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SPACER FOR GIN SAWS.

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1,150,728.

Patented Aug. 17, 1915.

Fig. 1.

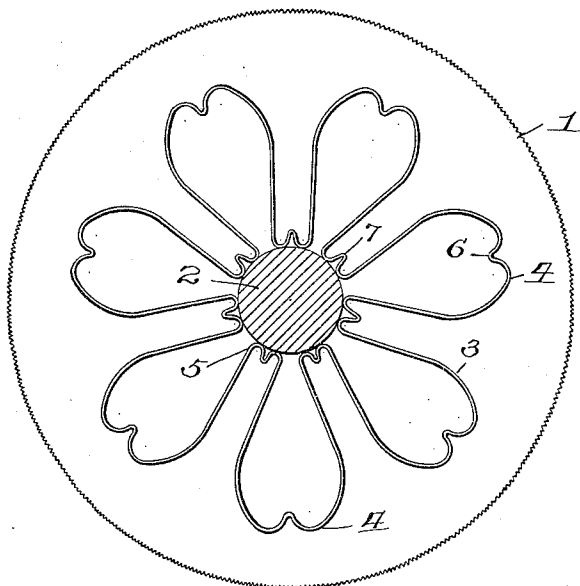


Fig. 2.

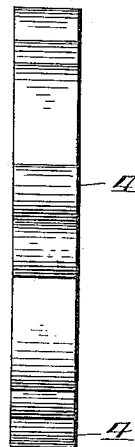
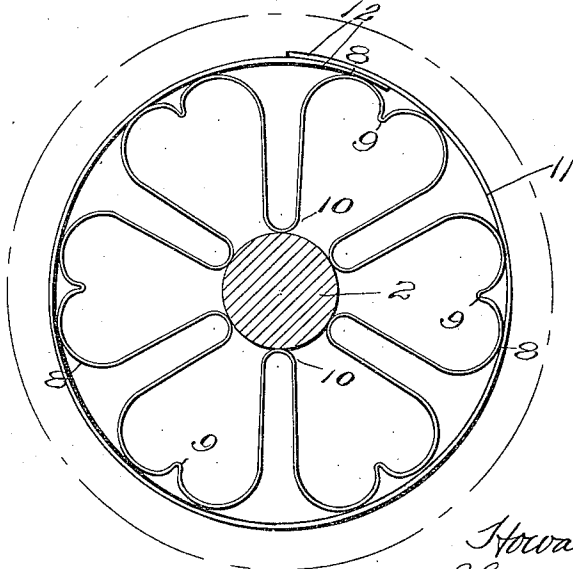


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

HOWARD ARNOLD AND THOMAS A. AUSTIN, OF ATLANTA, GEORGIA.

SPACER FOR GIN-SAWS.

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Patented Aug. 17, 1915.

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To all whom it may concern:

Be it known that we, HOWARD ARNOLD and THOMAS A. AUSTIN, citizens of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Spacers for Gin-Saws; and we do hereby 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.

This invention relates to improvements in spacers for gin saws and an object of the invention is to provide a spacer which will transmit uniformly the pressure from one saw to another.

Another object of the invention is to provide a spacer for gin saws which will be adjustable so as to fit any desired size of shaft within certain limits.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter more fully described and claimed.

In the drawing: Figure 1 represents a vertical transverse sectional view of the gin saw shaft with our invention applied thereto. Fig. 2 shows a side elevation of the spacer detached from the shaft; and Fig. 3 represents a transverse sectional view of the shaft showing a modified view of our invention.

Like reference characters designate corresponding parts.

In general this invention provides a sheet metal strip bent so as to present upwardly and inwardly extending portions, these portions being approximately evenly distributed so as to transmit the pressure from one saw to another uniformly. The inwardly extending portions are smaller than the outer portions and are adapted to engage the shaft carrying the saws.

As shown in the drawings, this spacer may be applied to the ordinary gang gin saw where there is a plurality of saws 1 mounted upon a shaft 2, the spacer forming the subject matter of this invention being interposed between adjacent saws.

As shown in the drawing, the spacer is formed of a continuous strip of resilient metal 3, so bent that the outwardly extending portions 4 are comparatively wide, while the inwardly extending ends 5 are narrower and lie adjacent to each other. The out-

wardly extending portions 4 are provided with crimps 6 which run parallel of the axis of the spacer and serve not only to broaden the ends 4, but also to reinforce the same.

The outer portions of the ends 4 are adapted to lie approximately in a circumference, and the ends of the inwardly projecting portions are also adapted to lie approximately in a circumference, these two circumferences being concentric with the axis of the spacer. The outer portions 4 are substantially heart shaped, the curved portions on either side of the crimp 6 serving to resist the inward pressure more effectively than will be the case where the ends 4 are straight. While the strip 3 has been described as being continuous it is to be understood that the same may be made of one piece or several pieces, as may be found practical for any particular size.

