F. P. WORTMAN.

GIN BRUSH.

APPLICATION FILED OCT. 28, 1912.

1,069,366. Patented Aug. 5, 1913.

Fig. 1.

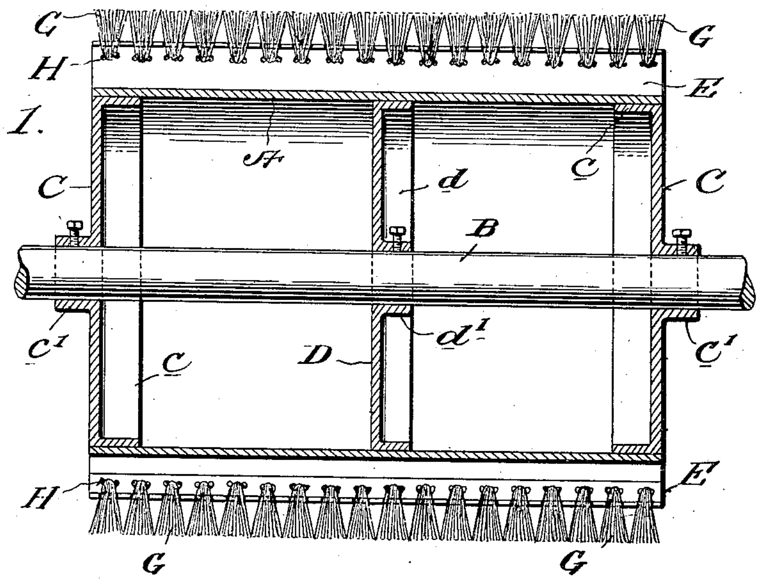


Fig. 3.

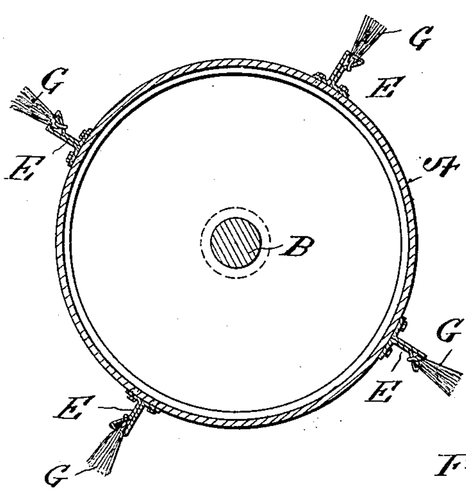
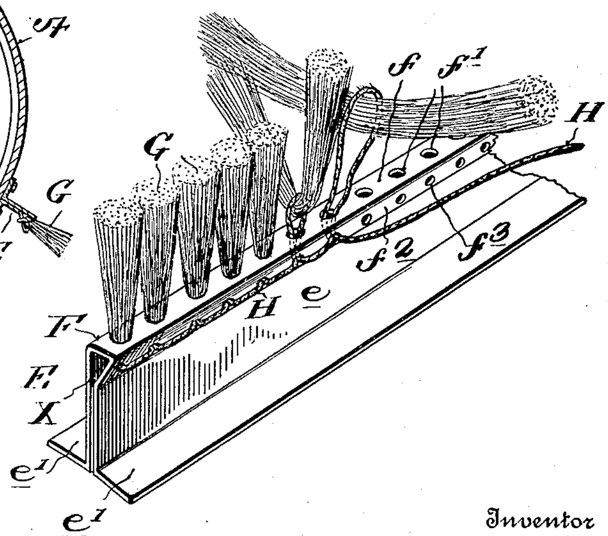


Fig. 2.



Inventor

Witnesses

F. P. Wortman

by his Attorneys

Helge Ott Murray,

E. B. Franzoni.

Baldwin Wight

UNITED STATES PATENT OFFICE.

FREDERICK P. WORTMAN, OF ALBANY, GEORGIA.

GIN-BRUSH.

1,069,366. Specification of Letters Patent. Patented Aug. 5, 1913.

Application filed October 28, 1912. Serial No. 728,174.

To all whom it may concern:

Be it known that I, FREDERICK P. WORTMAN, a citizen of the United States, residing at Albany, in the county of Dougherty and State of Georgia, have invented certain new and useful Improvements in Gin-Brushes, of which the following is a specification.

My invention relates to gin brushes of the class in which the tufts of bristles are secured to brush bars arranged on the periphery of a drum carried by a driving shaft, which includes the linter brush used in cotton oil mills, and the object of my invention is to provide brush bars of improved construction which permit of the tufts of bristles being secured to them after they are attached to the drum and which also allow worn tufts to be removed and replaced by new ones, without removing the bars from the drum.

