March 24, 1942. F. PINNELLI 2,277,657

PORCUPINE CLEANING BRUSH

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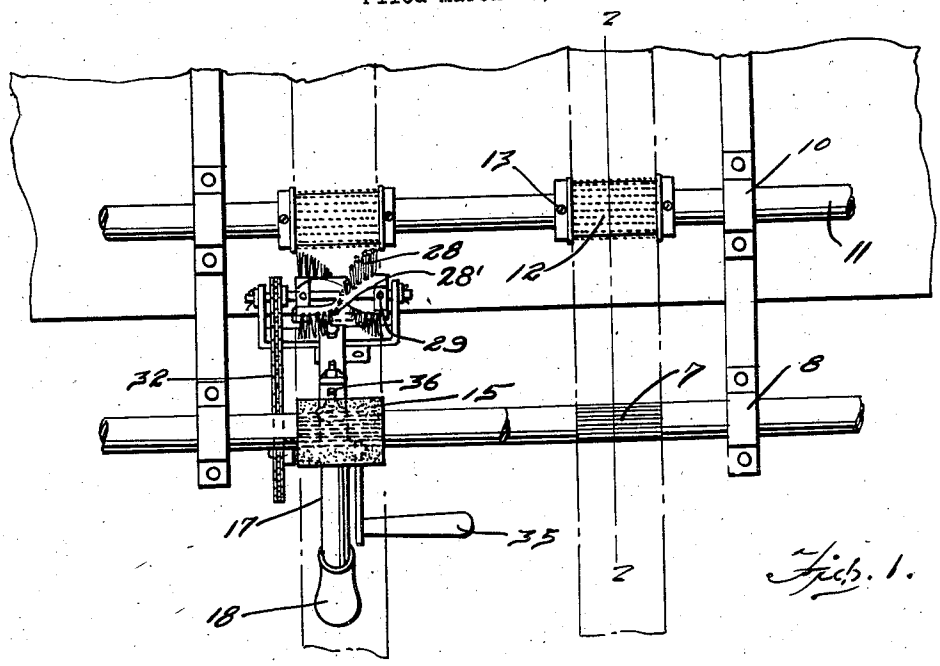


Fig. 1.

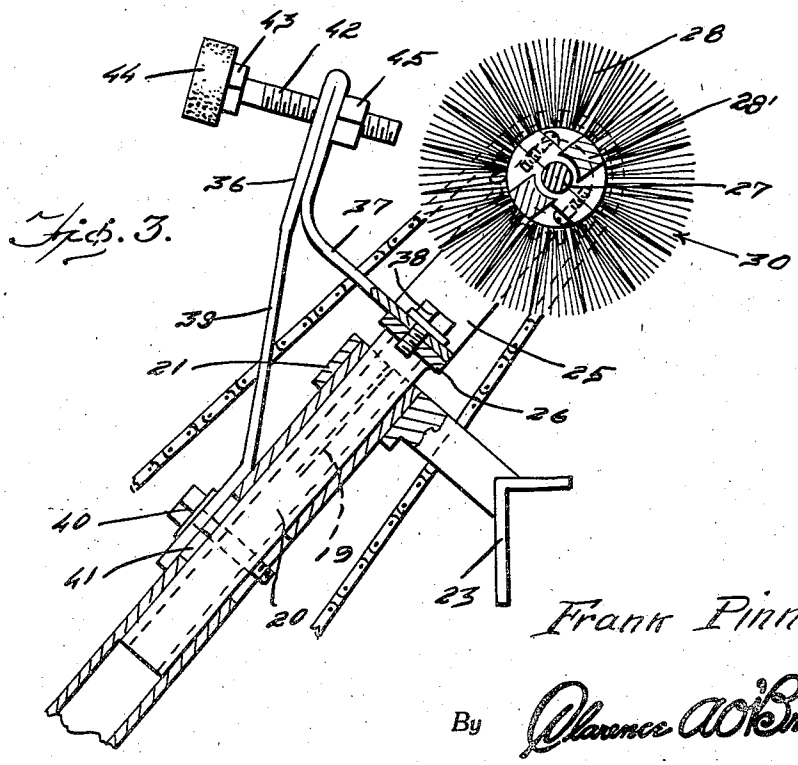


Fig. 3.

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Fig. 2.

