Oct. 25, 1932. A. THIBEAU 1,884,381

CARD

Filed Aug. 21, 1930

Fig. 1

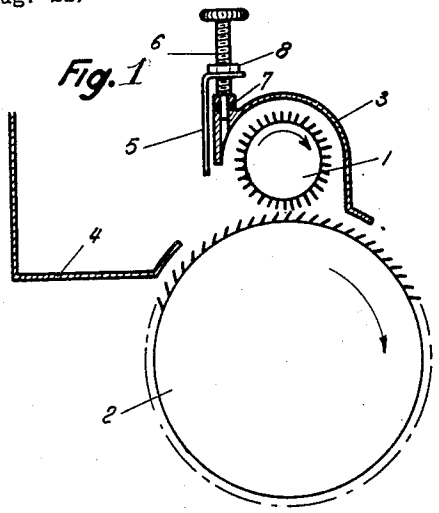


Fig. 2

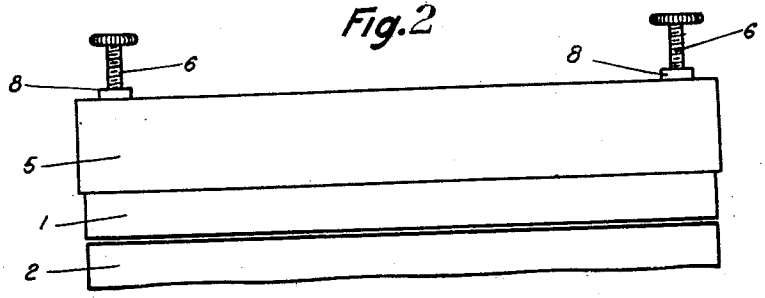
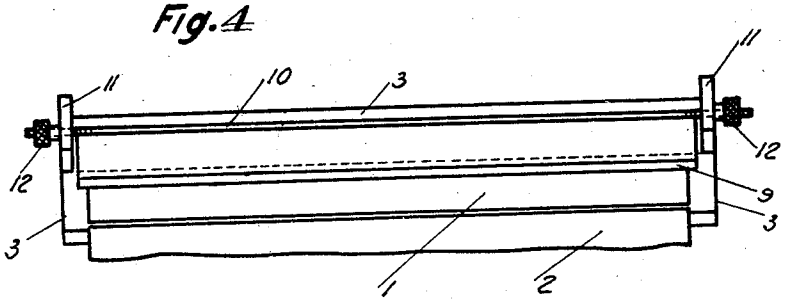


Fig. 4



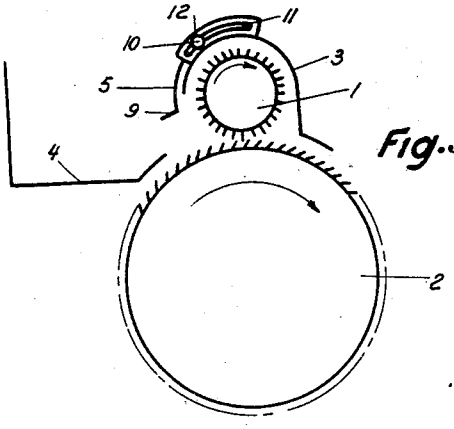


Fig. 3

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UNITED STATES PATENT OFFICE

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CARD

Application filed August 21, 1930, Serial No. 476,920, and in France December 30, 1929.

It is known that with a view to separating and rejecting foreign bodies of any kind from textile fibres during the carding operation (for example and particularly from wool and other similar fibres) the carding machines are provided with rollers generally called "burr-beaters" which are driven at a high speed of rotation and provided with a varying number of blades arranged radially along generating lines, the rollers being placed on the periphery of various rollers of the cards, in the clothing of which rollers, the textile material undergoing treatment is engaged.

It is also known that the fibres become normally lodged between the points of the clothing while the foreign bodies such as burrs and other waste, which are larger than the free space between the points of the clothing, remain on the periphery of the carding rollers, and that the function of the burr-beaters is to strike the foreign bodies as they pass and are driven off from the card, for example on a plate or in a trough placed in front of the burr-beater.

