(No Model.)

J. J. BOWEN.

SAW TOOTH.

No. 302,317. Patented July 22, 1884.

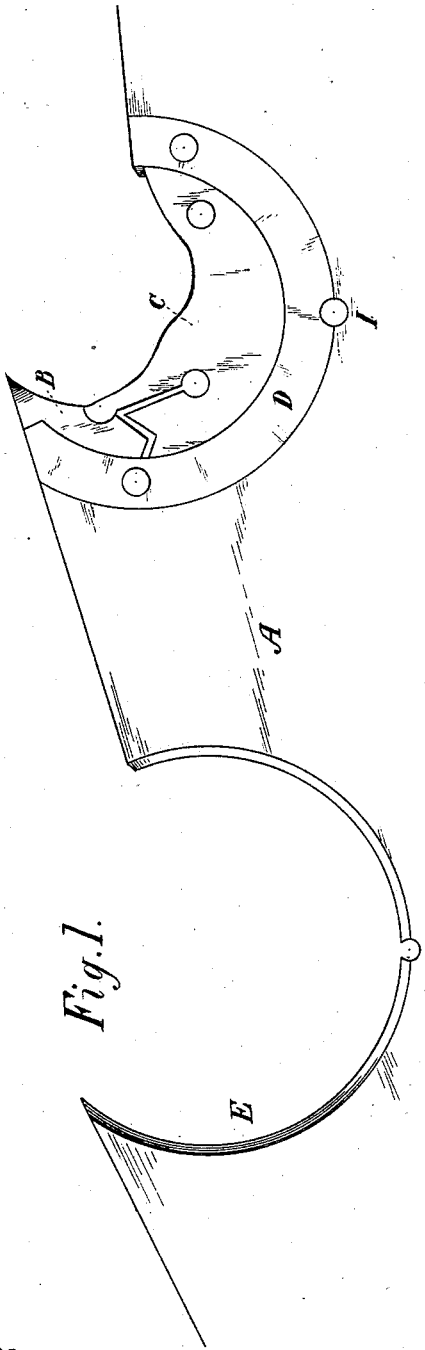

Fig. 1.

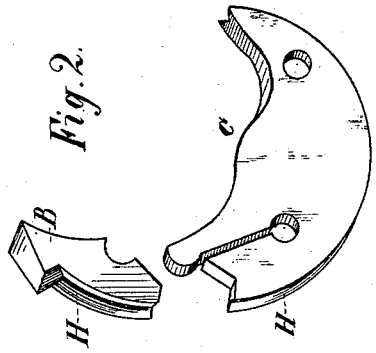

Fig. 2.

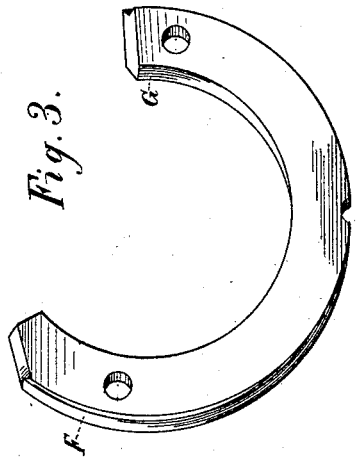

Fig. 3.

Witnesses,
Geo. C. Strong
P. D. Bourne.

Inventor,
John J. Bowen
By Dewey & Co
Attorneys

UNITED STATES PATENT OFFICE.

JOHN J. BOWEN, OF SAN FRANCISCO, CALIFORNIA.

SAW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 302,317, dated July 22, 1884.

Application filed June 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, JNO. J. BOWEN, of the city of San Francisco, in the county of San Francisco and State of California, have invented an Improvement in Saw-Plate and Inserted Saw-Tooth Holder; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to improvements in saw-plates into which independent teeth or cutting-bits and bit-holders are inserted; and it consists of a supplemental segment fitted into a correspondingly curved and grooved recess in the saw-plate, where it is held by a rivet or suitable device, said segment having its front adapted to receive the rear portion of the bit and bit-holder, and operating as an intermediate holder between them and the saw-plate itself.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a section of the saw-plate, showing my device, bit, and bit-holder in place. Fig. 2 shows the bit and bit-holder. Fig. 3 shows the supplemental segment.

In a former patent issued to me August 14, 1883, I have described an irregular-shaped patch-plate which is fitted into the rear portion of the recess into which the tooth or bit-holder of the saw is inserted.

In my present invention, A is the saw-plate, which in the present case is shown as having a circular segmental recess formed for each tooth or bit and bit-holder, and a means for securing these parts in place.

B is a cutting-bit, and C is a bit-holder, which are ordinarily fixed into the circular segmental opening in the saw-plate.

In my invention D is a circular annular segment fitted into a corresponding opening in the saw-plate, which is made as much larger than the curve of the bit and bit-holder as the difference in diameter between the interior and exterior of the segment. The interior of the recess in the saw-plate has a projecting V-shaped tongue, E, formed around it, and the back portion of the annular segment D has a groove within it to fit the tongue in the recess of the saw-plate. The front or inner edge of this segment has a V-shaped tongue, G, which fits a corresponding recess, H, in the back portion of the bit and bit-holder, so that the parts are all firmly held in place. The segment is locked in position by means of a rivet or key, I, which passes through the outer edge of the segment and the inner edge of the recess in the saw-plate, so as to prevent its coming out until the rivet is removed. This annular segment holds the tooth or bit, and prevents its being displaced. It allows that part to be easily replaced when worn thin on the side or when worn on the inner edge by the friction of the bit and shank or holder when being turned in and out in the renewal of bits. It receives nearly or quite all the wear arising from the passage of the sawdust from the throat of the tooth backward upon each side, which soon wears the saw-plate so thin that it must be replaced.

One of the advantages of this class of (chisel-bit) saws is that when the bit becomes dull or breaks it can be speedily removed and a new one inserted. This is accomplished by turning the bit-holder, which brings the bit along with it out of the recess, and returning the bit-holder and new bit in the same way.

In consequence of the oft-repeated friction of the bit-holder and bit on the edge of the saw-plate in the recess of saws, as heretofore made, the said edge of the recess becomes speedily worn, so that the elasticity of the bit-holder no longer presses the bit firmly in its place, the result being a looseness of the bit in the saw, resulting in its breaking or coming out. The saw in this condition is worthless. In addition to this the wear which from the passage of sawdust and friction with the timber comes on the side of the plate of saws as heretofore made quickly wears them thin back of the bit, in this way also rendering them worthless. Now, by interposing the segment between the bit-holder and bit on one side and the saw-plate on the other, the wear comes on the segment instead of on the saw-plate, and as the segment can be easily and cheaply renewed the durability of the saw is indefinitely prolonged. This segment is more easily and inexpensively made than the patch-plate described in my previous patent, and is superior to it in many ways, as above described.

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

1. In a saw-plate having a circular segmental recess, and a tooth or bit and bit-holder, an interposed circular annular segment fitting the recess in the plate and adapted to hold the tooth within its inner curve, as herein described.

2. An annular circular segment fitting a corresponding recess in a saw-plate and having its inner edge formed to retain the cutting-bit and bit-holder which are fitted within it, as herein described.

In witness whereof I have hereunto set my hand.

JNO. J. BOWEN.

Witnesses:
S. H. NOURSE,
H. C. LEE.