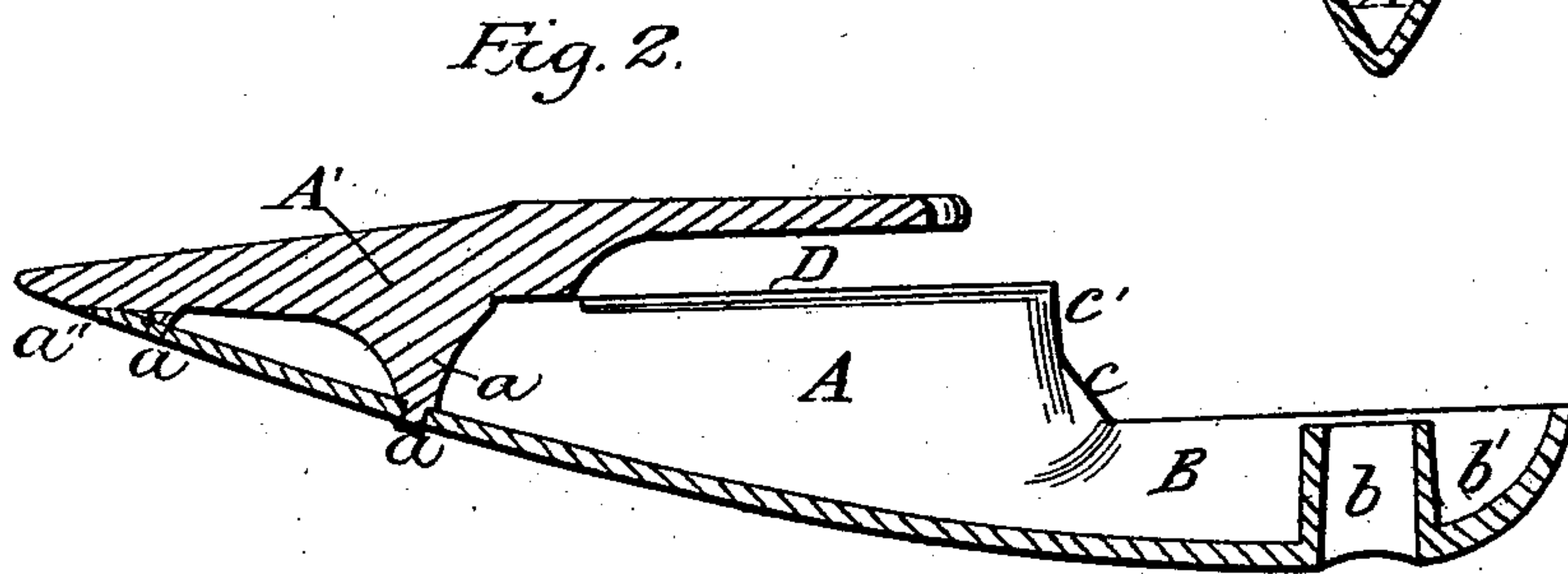
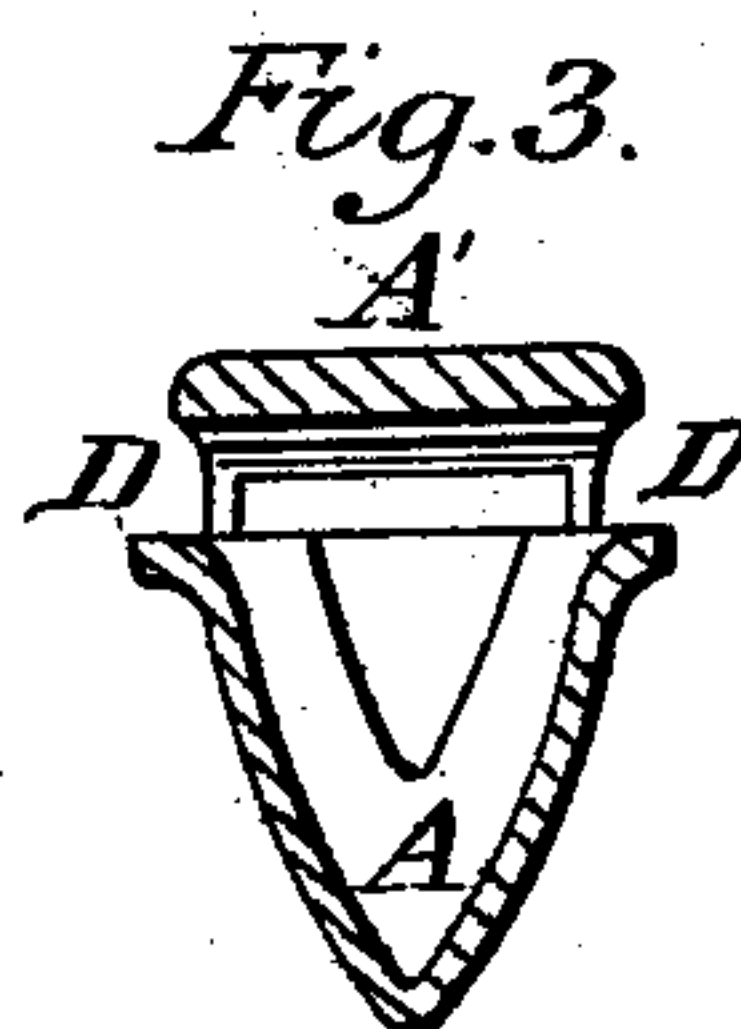
