

(No Model.)

C. A. FRENCH.  
BACK GUARD FOR CIRCULAR SAWS.

No. 421,861.

Patented Feb. 18. 1890.

Fig.1

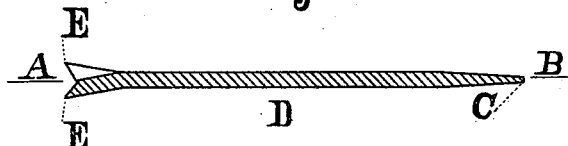
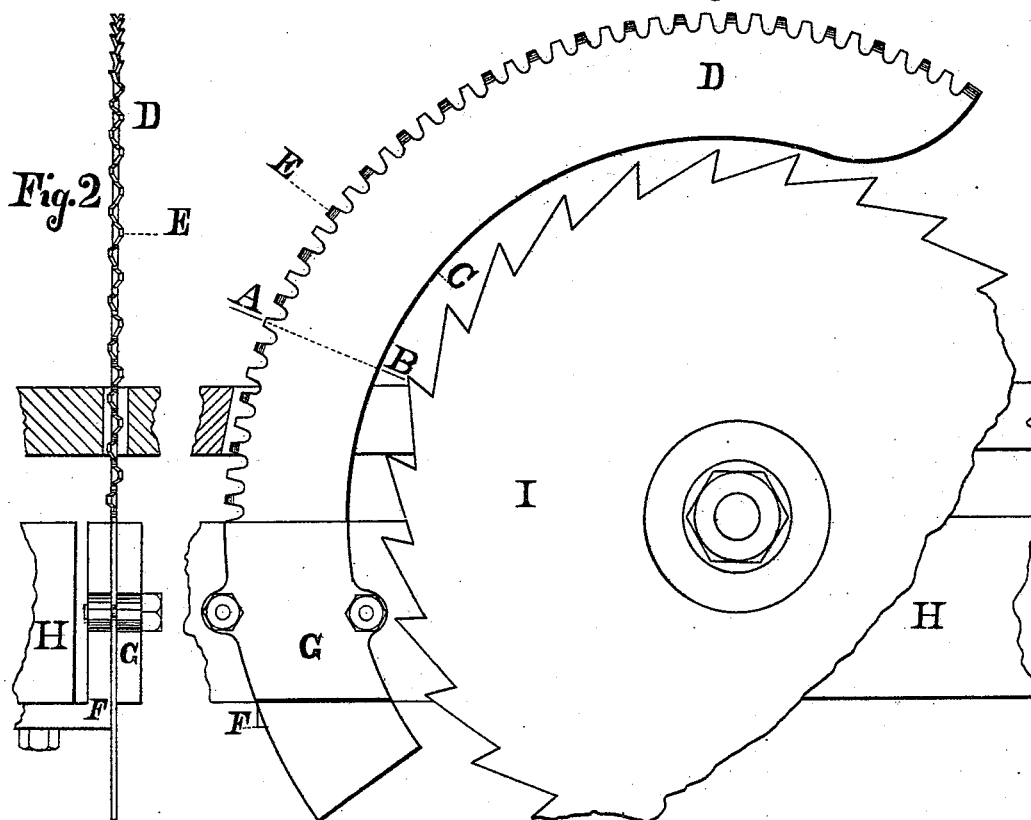


Fig.3



*Charles Albert French* Inventor

Witnesses  
*J. E. Wakeley*  
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By his Attorney *L. J. Wakeley*

# UNITED STATES PATENT OFFICE.

CHARLES A. FRENCH, OF MADISON, WISCONSIN, ASSIGNOR OF ONE-HALF TO  
CHARLES K. TENNY, OF SAME PLACE.

## BACK-GUARD FOR CIRCULAR SAWS.

SPECIFICATION forming part of Letters Patent No. 421,861, dated February 18, 1890.

Application filed December 4, 1888. Serial No. 292,594. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. FRENCH, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented a new and useful Guard for Circular Saws, of which the following is a specification.

My invention relates to a machine for preventing circular saws used for sawing wood or other material from coming in contact with objects or persons, and facilitating the operating of the saws; and the objects of my invention are, first, to prevent the material sawed from pinching the back of the saw; second, to prevent materials from above or back of the saw from being caught by it and thrown forward; and, third, to protect the operator and other persons from contact with the back or top of the saw. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a transverse section of my improved guard on the line A B, Fig. 3; Fig. 2, a rear view of the guard attached for operating; Fig. 3, a side view of same.

