Oct. 5, 1948. E. C. MAY 2,450,679

GIN BRUSH

Filed May 3, 1946

Fig. 1.

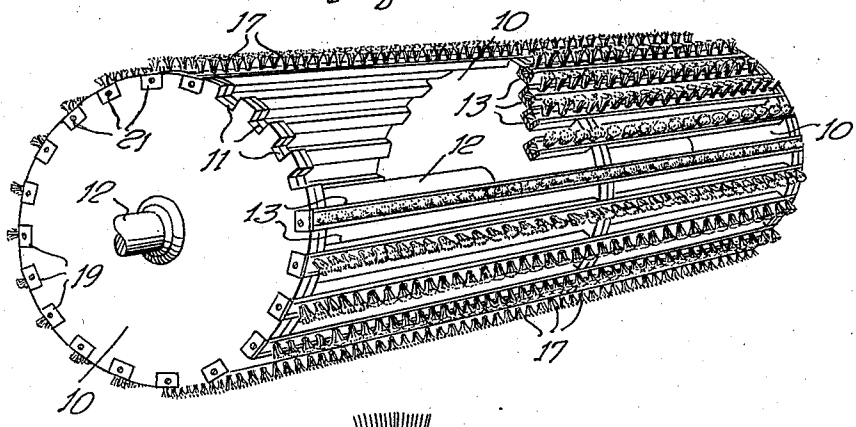


Fig. 2.

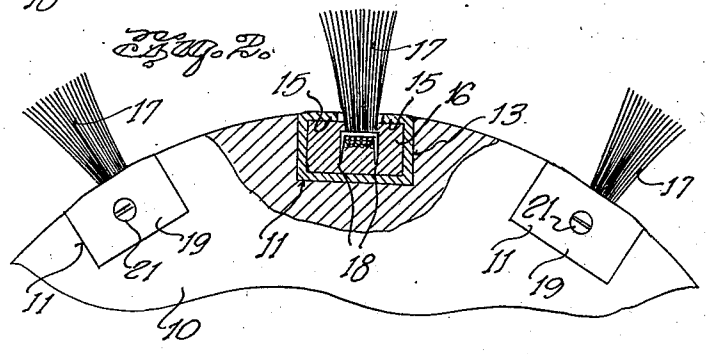


Fig. 3.

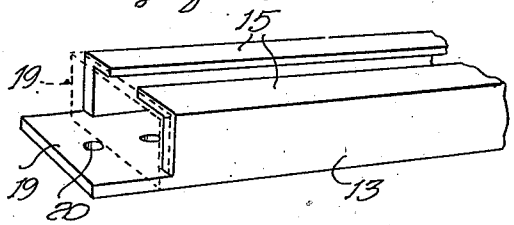
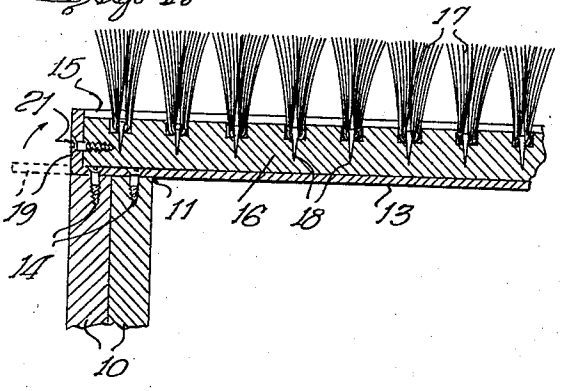


Fig. 4.



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GIN BRUSH

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2 Claims. (Cl. 19—60)

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This invention relates to cotton ginning and cleaning machinery and it has particular reference to new and useful improvements in rotary brushes for such machinery.

The principal object of the invention is to simplify the old and established method of installing brush sticks in the heads of doffing and other types of rotary brush drums, as well as to materially reduce the time consumed in fabricating these elements which has a great deal to do with reduction of costs of manufacturing, assembling, and the replacement and repair of worn brush sticks.

Another object of the invention is to substitute for the expensive and time consuming practice of nailing brush sticks directly into recesses in the spaced, laminated heads of a drum, a less expensive and more facile method of installing the brush sticks which consists in first mounting in the drum head recesses a plurality of channels into which the conventional brush sticks are slid longitudinally and afterwards secured against axial displacement. In so mounting the brush sticks, they may be easily and quickly removed, when worn or impaired and replaced without the necessity of returning the brush drum to the factory for this purpose which is an annoying and expensive procedure in view of the shutdown time which is frequently imposed on the gin owner.

