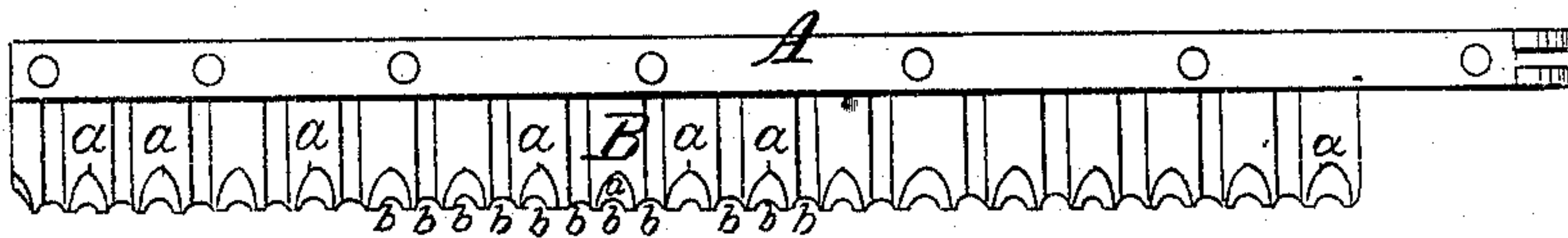


*G. J. Wardwell.*  
*Harvester Cutter.*

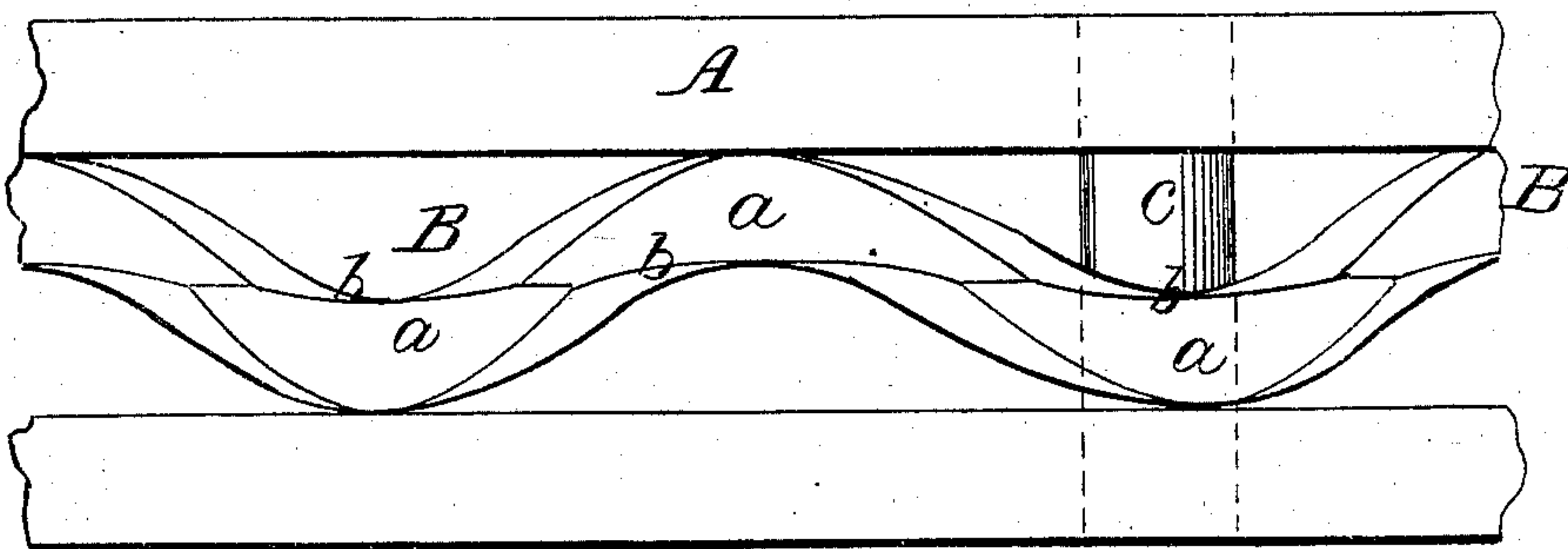
*No. 99797.*

*Patented Feb. 15, 1870.*

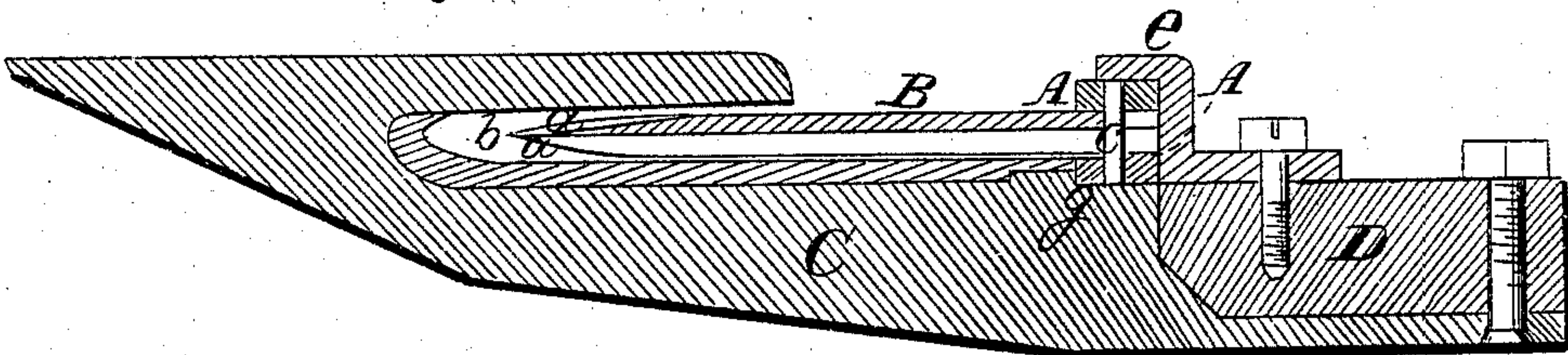
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses.*

*R. H. Humphreys*  
*J. H. Campbell*

*Inventor.*

*Geo. J. Wardwell*

*Marion. Fenwick & Lamore*

# United States Patent Office.

GEORGE J. WARDWELL, OF RUTLAND, VERMONT.

Letters Patent No. 99,797, dated February 15, 1870; antedated February 6, 1870.

## IMPROVEMENT IN HARVESTER KNIVES.

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, GEORGE J. WARDWELL, of Rutland, in the county of Rutland and State of Vermont, have invented a new and improved Harvester Knife; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a view of one side of my improved harvester knife.

Figure 2 is a highly magnified front-edge view of a portion of the knife-plate.

Figure 3 is a cross-section, showing one practical mode of applying the knives to fingers, and a finger-bar.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful improvement on cutters or knives for grain and grass harvesters, and consists in a corrugated steel plate, having scalloped cutting edges, produced by beveling opposite sides of one edge of the plate, as will be hereinafter explained.

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

I take a thin steel plate of proper width and length and pass it between corrugating rollers, or beneath suitable swaging dies, and produce a plate, B, having corrugations or waves extending transversely with respect to its length. If desirable, several short plates may be united by rivets, screws, or otherwise, but I prefer to have the plate B of one piece of metal.

I then bevel, by grinding, one edge of this plate B on opposite sides, in doing which I produce the concave or scalloped cutting edges *b* between the opposite beveled surfaces *a a*, which latter, throughout the entire length of the plate, will lie flatly upon a plane surface, and may be conveniently adapted to an ordinary grindstone to be sharpened.

