M. B. Riggs,
Harvester Cutter.

No 36736

Patented. Oct 28 1862.

Fig. 2.

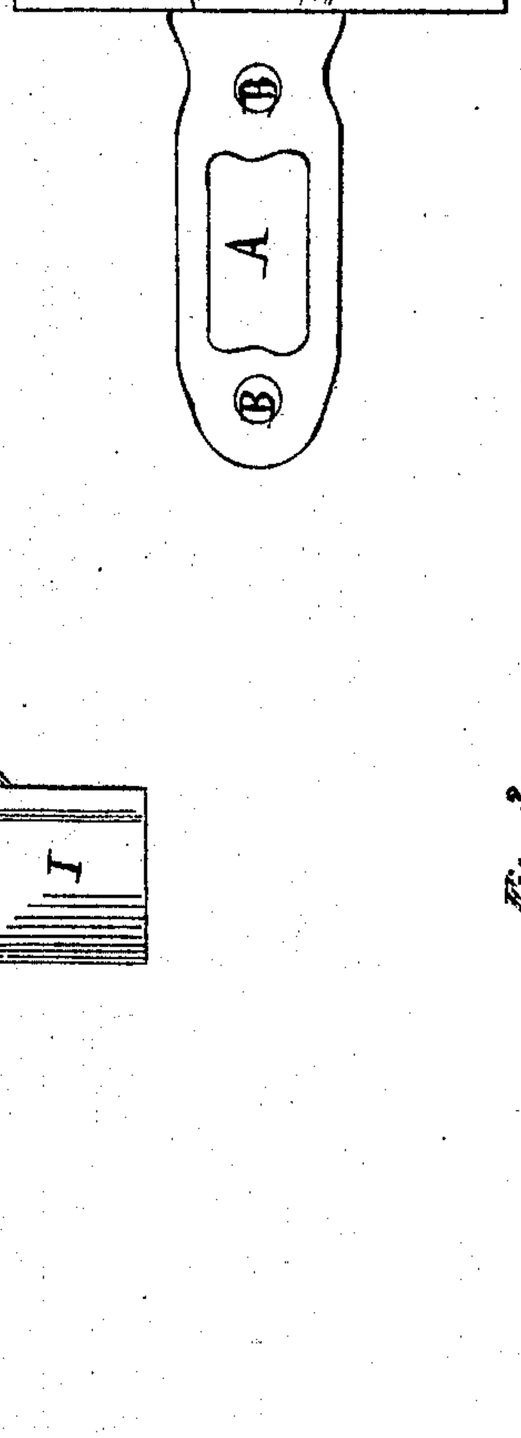

Fig. 4.

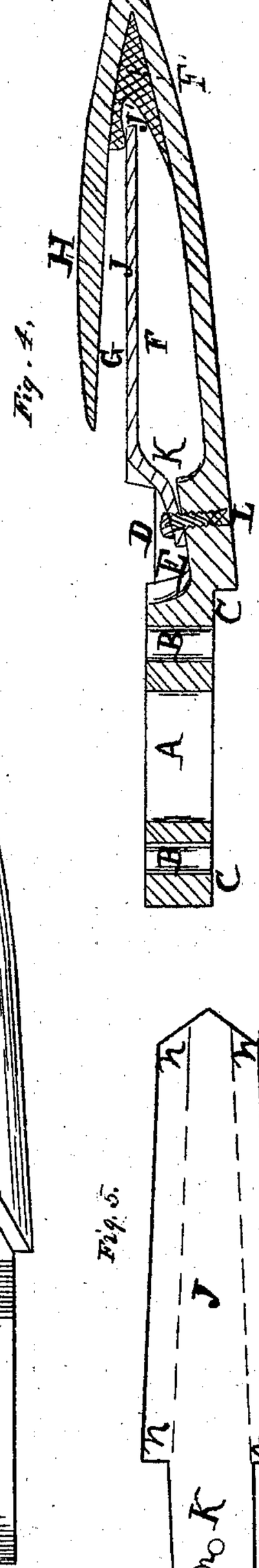

Fig. 1.

