BALTZLY & HOBSON.

Harvester Rake.

No. 18,229. Patented Sept. 22, 1857.

Fig. 1

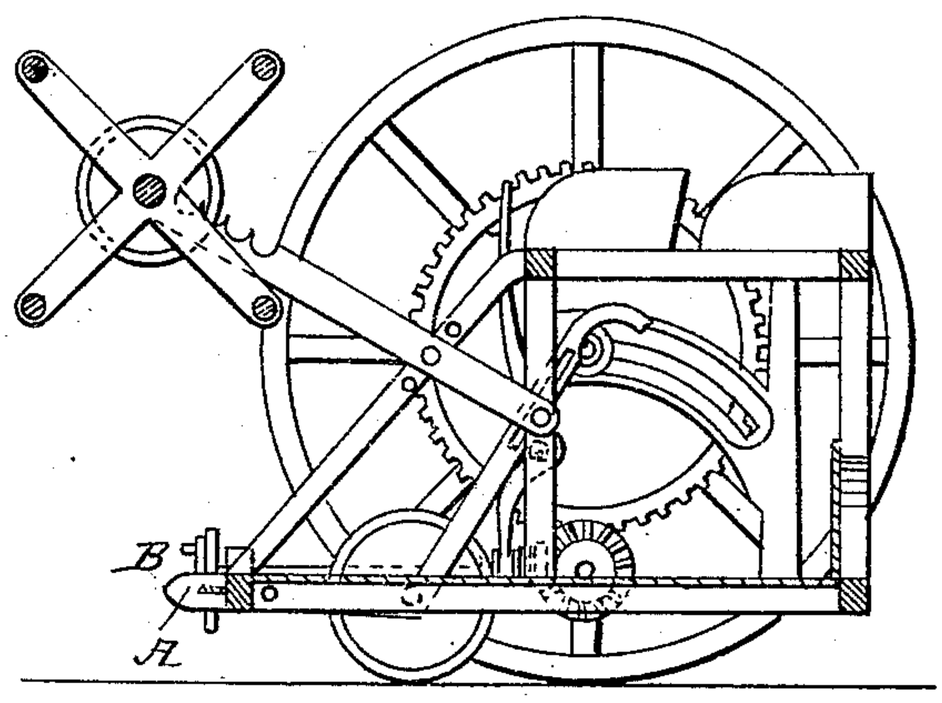


