June 30, 1925. 1,544,228

J. H. DOOLEY

WASTE COLLECTOR FOR COMBING MACHINES

Filed Dec. 6, 1924

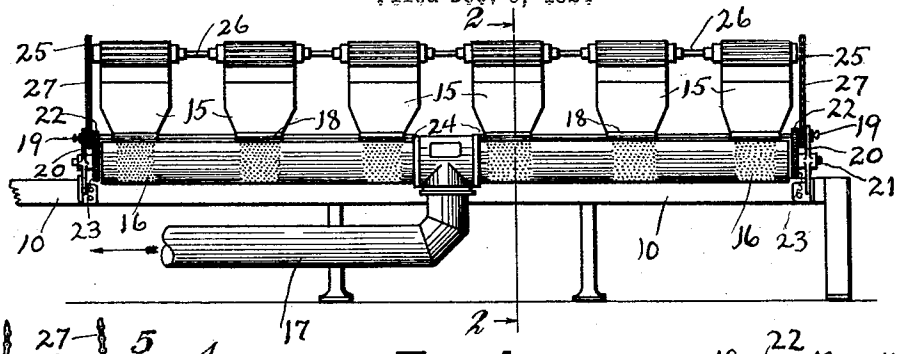


Fig. 1.

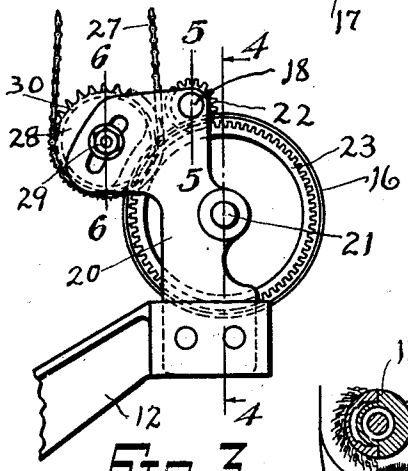


Fig. 3.

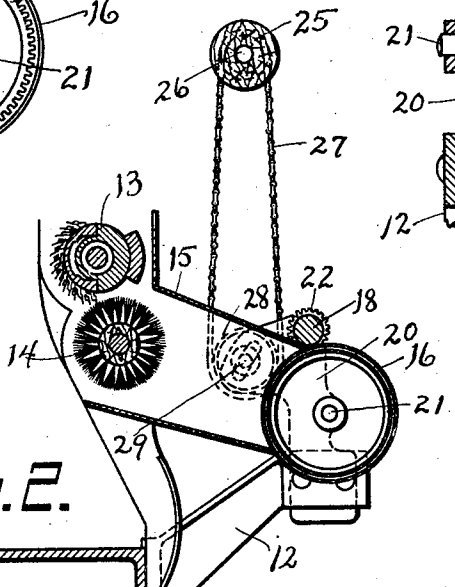


Fig. 2.

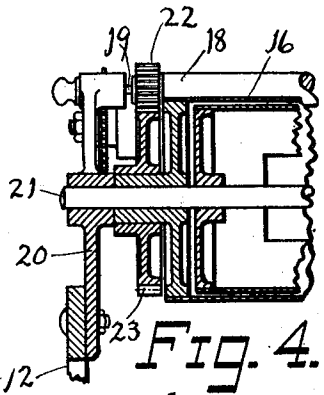


Fig. 4.

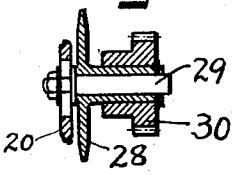


Fig. 6.

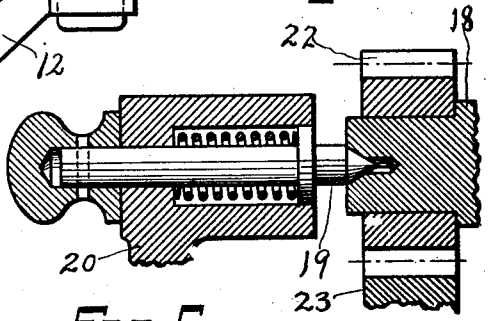


Fig. 5.

INVENTOR:
John H. Dooley
BY Oscar L. Owen
ATTORNEY.

Patented June 30, 1925. 1,544,228

UNITED STATES PATENT OFFICE.

JOHN H. DOOLEY, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR TO WHITIN MACHINE WORKS, OF WHITINSVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

WASTE COLLECTOR FOR COMBING MACHINES.

Application filed December 6, 1924. Serial No. 754,304.