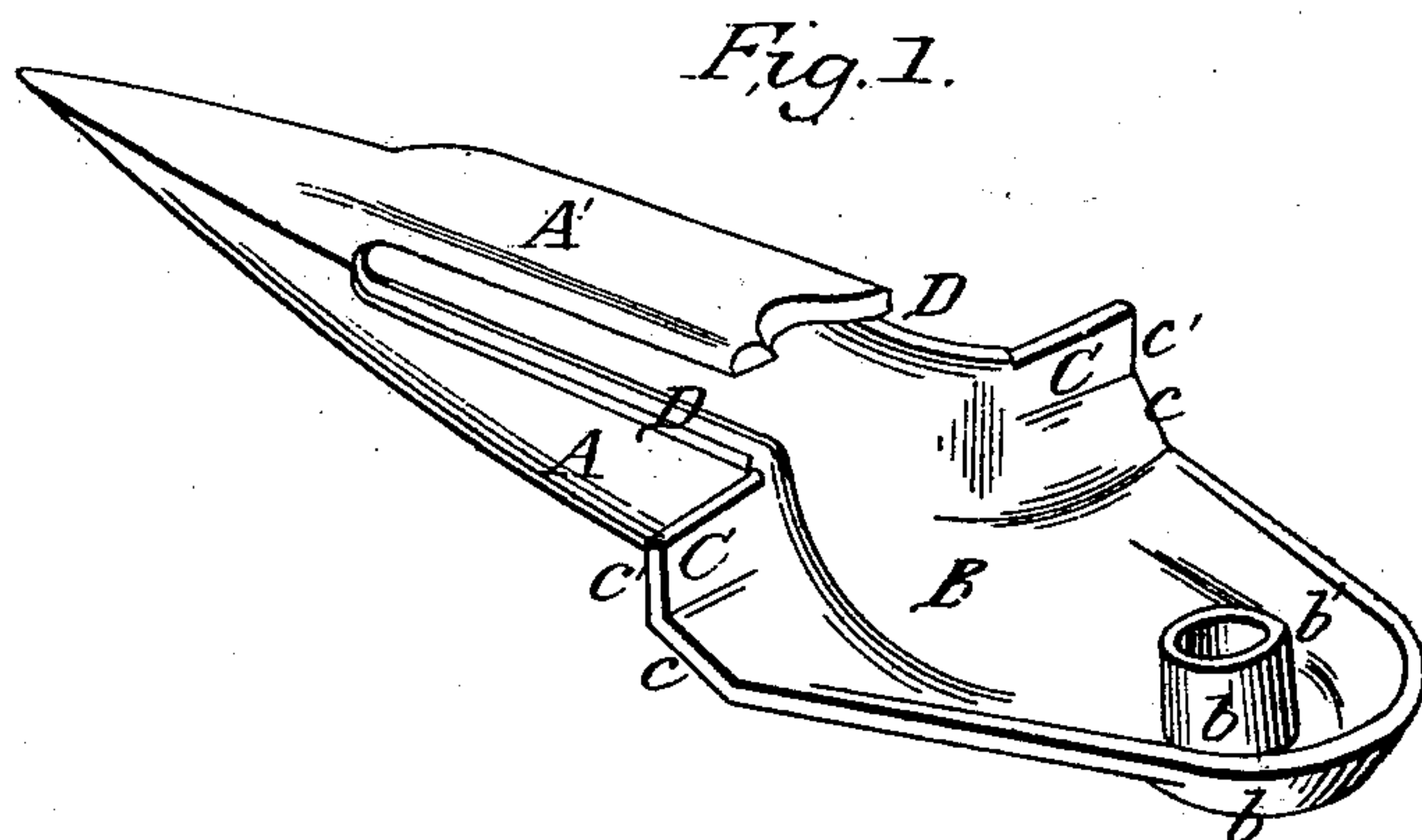


