

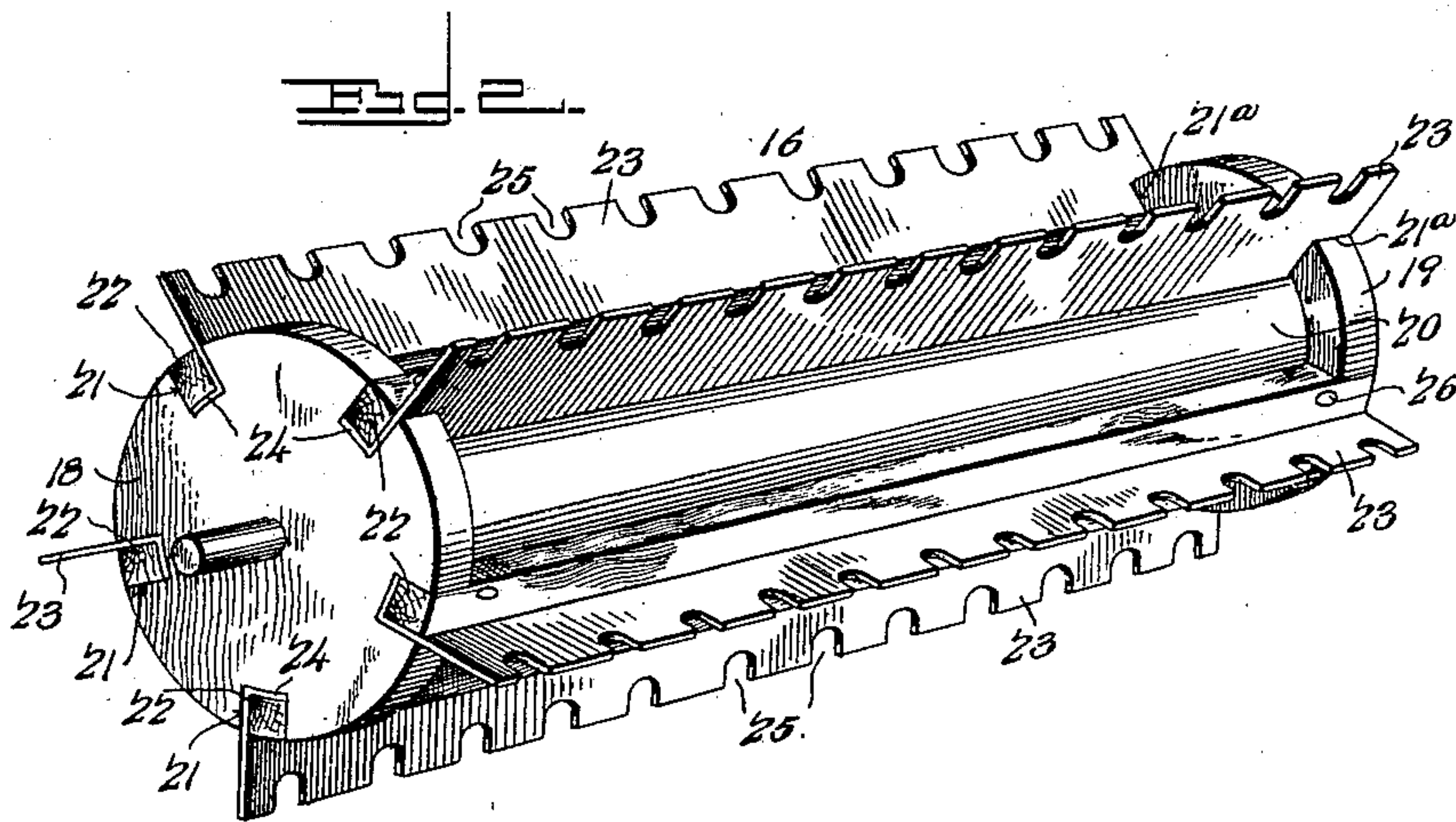
