M. L. Ballard.

Making Harvester Guards.

No. 2,16.

31,220.

Patented Jan. 29, 1861.

Fig. 1.

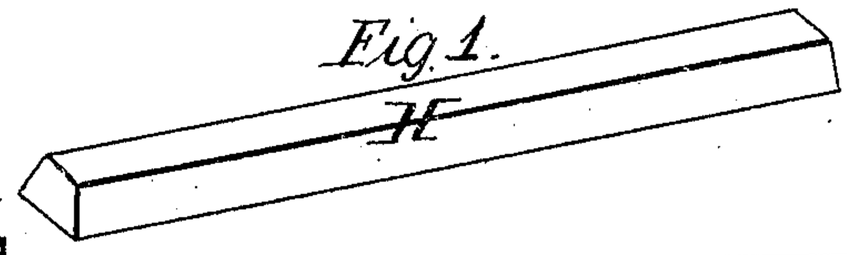


Fig. 2.

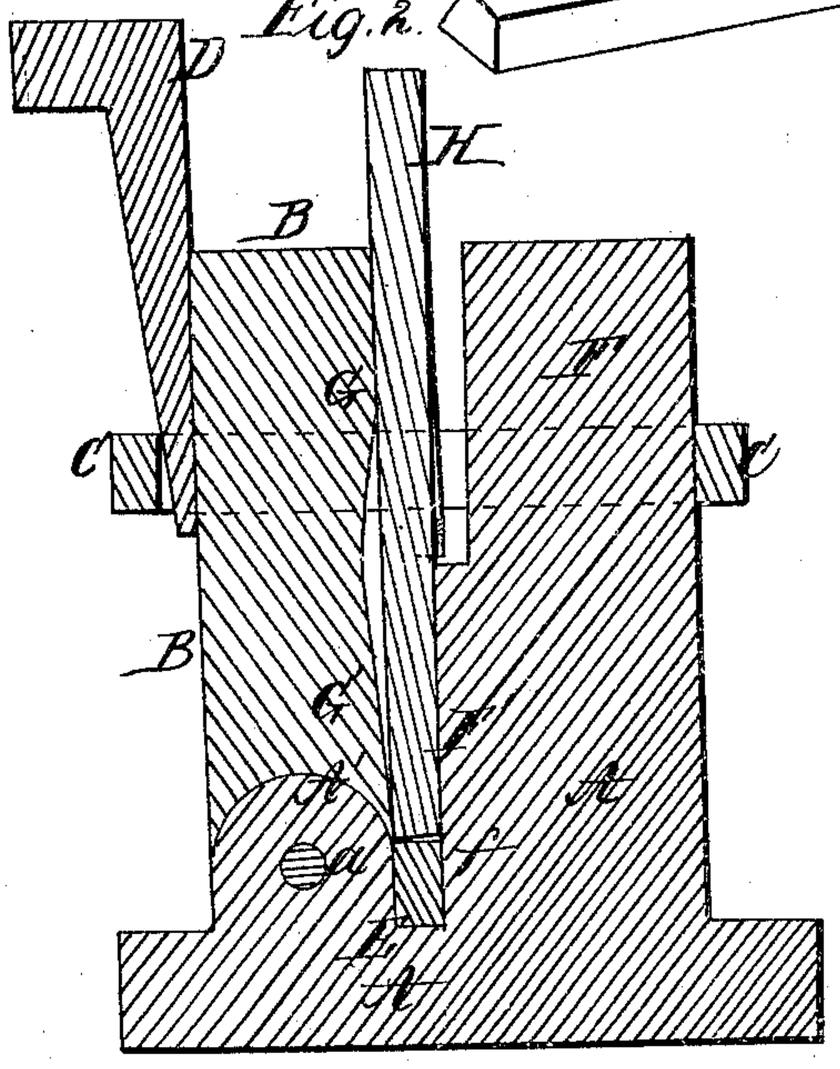


Fig. 4.