Similar letters refer to similar parts throughout the several views.

The guard D is made from a strip of saw-steel nearly semicircular in shape, its inner or concave edge forming the arc of a circle larger than that of the saw I, which the guard is used with, and such edge is rounded off at the free end from the inside and thinned, as shown at C, to better enter the cut of the saw. The guard is of an extreme length sufficient to reach from the lower edge of the timber or frame H, supporting the saw-arbor, to which it is attached, over the summit of the saw, and may reach nearly down to the stuff sawed, of a width only sufficient to give the required strength with some elasticity, and of a thickness not greater than that of the saw.

The outer or convex edge of my improved guard D has, from the shank to the free end, notches cut therein forming the teeth E, having blunt ends, which ends are beveled alternately on the right and left hand sides to a chisel-edge, and which teeth admit of being set, and in use are set, as shown, with their unbeveled sides and sharp edges turned out-

ward, and sufficiently to press upon their respective sides of the material in the cut made by the saw in use at the time.

My guards are made in different sizes; but one size can in its holder be adjusted to and used with several different sizes of saws.

My guard thus constructed is placed and held upon the timber or frame H, supporting the saw-arbor a little back of the saw I, and may be so held, clamped between the two iron plates G F, which are so constructed and bolted to the frame that the guard will be aligned to the plane of the rotation of the saw, and will be adjustable vertically and from front to back for different sizes of saws and different kinds of work, including grooving. Any other suitable device may be used for holding my guard upon said timber or frame or otherwise in proper position for the penetration of the cut in the stuff sawed.

My improved guard has these advantages: By reason of the elasticity of the guard and teeth they offer no resistance to material passing from front to back, although the teeth are set so as to spread in extreme width equal to the thickness of the cut of the saw, and act as a spreader to diminish vibration and so prevent material from pinching the saw, or escaping until discharged from the guard and wholly out of the way of the saw. The contact is constant and keeps the guard clear and the teeth sharp; and as its principal advantage my guard presents to the rear and summit and upper front of the saw a barrier against persons liable to come in contact with the saw, and both such barrier and a double series of small, sharp, chisel-edges, most effective in intercepting and catching material sawed or anything else approaching the saw and casting it down and preventing it from being caught and thrown forward by the saw, thus in all these respects facilitating the work and greatly diminishing the danger to the operator and others.

I am aware that knife-bite and circular saw-guards variously constructed have heretofore been used in circular-saw work, and I do not therefore claim either such device broadly; but

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

1. A guard for circular saws, consisting of an arc-shaped strip of metal encircling at a little distance the rear and extending to and over the summit of the saw, having its front edge thinned, and having teeth throughout its rear edge except the shank, set alternately to each side, substantially as set forth.
2. The improvement for circular saw-guards, hereinbefore described, consisting of an arc-shaped metal plate D, encircling the rear and extending to and over the summit of the saw in the plane of its rotation, and having its inner edge C thinned and its outer edge cut into notches forming outwardly-projecting teeth E.
3. A saw-guard having outwardly-projecting teeth E in its rear edge, and consisting of an arc-shaped metal plate D, extending over the rear edge of the saw.
4. A guard for circular saws, consisting of an arc-shaped metal plate D, extending over the rear edge of the saw, and having the edge outward from the saw cut into teeth E, with blunt ends beveled on alternate sides and set alternately to each side, in combination with two clamping-plates G F, holding the guard in the rear of the saw upon the frame H, in which the saw-arbor is journaled.

CHARLES A. FRENCH.

Witnesses:

C. T. WAKELEY,

FRANK E. PARKINSON.

Corrections in Letters Patent No. 421,861.

It is hereby certified that in Letters Patent No. 421,861, granted February 18, 1890, upon the application of Charles A. French, of Madison, Wisconsin, for an improvement in "Back-Guards for Circular Saws," errors appear in the printed specification requiring correction, as follows: In line 78, page 1, the word "so," at the end of the line, should read *to*; and in line 96, same page, the word "knife-bite" should read *knife-like*; and that the Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 11th day of March, A. D. 1890.

[SEAL.]

CYRUS BUSSEY,

*Assistant Secretary of the Interior.*

Countersigned:

ROBERT J. FISHER,

*Acting Commissioner of Patents.*