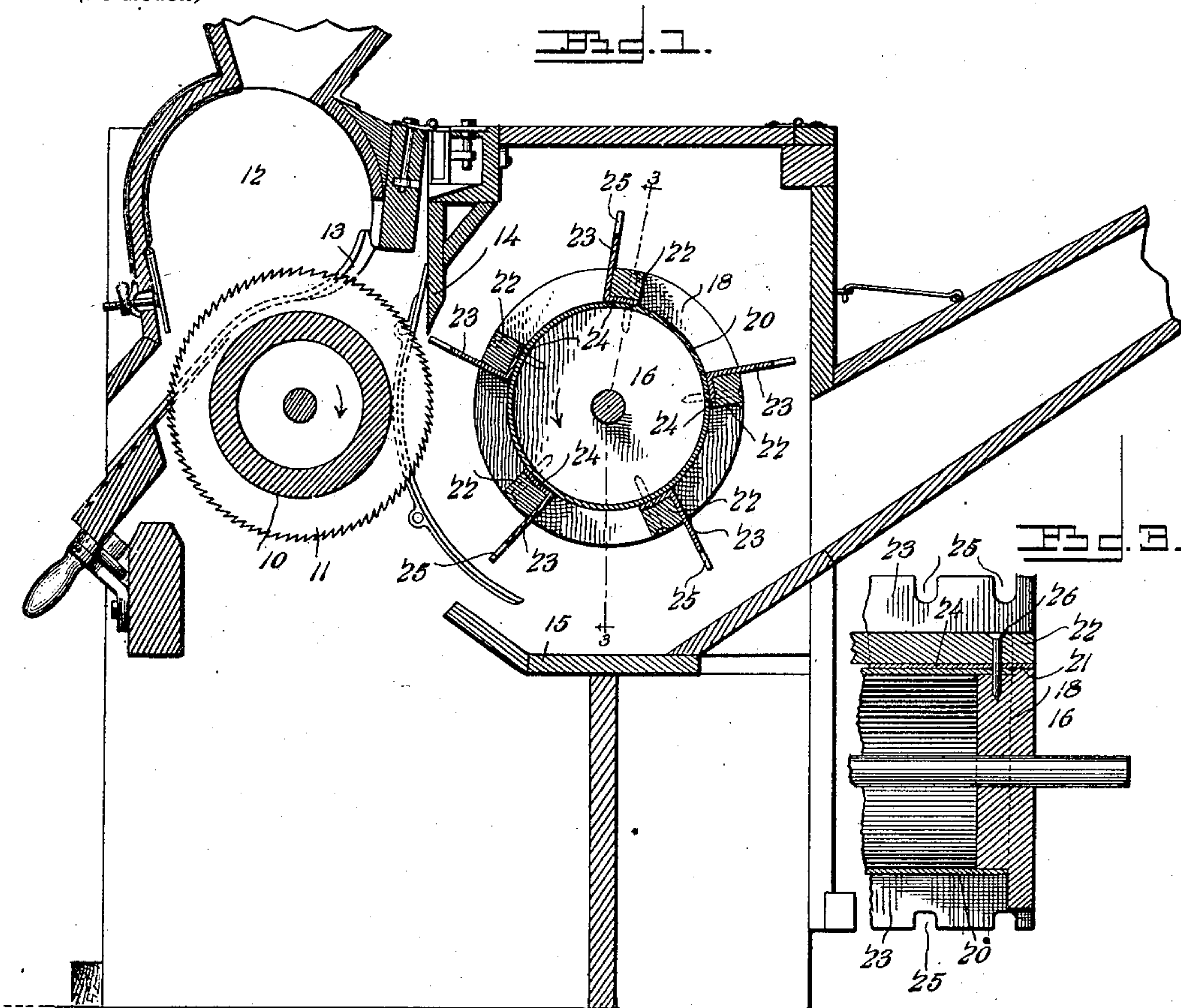
No. 660,960.