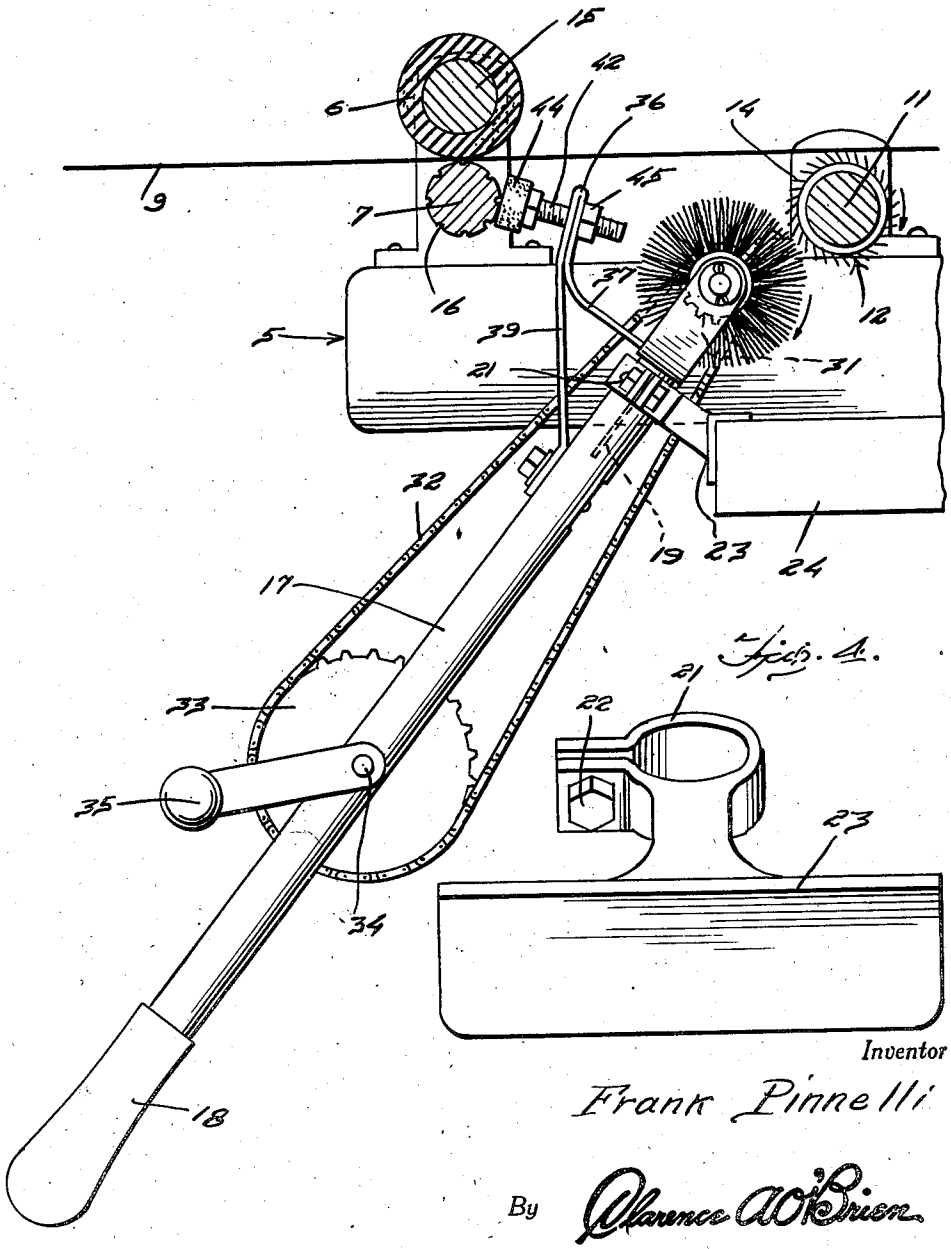


Fig. 4.

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PORCUPINE CLEANING BRUSH

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Application March 10, 1941, Serial No. 382,654

2 Claims. (Cl. 15—21)

The present invention relates to new and useful improvements in cleaning the bristles of drawing cylinders commonly known as "porcupines" which are used in textile machines, the principal object of the present invention being to provide a manually operated rotating brush adapted for positioning in engagement with the porcupine for removing the loose lint and portions of the yarn material collected thereon during the drawing action.

