

No. 647,936.

Patented Apr. 24, 1900.

W. M. BOLEN.
GIN SAW CLEANER.

(Application filed July 17, 1899.)

(No Model.)

Fig. 1.

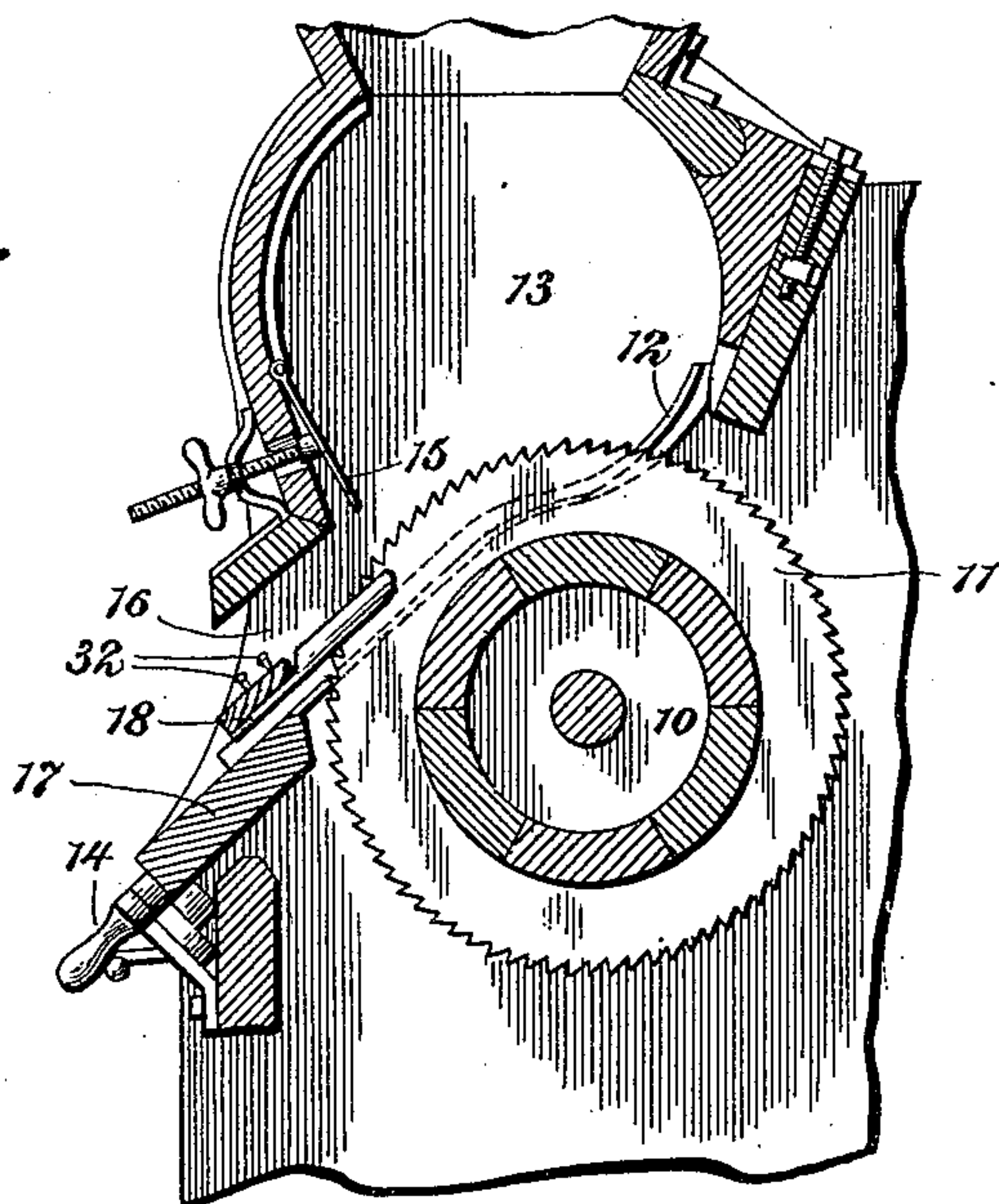


Fig. 2.

