-fingers 10,

carried on shaft 11; which passes across the machine, and such tobacco is removed from 4 by what is practically a doffing-cylinder 12, which delivers it to a rotating thrower 13, which throws it forward onto the belt 6, which, as shown in Fig. 1, delivers it to the ordinary feed-hopper 14 of a cigarette-making machine 15.

As shown, the various parts are operated from the main shaft 16, which also drives the cigarette-making machine 15. This shaft carries a gear 17, which through gears 18, 19, 20, and 21 drives the thrower 13 through gear 22, mounted on the end of the thrower-shaft, the other end of which carries gear 50, engaging with 51 on the shaft of doffing-cylinder 12.

On the same shaft as gear 22 is pulley 45, operating belt 46, which in turn drives an angular roller 47, which will free cylinder 7 from any tobacco carried up and causes same to be returned to the hopper 1.

Shaft 16 also carries gear 23, engaging with gear 24 on shaft 25, the above gear being most clearly followed from Fig. 1. Shaft 25 (see Fig. 3) carries gear 26, which engages with gear 27, which is one of a set carried on shaft 28, which shaft is in turn carried by a frame 29, mounted on shaft 25, the frame being capable of being raised and lowered so as to bring any of the gears mounted on shaft 28 (see Fig. 2) into position for engagement with gear 30, which is splined or otherwise adjustably mounted on shaft 31, which also carries gear 32, which drives 33, whence power is transmitted through 34 to 35 on shaft 36, which operates eccentric 9. Shaft 31 also carries a bevel-gear 37, which through 38 and 39 drives 40, mounted on shaft of cylinder 4, on which is also mounted gear 41, which engages with 42, which in turn drives 43, mounted on the end of the shaft-carrying roller 44, which operates belt 2. Also mounted on shaft 31 is gear 48, engaging with bevel 49, which drives 52 and through same 53 on shaft 54, which operates the roller of belt 6. The other end of the shaft may operate the feed mechanism in hopper 14.

What is claimed is—

1. In apparatus for feeding tobacco to cigarette-making machines and in combination, a feed-hopper, carding-cylinders therein, a plate in close proximity to the lower cylinder, a belt beneath same adapted to receive any tobacco falling from said plate and carry

it forward for admixture with that carried over by the cylinder substantially as described.

2. In apparatus for feeding tobacco to cigarette-making machines and in combination, a feed-hopper, carding-cylinders therein, a belt forming part of the bottom of the hopper and adapted to carry any fine particles of tobacco to the lower carding-cylinder, a plate in close proximity to the cylinder and the belt, and a second traveling belt beneath said plate adapted to receive any particles of tobacco falling from said plate, and carry same forward to be mixed with the tobacco carried over by the cylinder substantially as described.

3. In apparatus for feeding tobacco to cigarette-making machines and in combination, a feed-hopper, carding-cylinders therein, a belt forming part of the bottom of the hopper, a plate in close proximity to the lower carding-cylinder and to the belt, a traveling belt beneath said plate adapted to receive any particles of tobacco falling from said plate and carry same forward and a doffing-cylinder adapted to remove the tobacco from the lower carding-cylinder substantially as described.

4. In apparatus for feeding tobacco to cigarette-making machines and in combination, a feed-hopper, carding-cylinders therein, a belt forming part of the bottom of the hopper, a second belt below same, a doffing-cylinder adapted to remove the tobacco from the lower carding-cylinder, and a thrower

adapted to receive said tobacco and throw same forward onto the lower belt substantially as described.

5. In apparatus for feeding tobacco to cigarette-making machines and in combination, a hopper, carding-cylinders therein, a belt forming part of the bottom of the hopper, a plate in close proximity to the lower carding-cylinder and to the belt, a second belt below same, a doffing-cylinder adapted to remove the tobacco from the carding-cylinder and a thrower adapted to receive said tobacco and throw same forward onto the lower belt substantially as described.

6. In apparatus for feeding tobacco to cigarette-making machines and in combination, a feed-hopper, carding-cylinders therein, a belt forming part of the bottom of the hopper, a plate in close proximity to the lower carding-cylinder and said belt, a lower belt adapted to receive and carry forward any particles falling from said plate, presser-fingers adapted to lightly hold the tobacco to the lower carding-cylinder, a doffing-cylinder adapted to remove same and means for delivering same to the lower belt substantially as described.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

BERNHARD BARON.

Witnesses:

WM. H. BELL;

HY. W. DANBURY.