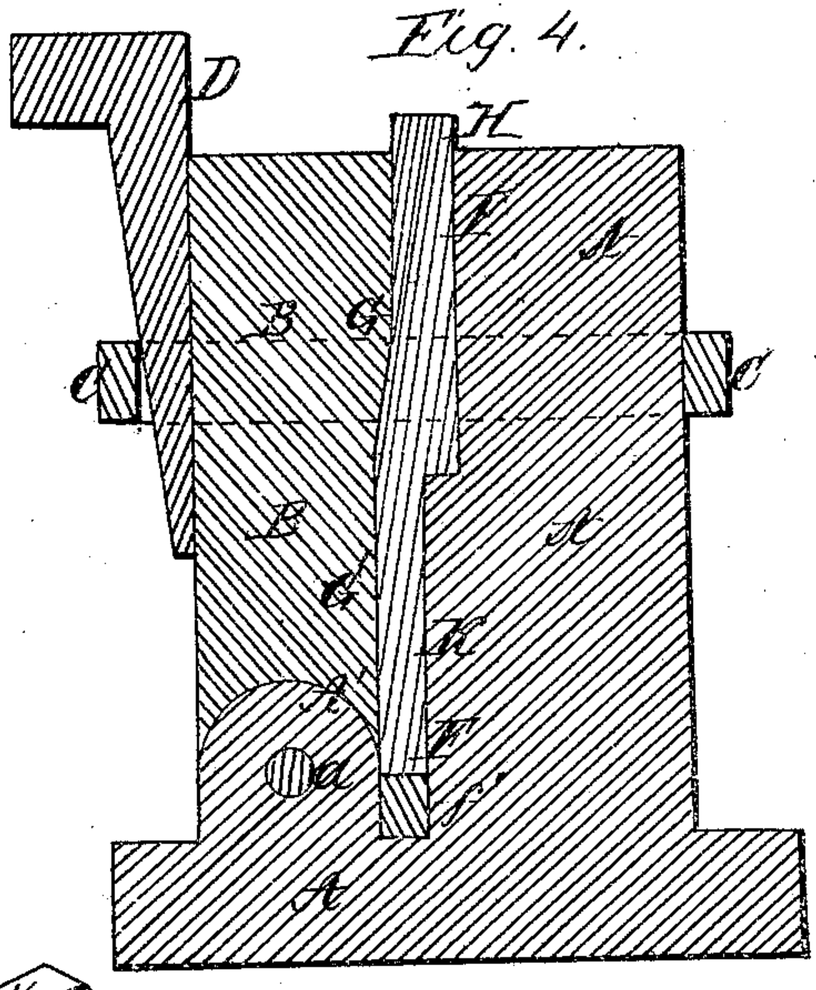


Fig. 6.

