(No Model.)

# W. H. SHAROOD.

## CUTTING APPARATUS.

No. 308,328. Patented Nov. 18, 1884.

Fig. 1.

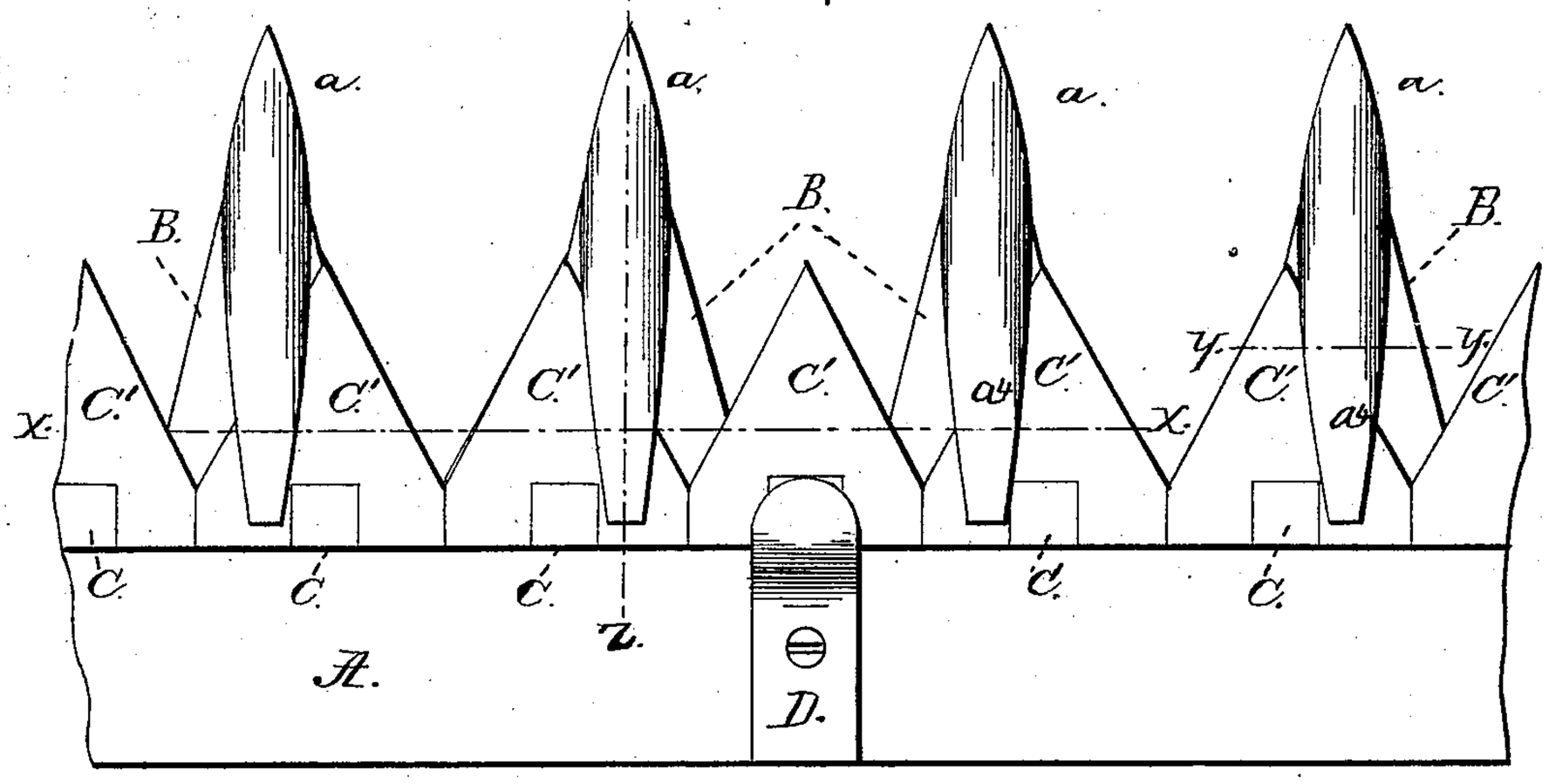



Fig. 2

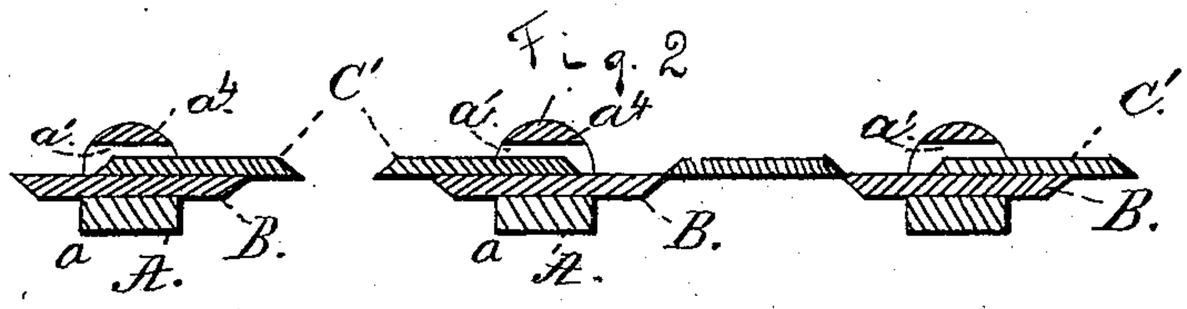



Fig. 3

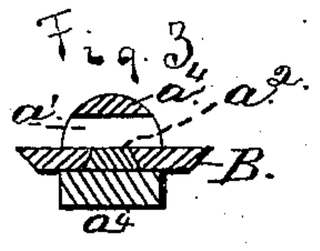



Fig. 4.

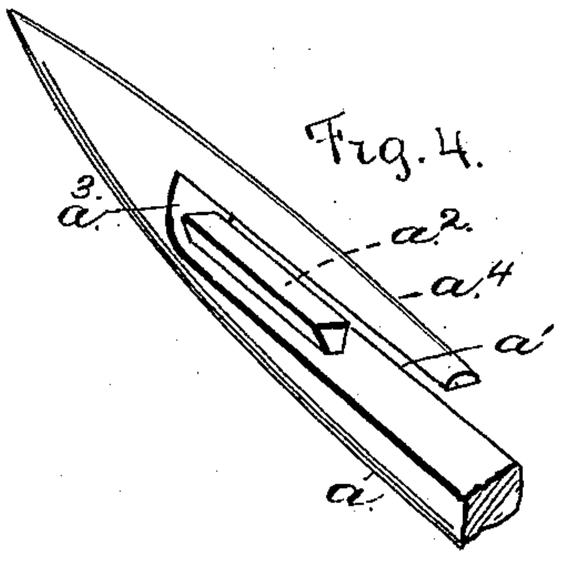



Fig. 5.

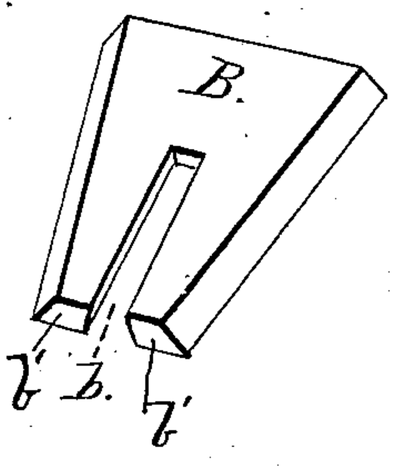
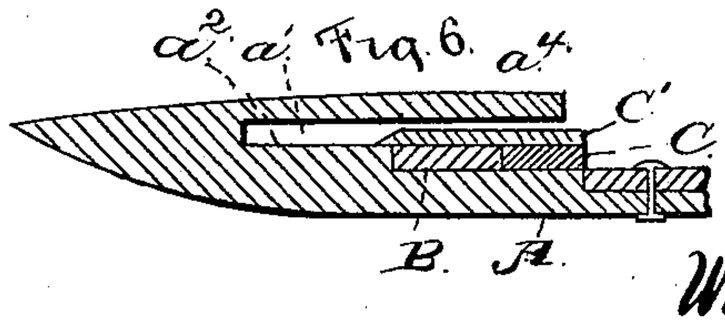



Fig. 6.




Witnesses.
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# UNITED STATES PATENT OFFICE.

WILLIAM H. SHAROOD, OF HOLLAND, OHIO.

## CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 308,328, dated November 18, 1884.

Application filed August 8, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SHAROOD, a citizen of the United States, residing at Holland, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Cutting Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in cutting apparatus for harvesters; and it consists in the construction, combination, and arrangement hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a section of a finger and cutter-bar in position for operation. Fig. 2 is a section on line *x x*, Fig. 1. Fig. 3 is a section on line *y y*, Fig. 1, with the cutter-bar blade removed. Fig. 4 is a detail perspective view of one of the fingers. Fig. 5 is a perspective view of one of the lower blades inverted; and Fig. 6 is a sectional view on line *z z*, Fig. 1, all of which will be described.