Now the rapid movement of the burr-beater in the atmosphere puts a considerable quantity of air into circulation, and it is known that its ventilating action has among other effects that of carrying along with the burr-beater or removing from the card a certain quantity of good fibres at the same time as the foreign bodies. It has been recognized to be useful to cover each burr-beater with a casing called a "cover" for reducing the objections due to the circulation of the air, this cover being generally made of sheet metal and being substantially circumferential with the burr-beater and surrounding it with a clearance of some millimetres from its periphery up to some centimetres at the point of contact of the burr-beater and the carding roller upon which it works, thus leaving a front aperture or longitudinal orifice along the burr-beater through which the materials rejected by the burr-beater pass.

The burr-beaters provided with such a casing or cover then only carry along with them in their movement of rotation a quantity of air which (for a given radial clearance between the periphery of each burr-beater and its cover) is in proportion with the surface of the opening or longitudinal orifice defined above, and in this way it has been possible to reduce considerably the objectionable ventilating action described above.

However, the ventilating action may have in addition a useful action upon the removal by the burr-beaters of foreign bodies which may be very small and as the various textile fibres are, according to their nature, more or less affected by this ventilating action, the object of the present invention is to vary the ventilating action of the burr-beaters according to the actual nature and needs of the various textile materials to be treated, in order to make it possible to remove foreign bodies, even the smallest, without producing an unnecessary rejection of good fibres.

For this purpose the object of the invention is to render the front longitudinal aperture or orifice of the cover adjustable in any manner and by any suitable means, this adjustment of the aperture being preferably effected by hand during the working of the card and being effected either substantially tangentially or circumferentially to the burr-beater.

In order to enable the invention to be clearly understood and by way of example, some constructional forms are hereinafter described by way of example and diagrammatically in the accompanying drawing, in which:

Figure 1 is a cross section of an improved installation according to the invention, in which the cover comprises a movable screen adjustable substantially tangentially and adapted to move rectilinearly and parallel to the tangent in a direction which is vertical or otherwise with respect to the burr-beater.

Figure 2 is a front view of this arrangement.

Figure 3 is a cross section of another embodiment of an installation according to which the movable screen is adjustable concentrically with the burr-beater.

Figure 4 is a front view of this latter arrangement.

In these figures:

1 represents a burr-beater on a card roller 2, these rollers turning in the direction indicated by the arrows; 3 is the cover, 4 the plate or trough for receiving the foreign bodies rejected.

The cover 3 is provided with an adjustable screen 5 represented as substantially vertically tangential to the burr-beater 1 and the displacement of which permits the size of the orifice to be variable and regulated tangentially to the burr-beater 1. This displacement is obtained by making the screen 5 effect an upward and downward movement which is effected from each end and if required at intermediate points, by operating screw-threaded rods 6 having a milled head the rotation of which causes a nut 8 rigid with the movable adjustable screen 5 to rise and fall on account of the fact that the smooth cylindrical ends of these screw threaded rods are engaged in socket 7.

With regard to Figures 3 and 4, the cover 3 is provided with a screen 5 the profile of which is preferably concentric with the burr-beater 1 and may comprise visor 9.

This screen is mounted at its upper edge to a bar 10 the screw threaded ends of which are guided in slotted arcuate guides 11 circumferential with the burr-beater 1 and mounted at each end of the cover 3 the adjustable screen 5 being locked by tightening the milled nuts 12 on to the guides 11.

It is clearly understood that without going outside the scope of the invention, changes, modifications and improvements may be made and also that equivalent means may be employed.

What I claim is:

1. In a separating arrangement of the type having a card roller with a burr beating roller arranged thereabove and having a receiving trough located laterally of the card roller and rearwardly of the burr beating roller and also having a covering casing arranged above and circumferentially about the burr beating roller so as to leave an opening between said casing and trough, a shielding screen mounted on the covering casing adjacent the upper edge of the opening, and means for adjustably fastening the screen in various positions on the casing and with respect to the adjacent edge of the trough so as to vary the size of the opening.

2. A separating arrangement as claimed in claim 1, wherein the screen is provided with an apertured flange and wherein the means for adjustably fastening the screen on the casing includes screws rotatably mounted on the casing and over which the apertured flange is engaged, and nuts carried on the flange about the opening and movable on rotation of the screws to adjust the screen.

3. A separating arrangement as claimed in claim 1, wherein the cover is curved in cross section and wherein the adjustable fastening means includes slotted arcuate guides on the casing, a longitudinal rod fixed to the screen and adjustable in the guides, and means engageable with the ends of the rod for clamping them in various positions on the guides.

In testimony whereof I affix my signature.

ANTOINE THIBEAU.