With the foregoing and other objects in view, the invention has particular reference to certain features of accomplishment, to become manifest as the description proceeds, taken in connection with the accompanying drawings, wherein:

Figure 1 is a perspective of a rotary gin brush constructed according to the present invention, with portions broken away.

Figure 2 is a fragmentary end elevational view.

Figure 3 is a fragmentary perspective view of one of the brush stick retaining channels, and

Figure 4 is a fragmentary view in vertical section, showing the relationship of a brush stick and retaining channel and the manner in which the latter is secured to a head of the brush drum.

It has long been the practice of gin equipment manufacturers to fabricate a rotary gin brush by forming and rabbeting the heads of the drum to define circumferentially spaced recesses in which are disposed the brush sticks. The time consuming feature of this conventional manufacturing method resides in the nailing of the brush sticks to the heads. Many nails are required to secure the complement of sticks and expertness is necessary to insure against splitting or otherwise

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impairing the sticks and it is essential that the nails be so disposed that they will not protrude beyond the common surface of the drum.

In addition to the purpose of the invention to reduce manufacturing costs, it will become apparent presently that it is the intent thereof to render it unnecessary for a ginner to return a gin brush to a manufacturer for the purpose of replacing worn brushes or impaired brush sticks.

Continuing with a more detailed description of the drawings, reference numeral 10 denotes the heads of a rotary gin brush drum of which there may be three or more. The present invention does not seek to alter the conventional construction of these heads which consists in sawing and laminating the circular sections and afterwards cutting recesses 11 in the heads at circumferentially spaced points about their peripheries. A shaft 12 is passed through the centers of the heads which serves as the axis for the drum.

Disposed in parallelism about the head assembly is a multiplicity of channel members 13, of sheet metal, which conform to and lie in the recesses 11 of the heads, thus forming a cylindrical body. The channel members 13 are secured to each section of each head by a wood screw 14 (Fig. 4).

The channel members 13 are each provided with longitudinal, inwardly turned and confronting flanges 15 to form an elongated housing. A brush stick 16, having tufts of bristles 17 at spaced intervals thereon, is inserted into the open end of each of the housings formed by the channel members 13 and becomes co-extensive therewith. These brush sticks are of conventional construction, their tufts 17 being anchored in recesses in the sticks by means of staples 18.

It will be observed, especially in Figures 3 and 4 that the base of each of the brush stick retaining channels or housings 13 protrudes beyond the end of the channel to an extent equal to the depth of the channel. When the brush stick 16 has been installed in the channel, the extended portion or tongue 19 of the channel is turned upwardly against the end of the brush stick, to lie flush with the outer face of the end head 10 of the brush drum in order that it will offer no obstruction to the attachment of end mounting plates or spiders (not shown). The said portion 19 has an aperture 20 therein through which is passed a wood screw 21, entering the end of the brush stick, thereby holding the said upturned portion 19 against displacement while the latter prevents longitudinal movement of the brush stick.

It is apparent from the foregoing that not only are the brush sticks rendered capable of being readily and quickly removed from their positions in their respective retaining channels but as a group, the combined sticks and channels add strength to the assembly as a whole, lending materially to the balance and operating efficiency of the gin brush.

Manifestly, the construction as shown and described is capable of some modification and such modifications as may be construed to fall within the scope and meaning of the appended claims is also considered to be within the spirit and intent of the invention.

What is claimed is:

1. A rotary gin brush comprising a plurality of heads, each having a multiplicity of circumferentially spaced recesses, longitudinal channels lying in the recesses of said heads and secured thereto, maintaining said heads in spaced parallelism, brush sticks disposed co-axially within said channels, the latter having confronting flanges overlying said brush sticks and defining an elongated housing therefor of substantially rectangular cross section, an integral tongue formed on the ends of each channel and turned upwardly to lie flush against the ends of the brush stick therein for holding said brush stick against endwise movement.

2. In a rotary gin brush having spaced apart heads, each provided with circumferentially spaced recesses in its perimeter, channels lying in said recesses and having inwardly turned, confronting flanges, defining an elongated housing of substantially rectangular cross-section, a tongue protruding from each end of each channel, brush sticks slidably disposed in said channels, said tongue being turned upwardly against the ends of said brush stick to hold the latter in co-axial relationship therewith.

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