The finger-bar A is provided with the fingers *a*, slotted longitudinally to provide the cutter-bar passage *a'*. These fingers, at the bottom of the passage *a'*, are provided with ribs or projecting ridges $a^2$, inclined on their opposite sides to form a dovetail, as shown in Figs. 3 and 4. The lower blades, B, are inclined on their sides from front to rear, presenting in plan view the appearance of a truncated cone, and they are beveled at these sides on their lower edges, as shown in Figs. 2 and 3, to form the cutting-edge on the upper face of the blade. A slot, *b*, is cut from the front edge of this lower blade, and is made in dovetail shape to fit the rib $a^2$, on which it is slipped, as shown in Fig. 3 and will be readily understood from the detached illustration of the parts in Figs. 4 and 5. It will be understood that, instead of making this slot open entirely through the lower blade, it might be simply a groove cut in the under side of the said blade; also, that the sides of the fingers below the passage *a'* might be inclined to receive the said lower blades, in which case, of course, the grooves formed in the under side of the latter would be correspondingly wider; but I prefer to employ the arrangement shown and before described. By means of this connection between the finger-bar and the lower blades the latter can be readily removed for sharpening, replacing of a blade, or for any other purposes desired. The cutter-bar C rests on the finger-bar with its front edge flush against the rear edge of the lower blades, B, as clearly shown in Fig. 6. The bar is held in this position by the ordinary guides or clips, D, one of which is shown in Fig. 1, or by other suitable guiding mechanism, as may be desired, and is moved rapidly back and forth in the operation of the harvester. This bar, it will be seen, holds the lower blades firmly in place on the dovetail rib, whence they can only be removed by the drawing of the cutter-bar laterally from in rear of the said blades, as will be readily understood from Figs. 1 and 6. The blades C' are mounted at their rear ends on the bar C, being secured thereto in suitable manner, and extend forward and rest close against the blades B. The blades C' are beveled at their sides, from their upper edges downward, opposite to the bevel of the lower blades, B, and in action the upper blades work against the edges of the lower ones, as clearly shown in Fig. 2, the adjacent faces of the two series of knives resting flush together.

In operation it will be understood the cutting-bar is given a rapid oscillatory motion as the machine is moved forward, and the grass or grain is cut between the edges of the upper and lower series of blades.

By the manner described of securing the lower blades in place a simple and durable fastening is obtained, and their removal for any desired purpose may be accomplished with but little trouble.

In practice it will be understood the fingers can be cast with the dovetail rib, and the lower blades can be readily cut to provide the grooves, and by the arrangement and fastening means described and shown the parts are readily secured in position, and the use of rivets, &c., is avoided.

The principal object of this invention is to dispense with all rivets or other small fastening means liable to be put out of order by the con-

stant vibrations to which the cutting apparatus of a harvesting-machine is subject at the point of greatest strain. I attain this end by means of the dovetail tenon $a^2$, projected above the surface of the finger, and having its forward end abutted against the end wall, $a^3$, of the opening $a'$, between the guard $a^4$ and the finger $a$, and the truncated blade B, which has formed in it the longitudinal dovetail mortise $b$, extended from its point or outer end rearward along its central line, and adapted to slide onto the tenon $a^2$. The blade is truncated, so as to provide the vertical ends, which abut snugly against the wall $a^3$ on opposite sides of the outer end of the tenon $a^2$. The upper face of the tenon is flush with the upper face of the blade B. When the blade is in position on the finger, it is braced at its point or outer end, where the greatest strain is felt, by the combined action of the abutting ends $b'$ $b'$ and the tenon $a^2$, so that it cannot work loose.

I do not claim, broadly, the method of securing sickle-blades by means of dovetail tenons and mortises, for such means have been employed heretofore for such purpose.

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

The combination of the guard-finger $a$, having the slot or opening $a'$ and the dovetail rib or tenon $a^2$, projected into the slot with its outer end abutted against the end wall, $a^3$, of said slot, and the truncated blade B, having the dovetail slot $b$, extending from its smaller end or point rearward along its central line, and having its ends $b'$ $b'$ abutted snugly against the end wall, $a^3$, on opposite sides of the rib $a^2$, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SHAROOD.

Witnesses:
ARTHUR C. KENT,
JAMES MCGREEVY.