The modified form shown in Fig. 3 has outwardly extending ends 8 provided with crimp 9, these parts corresponding to parts 4 and 6 of the preferred form.

The inwardly extending ends 10 however are not provided with a crimp but are rounded to engage shaft 2. It will be observed that outwardly extending ends 8 are made much wider than corresponding ends 4 of the preferred form, though this construction presents a greater surface to the cotton and lint engaged by the saws.

When it is desired to put the improved spacer upon the shaft it is merely necessary to draw apart the inwardly extending ends 5, such as by inserting the fingers in opposing ends 4, and pulling outwardly, which will result obviously in separating the ends 5 to any desired extent. The spacer may then be slipped over the shaft, and tension relieved, whereupon the resilience of the metal will force inwardly extending ends 5 upon the shaft. As shown in Fig. 1 the crimp 7 in the inwardly extending portions 5 provides a construction which presents twice as many points of contact to the supporting shaft as are shown in Fig. 3. By reason of the heart shaped construction of the outwardly extending ends 4 any cotton or lint which may accumulate upon the saw may be thrown off. Obviously, as the spacer is spread to engage the other sized shafts the circumference in which the outer ends of the members 4 lie will become larger and larger, so that an increase in the size of the shaft and saws will be accomplished by

a corresponding increase in the circumference of the spacer. Also, it will be noted that inasmuch as the walls of the spacer are perpendicular to the plane of adjacent saws or parallel to the axis of the spacer the pressure from one saw will be communicated directly to the next, this pressure being distributed evenly by reason of the sinuous outline of the spacer.

It is understood, of course, that the spacer may be made of any size and of any desired number of outwardly extending portions, and that the particular outline shown may be varied to accommodate the varying conditions.

If desired, an extensible spring strip 11 may encircle the outwardly extending portions of the spacer block 3, the strip 11 being secured to the spacer or loosely engaging the same, as may be desired. If it is desired to secure the strip to the spacer, the same may be secured at its mid-point to the spacer or one end may be secured to one of the outwardly extending portions, in which case of course the other end will be free to slide over a portion of the strip. By this construction it will be seen that when the spacer strip is adjusted to different sizes of shafts the free end or ends 12, of the strip 11 will have a telescoping action, thus presenting a continuous surface to the cotton as different size shafts are used.

As in the case of the body of the spacer, the axis of this strip 11 is made parallel with the shaft so that pressure may be transferred from one saw to another without fear of buckling said strip 11. In applying this strip to the spacer, it is merely necessary to expand the strip until it will slip over the spacer when it may be released and the natural resiliency of the strip will force the same upon the outwardly extending portion of the spacer.

What I claim is:—

1. In a gin saw shaft, a spacer formed of a continuous strip of resilient material, the spacer having inwardly extending portions adapted to spring to engage the shaft.

2. The combination of a gin saw shaft, saws on the shaft, and spacers formed of resilient material located between the saws, said spacers having inwardly extending por-

tions, the walls of which portions are perpendicular to the plane of the saws, the portions being adapted to engage the shaft.

3. The combination with a gin saw shaft, saws on the shaft, a one-piece spacer, the walls of which are parallel to the shaft, the spacer having inwardly extending portions adapted to engage the shaft and outwardly extending portions adapted to engage adjacent saws, the walls of said portions being parallel to the shaft.

4. A one-piece spacer for gin saws formed of resilient material, a spacer having inwardly extending ends lying substantially upon a circumference, the ends being movable against the resilience of the spacer, whereupon the circumference upon which the said ends lie may be varied.

5. A spacer for gin saws comprising a one-piece expansible member, and an expansible rim surrounding the one-piece member.

6. A spacer for gin saws, comprising a one-piece expansible member and an expansible rim surrounding the one-piece member, the axis of the expansible rim being parallel to the walls of the spacer.

7. The combination of a shaft, gin saws mounted on the shaft, spacer blocks interposed between the saws and having their walls parallel to the shaft, and an expansible strip of resilient material encircling the spacer, the axis of the expansible strip being parallel to the shaft.

8. The combination of a shaft, gin saws mounted on the shaft, expansible spacer blocks interposed between the saws and expansible strips encircling the spacer blocks.

9. The combination of a shaft, gin saws mounted on the shaft, spacer blocks interposed between the saws, the blocks having outwardly extending portions, and strips of resilient material encircling the extending ends, the ends of the strips being free and overlapping each other.

In testimony whereof we affix our signatures in presence of two witnesses.

HOWARD ARNOLD.
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Witnesses:

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