(No Model.)

F. W. COOK.

INSERTED SAW TOOTH.

No. 383,103. Patented May 22, 1888.

FIG. 1

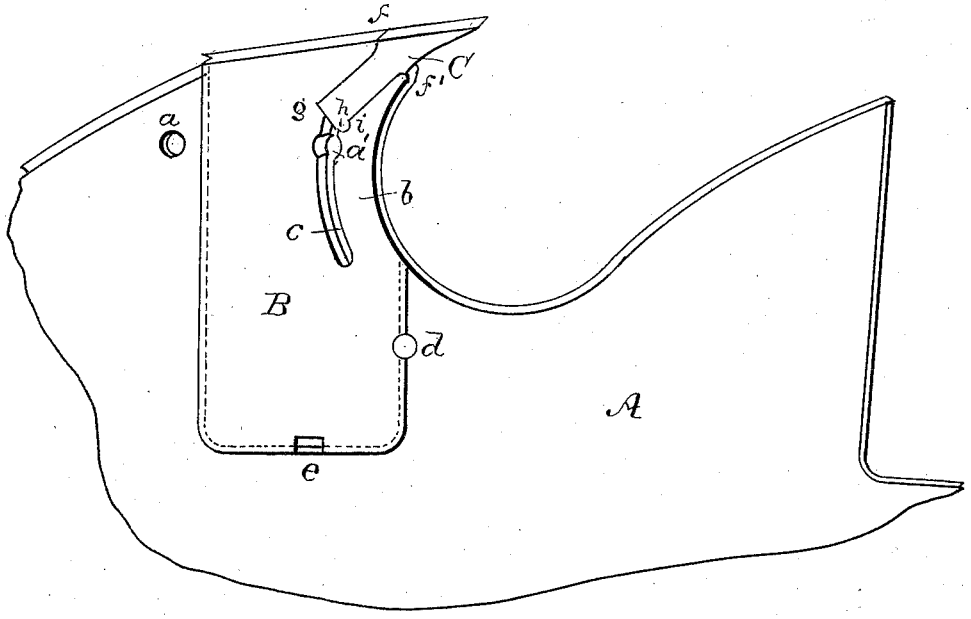


FIG 3

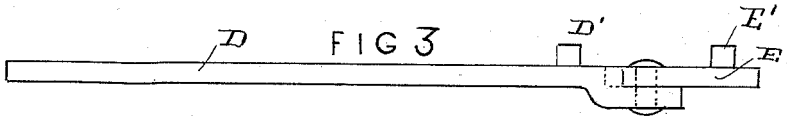
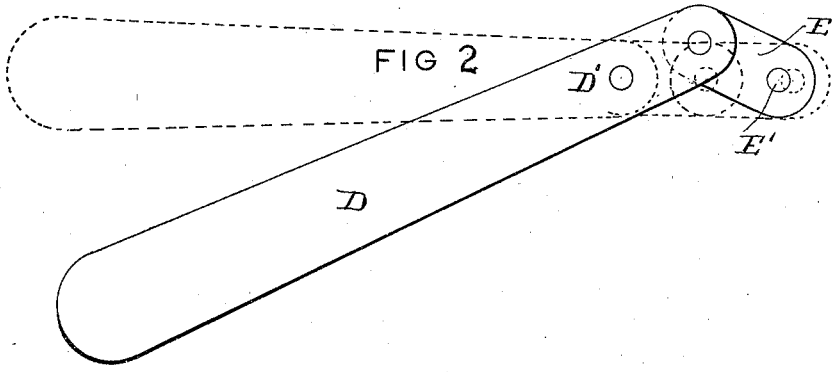


FIG 2



WITNESSES.
William S. Pardy.
Watt L. Brown.

INVENTOR
Frederick W. Cook.
by George Pardy.
Atty

UNITED STATES PATENT OFFICE.

FREDERICK W. COOK, OF SAN FRANCISCO, CALIFORNIA.