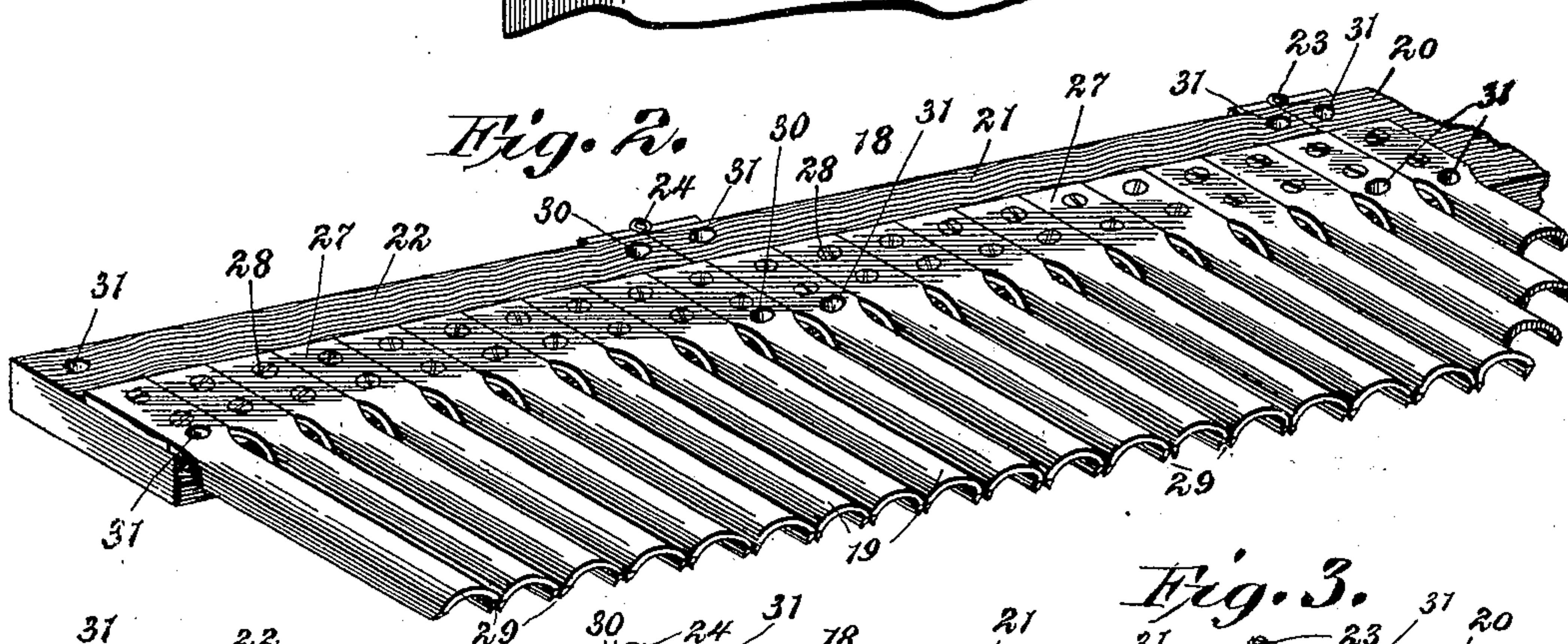
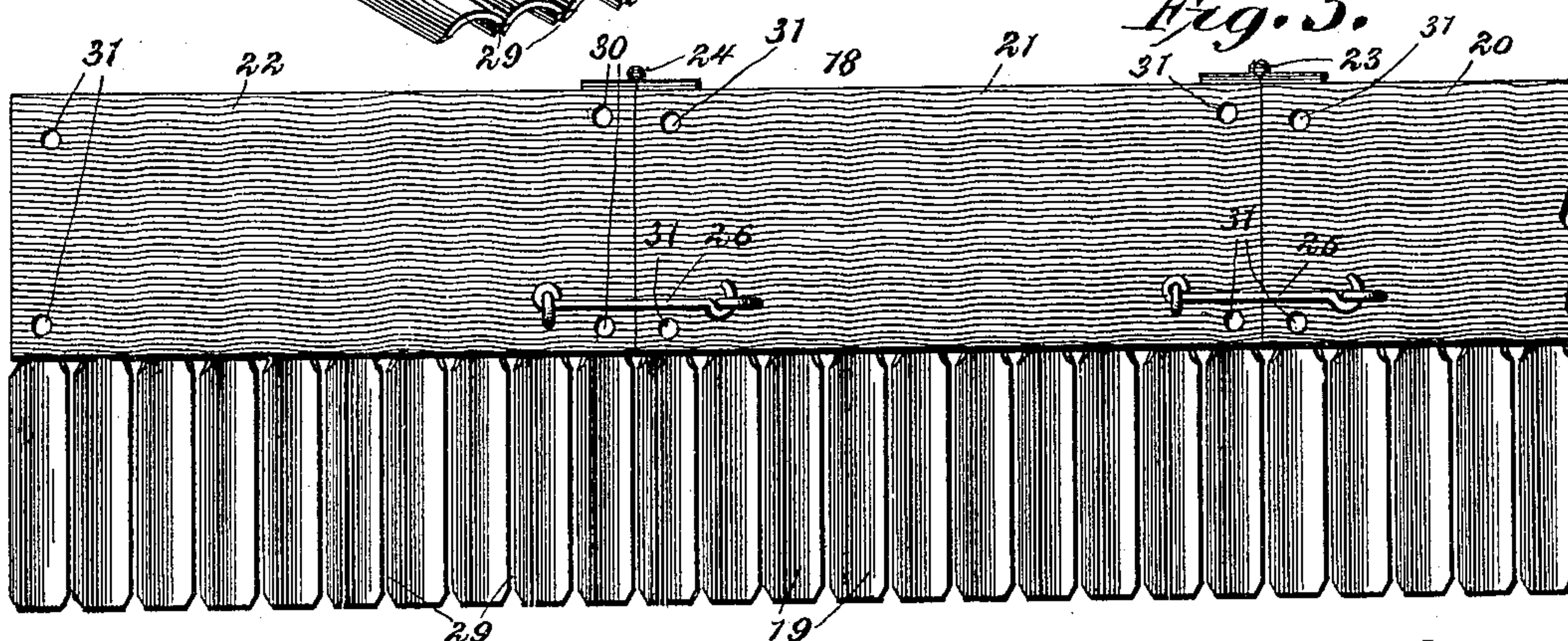


