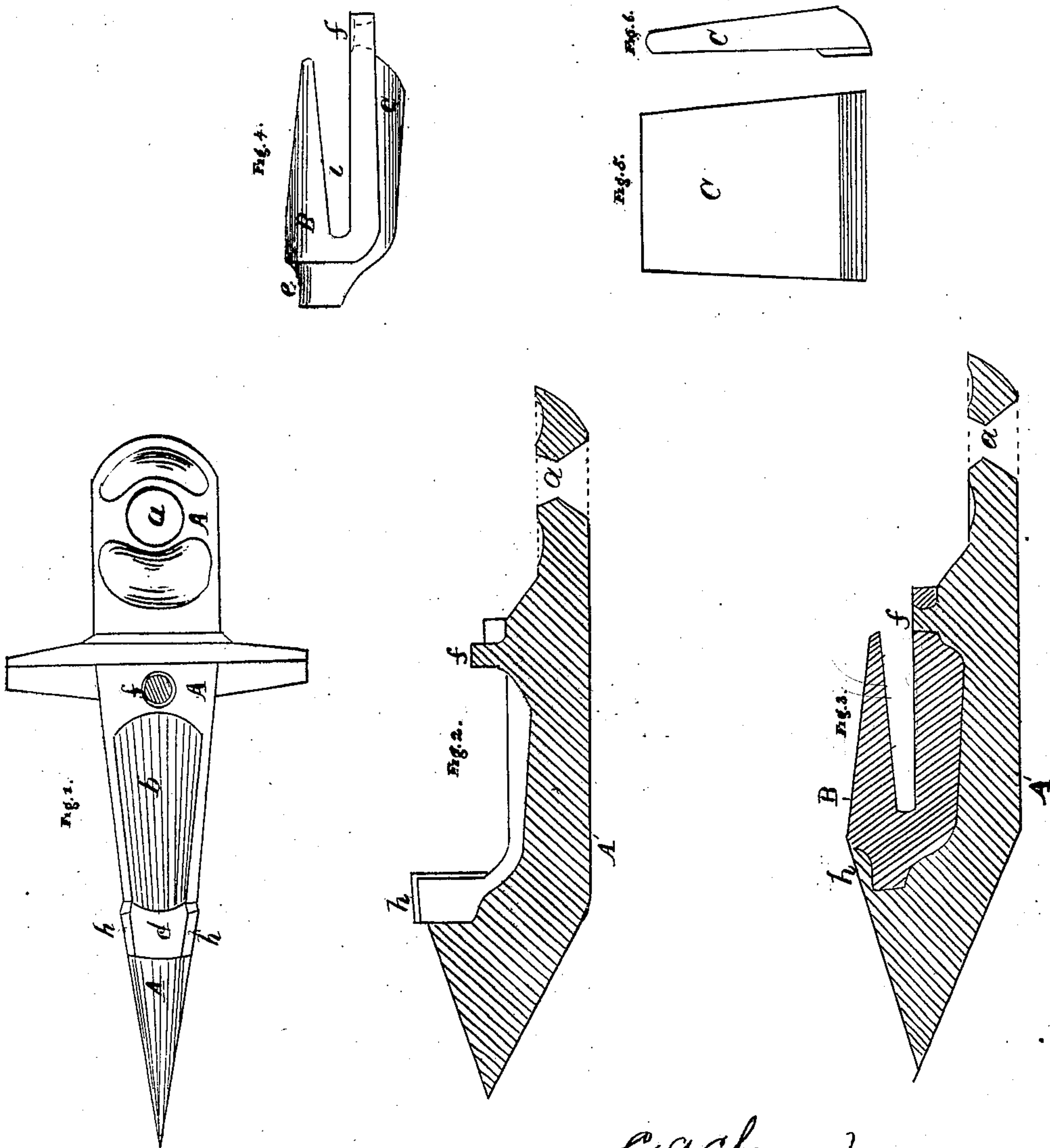


*W.A. Wood,
Harvester Cutter.*

No. 71,257

Patented. Nov. 19, 1867.



*C. A. Cheney }
Attn. E. M. Cox } Witness*

Wm. A. Wood

United States Patent Office.

WILLIAM ANSON WOOD, OF HOOSICK FALLS, NEW YORK.

Letters Patent No. 71,257, dated November 19, 1867.

IMPROVEMENT IN HARVESTER GUARD-FINGERS.

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, WILLIAM ANSON WOOD, of Hoosick Falls, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in the Mode of Constructing Guard-Fingers for Harvesting Machines; and I do declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents the lower portion of the guard-finger before the cap and lining to the cutter cavity is fastened to it, and is a top view thereof.

