

(No Model.)

2 Sheets—Sheet 1.

B. F. BROWNE.
SAW GIN.

No. 484,906.

Patented Oct. 25, 1892.

Fig. 1.

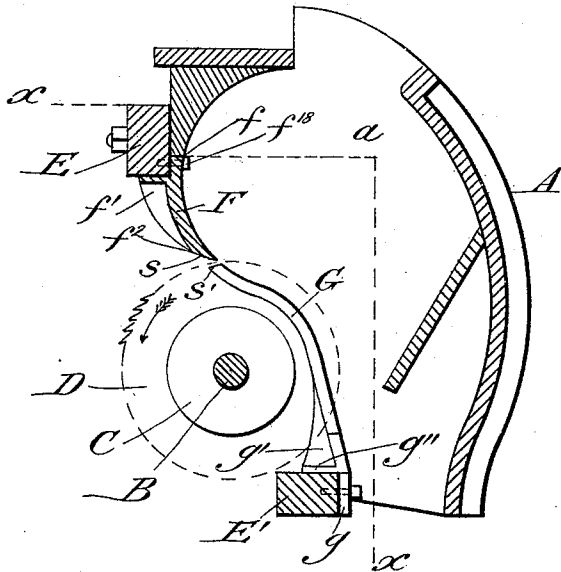
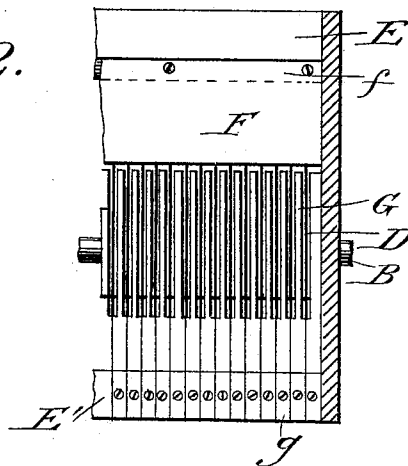


Fig. 2.



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Fig. 3.

Fig. 4.

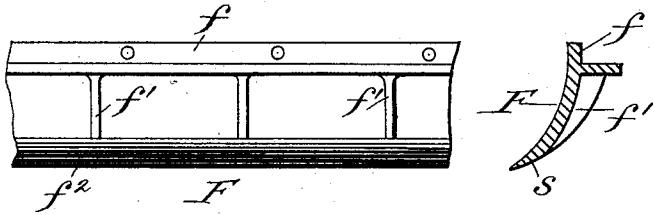


Fig. 5.

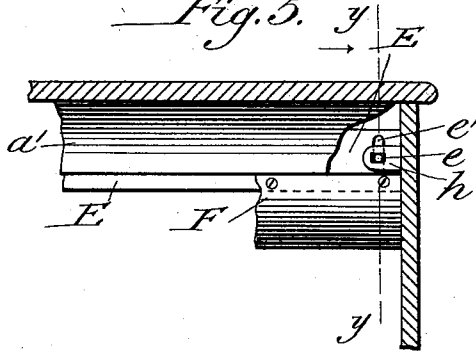
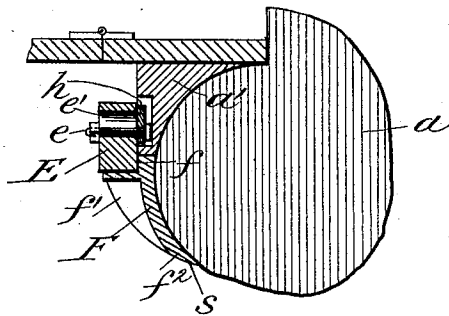


Fig. 6.



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UNITED STATES PATENT OFFICE.

BENJAMIN FRANCIS BROWNE, OF ANDERSON, SOUTH CAROLINA, ASSIGNOR
OF ONE-HALF TO A. C. STRICKLAND, OF SAME PLACE.

SAW-GIN.

SPECIFICATION forming part of Letters Patent No. 484,906, dated October 25, 1892.

Application filed April 2, 1890. Renewed April 11, 1892. Serial No. 428,709. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANCIS BROWNE, a citizen of the United States, residing at Anderson, in the county of Anderson and State of South Carolina, have invented certain new and useful Improvements in Saw-Gins; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to saw-gins, and more especially to the formation of the grid forming part of the breast or roll-box thereof, the invention consisting in a novel construction of the ribs and plate of which said grid is formed, the object being to prevent choking thereof, to obviate all danger of cutting the lint by contact of the saws with the ribs, to prevent the ignition of the cotton by sparks from the same source, and to increase the ginning capacity of the machine, the details of all of which will be hereinafter described.