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE

WALTER M. BOLEN, OF YARBROVILLE, TEXAS, ASSIGNOR OF ONE-HALF TO
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GIN-SAW CLEANER.

SPECIFICATION forming part of Letters Patent No. 647,936, dated April 24, 1900.

Application filed July 17, 1899. Serial No. 724,107. (No model.)

To all whom it may concern:

Be it known that I, WALTER M. BOLEN, a citizen of the United States, residing at Yarbrowille, in the county of Limestone and State of Texas, have invented a new and useful Gin-Saw Cleaner, of which the following is a specification.

My invention relates to improvements in cleaners for the saws of cotton-gins; and one object in view is to provide an improved construction of cleaner adapted to be used in connection with saw-cylinders on different kinds of gins, some of which cylinders have a series of sixty saws. Other cylinders may have seventy saws, and still other cylinders may have eighty saws.

A further object is to provide a cleaner which may be easily fitted and held securely in position in a detachable manner to present the blades in operative relation to the gin-saws, and, furthermore, to provide an improved construction and arrangement of cleaner-blades adapted to frictionally embrace the lateral faces of the saws for "gumming" the same.

With these ends in view the invention consists in the novel construction, arrangement, and adaptation of parts, which will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional elevation of part of an ordinary cotton-gin with my improved saw-cleaner in operative relation to the gin-cylinder. Fig. 2 is a detached perspective view, partly broken away and in an inverted position, of the gin-saw cleaner which constitutes the present invention. Fig. 3 is a plan view of the gin-saw cleaner, representing the top thereof and showing the latch devices by which the members or parts of the sectional bar may be held securely in aligned relations to present the entire number of blades in parallel relation for engaging operatively with the saws of a long gin-cylinder.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

To enable others to understand the application and mode of using a gin-saw cleaner constructed in accordance with my invention, I have illustrated a part of an ordinary cotton-gin by Fig. 1 of the drawings. In this