Figure 2 is a longitudinal section through the centre of fig. 1.

Figure 3 is a side view of the piece which forms the cap, and the lining to the cavity through which the cutters vibrate.

Figure 4 is a longitudinal section of the guard-finger, when completed, through the centre thereof.

Figure 5 is an elevation of the chill used in casting the cap and lining piece, when the same is made of cast iron.

Figure 6 is a transverse section of fig. 5.

My invention relates to the combining, in the construction of guard-fingers for harvesters, two kinds of metal, or two varieties of the same metal, in such a way that the larger portion thereof shall have for its characteristic quality toughness or strength, to withstand the strain of constant use and the shocks of accidental collision with foreign matter, to which, from the nature of the case, it must be subjected; while the other portion has for its characteristic quality, hardness, to make a sharp cutting edge, to withstand the vibrations of the cutters, and their action thereon, in severing the stalks of the crop to be cut; the whole forming a cheap, effective, and durable guard-finger.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A is the main part of the guard-finger, made of malleable or wrought iron, as the case may be, provided with a hole, *a*, at its heel, for the reception of the bolt, to hold it to the finger-bar, and may be attached to the finger-bar in any of the well-known ways, and is constructed, as shown in figs. 1 and 2, with a solid point, but is hollowed out from a point, just in front of the point of the cutter, to the heel of the guard-finger, or to a point near to where it joins the finger-bar. B is a piece of cast chilled iron or hardened steel, which is made in such form that its lower surface fits into the upper surface, made for its reception in the main part of the guard-finger A, the depression *b*, in the main part, receiving the swell *c* of the harder part B. The cavity or depression *d* in the main part A of the finger towards the point, receiving the round part *e* of the portion B, while the projection *f* passes through the hole *g* in B; or, if deemed advisable, a rivet may be used, passing through both A and B, instead of the projection *f*. In case malleable iron is used, the projection *f* is preferable, as it can readily be headed down and used in place of a rivet, and save drilling for a rivet. On each side of the depression *d* is left a lip, *h*, and of such height and thickness that, after the piece B is inserted, these two lips may be readily closed down over the end *e* of the part B with a hammer, making a close fit, and holding the forward end of the cap or hardened piece securely in its place, while its rear end is held either by heading down the projection *f* into the countersunk portion of the hole *g*, or by passing through both a rivet, and riveting each end thereof. Figure 4 shows the two pieces fastened together and the guard complete.

As before stated, this style of guard-finger may be made from malleable or wrought iron, for the main part, combined with common chilled cast iron or hardened steel for the other, or any substance whereby sufficient strength is attained in the one, and a durable cutting edge in the other. My preference, however, is for a malleable lower part for securing strength, and an upper part, cast over a chill of cast iron, of good quality. When this material is used, the chill C, figs. 5 and 6, is inserted in the sand in the usual way, and thus the interior surface of the cavity *i* is made as hard as hardened steel; and when the guard-finger is properly ground, the edges of the guard-finger, exposed to the knife, will present an edge which will not be rounded over by use, or be cut into by the knife, as is frequently the case, and thereby stop entirely the action of the cutters. It is also desirable that that portion of the guard-finger which overlies the cutters should be hard, for, although the

most of the crop is cut between the lower limb of the guard-finger and the cutter, yet the top portion, or that portion which overlies the cutters, has also to do its share towards holding up the crop to be cut, and not unfrequently in stony or uneven lands the cutters are forced up, either by the small stones getting under the cutter or by the rolling or twisting of the finger-bar, so as to bring the cutting edge in contact with the upper limb or cap of the guard-finger. Of course, if the upper limb is made hard, there will be as good a cutting edge above as below the knife, and thus all emergencies of this kind will be provided for.

I am aware that guard-fingers have been made of two kinds of material, one soft and another hard, and the cutting cavity through which the cutters vibrate has been lined with hard iron or hardened steel, and I do not claim this device broadly; and I do not claim the simple lining, as the cap or upper limb is too thin to admit of any practical lining. My plan is to make the whole guard-cap or upper limb of the guard-finger, together with the facing of the entire cavity, of one kind of metal, and in one piece, and the remainder of the finger of another.

Having thus fully described the nature and object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. Inserting in the main body of a guard-finger for a harvesting machine a piece of metal, harder than the main body of the guard-finger, when the piece so inserted shall form the entire guard-cap, and also a complete lining to the cutting cavity, through which the cutters vibrate.

2. Constructing a guard-finger with lips *h h*, in combination with the hardened piece B, or their equivalents, substantially as and for the purpose set forth.

WM. ANSON WOOD.

Witnesses:

C. A. CHENEY,
JOHN E. WILCOX.