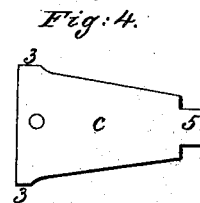
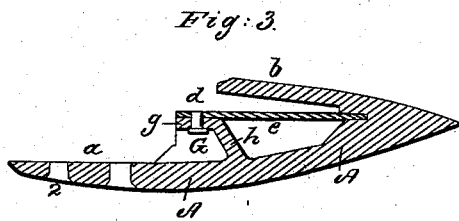
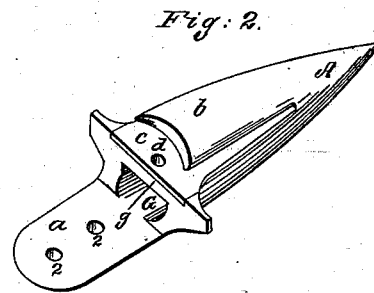
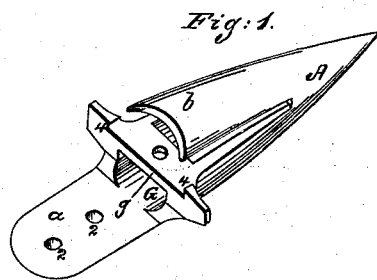


S. COPELAND.

Guard Finger for Harvesters.

No. 47,702.

Patented May 16, 1865.



Witnesses:

Thos. G. Dodge  
J. Henry Hill

Inventor:

Salem Copeland

# UNITED STATES PATENT OFFICE.

SALEM COPELAND, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN GUARD-FINGERS FOR HARVESTERS.

Specification forming part of Letters Patent No. 47,702, dated May 16, 1865.

*To all whom it may concern:*

Be it known that I, SALEM COPELAND, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Guard-Fingers for Harvesting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of my guard-finger before the steel plate is inserted therein. Fig. 2 represents a similar view of the same when the steel plate is inserted. Fig. 3 represents a longitudinal vertical section through the guard-finger. Fig. 4 represents a top view of the steel plate.

The present invention is an improvement on my guard-finger patented February 19, 1861, and has for its object to reduce the weight thereof and to make its several parts of a more uniform thickness of metal, so as to facilitate the process of annealing.

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

A represents the body of the guard-finger, whose rear part, *a*, is to be secured to the finger-beam by means of rivets or bolts, which are passed through the holes 2.

*b* represents the top of the guard-finger, and *c* the steel plate, which is provided with cutting-edges, and against which the vibrating cutter-blades of the sickle-bar operate. The edges 3 of the steel plate *c* are beveled, and the plate is slit in to the guard-finger between the dovetailed projection 4, and the point 5 of the plate enters a suitable recess in the body of the guard-finger, and the plate, when properly inserted, is thus held firmly. To secure it permanently to the guard-finger it is fastened thereto by means of a rivet, *d*, which,

on the guard-fingers used heretofore, extends through the entire thickness of the guard-finger. In making the guard-finger solid where the rivet passes through it, the metal thickness at that point far exceeds that of any other part, and thus presents an obstacle in annealing, besides unnecessarily increasing its weight. To avoid this I have cored out the finger at *G*, leaving a bridge, *g*, standing, through which the rivet *d* is passed, as shown at Fig. 3, and to support this bridge properly I provide an inclined brace, *h*, on the inner side of the bridge, and thus all parts are made of sufficient strength, considerably lighter in weight, and approximating a more uniform thickness than is the case in a solid guard-finger. The weight of the guard-finger is reduced not only in proportion to the cored-out part, but also to the extent to which the length of the rivet *d* is reduced. To secure the steel plate *c*, it is inserted into the guard-finger, and the latter is then placed upon a suitably-shaped anvil, which enters the recess *G* under the head of the rivet *d*, and whereby the bridge *g* is well sustained while the rivet is being headed down.

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

1. Coring out the rear of the guard-finger, in combination with fastening the steel plate by a short rivet to secure lightness and greater uniformity in the metal thickness of the guard, in the manner herein described.

2. Coring out the rear of the guard-finger, in combination with supporting the bridge *g* by an inclined brace, *h*, substantially as and for the purposes described.

SALEM COPELAND.

Witnesses:

THOS. H. DODGE,  
J. HENRY HILL.