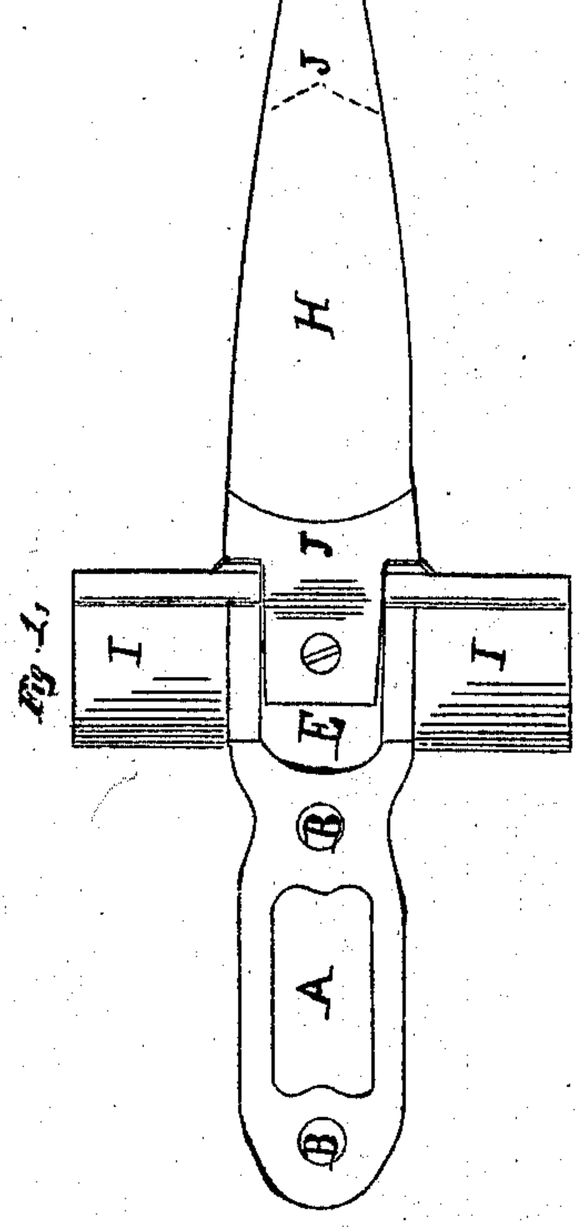

Fig 3.

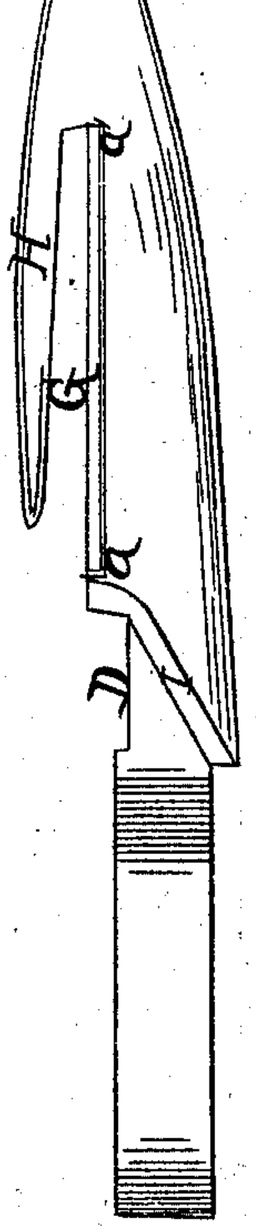

Fig. 5.

Witnesses
W. Hutchinson
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Inventor
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UNITED STATES PATENT OFFICE.

M. B. RIGGS, OF NEW YORK, N. Y.

IMPROVEMENT IN GUARD-FINGERS FOR HARVESTERS.

Specification forming part of Letters Patent No. **36,796,** dated October 28, 1862.

To all whom it may concern:

Be it known that I, M. B. RIGGS, of New York, in the county of New York and State of New York, have invented new and useful Improvements in Harvester-Fingers; and I do hereby declare that the following is a full and complete description of the construction of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view. Fig. 2 is an under side view. Fig. 3 is a side view. Fig. 4 is a vertical longitudinal section, and Fig. 5 is a top view, of the stationary cutter.

