(No Model.)

E. VAN WINKLE.

BRUSH CYLINDER FOR COTTON GINS.

No. 258,618. Patented May 30, 1882.

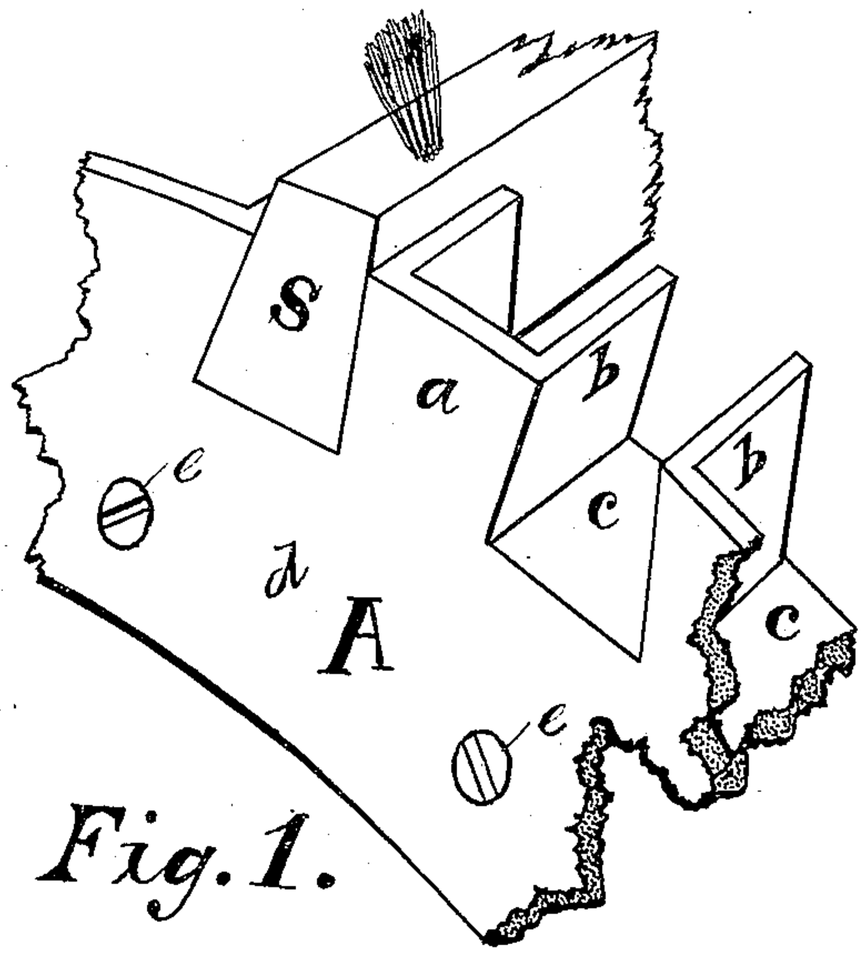

Fig. 1.

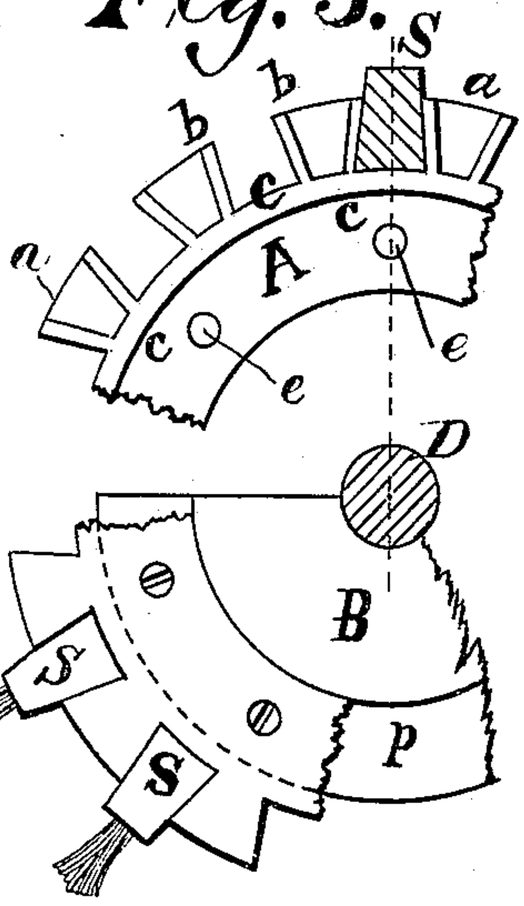

Fig. 3.