A. CROSBY.
Guard Finger for Harvesters.

No. 105,311.

Patented July 12, 1870.



Witnesses:
H H Doubleday
A. R. Smith.

Inventor:
Addison Crosby
by his attorney
A. R. Smith.

UNITED STATES PATENT OFFICE.

ADDISON CROSBY, OF WESTFIELD, NEW YORK.

IMPROVEMENT IN GUARD-FINGERS FOR HARVESTERS.

Specification forming part of Letters Patent No. **105,311**, dated July 12, 1870.

To all whom it may concern:

Be it known that I, ADDISON CROSBY, of Westfield, Chautauqua county, State of New York, have invented certain new and useful Improvement in Guard or Fingers for Harvesters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved guard. Fig. 2 is a longitudinal vertical section, and Fig. 3 is a transverse section of the same.

Similar letters of reference denote corresponding parts wherever used.

In the construction of guards or fingers for harvesting-machines, it has heretofore been usual to cast them in the desired form, and to provide them on the face over which the sickle-sections reciprocated with cutter-plates of steel, secured to the fingers in various ways. This construction, from the brittle nature of the material used, involved the necessity of making the fingers very heavy, and for the most part solid; or, if they were made slightly concave or hollow, it was at such points only as were subjected to little or no strain, and the reduction in weight was, consequently, slight. Aside from the weight of metal involved in this construction, it has been found that the difference in the deposition or thickness of metal required in order to give the desired configuration to the guard produces an unequal shrinkage of the metal in cooling, and leaves weak spots or flaws in the guards, frequently at the very points subjected in use to the greatest strain, and therefore requiring the greatest strength.

In the process of hardening, also, the iron frequently becomes crystallized and brittle, and the guards break in being secured to the finger-bar, or in use in the field, thereby involving additional expense and frequent delays in the hurry of the harvest.

The unequal shrinkage of such guards in tempering is such that, where the guard itself is perfect and free from flaws, the steel plates or cutters are often broken in being secured to the uneven face of the guard, and if not cracked or broken they frequently become loosened because of the imperfect welding or riveting resulting therefrom.

Still another difficulty in the way of the use

of such cast-iron guard has been that the cutting-edges wear faster than the center of the guard between such edges; consequently the guards become rounded on their faces, thereby preventing perfect contact of the sickle with the cutting-edges of the guard.

The object of my invention is to obviate the difficulties named, together with others incident to the use of cast-iron; and to this end my invention consists in making the body of the guard, comprising the shank, wings or shoulders, and cutting edges or face, by stamping or forming the same in dies from plate metal (steel or iron) of uniform thickness, and in skeleton form, substantially as shown in the drawing, whereby the desired strength is obtained, together with the smallest possible amount and weight of metal, as hereinafter described.

It further consists in forming the cap of the guard or finger from plate metal, and uniting or combining the same with the guard, as hereinafter set forth.

In the accompanying drawings, A represents the body of the guard, formed in dies or stamped from plates, (iron or steel,) and made hollow its entire length, as represented in cross-section in Fig. 3 and in longitudinal section, Fig. 2. B represents the shank through which the guard is attached to the finger-bar, the securing-bolt passing through the bar and through a hollow stud, *b*, punched in the shank B. C C are the wings or shoulders of the guard, against which the forward edges of the finger and sickle bars rest, the former against the inclined portion *c* and the latter against the portion *c'*, in the same manner as with the usual cast-iron guards. The relative arrangement of the guard and finger and sickle bar will, however, differ, according to the form given to the guard, which may be varied to suit the views of the manufacturer.

A' is the cap, made of plate-iron stamped in dies to fit the point of the body A of the guard, and is shown in the drawings as being secured to said body by means of spurs or prongs *a*, passing through perforation at *a'*, and then riveted; but it is evident that many other modes of securing the parts together may be adopted, as experience may suggest, and it may be deemed advisable to extend the lower face of the points of the cap A', at the point of its junction with body A, at *a*², rear-

ward, forming a sort of lip under which the point of the body shall enter, in which case the lip will serve not only to support the cap in its proper position, but also to prevent grain or grass from entering and becoming caught in the joint formed by the union of parts A A'.

The hollow stud *b*, I make, preferably, a little less in height than the sides *b'*, in order to insure a full bearing of the guard against the under side of the finger-bar, and the height of wings C C should be such that the sections of the sickle shall lie flat upon edges D D, in proper position for cutting effectively.

The wings C C, I usually make of such lengths that, when the fingers are secured at proper distances apart upon the finger-bar, said wings will join each other, and thus assist in preventing lateral motion in the fingers, and will also form a continuous shield to protect the sickle-bar from injury from any substances in the track over which the cutter may pass.

The cutting-edges D D, serving the same purpose as the leger-plate used in the ordinary construction, may be either formed in separate

pieces and afterward attached to the guards, by welding or other means, or they may be formed in suitable shape in one piece with the finger, and then steelified, or simply hardened or tempered, as the nature of the material employed and experience shall render advisable.

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

1. The body A of a harvester guard-finger, provided with wings or shoulders C C, and stamped or swaged from a single piece of metal, substantially as set forth.

2. The cap A' of a harvester guard-finger, stamped or swaged from a single piece of metal, substantially as set forth.

3. A harvester guard-finger composed of the body A and cap A', made separately, as described, and combined substantially as set forth.

ADDISON CROSBY.

Witnesses:

FRANK H. W. GREGG,
EDSIL J. MOLLY.