Fig. 2

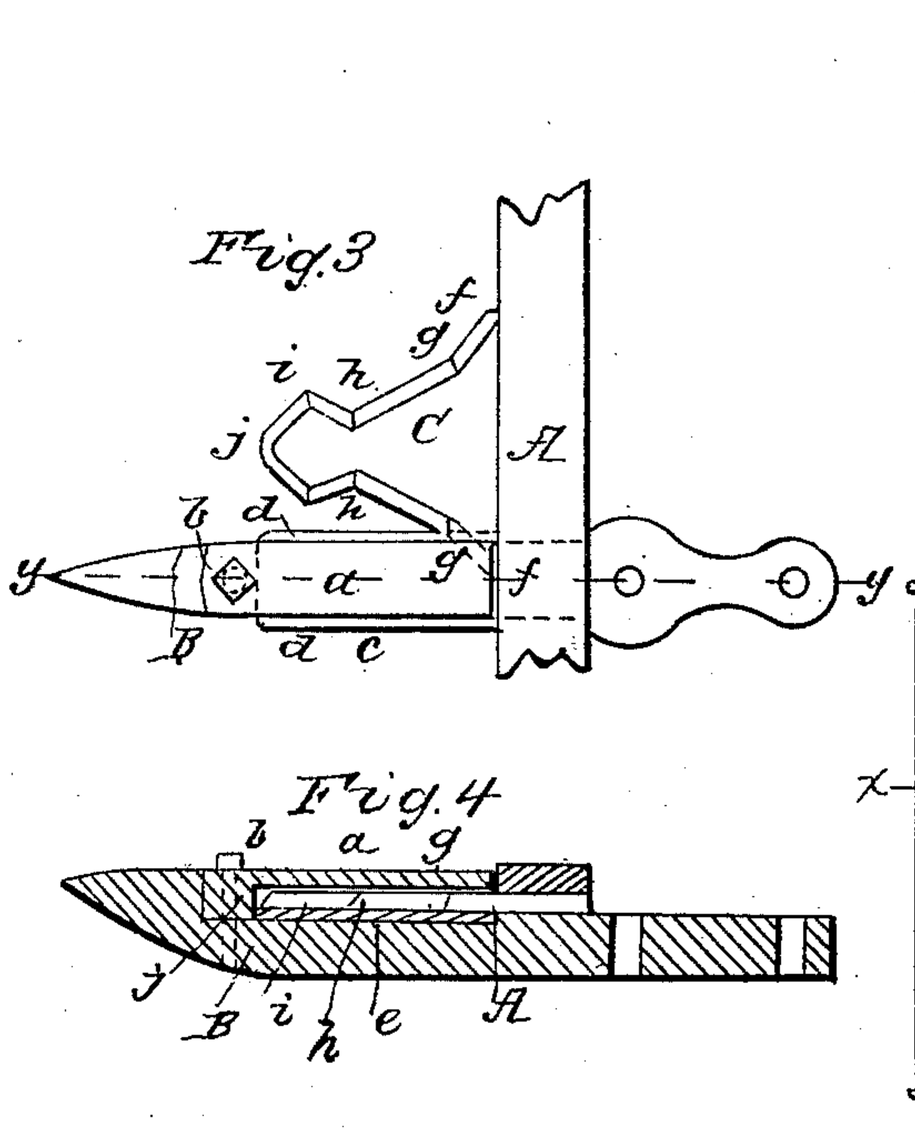
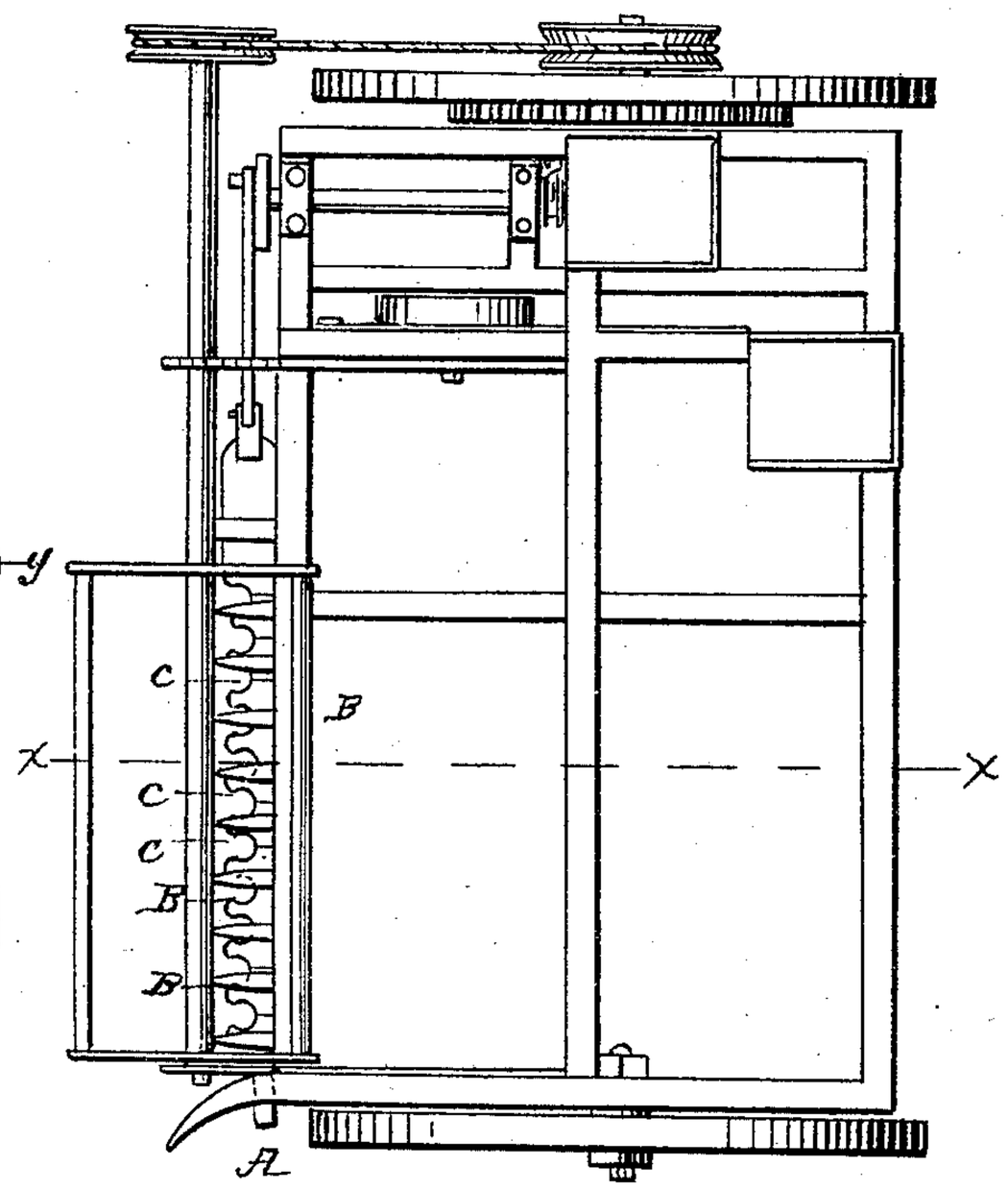


