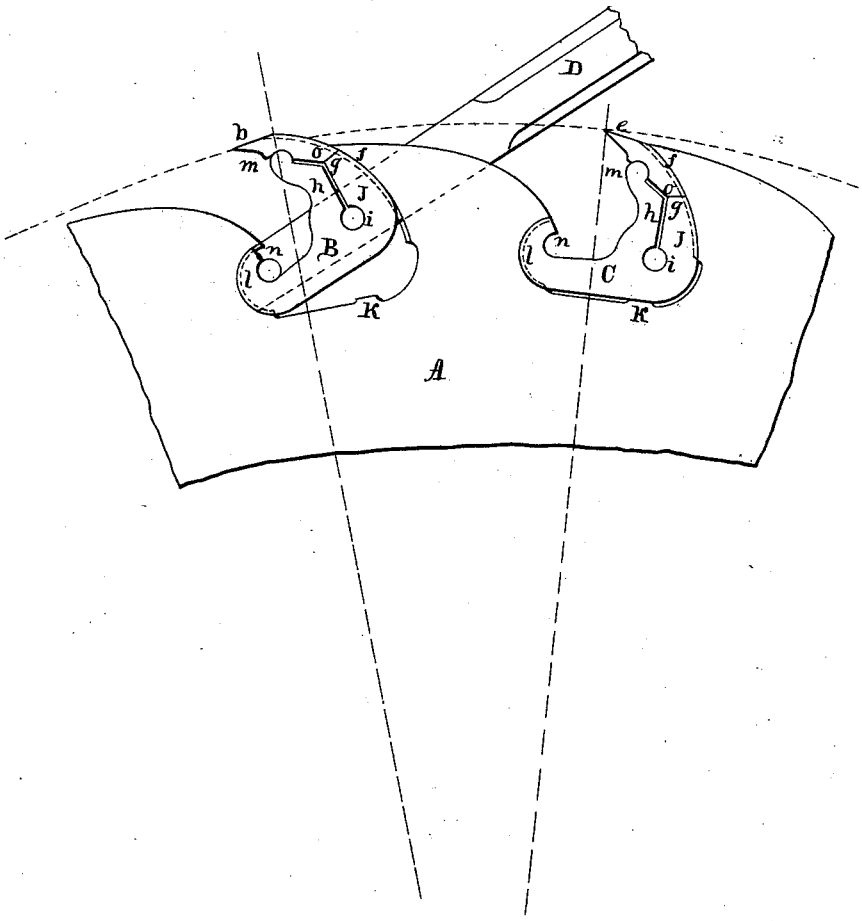
W. P. MILLER.

Saw.

No. 168,338. Patented Oct. 5, 1875.



Witnesses:

David M. Edsall

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Inventor:

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UNITED STATES PATENT OFFICE.

WARREN P. MILLER, OF NEW YORK, N. Y.

IMPROVEMENT IN SAWS.

Specification forming part of Letters Patent No. **168,338**, dated October 5, 1875; application filed March 24, 1875.

To all whom it may concern:

Be it known that I, WARREN P. MILLER, of the city, county, and State of New York, have invented a new and useful Improvement in Saws; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, in which the figure shows a section of a saw-plate with two teeth inserted, and the wrench by which the shanks are turned into and out of their sockets is shown as applied on the opposite side of the plate.

Letter A is the saw-plate. B and C are movable shanks; D, wrench; *b* and *e*, the saw-teeth; *l*, the toe of the shank; *j*, the heel; *f*, shoulder of the socket; *m*, jaw of the shank; *i*, hole through the shank; *h*, slit separating the jaw from the heel.

The nature of my invention consists of forming sockets in saw-plates, composed of two unequal segments of circles, so located that a straight base may be formed between them, and thus be capable of receiving a similarly-formed shank, for the purpose of readily attaching cutting-bits to the periphery of a circular disk.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I form sockets all around in the periphery of the plate, with a V-shaped projection on the inner edge of the two circular segments. The base is cut a little lower than the bottom line of the shank, so that the projection *k* will be the only point of contact with the bottom of the shank. The shanks are punched from sheet-steel to the external form shown; then pierced at *i*, slitted at *h;* then a V-shaped groove cut in the two segments *l* and *j*, so as to make them the exact size and form of the socket. They are then given a spring-temper. The teeth are struck up in steel dies from hot steel rods to the proper form, with grooves in the back to fit the V-shaped projections of the socket. They are then tempered and ground to a cutting-edge. The wrench D has two pins projecting from the side, so located that they conform to the half-circle M and the hole *i*, and may be readily applied to the shank, by which it can be easily turned. When the shank is in the position shown at B the tooth may be removed and another put in its place.

It will be seen that the projection on the jaw *m* will carry the tooth into the socket when the shank is turned into the position shown by *c*, and retain it there.

The end of the tooth *o* rests on the heel of the shank, which prevents its tripping when resistance is applied to the edge of the tooth.

The object of slitting the shank at *h* is to render the jaw *m* elastic, that it may conform to the teeth, though they may be of different thickness. At the same time the heel *j* is left independent, and will maintain its position against the plate.

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

The shank pierced at *i* and slotted at *h*, in combination with the cutting-bit *e* and saw-plate A, the latter being provided with a socket for the reception of the shank and bit, substantially as shown, and for the purpose specified.

WARREN P. MILLER.

Witnesses:
DAVID M. EDSALL,
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