In the accompanying drawings, in which similar letters of reference designate corresponding parts, Figure 1 is a vertical cross-section of the roll-box constructed according to my invention, showing, also, the cylinder of saws. Fig. 2 is a section on the line $x x$ of Fig. 1. Fig. 3 is a back view of the plate forming the upper part of the grid. Fig. 4 is a cross-section of Fig. 3. Fig. 5 is a sectional front elevation showing a means for effecting an adjustment of the plate forming the upper part of the grid. Fig. 6 is a section on the line $y y$ of Fig. 5.

Referring to the drawings by letter, A is the roll-box, B the saw-shaft, C the space-blocks, and D the saw, all of which may be of any suitable form or construction, so long as the roll-box has the supports E and E' or equivalent parts to which to secure the parts F and G, forming the grid. The plate F is curved substantially as shown and has at its upper end a lip f , through which pass screws f^{18} into the support E. On the back of the plate F are braces f' , which, together with the screws f^{18} through the lip just mentioned,

will hold the said plate F securely in position. These braces f' project at intervals from the back of the plate, as shown in Fig. 3, and are made integral with the same and are sufficient in number to give the required stiffness and strength. The plate F projects downwardly and has its lower end s of a slightly-chiseled shape, but not sharp, however, and is formed by beveling the said edge so that the plane of the beveled surface will be at a slight angle to the horizontal. The edge projects inwardly to the cotton in the roll-box. The angle of the beveled surface may vary to any degree, as found necessary for the kind of saw or roll-box with which it is used.

Each of the ribs G is constructed at its point of connection with the support E' similar to the same portion of the plate F, having a lip g and a flange g'' , and each of said ribs is bolted to the support E', with said flange g'' projecting over and contacting with the said support. The space between the flange g'' and the lower part of the rib is filled with a web g' , which serves to stiffen and strengthen the rib. From its point of connection the said rib G extends upwardly in the desired direction, being curved backwardly in a curve approximately concentric with the periphery of the saw and then curving upward to the desired point near the periphery of the saw, its face as it approaches said periphery being substantially parallel to the front of the tooth passing through the ribs. In passing upwardly the rib G coincides at its upper end with the lower edge of the plate F, being a distance therefrom not greater than the shortest diameter of a cotton-seed, leaving between said ends about three-quarters of the said dimension. The upper end s' of each rib is beveled, so that the plane of the beveled surface will be nearly parallel to the plane tangent to the periphery of the saws at the point nearest to the said ends.

As ordinarily constructed, a short space between the ribs and just outside of the periphery of the saw is the only place through which the cotton can be drawn by said saw, and also the ribs being so close to the sides of the teeth a tooth bent to one side or a saw improperly trained will strike the said ribs, cutting the lint and often igniting the same. These ob-

jections are all overcome in the present device, inasmuch as there is room for the passage of the lint between the edge of the plate F and the ends of the ribs G, said aperture, 5 however, being small enough to prevent the passage of seeds, and it will also be noted that the upper part of the rib is totally free from any danger of contacting with the bent teeth, as a tooth could not be bent sidewise a 10 sufficient distance to touch it, and where the saw passes through at the bottom ample provision may be made for a bent tooth by providing ample space between the ribs at that point. It is obvious that, having so free a 15 passage out, the cotton cannot possibly choke; also, that if two saws should take the same lock they will pull it through the open space between the plate and the ribs, and thereby not break it. The bevel f^2 allows room for 20 the cotton to free itself very soon after passing through, which advantage, though slight for one saw, materially lightens the draft of the cylinder. Should the braces f' and g' in the proportions shown in the drawings prove 25 to be too small, they may be enlarged to any desired extent.

Adjustment of the plate F relative to the ribs G is had in the following manner: Projecting from each of the heads a of the roll- 30 box is a lug h , Fig. 5, to which is bolted the cross-piece or support E by means of the bolt

e , which passes through a hole in the lug h and a slot e' in the cross-piece E, by means of which construction the support or cross-piece carrying the plate F may be adjusted vertically to and from the saws by loosening the 35 bolt e and raising said cross-piece and then retightening said bolt. The fillet-block a' is mortised out to receive the lug h in its back near each end. 40

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a saw-gin, the combination of the roll-box A, the saws D, and the grid composed of 45 the plate F and the ribs G, disposed as specified, the adjacent edges of the said plate and ribs being beveled, substantially as shown and described.

2. In a saw-gin, the combination, with the 50 saws D and the grid composed of the plate F and the ribs G, disposed as specified, of the cross-piece E, having slots e' , the lugs h , carried on the heads a of the roll-box, and the bolt e , all arranged substantially as shown 55 and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

BENJAMIN FRANCIS BROWNE.

Witnesses:

GEO. W. MILLER,
J. A. DANIELS.