Like letters refer to like parts in the several views.

The nature of my improvement relates to the general form of the fingers, the same being so constructed that the metal composing them has a relative uniform thickness, for the purpose of annealing (the finger being made of cast-iron) to the cavity below the cutter-bar for fastening the stationary cutters to the fingers, as and for the purpose herein specified.

The shank A of the finger is cast open, as seen at A′, with the holes B for securing the same to the finger-bar by means of bolts, and this opening A′ and the holes B are so arranged that the metal is about one-fourth of an inch in thickness, being uniform, or nearly so, throughout the shank.

C C represent the position of the finger-bar. Upon the upper side of the finger is a seat, D, for the cutter-bar. Immediately below this is a cavity, E, the bottom of which forms a seat, to which the stationary cutter is secured, as hereinafter described. This cavity E is sufficiently broad and deep to allow room for the head of the screw or rivet which fastens the stationary cutter to project without coming in contact with the under side of the cutter-bar. The body of the finger is excavated, as seen at F, the cavity running near to the point, as indicated by the dotted line F′, thus insuring a relative thickness of metal. The body of the finger is open on each side into the cavity, as seen at G, in which the stationary cutter is secured and through which the moving cutters work. The upper portion of the finger H has a general thickness of metal not exceeding the other parts, and the finger as a whole presents in all its parts a great uniformity of thickness of metal, the design and intention of which is to enable me to anneal all parts in a uniform space of time; for, by means of annealing, I am able to make the finger-bar very light, and cause it to possess the strength and tenacity of wrought-iron.

I I represent cross-bars attached to and forming part of the finger. The length of these bars is such that they meet end to end between the fingers. The position is from a line even with the forward and upper edge of the knife-bar downward and backward to the forward edge of the finger-bar, thus protecting the latter from the friction of the stubble and protecting it from any object over which the machine may pass.

The stationary cutter J is formed from plate-steel, cut into the form shown in Fig. 5, the blade on its face being about the tenth of an inch wider than the body of the finger. The body of the blade lies in the recess *a a′*, Fig. 2. The forward end projects into the cavity F′ and forward of the shoulder *a′*, as seen at J′, which serves to secure the forward end permanently between the shoulders *a′ a′*.

The shank K of the blade J is narrower than the body of the blade, and is bent downward to fit the bottom of the cavity E, as seen in Figs. 1 and 4, and is there secured by means of a screw or rivet (I prefer a rivet) introduced from the under side of the finger, where the hole L is countersunk, the point of the rivet passing up through the hole *m* in the shank of the blade, which latter is not countersunk, and riveted, a head being formed thereby above the shank K. When secured in this way, all that is necessary to remove the blade is to cut off with a "cold-chisel" the point of the rivet which has been headed down, and with a punch the rivet can be driven out and the blade released; but a screw may be used, if desirable; but I prefer the former, on account of the facility with which the rivets are removed and replaced.

The blade J is flat or concave on the upper surface, the cutting-edges being beveled from below upward, so that in connection with the moving blade the action between the two is like that of shears.

The stationary blades are tempered only

upon their, edges from *n* to *n*, for the following-named reasons, by means of tongs the jaws of which cover the whole length of the blade, leaving only the edges exposed: First, in attempting to temper the whole blade it would warp, and could not be straightened without drawing the temper so much as to impair its cutting qualities, and, besides, it would be liable to break in use. By tempering only the edges the blade is not liable either to spring or break. Second, the blades occasionally need to be taken out and ground, which will of course make them narrower. By having the middle portion of the blade soft, by judicious hammering upon a flat anvil with the beak of the hammer, the blade may be widened from time to time without drawing the temper. The expansion need be only widthwise.

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

1. The construction of the finger with a cavity, E, so arranged as to permit the fastening of the stationary cutter J, as described, and also so as to secure nearly equal thickness to the walls, sides, and parts of the finger throughout, as and for the purpose hereinbefore described.

2. Fastening the blade J beneath the cutter-bar in the manner set forth, and for the purposes specified.

M. B. RIGGS.

Witnesses:
J. BRAINERD,
W. H. BURRIDGE.