figure the saw-cylinder is indicated by the reference-numeral 10 as having a gin-saw 11; but it will be understood that said cylinder in a practical working machine is equipped with a large number of saws. At this point I desire to explain that it is a common practice to construct the saw-cylinder of different lengths and to equip this cylinder with various numbers of saws, according to the capacity of the gin. Thus I find that some gins have a series of sixty saws. Other cylinders are equipped with seventy saws, and in gins of very large capacity it is not unusual to provide the cylinders with as many as eighty saws. It is customary to employ a grate 12, disposed in operative relation to the cylinder 10 and consisting of a series of ribs. Above the cylinder and the grate is the grate-fall 13, and with the grate is associated a lever 14 for raising the same. A movable iron plate 15 has hinged connection with the front of the gin-stand and is adapted to be adjusted by a screw and nut to regulate cleaning of the seed. In the front of the gin-stand is an opening 16, and at the bottom of this opening is an inclined board 17, on which rests the lower front ends of the ribs which form the grate. It will be understood that all of these parts are of the usual construction familiar to those skilled in the art, and the gin is represented merely for the purpose of illustrating the application of the improved cleaner 18 thereto, no novelty being claimed herein for any part of the gin proper, because my invention resides in the cleaner, which is shown more clearly by Figs. 2 and 3 and is represented as applied in Fig. 1 to the grate 12.

The gin-saw cleaner 18 of my invention consists of a plurality of elastic blades 19 and a sectional back bar, to which the blades are secured in series. As represented more clearly by Figs. 2 and 3, the back bar consists of three sections, indicated, respectively, by the numerals 20 21 22, the section 21 being hinged at 23, to the section 20, while the section 22 is hinged at 24 to the section 21. The section 20 of my cleaner is intended to be made long enough to present a series of blades 19 in operative relation to the saws of a sixty-saw cylinder, while the sections 21 22 each contain a series of ten blades, so that the entire

cleaner will include a series of eighty blades, whereby the cleaner may be used in connection with the saw-cylinders of gins having from sixty to eighty saws, thus meeting
 5 the various conditions in the practical service of different kinds of gins. The member 21 of the saw-cleaner may be held in alined relation to the member 20 by a latch device 25 of any suitable character, and in like manner
 10 the member 22 may be fastened in alined relation to the members 20 21 by a latch 26, all as more clearly represented by Fig. 3. The latch devices 25 26 (shown by the drawings) consist of a hook pivoted to one member of the
 15 cleaner-bar and adapted to engage with an eye on the adjacent member of the cleaner-bar; but it will be clearly evident that different forms of latches may be employed. Hence I do not limit myself to the specific
 20 type of latch.

Each blade 19 used in my cleaner is a single piece of elastic spring metal, preferably of steel, and this blade is provided or formed at its inner end with a flat shank 27, said
 25 shank having transverse perforations through which may be passed the bolts or screws 28, that serve to fasten the shank laterally and firmly to a member of the cleaner-bar in a position for the blade to project beyond one
 30 edge of the bar-section for a suitable distance to engage with the gin-saw when the cleaner is applied in operative position to the saw-cylinder. Each blade is curved in cross-section, as represented by Fig. 2, and said curved
 35 blade has beveled edges 29 on each side thereof, whereby each blade may fit between two adjacent saws on the cylinder for such beveled edges to frictionally sweep the opposing lateral faces of the saws to gum or clean
 40 the latter thoroughly and efficiently.

The transverse curvature of the blade, a series of which is attached to the bar, or rather to each member thereof, is a desirable feature of the improved cleaner. This curvature of the blade renders it yieldable or elastic in a transverse direction or in a direction at an angle to the longitudinal axis of the blade. It makes the blade form a trough for the lodgment of the refuse, and it also makes
 50 the blade present two working edges at an angle to the lateral faces of the adjacent saws, so that the cotton adhering to the saw-faces may be more easily and quickly removed.

The cleaner is applied to the grate of the
 55 cotton-gin for the blades to project into the spaces between the saws, each blade occupying a position between two adjacent saws and with the edges of the blade in contact with the opposing lateral faces of the saws, said
 60 edges of the blade being inclined to the saw-faces. The blades present the troughs or channels uppermost, and they are inclined to the axis of the saw-cylinder, as shown by Fig. 1, so that the refuse cleaned by the
 65 blades from the saws will lodge in the trough-shaped blades and be discharged from the cleaner.

From the foregoing description it is to be understood that the section 20 is to be provided with a large number of the blades 19, 70 preferably sixty or more, to be used in connection with a saw-cylinder having a like number of saws, but the member 21 is to be equipped with a series of ten blades, and that the member 22 is to have another series of ten 75 blades. These blades are fastened individually to the members of the sectional bar in a manner to space the blades laterally, so as to leave narrow openings or spaces between the blades. In the use of the cleaner the saws 80 are received in the spaces between the blades for the beveled edges thereof to frictionally brush the lateral faces of the saws, and as the blades are curved in cross-section and are of elastic metal they are adapted to yield or give 85 in adjusting the cleaner in operative relation to the cylinder and at the same time to make the curved edges thereof remove the obstructing matter from the saws.