Patented Oct. 30, 1900.

J. H. JENKINS.
METALLIC BRUSH FOR COTTON GINS.

(Application filed June 24, 1899.)

(No Model.)



Witnesses

E. F. Stewart,

H. A. Burroughs

John H. Jenkins Inventor

By *his* Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN H. JENKINS, OF HUBBARD CITY, TEXAS.

METALLIC BRUSH FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 660,960, dated October 30, 1900.

Application filed June 24, 1899. Serial No. 721,776. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. JENKINS, a citizen of the United States, residing at Hubbard City, in the county of Hill and State of Texas, have invented a new and useful Metallic Brush for Cotton-Gins, of which the following is a specification.

My invention relates to improvements in brush-cylinders for cotton-gins; and the object in view is to simplify and cheapen the construction, increase the efficiency of the gin, obviate the necessity for frequent renewals of the brushes, so objectionable and expensive in ordinary gins employing bristle brushes, and enable the improvements to be used in connection with the brush-cylinders of ordinary gins.

It has heretofore been the common practice, although I may say not the exclusive method, to construct the gin brush-cylinder with a series of cross-rails in which are embedded the butt-ends of groups of bristle brushes which are designed to frictionally sweep the toothed edges of the gin-saws; but practical experience has shown that the bristles wear out, so that in the course of time, usually in two seasons' service of the gin, it is necessary to renew the bristles. This operation of renewing the gin-brushes requires the services of a skilled workman and it involves considerable expense, the cost of renewing a brush-cylinder for a seventy-saw gin being about twelve dollars at the present time. I overcome these objections by the employment of a brush-cylinder constructed with recesses or notches which constitute seats for the cross-rails of said cylinder and by the employment of metallic cleaner or brush strips, one to each rail. Each metallic cleaner or brush strip is folded or doubled around the inner edge of the rail and is inserted therewith in the notched seat of the brush-cylinder, whereby the cleaner or brush strips are secured so firmly with the rails that the parts cannot become accidentally displaced from the brush-cylinder even when the latter is driven at its maximum speed.

To enable others to understand the invention, I have illustrated my improved brush-cylinder in connection with a gin of ordinary construction, the same being shown by the

accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a sectional elevation of an ordinary gin having my improved brush-cylinder embodied as a part thereof. Fig. 2 is a detailed perspective view of the improved brush-cylinder removed from the gin structure. Fig. 3 is an enlarged detail sectional elevation of a part of the gin-cylinder, the plane of the section being indicated by the dotted line 3 3 of Fig. 1.

The same numerals of reference denote like and corresponding parts in each of the several figures of the drawings.

In Fig. 1 of the drawings I have illustrated so much of an ordinary cotton-gin as will enable others skilled in the art to understand the application or mode of use of my improved brush-cylinder, and in this figure the numeral 10 indicates the saw-cylinder; 11, one of the series of saws thereon; 12, the grate fall head or end of the breast; 13, the grate; 14, the wind-board, and 15 the mote-board.

The improved brush-cylinder of my invention is indicated in its entirety by the numeral 16, and said cylinder is mounted on a shaft which is journaled in proper bearings of the gin-stand to lie contiguous to the saw-cylinder. It is usual in the art to employ gearing for propelling the saw-cylinder and the brush-cylinder in opposite directions, so that they will rotate toward each other, and this brush-cylinder is driven at a high speed.

The brush-cylinder of my invention is provided with two or more heads, (indicated by the numerals 18 19,) to which is fastened the covering or shell 20, which may be of sheet metal or other suitable material, while the cylinder-heads may be of wood or metal. These heads are secured firmly to the shaft to rotate therewith, and each head is provided with a plurality of radial notches or recesses, the recesses of the head 18 being indicated by the numeral 21, while those for the head 19 are indicated at 21^a. Any desired number of recesses may be provided in each head; but in the drawings I have shown each head as having a series of six recesses arranged equidistant one from the other in the peripheral edge of the head. The casing or shell 20 of the cylinder is secured to the heads 18 19,

