J. NEWTON.

SAW TOOTH.

No 94,022 Patented Aug. 24, 1869.

Fig. 1.

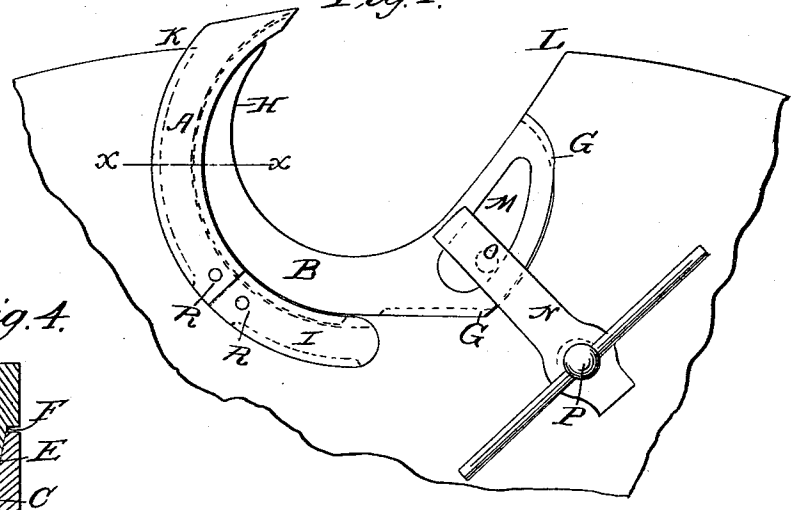


Fig. 4.

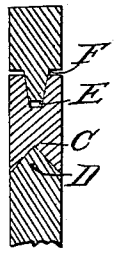


Fig. 2.

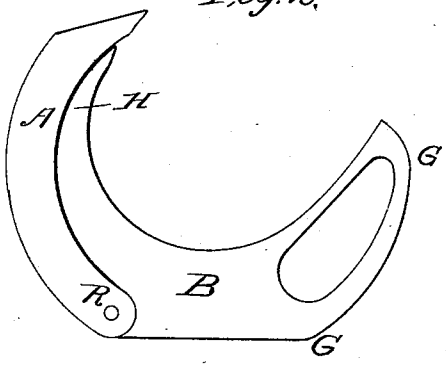
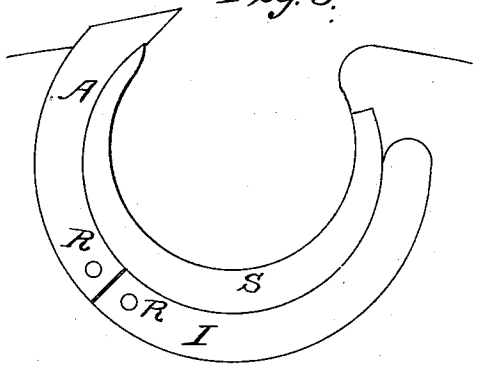


Fig. 3.



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United States Patent Office.

JONAH NEWTON, OF NEW YORK, N. Y.

Letters Patent No. 94,022, *dated August* 24, 1869.

IMPROVEMENT IN SAW-TEETH.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JONAH NEWTON, of the city, county, and State of New York, have invented a new and useful Improvement in Removable Saw-Teeth; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in the arrangement of removable saw-teeth, and the means of holding them in the saw-plate, calculated to provide a ready means of inserting, removing, or adjusting them, and of holding them in the required positions, by the frictional action of springs, arranged to be capable of imparting the required amount of friction without danger of warping or buckling the saw-plates.

It also relates to an improved adjusting-instrument, for releasing the frictional contact of the springs, to adjust the teeth.

Figure 1 represents a side elevation of a part of a saw-plate with a tooth inserted and secured according to my improvement; also showing my improved adjusting-instrument, and the application thereof.

Figure 2 represents a modified arrangement of a tooth and holding-spring.

Figure 3 represents another modification.

Figure 4 represents a section, on the line $x\,x$ of fig. 1.

Similar letters of reference indicate corresponding parts.

My invention contemplates the employment of teeth, A, of greater or less length, as required, representing segments of true circles, or nearly so, to be secured in recesses in the saw, having corresponding form, as far as the teeth extend, by springs B, the teeth being grooved on the back, as represented at C, to receive corresponding projections D of the saw-plate.

This form of teeth I find most preferable to use, for the reason that they afford a greater surface for the frictional contact of the springs than straight teeth with the same depth of recessing the plates, and are quite as easy to adjust, and cheap to make.

As it is highly desirable to hold the teeth so that they cannot be started from their positions by the greatest resistance of the timber upon the points they may be subjected to in sawing, without producing sufficient strain to warp or buckle the plates, it becomes important to produce the greatest possible amount of friction with the least amount of strain.

To this end, I form on the concave edges of the teeth a deep groove, E, with oblique sides, and fit thereto a corresponding tongue, F, on the convex edge of the spring, so shaped as to wedge into the groove, with its side walls fairly fitting the side walls of the groove. In this manner, with the base G of the spring fitting in the opposite side of the recess in the saw-plate, and the point H pressing against the tooth, the latter will be held with so little pressure of the spring as not to endanger the warping of the saw-plate. To add to the capacity of the spring, I propose also, if required, to make grooves of similar form at the other edge of the teeth, and similar tongues on the saw-plate.

But I consider a more preferable means of accomplishing the same to be, the introduction of bolsters or extension-plates I, at the bottom of the teeth, and this I propose to adopt.

These bolsters will be grooved similarly to the teeth, and receive the projections of the plate and the springs, merely furnishing extensions of the groove E, into which the tongue F of the spring may be forced.

The springing-movement of the point H of the spring is adjusted so as to permit the removal of the pressure of the tooth by a slight withdrawal of the spring in the opposite direction, and this I accomplish in the following manner:

Between the points G G of the spring a space is provided, between the base of the spring and the wall of the recess in the plate, and opposite thereto, at M, the plate of the spring is recessed, or slotted, to remove sufficient metal to permit it to spring between the said points G G; and for springing it, I provide a straining-implement, composed of a stock, N, having a pin, O, projecting from one side, near one end, to take into the slot M, and a turning-pin, P, passing through the other end of the stock, the said pin being provided with a handle, Q, at one end, and a stud at the other, to take into holes made in the saw-plate, the said stud being eccentric to the journal of the turning-pin in the stock.

The holes being adjusted at the proper distance from the slots M of the springs, the latter may be readily sprung back into the space between points G G, by the turning of the said pin P when the stud O is engaged in the slot M and the other stud in the proper hole in the saw-plate.

When the springs are so contracted, I take a metallic pin, or other suitable instrument, and engage one end with the holes R in the teeth or extension-plates, to move them more readily either way, as required.

By the employment of these extension-plates, or bolsters, I may, if preferred, extend the friction-grooves E and the corresponding wedging-projections F a half-circle, or more, and thereby secure the teeth with a very light spring, S, as represented in modification shown in fig. 3, the strain of which would be very much less than springs bearing upon the teeth only.

and therefore better adapted for thin and weak plates. These springs may be retracted by other and simpler means.

In case no bolster or extension-plate is used, I prefer to adopt the form of spring represented in fig. 2.

Having thus described my invention,

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

1. The combination of the segmental tooth A and holding-spring B or S with a circular recess of a saw-plate or disk, either with or without the bolsters I, all constructed and arranged substantially as herein shown and described.

2. The improved spring-retracting instrument, constructed and operating substantially as above described.

The above specification of my invention signed by me, this 3d day of April, 1869.

JONAH NEWTON.

Witnesses:

F. BLOCKLEY,

E. GREENE COLLINS.