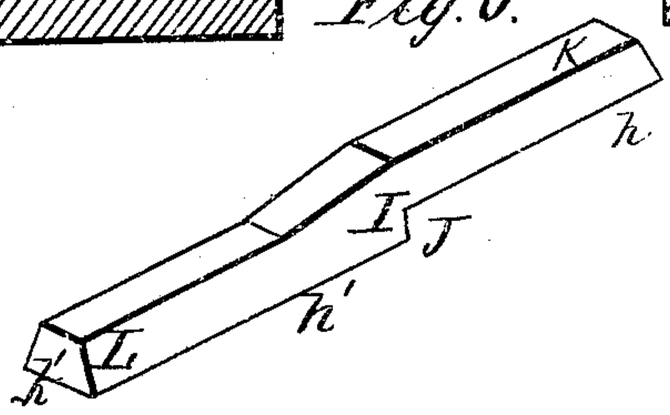


Fig. 3

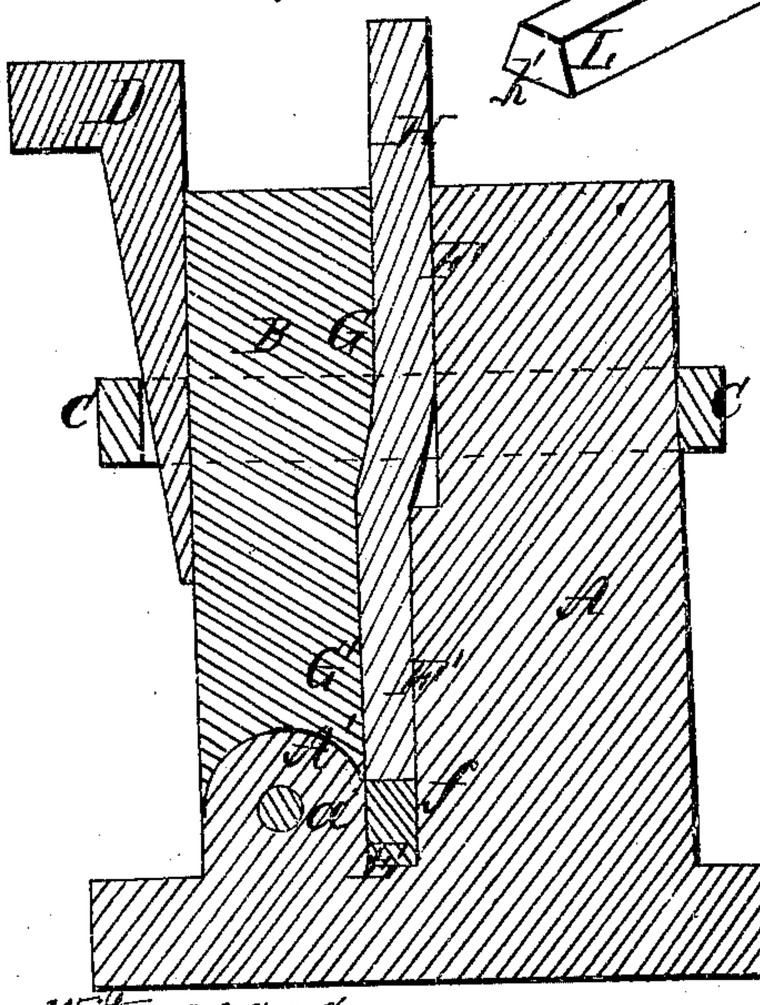


Fig. 7.

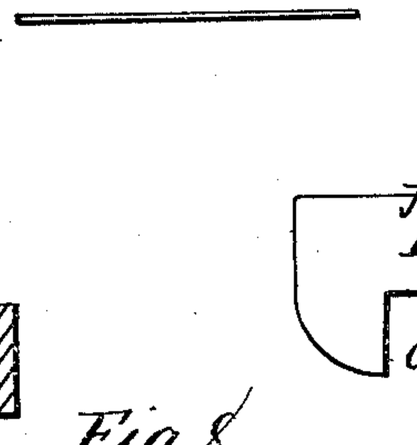
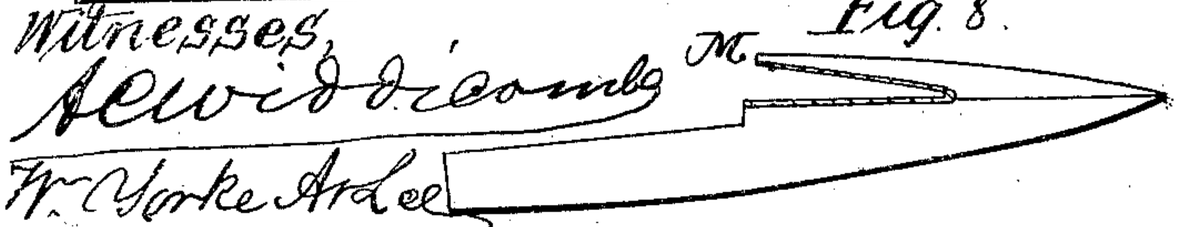


Fig. 5.

Fig. 8.



Witnesses,
Edwd. Edwards
F. Yorke Ardlee

A
Inventor,
M. L. Ballard
By his Attorney
Thos. H. Dodge

UNITED STATES PATENT OFFICE.