within the radial seat-notches in the peripheral edges thereof, and the two heads 18 19 are assembled on and secured to the shaft for the seat-notches of one head to aline or coincide with the seat-notches of the other head. The metallic cleaner or brush strips are supported in and secured to the cylinder by the cross-rails 22, said rails and cleaner-strips corresponding in number to the notches in each head. The rails 22 are each of a length equal to the cylinder, and in cross-section said rails conform nearly to the width and depth of the seat-notches in the cylinder-heads. To each rail is secured one of the series of metallic cleaner or brush strips 23, which strip is applied against one face of the strip and has an edge portion thereof doubled or folded at 24 around the inner edge of the cross-rail. The cleaner or brush strip is applied to the cross-rail to embrace at least two of the faces thereof before the rail is fitted in the seat-notch of the cylinder-head, and thus the cleaner-strip is insertible with the cross-rail in the cylinder-heads or removable therewith from said heads. Each metallic cleaner or brush strip extends the proper distance beyond the outer edge of the cross-rail, by which it is secured to the cylinder-heads, and thus the cross-rails may occupy a flush relation to the peripheral edges of the cylinder-heads, while the working or active edges of the cleaner or brush strips extend a proper distance from the circumference of the cylinder, so as to coact properly with the saws on the saw-cylinder. I may construct the active or working edges of the cleaner or brush strips on the brush-cylinder with continuous unbroken faces or edges; but to increase the efficiency of the brush-cylinder it is my practice to provide each cleaner or brush strip with a plurality of notches 25. These notches correspond in number to the saws on the saw-cylinder, said notches being disposed in the vertical planes of said saws for the latter to enter the notches in the active edges of the cleaner or brush strips on the revoluble brush-cylinder, whereby each cleaner or brush strip is made to sweep in close relation to the peripheral edge and the lateral faces of the saws on the saw-cylinder.

Any suitable means may be employed for fastening the cross-rails and their attached cleaner or brush strips to the cylinder-heads; but in Fig. 3 of the drawings I have indicated the fasteners 26 in the form of nails, which are driven through the cross-rails and into the cylinder-heads.

I attach especial importance to the construction of the cylinder-heads with the radial seat-notches and to the folding of the cleaner or brush strips around the edges of the cross-rails. This construction and arrangement of parts causes the folded edges of the cleaner-strips to be seated within the notches of the cylinder-heads, so that the cross-rails will operate to firmly clamp the cleaner-strips in the cylinder-heads, and thereby form an improved

joint connection which wholly overcomes any tendency of the cleaner-strips to work loose and become detached from the cylinder even though the latter be driven at its maximum speed. By reason of the high speed of the cylinder 16 I have experienced some difficulty in holding the metallic cleaner or brush strips in place on the cylinder, as it is found that the attachment of the strips to the lateral faces of the cross-rails was not satisfactory because of the tendency of the strips to work loose, due to frictional brushing against the cotton on the teeth of the saws and to the high speed of the cylinder; but the construction and arrangement herein described wholly overcome this objection.

One of the meritorious features of my invention is its adaptability to the brush-cylinders of ordinary gins. The metallic cleaner or brush strips may be easily fitted to the cross-rails of ordinary gins when the bristle brushes become worn to such an extent as to require replacing, and the cleaner-strips of my invention may be substituted for the worn bristle brushes with ease and expedition and at a considerable saving of cost as compared with the expense of replacing the worn bristles with fresh bristles.

My improvements increase the capacity of the gin for performance of useful work and effect considerable economy in the cost of repairs because it is not necessary to renew the cleaner or brush strips, as they are made of metal and are durable in service.

Changes may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described the invention, what I claim is—

1. A brush-cylinder for cotton-gins, comprising a shaft, heads secured to the opposite extremities thereof and provided with seat-notches laterally extending through the peripheral portions of the heads, the notches of the opposite heads being alined, a series of cross-rails corresponding in contour to but smaller than the said seat-notches, a plurality of metallic cleaner-strips having inner angularly-bent ends to fit over the inner edges of the said cross-rails, the outer free edges of the said strips being notched at regular intervals, and the cross-rails applied to the inner angular ends of the strips, and fastening devices for securing the cross-rails and strips detachably to the cylinder-head.

2. A brush-cylinder for cotton-gins, comprising a shaft, heads secured to the opposite extremities of said shaft and provided with lateral seat-notches opening out through the periphery of each head, the notches in the opposite heads being in alinement, a series of cross-rails of smaller dimensions than the seat-notches, a plurality of metallic cleaner-

strips having inner angularly-bent ends re-
movably fitted in the said seat-notches and
against which the said rails are applied, the
said rails and inner angularly-bent ends of
5 the strips being unitedly inserted in the seat-
notches, the adjacent portions of the strips
at one side compensating for the difference
in dimension between the cross-rail and the
seat-notches to provide a snug fitting of the
10 assembled parts, and fastening devices for

securing the cross-rails and strips detachably
to the cylinder-heads.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JOHN H. JENKINS.

Witnesses:

J. ROSS COLHOUN,
THEODORE DALTON.