Fig. 2.

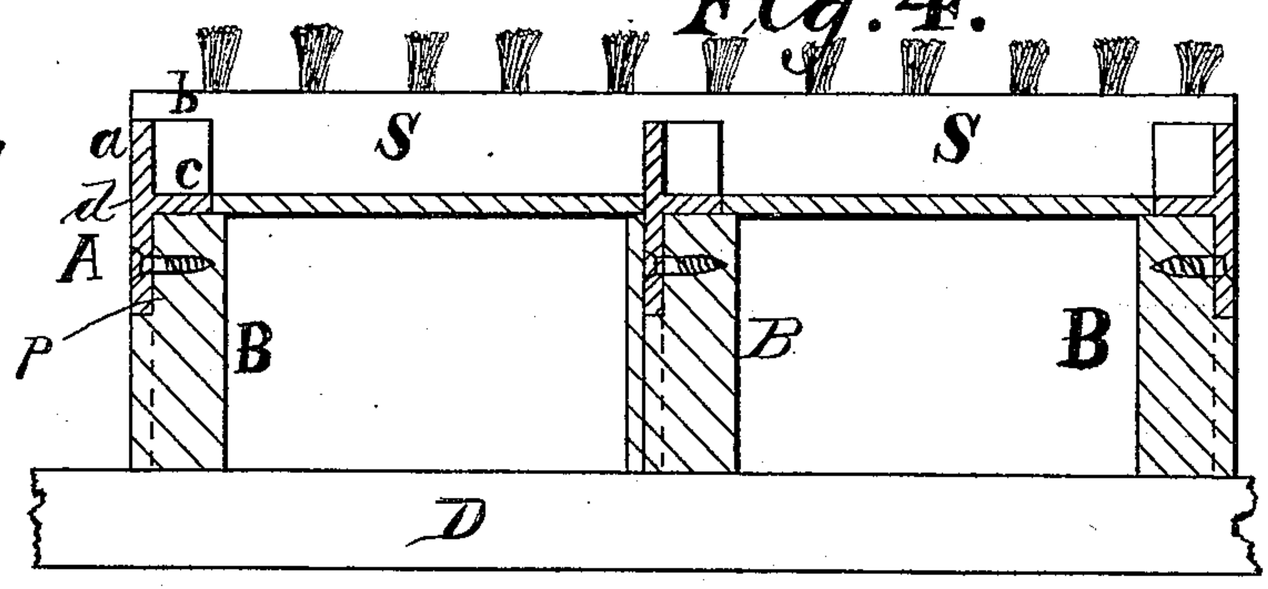

Fig. 4.

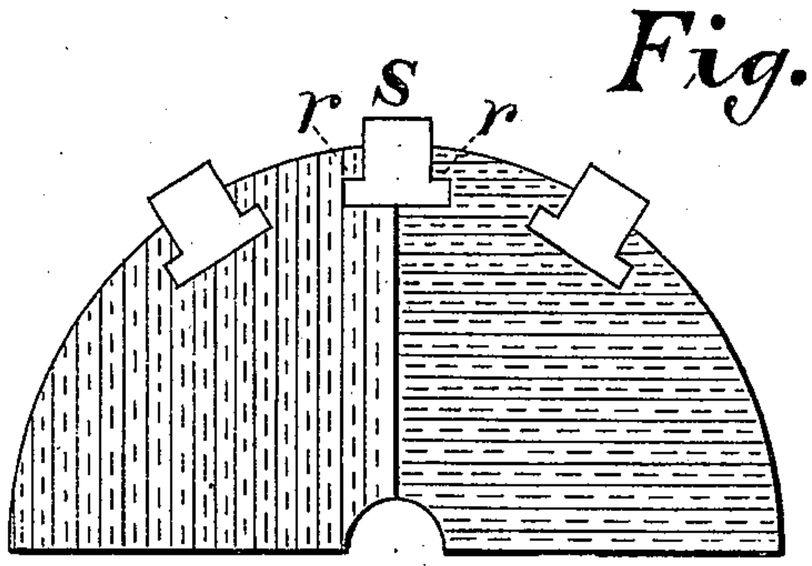

Fig. 5.

Old Method.

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UNITED STATES PATENT OFFICE.

EDWARD VAN WINKLE, OF ATLANTA, GEORGIA.

BRUSH-CYLINDER FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 253,618, dated May 30, 1882.