To all whom it may concern:

Be it known that I, JOHN H. DOOLEY, a citizen of the United States, residing at New Bedford, county of Bristol, and Commonwealth of Massachusetts, have invented an Improvement in Waste Collectors for Combing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to combing machines and particularly to combing machines which are provided with a waste collector of the general type shown in United States patent to Roth, No. 905,233, dated December 1, 1908, or United States patent to Belger, No. 1,106,073, dated August 4, 1914. The waste collectors shown in these patents comprise a casing which incloses the combing member and the stripping member, an air exhausting mechanism for creating an air current through the casing which removes the waste from the stripping member, a rotary perforated screen located within the casing adjacent the exit end thereof and arranged so that the air current passes through the screen whereby the waste is deposited onto the screen, and a stationary member within the screen which shields a portion of the periphery thereof from the action of the air-exhausting means with the result that the waste which has been deposited onto that part of the perforated screen through which the air current is passing will be carried by the rotation of the screen around to that portion thereof which is shielded from the air current and is condensed into a fleece or sliver by passing between a frictionally driven pressure roll and the rotary perforated screen after which the sliver is removed and drops into a can or other similar receptacle suitably placed for this purpose.

In operation of waste collectors of this type it sometimes happens that the frictionally driven pressure roll fails to properly function due to the accumulation of waste inside of casing pressing against the roll causing it to slip and fail to draw the sliver forward. If the situation is not noticed by the operative the accumulations will soon fill the casing and back up against the combing members with the result of causing great damage to said members.

The object of my invention is to eliminate this objectionable construction by substituting positive driving means for the pressure roll whereby the proper functions of the roll are obtained.

In describing my invention in detail reference will be had to the accompanying drawings wherein like symbols refer to like or corresponding parts throughout the several views and in which:

Figure 1 is an elevation showing somewhat diagrammatically the rear side of a combing machine having a waste collector embodying my invention. Figure 2 represents a sectional elevation on line 2—2 of Figure 1. Figure 3 shows the end view of the pressure roll driving means. Figure 4 is a sectional elevation on line 4—4 of Figure 3. Figure 5 is an enlarged sectional view on line 5—5 of Figure 3 of the pressure roll supporting means. Figure 6 is a sectional view on line 6—6 of Figure 3.

Referring to the drawings 12 indicates a portion of a combing machine, 13 indicates the rotary combing member, and 14 is the brush by which the waste is stripped from the combing member. These parts form individual units or heads, a plurality of which are used in combing machines as now constructed.

Associated with these heads is a waste collector comprising a casing 15 for each head inclosing the combing and stripping members, a rotary perforated screen 16, an air exhausting apparatus (not shown) connected to the rotary screen 16 by pipe 17 and so arranged that the air current sucks the waste into the casings from the stripping brushes and deposits it onto the screen the rotation of which carries it under the roll 18 which compresses it into the form of a fleece or sliver and is then removed from the machine. In machines as at present constructed each head is provided with an individual compressing roll in frictional contact with the surface of the rotary screen at the intersection of the casing and the screen. It often happens that a bunch of waste will be caught under the roll thus stopping the rota-

tion of the roll and causing the waste to accumulate to such an extent as to back up into the combing member resulting in great injury to the combing member. To eliminate this faulty construction I provide a construction whereby the compression roll does not depend on the uncertain frictional contact with the rotary screen for its motion but has means whereby the roll is positively driven. Instead of having an independent frictionally driven roll for each head I make use of a positively driven compression roll cooperating with the screen at the intersections of the casings and screen of two or more heads, and is rotatable in bearings fixed to the framing of the machine. Preferably one end of the roll runs on a spring detent center 19 whereby the operative may easily remove the roll for cleaning purposes, the other end of the roll being supported in an ordinary U shaped bearing 24 fixed to a stationary part of the machine. The detent center is held in a bracket 20 which also serves as a supporter of the shaft 21 on which the rotary screen turns. Rotary motion is imparted to the roll 18 by a gear 22 fixed on one end of the roll and cooperating with gear 23 fixed to the rotary screen 16 which derives its motion from chain gear 25 on lap roll shaft 26, transmitting by chain 27 to chain gear 28 rotatable on a stud 29 fixed in bracket 20. To the hub of the chain gear 28 is fixed the gear 30 which transmits motion to the rotary screen by cooperating with the gear 23 fastened to end of the screen.

By this construction the compression roll will not fail to function properly and hence the possibility of damage to the combing members is avoided.

I claim:

1. In a combing machine, the combination with a combing member and a stripping brush, a casing inclosing said combing member and stripping brush, a perforated rotary screen, an air-exhausting means connected to said screen and operating to generate an air current therethrough whereby the waste from the stripper brush is collected on the screen and positively driven means cooperating with the screen for compressing the waste into a sliver.

2. In a combing machine, the combination with a combing member and a stripping brush, a casing inclosing said combing member and stripping brush, a perforated rotary screen, an air exhausting means connected to said screen and operating to generate an air current therethrough whereby the waste from the stripper brush is collected on the screen, and a positively driven roll cooperating with the screen at the intersection of the casing and the screen whereby the waste is compressed into a sliver.

3. In a combing machine having a plurality of heads each comprising a combing member and a stripping brush, a casing inclosing the members of each head, a perforated rotary screen, an air exhausting means connected to said screen and operating to generate an air current therethrough, a positively driven compression roll cooperating with the screen at the intersections of the casings and the screen, bearings supporting the roll and means to facilitate the removal of the roll from its bearings.

In testimony whereof, I have signed this specification.

JOHN H. DOOLEY.