The opposite edge or back edge of the plate B is confined between two narrow bars A A, by rivets or

screws *c*, which bars will afford the requisite degree of stiffness to the plate, and serve as the knife-bars, by which motion can be transmitted to the plate B through a pitman rod, or in any other well-known manner.

In fig. 3 of the drawings, I have represented one practical mode of combining fingers C and a finger-bar, D, with my improved cutter.

It will be seen that the finger-bar D is seated upon the palms of the fingers, so that the upper surface of this bar is on a level with the surface *g*, upon which the bottom knife-bar A slides.

It will also be seen that the surface upon which the knife-plate B slides is elevated above the surface *g*, the thickness of said bottom bar A, which serves, in conjunction with the angle portions *e*, to keep the knife-plate down in place upon the fingers.

The fingers may be of the open-guard kind, with the overhanging portions extended back far enough to cover the beveled surfaces *a*, so that these overhanging portions will operate in conjunction with the lower portions of the fingers, to hold the grass or grain on opposite sides of the plate B while being cut.

It will be seen from the above descriptions, that the cutting is all performed by the scalloped edges of the corrugated plate, and that the fingers serve to protect said edges from injury by striking objects in their path, and also gather in and hold the grass or grain while it is being cut. The corrugated form of the plate B affords great strength and lightness, and presents such a small amount of surface where it lies upon the fingers that very little friction will be produced, and there will be no liability of the accumulations or clogging of these parts.

Having described my invention,

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

A corrugated plate, B, having a scalloped cutting edge, substantially as described.

GEO. J. WARDWELL.

Witnesses:

C. CLARK,

C. W. SAFFORD.