Each section or member of the cleaner-bar 90 is provided with transverse openings 30 31, through which may be passed the fastening-pins 32, which are adapted to be inserted between the ribs of the grate 12, so as to wedge themselves in place and hold the cleaner in 95 active relation to the saw-cylinder, or, if desired, these pins may enter openings in the inclined board 17.

In using my improved cleaner the members of the bar are adjusted in such relation as to 100 present the proper number of blades to the saws on the cylinder. Thus if a sixty-saw cylinder is used in the gin the member 20 is adjusted in operative relation to the saws, while the members 21 22 are turned on their 105 hinges to move the series of blades thereon to the rear side of the member 20. To use the cleaner on a seventy-saw cylinder, the member 21 is turned on the hinge 23 into alined relation to the member 20 and to bring the 110 series of blades 19 thereon into parallel relation with the blades on the member 20, the latch 25 serving to confine the members 20 21 in proper positions, while the member 22 is turned back out of the way; but to use the 115 cleaner on an eighty-saw cylinder the members 21 22 are turned on their hinges into positions in line with each other and the member 20, while the latches 25 26 hold all the parts in proper relation. The cleaner is inserted through the opening 16 for the blades 19 to enter the spaces between the saws, as shown by Fig. 1, while the bar rests upon the grate 12, to be held in place by the pins 32 or their equivalents. 120 125

The cleaner of my invention is especially advantageous for cleaning the saws after they shall have become gummed by the operation of ginning damp or wet cotton, said cleaner enabling me to thoroughly and quickly clean 130 the saws in a few moments time as compared with the time required for cleaning the saws by hand, which usually consumes thirty minutes or more. The cleaner is easily fitted in

place or removed from the gin, and it is simple and durable in construction, as well as cheap of manufacture.

In the practical operation of cleaning the gin-saws it is found that some gins are constructed in a manner to permit the belt to be slackened by the adjustment of a lever without stopping the engine. In gins of this type the cleaner can be adjusted to its proper position for the blades to frictionally brush the lateral faces of the saws, and the saw-cylinder can then be run in a reverse direction for the saws to run backward, thus making the blades sweep the foreign material from the faces of the saws without exposing the cleaner appliance to injury. If the gin is of such a nature that the belts cannot become tightened and slackened by the lever, it will thus be necessary to run the fly-wheel or driving-wheel of the engine in a proper direction for cleaning thereof by the blades of the cleaner appliance.

I do not desire to strictly confine myself to the making of the cleaner appliance in a number of sections, as described in the preferred embodiment of the invention. It is frequently the case that the number of gins contained in a gin house or plant are provided with cylinders having an equal number of saws. Under these conditions it is desirable to make the cleaner with a single continuous bar and the proper number of blades on the bar. Thus if the cleaner is to be used on a number of gins each having a series of sixty saws the cleaner will consist of a bar having the proper number of blades to coact with the saws on each gin. The provision of the sectional bar, however, and the employment of a greater number of teeth on one bar-section than on the remaining bar section or sections is advantageous where it is found that the gins are equipped with different numbers of saws. It is therefore advisable to construct the cleaner-bar in sections, so that the cleaner appliance may operate on gins having the variable number of saws.

Changes may be made in the form and pro-

portion 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 gin-saw cleaner comprising a bar having a series of members or sections connected together by means which permit one or more of said members to be brought into position for service, and a series of blades secured to each member or section of said bar, substantially as described, for the purpose set forth.

2. A gin-saw cleaner consisting of a sectional bar having its members foldably connected together, and a series of blades attached to each member or section of the bar, whereby the members may be adjusted in alined relation to bring the blades parallel, substantially as described.

3. A gin-saw cleaner consisting of a sectional bar having its members hinged together, latch devices for confining the members in their alined relation, and a series of blades secured to each member of the bar, substantially as described.

4. In a cleaner for cotton-gins, the combination with an inclined grate-board, 17, and the saws, of a cleaner-bar applied to said grate-board to partake of the inclination thereof, means for fastening said cleaner-bar detachably in place on said grate-board, and a series of cleaner-blades fastened to the cleaner-bar and presented thereby in inclined positions to and between the lateral faces of the saws, substantially as and for the purposes described.

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

WALTER M. BOLEN.

Witnesses:

J. T. PRICE,
A. R. PRICE.