INSERTED SAW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 383,103, dated May 22, 1888.

Application filed October 7, 1887. Serial No. 251,771. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. COOK, of the city and county of San Francisco, State of California, have invented a new and Improved Means of Securing Inserted Teeth in the Plates of Circular Saws, of which the following is a specification.

The invention relates more particularly to the means of fastening the cutting-bits within their holder-plates and to the means of inserting and removing the said bits; and it consists in the peculiar form of the holder-plate, as particularly described below.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a broken-off portion of a saw-plate with my improvement applied thereto. Fig. 2 is a side, and Fig. 3 an edge, view of my key used to spring open the holder-plate in removing or inserting the bits.

In the drawings, Fig. 1, A is a broken-off part of a saw-plate, which is provided at regular intervals at its periphery with proper recesses to receive the tooth or cutting-bit holders B.

C is the cutting-bit.

b is the spring-limb of the tooth-holder.

a a' are the holes, one in the saw-plate and one in between the body of the tooth-holder and the spring-limb *b*.

c is a slot separating the spring-limb from the body of the holder.

d is the ordinary rivet locking the holder in its recess.

e is the usual notch in which a tool is inserted when driving out the holder from its recess.

The tooth-holder has the usual V-grooved edge fitting the Λ-pointed edge of the recess it fits in; also, where the outer edge of the bits bear against the body of the holder the same V-joint will be made. (See dotted lines.)

At the upper part of the cutting-bits there will be shoulders *f f'*, where they bear against the body of the holder and the spring-limb. There may be a shoulder at *g*, where the bottom of the bit bears against the body of the holder. Where the lowest corner, *h*, of the bit bears against the spring-limb, the bit must project into a recess formed on the spring-limb to receive it, as at *i*. This prevents the bit from flying out as the saw rapidly revolves.

The dotted line on Fig. 1, drawn from the bottom of the groove *c* to the vertical edge of the holder just below the rivet *d*, marks the joint between the spring-limb and the holder, if the two should be made separate, as some might prefer, because, as the spring-limb more rapidly thins and wears away than will the body of the holder, it might be replaced when worn, while still retaining the body of the holder. The disadvantage of this would be that in making the spring-limb separate there might occur an undue strain on the saw-plate in driving "home" the cutting-bits—a matter entirely avoided where the spring-limb and body of holder is of one solid piece of metal.

In Figs. 2 and 3 is shown the tool used to spread open the spring-limb when inserting or removing the cutting-bits. This tool is composed of the lever D, having a pin for a fulcrum at D'. On the extreme end there is pivoted a link, E, which has its fulcrum-pin at E'. When the fulcrum-pins D' and E' are inserted, one in the hole *a* of the saw-plate and the other in the hole *a'* between the body of the holder and spring-limb, and the lever D is forced into a position more nearly in line with the attached link, the effect will be to spread apart the spring-limb and allow the bit to be either inserted or withdrawn, as the case may be.

I do not claim any novelty in the mere fact of locking the cutting-bit in its bed by a spring-limb, for there are quite a number of devices having this feature as a principle. My invention has no further scope than to be an improvement in the manner of arranging the cutting-bit, holder, and spring-limb together, so as to be safer and generally more practical than other devices within my knowledge belonging to the same class.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is as follows:

The inserted saw-tooth herein described, consisting, essentially, of the holder B, oblong in shape, fitted in a recess in the saw-plate and set lengthwise upon an approximately radial line, the upper half of the forward edge of the

holder extending beyond the recess and having a spring, *b*, to hold the cutting-bit in place, adapted to spring forward unobstructed by the saw-plate, a cutting-bit, C, inserted in the upper forward corner of the holder in a recess cut diagonally therein, and a saw-plate with recesses to receive the bit-holders, the edges of which extend the entire length of the back edge of the holder along the bottom and up the forward edge to the root of the spring *b*, all combined as and for the purpose described.

FREDERICK W. COOK.

Witnesses:
GEORGE PARDY,
WATT L. BROWN.