Application filed February 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD VAN WINKLE, of Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Improvement in Brush-Cylinders for Cotton-Gins, which is fully set forth in the following specification, reference being had to the accompanying drawings.

This invention, which relates to cotton-gins, consists principally in the manufacture of rotating brush-cylinders formed with dovetailed or trapezoidal passages or slots in cross-section, whereby brush-slats of a similar shape in cross-section can be readily and quickly inserted endwise in the slots of the cylinder and retained in position by frictional contact in contradistinction to fastening means; and the brush-slats, whenever occasion requires, can be readily and easily removed endwise for repairs or the substitution of new brush-slats, as will be hereinafter more fully set forth and specifically claimed.

Heretofore (see Figure 5 of the drawings) a brush-cylinder for a cotton-gin has been constructed by making the heads of two wooden disks glued together in such a manner that the grain of the wood in one piece was at right angles to the grain in the other, and having in their peripheries T-shaped slots or grooves into which were fitted endwise brush-slats of a similar shape in cross-section. This construction of a brush-cylinder is objectionable for several reasons, among which may be stated that the heads, being made of wood, will not permit of the brush-slats being driven tightly into their places on account of the weakness of the wood around the slots; also, fastening means—for example, nails—must be employed for keeping or retaining the brush-slats in position, and in drawing these nails for the purpose of repairing or changing the brush-slats the brush heads or disks are liable to be more or less injured and oftentimes rendered worthless. My improvements are designed to obviate these difficulties.

Fig. 1 represents in perspective a portion of one of the heads of the brush-cylinder, showing the end of a slat in position. Fig. 2 is an end view of the same, showing the connection with wooden disk and shaft. Fig. 3 is another end view of the head, showing the inner face. Fig. 4 is a longitudinal sectional view of a portion of a cylinder-brush, and Fig. 5 is an end view of the old method of fastening the brush-slats.

In the annexed drawings, forming a part of this specification, the letter A represents a metallic annular disk or ring, which is composed of the vertical wall *d*, provided with a series of perforations, *e*, for the passage of fastening-screws or their equivalents, and the horizontal flange *c* above and connected therewith, and upon the upper surface of this horizontal flange *c* are formed the converging walls *b* and the front connecting-walls, *a*, substantially as seen in Figs. 1 and 4 of the drawings. These vertical walls *b*, as well as the walls *a*, are cast with the flange *c* and wall *d*, so as to form an integral part of the annular disk.

The passages or slots (see Fig. 4) have the flange *c* for their base and the converging walls *b* for their sides, thus constituting dovetailed or trapezoidal slots in cross-section. The dovetailed slots or passages are separated from each other at proper distances to provide for a desired number of brush-slats around the circumference of the brush-cylinder and to furnish the necessary strength of metal to the same.

The letter B represents the wooden disks mounted upon the shaft D, each of which is turned true, or nearly so, on its periphery, and on one side has a side groove or recess, *p*, to receive the vertical flanges *d* of the disks, as seen in Fig. 4 of the drawings. After these metallic rings are attached to the wooden disks by screws or other equivalent fastening means—for example, bolts—the brush-slats S, which are made of a trapezoidal shape in cross-section, are driven endwise tightly into the dovetailed or trapezoidal-shaped slots of the metallic rings A, substantially as indicated, in which position they are held by frictional contact only.

It will be observed by reference to the drawings that this construction and organization of the parts offer resistance to any tendency of the brush-slats to be thrown outward by centrifugal force caused by the rapid rotation of the brush-cylinder; and, also, should it be necessary at any time to repair any of the brush-slats it can be readily and easily accomplished by driving the same out endwise.

It is obvious that the head may be construct-

ed entirely of metal; but I consider it more desirable to make it of wood and metal, as hereinbefore described.

By this construction and organization of the brush-cylinder any one competent to operate a cotton-gin is enabled to repair the brush-cylinder on the premises with a little expenditure of money and time.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A metallic ring or annular disk for a brush-cylinder of a cotton-gin, composed of the vertical wall, *d*, horizontal flange *c*, and the dovetailed or trapezoidal slots, substantially as described.

2. A metallic ring or annular disk, A, for a brush-cylinder of a cotton-gin, having converging walls *b b* and the walls *a*, substantially as described.

3. The improved brush-cylinder for a cotton gin, consisting essentially of a shaft, wooden disks B, the annular rings formed with the trapezoidal or dovetailed slots, and the brush-slats S, formed of a trapezoidal shape, substantially as shown and described.

EDWARD VAN WINKLE.

Witnesses:
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