An important object of the present invention is to provide a manually operated portable cleaning brush of this character adapted for clamping in position on the machine and embodying means for adjusting the brush for proper engagement with the bristles of the porcupine.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which

Figure 1 is a fragmentary top plan view of the drawing machine showing the cleaning brush mounted in position thereon,

Figure 2 is a sectional view taken substantially on a line 2—2 of Figure 1,

Figure 3 is a fragmentary longitudinal sectional view through the mounting for the brush, and

Figure 4 is a perspective view of the adjustable clamping bracket for the brush.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates the frame of the drawing machine generally which includes the spaced parallel upper and lower feed rollers 6 and 7 journaled in bearing brackets 8 of the machine and between which the yarn material 9 or other material is fed. Also journalled in the brackets 10 of the machine is the shaft 11 on which the porcupines of conventional construction and designated generally at 12 are secured in position thereon by means of the screws 13. The porcupines include the wire bristles 14 engaging the under side of the yarn material for drawing the same through the feed rollers. The feed roller 6 is preferably in the form of a rubber sleeve mounted on the upper shaft 15 while the lower feed roller 7 comprises a longitudinally corrugated portion 16 positioned immediately beneath the sleeve 6.

In order to remove the lint and other fragments of the yarn material that collects on the bristles 14 I provide a cleaning brush which includes a tubular shank 17 having a handle 18 at one end, the other end of the shank being split longitudinally as shown at 19 for frictionally engaging a stem 20 telescoping in the split end of the shank. The stem 20 is secured in longitudinally adjusted position in the shank by means of a transversely split collar 21 having its split edges secured together by a bolt 22. The collar 21 is formed on an angle bracket 23 adapted for supporting on the upper corner of a transversely extending frame member 24 of the machine, as shown to advantage in Figure 2 of the drawings.

A U-shaped yoke 25 has its bight portion 26 welded or otherwise secured to the outer end of the stem 20 and journalled in the ends of the yoke is a shaft 27 having a spirally formed brush 28 secured thereon by means of screws or the like 29. The brush 28 is formed of a pair of duplicate formed spiral sections 28' from which the bristles 30 project. Keyed to the shaft 27 is a sprocket 31 driven by a chain 32 from a sprocket 33 mounted on a pin 34 extending transversely of the shank adjacent the handle 18. To the pin 34 is attached a handle 35 for operating the sprocket 33 whereby to rotate the brush.

A clamping bracket 36 is provided for the brush which includes the leg 37 which is secured to the bight portion 26 of the yoke 25 by means of a set screw 38, the clamping bracket also including a leg 39 which is secured to the stem 20 by means of a bolt 40 which extends through the longitudinal slot 41 formed in the shank 17. An adjusting screw 42 is threaded in the outer end of the bracket 36, the screw having a nut head 43 on which is cemented or otherwise secured a fiber disk 44. The screw 42 is secured in adjusted position on the bracket by a jamb nut 45.

When placing the device in use for cleaning the bristles 14 of the porcupine 12 the angular bracket 23 is placed in position on the transverse frame member 24 and the fiber disk 44 adjusted in position for clamping against the roller 7, as shown in Figure 2 of the drawings. The clamping disk is positioned slightly above a transverse center line of the roller 7 so that a downward pressure on the handle 18 will cause the

tight engagement of the disk with said roller and thus serve to frictionally bind the cleaning device in position on the machine while the brush is engaging the porcupine and while the machine continues in operation. The clamping collar 21 permits adjustment of the brush relative to the porcupine for properly cleaning the bristles thereof.

The porcupine 12 is intended to rotate in the direction shown by the arrow in Figure 2, while the brush 28 is intended to be rotated also in the direction indicated by the arrow adjacent thereto, that is, in the same direction of rotation as the porcupine whereby the lint can be readily removed from the bristles thereof.

It is believed the details of construction, advantages and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention, what I claim is—

1. A cleaning device for the porcupine of a textile drawing machine comprising a shank, a brush mounting having a brush rotatably journalled thereon, means for adjustably securing the brush mounting at one end of the shank, means for rotating the brush, a supporting bracket for the shank adapted for engaging a part of the machine for removably supporting the brush in engagement with the porcupine, a bracket carried by the shank, and adjustable means on the bracket for engaging another part of the machine for clamping the shank thereto upon a predetermined pressure exerted on the shank.

2. A cleaning device for the porcupine of a textile drawing machine of a type having a shaft on which the porcupine is mounted and a shaft for the material drawing element, said cleaning device comprising a shank, a brush mounting having a brush rotatably journalled thereon, means for adjustably securing the brush mounting at one end of the shank, means for rotating the brush, a supporting bracket for the shank adapted for engaging a part of the machine for removably supporting the brush in engagement with the porcupine, a bracket carried by the shank, and adjustable means on the bracket for engaging another part of the machine for clamping the shank thereto upon a predetermined pressure exerted on the shank, said adjustable means including a fiber member adapted to be moved into engagement with the second-named shaft for bearing against said shaft during rotation thereof.

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