M. L. BALLARD, OF CANTON, OHIO.

MAKING FINGER-GUARDS FOR HARVESTERS.

Specification of Letters Patent No. 31,220, dated January 29, 1861.

To all whom it may concern:

Be it known that I, M. L. BALLARD, of Canton, in the county of Stark and State of Ohio, have invented a new, useful, and Improved Guard or Finger for Reaping and Mowing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a section or piece of iron H cut from a bar, and of just sufficient size to form one guard. Fig. 2 represents a section on line A B, Fig. 5, showing the position of the piece H, after it has been properly heated near the center and dropped into the groove G, G′, of the movable jaw B, with its lower end resting on the surface *f* of the movable key E, which should be slid up so that the part *d* will strike against A. Fig. 3 represents a similar view after the wedge D has been forced down between the ring or clasp C, and movable jaw B, whereby the parts are made to assume the position as shown in section Fig. 3. Key E is now forced back so that the surface *f′*, will be under the end of groove G, G′, when the operator with a sledge or hammer strikes on the upper end of piece H and forces it down until its lower end rests on the surface *f′* whereby the shoulder J is formed as shown in Fig. 4 which is a sectional view on line A B, Fig. 5. The wedge D, is now removed and the blank guard withdrawn when it will have the form shown in Fig. 6, K representing the shank of the guard *h*, the surface upon which the finger-beam is riveted. A thin piece of steel, shown in Fig. 7, is now welded upon the surface *h′*, after which the end L is drawn out and turned over to form the lip M of the guard as shown in Fig. 8, while the back part of the guard near the point where end L is bent, is drawn out to form the point N of the guard.

The operation of forming the lip and point of the guard is well known to the trade and need not be more particularly described. After the lip and point of the guard have been formed, the guard is subjected to a truing process by the aid of tongs which I shall make the subject matter of a separate patent.

The jaws A and B are hinged together as shown at B, B′, and A, a bolt *a*, passing through said parts and held in place by head *b*, and nut *c*.

The parts F and F′ have smooth surfaces, the groove into which piece H slides being formed in the movable jaw B. As this device or "staving block" will be made the subject matter of a separate patent it will not be more particularly described in the specification.

It will thus be seen that my guard possesses three very important features: First, the shank K is formed of nearly the proper form by rolling in the mill. Second, the shoulder is formed by "staving up" the section of which the guard is formed instead of drawing down a large bar, or of welding on a piece of iron or steel to form the shoulder, and third, the parts between which the cutters work are cased with a lining of steel, which features are all important in a guard or finger for reaping and mowing machines, thus constituting the guard an improved article of manufacture.

By the two first named features, much hand labor is avoided in the construction of the guards, while the shanks and shoulders are rendered very uniform and exact. Then again, the fiber of the iron is so arranged that the guard is not liable to break at the point where the shoulder is formed. By the last named feature, a good steel cutting surface for the cutters to work against is obtained, and one too, which is not liable to be started or twisted off, as is the case when the entire shoulder is formed by welding on a piece of steel. Then again it is a great advantage to have the under surface of the lip faced with steel, since it not only prevents the cutters from cutting into the lips, but also strengthens the lip, which is not the case when the lips are not so faced. The thin piece of steel answers all the purposes of the thick angular piece welded on heretofore, so far as a cutting surface is concerned, while it is more easily welded on, and consequently never has a tendency to scale or break off.

What I claim as my invention and desire to secure by Letters Patent, as an improved article of manufacture, is:

A guard or finger constructed in the man-

ner above described, whereby the shank and shoulder are formed with accuracy and precision from a section of iron of just sufficient size, in its cross section, to form the shank, while the surfaces of the guard on each side of the cutter are faced with a thin layer of steel.

In witness whereof I have hereunto subscribed my name.

M. L. BALLARD.

In presence of—
DANIEL GOTSHALL,
A. J. ALLEN.