In carrying out my invention, I employ a drum of suitable construction which is supported on a driving shaft in any suitable way, and on the periphery of the drum I arrange brush bars made of sheet metal, having outer portions or heads formed on their outer faces with tuft-receiving holes and near their bases with a series of holes to receive the cord or wire which fastens the tufts to the bars. The construction is such that the tufts of bristles may be attached to the bars after the latter are firmly attached to the drum and a new row of tufts or any desired number of tufts may be quickly removed from a bar and replaced without disturbing any of the other bars or any other parts of the brush.

In the accompanying drawings:—Figure 1 shows a longitudinal central section through a gin brush embodying my improvements. Fig. 2 shows a cross section thereof. Fig. 3 is a perspective view of a portion of one of the brush bars embodying my improvements, and illustrates how the tufts are attached to the bars.

The cylinder A of the drum is preferably made of sheet metal and is supported on the driving shaft B by heads C which are also preferably of sheet metal, pressed into shape and formed with peripheral flanges c and central flanges c' around the shaft openings.

I may use any suitable number of intermediate disks D, flanged at d, d' to support the cylinder and strengthen the drum.

The cylinder A may be attached to the heads C and the intermediate disks D in any suitable way, and the heads and disks may be secured to the driving shaft in the manner shown, or in any other suitable manner.

A drum thus constructed is very strong and durable. It will maintain perfect balance under all atmospheric and other conditions, and affords an efficient support for my improved brush bars. These bars E are preferably made of sheet metal bent in the manner shown in Fig. 3. Each bar preferably comprises a body portion e of double thickness, flanged to provide foot portions e' and bent to form a head F adapted to receive and support the inner ends of the tufts of bristles G.

The head F of each bar has an outer face f preferably flat formed with a series of holes f' and said head has, near its base f^2, a series of holes f^3. The holes f' are of sufficient size to receive the inner or looped ends of the tufts and the holes f^3 receive the cord, wire or similar means H for securing the bristles to the bar.

The way in which the tufts are attached to the bar is illustrated in Fig. 3. The cord H is looped, as shown, and drawn through the holes f^3, f' by a suitable tool, such as a darning needle, and the tufts of bristles are passed through the loops in the manner shown; then the loops are drawn into the head and with them the tufts, the inner or looped ends of the tufts entering the chamber X of the head and being firmly held therein. All the tufts are in like manner attached to the brush bar and the ends of the cord are secured in any suitable way.

It is obvious that wire may be used instead of cord, and if preferred each tuft may be attached by a separate cord or wire.

The exact shape of the head F shown is not essential as the shape may be somewhat varied, but it is essential that the head should have openings on its outer face to receive the tufts and other openings in the side of the head or near the base thereof to receive the cord or wire.

The brush bars may be attached to the drum by rivets, bolts or other such devices or by electric welding (spot welding) and the bristles may be attached to the bars either before or after the bars are attached to the drum but after the bars are once attached to the drum it is not necessary to

remove them in order to replace the bristles as this can be very quickly and easily done, as is obvious from an inspection of the drawing and a consideration of the foregoing specification without disturbing the bars.

Ordinarily much time is involved in the renewing of gin brushes, as the bristles wear out very quickly. Heretofore it has been the custom to remove each brush bar from the drum to replace the bristles as the cord or wire which fastens the bristles to the bar has usually been beneath or within the foot or base of the bar.

I claim as my invention:

1. A gin brush, comprising a drum and brush bars secured thereto each comprising a body portion and a head formed with tuft-receiving holes on its outer face, cord-receiving holes near its base, and tuft seats between the cord-receiving holes and the outer face of the head, tufts extending into the tuft-receiving holes and resting at their inner ends on the tuft seats, and cords extending through the cord-receiving holes, engaging the tufts and drawing them inward against their seats.

2. A brush bar for gin brushes made of sheet metal bent to form a foot portion adapted to be attached to a brush drum and a head portion having a chamber to receive the looped ends of the tufts, having tuft-receiving holes on its outer face and cord-receiving holes near its base.

3. A brush bar for gin brushes made of sheet metal bent to form a body portion and a head portion having a chamber to receive the looped ends of the tufts having tuft-receiving holes on its outer face and cord-receiving holes near the base of the head but above the body portion.

In testimony whereof, I have hereunto subscribed my name.

FREDERICK P. WORTMAN.

Witnesses:

F. B. BROOKS,

ED. W. HANNECK.