Fig. 3

Fig. 4



Inventors

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UNITED STATES PATENT OFFICE.

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IMPROVED CUTTING APPARATUS FOR GRAIN AND GRASS HARVESTERS.

Specification forming part of Letters Patent No. **18,229,** dated September 22, 1857.

To all whom it may concern:

Be it known that we, JOHN W. BALTZLY and WILLIAM HOBSON, of Pana, in the county of Christian and State of Illinois, have invented a new and useful Improvement in Grain and Grass Harvesters; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a transverse section of a harvester with our improvement applied to it. *x x*, Fig. 2, shows the plane of section. Fig. 2 is a plan or top view of the same. Fig. 3 is a detached plan view of a cutter and finger. Fig. 4 is a longitudinal vertical section of a finger, taken in the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists in the peculiar construction of the cutting device, as will be hereinafter fully shown and described, whereby the grass or grain, as the sickle vibrates, is prevented from being thrown outward from the fingers by the action of the cutters, and the cutting device thereby rendered far more efficacious than those in general use.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents the cutter-bar, which is fitted and works in the fingers B, as usual, or in a way common to the majority of harvesters (See Figs. 1 and 2.) The cutter-bar has a reciprocating movement, and may be operated in any of the known ways.

C represents the cutters, the back ends of which are attached to the cutter-bar. The cutters C work underneath caps *a*, which are attached by screw-bolts *b* to the upper surfaces of the fingers B, one to each. (See Figs. 3 and 4.) The upper surfaces of the fingers B are recessed, and a steel plate, *c*, is inserted in each one, the sides of said plates projecting a little beyond the sides of the fingers, and having a bevel or "basil" on the under surface at each side, so as to form a cutting-edge, as shown at *d d*, Fig. 3.

The plates *c* may be secured in the recesses in the fingers by screws, or in any proper way.

The cutters C are not of the usual triangular form. They taper at each side from the inner ends, *f*, to points *g*, and taper from *g* to points *h*, the parts included between *f g* and *g h* forming different angles with the cutter-bar A, so that obtuse angles are formed at the points *g*. From the points *h* the sides of the cutters expand or project outward to points *i*, and from thence converge to a point, *j*. The form of the cutters is plainly shown in Fig. 3. The cutters C work over the plates *c*, the cutting-edges of both being in contact, as the edges or sides of the cutters C are beveled on their upper surfaces. In consequence of this arrangement the cutters C are kept sharp, or in perfect working order. As the machine is moved along and the cutters C work to and fro over the plate *c* the grass or grain is prevented from being shoved outward by the action of the cutters in consequence of the shape or form of the same, for the parts of the cutting-edges included between the points *h i* will prevent the grass or grain being shoved outward by the parts included between the points *h g* and *g f*. The grass or grain, therefore, is confined between the cutting-edges of the cutters C and plates *c*, and cut with much greater facility than by the usual cutters, which are of triangular or saw-tooth form, and as they cut or pass over the fingers have a tendency to throw the grass or grain outward therefrom, and the cutting effect of the sickle is consequently much impaired. An attempt has been made to obviate this defect in the cutting action of the ordinary saw-toothed reciprocating sickle by shoulders or projections formed on the sides of the fingers to retain the grass or grain; but this plan has not been adopted, as the shoulders or projections have a tendency to clog the sickle, the grass or grain being liable to bind in stationary angles. In our improvement the sickle is not liable to clog, for the grass or grain is subjected at each side of each finger to one stationary and one moving cutter, the latter having two oblique cutting-surfaces, and a clean, smooth cut is obtained, no chance or opportunity being given for the grain or grass to clog the sickle, for there are no stationary angles in which it may collect, bind, or become wedged.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The reciprocating teeth C, constructed as shown at Fig. 3, in combination with the stationary cutting-plates *c* in the fingers B, for the purpose set forth.

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WILLIAM HOBSON.

Witnesses:
MILAN S. BECKWITH,
JNO. M. DAVIS.