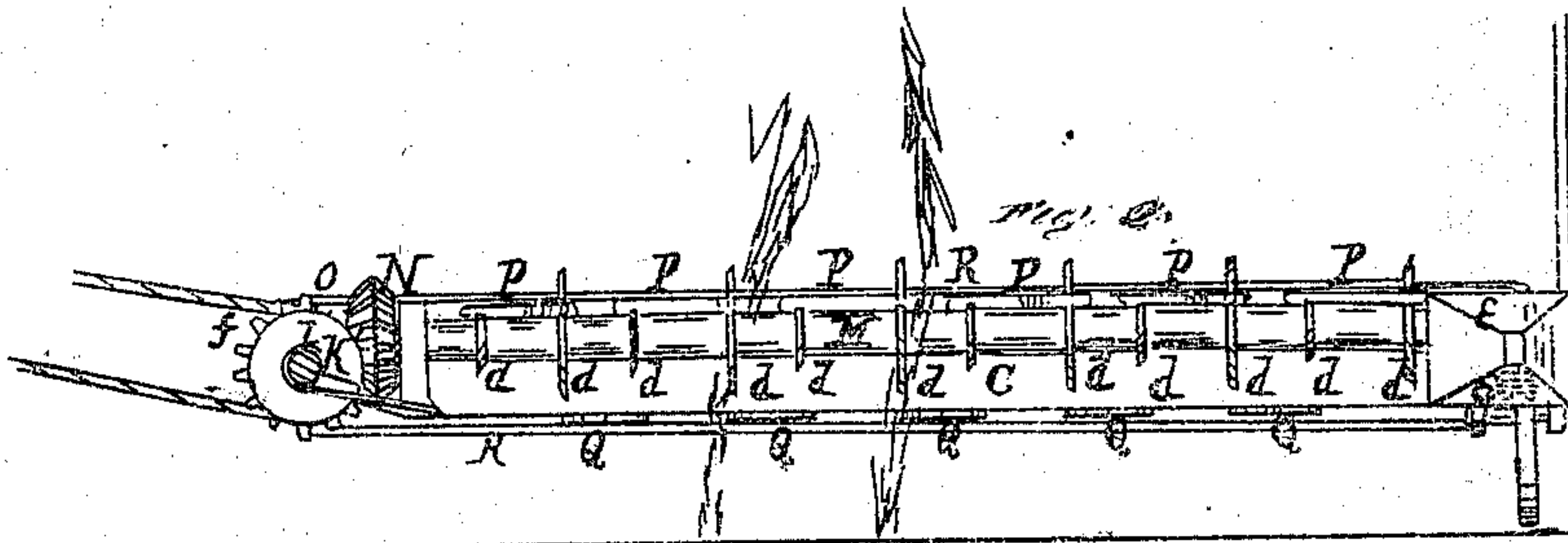
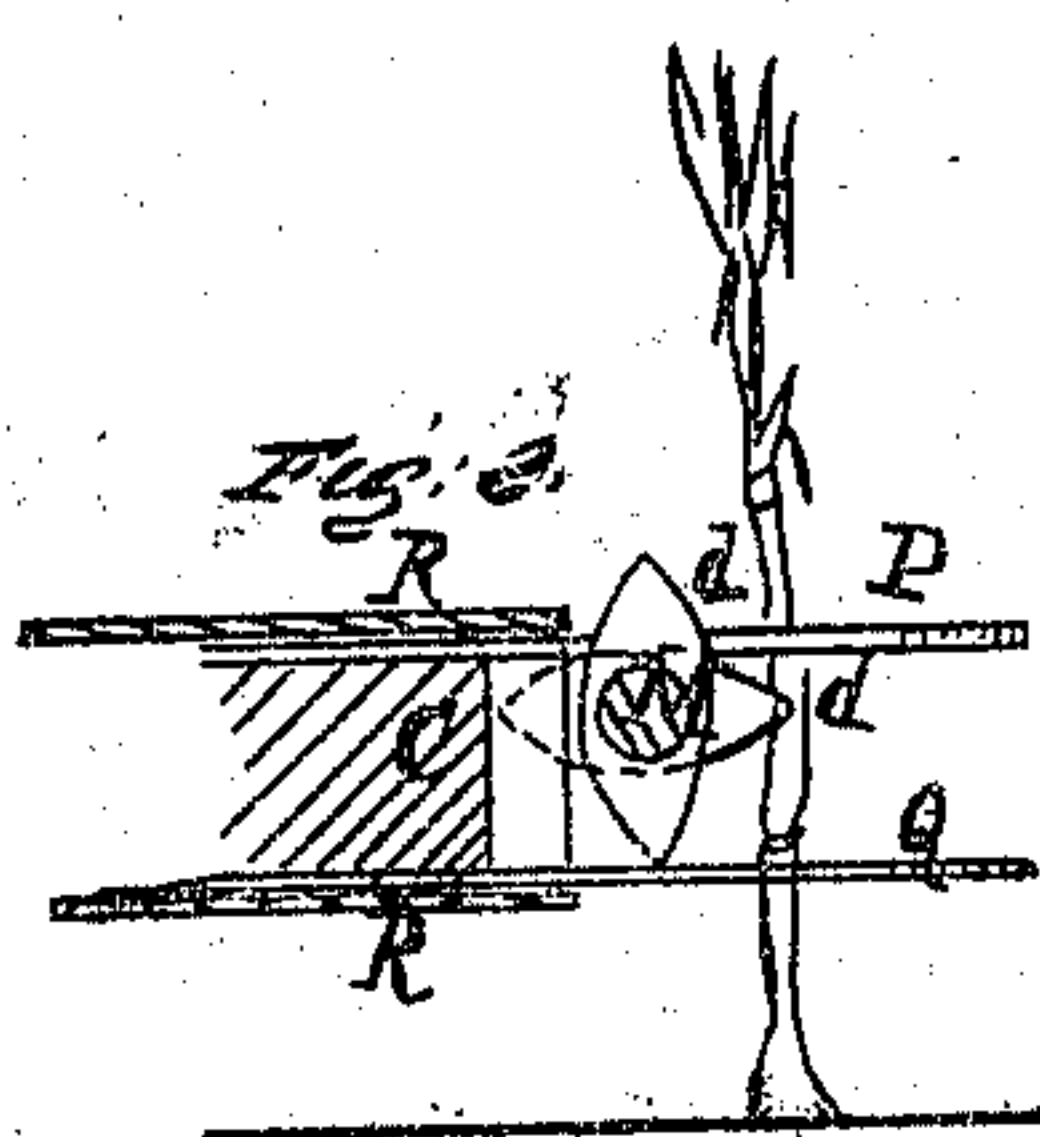
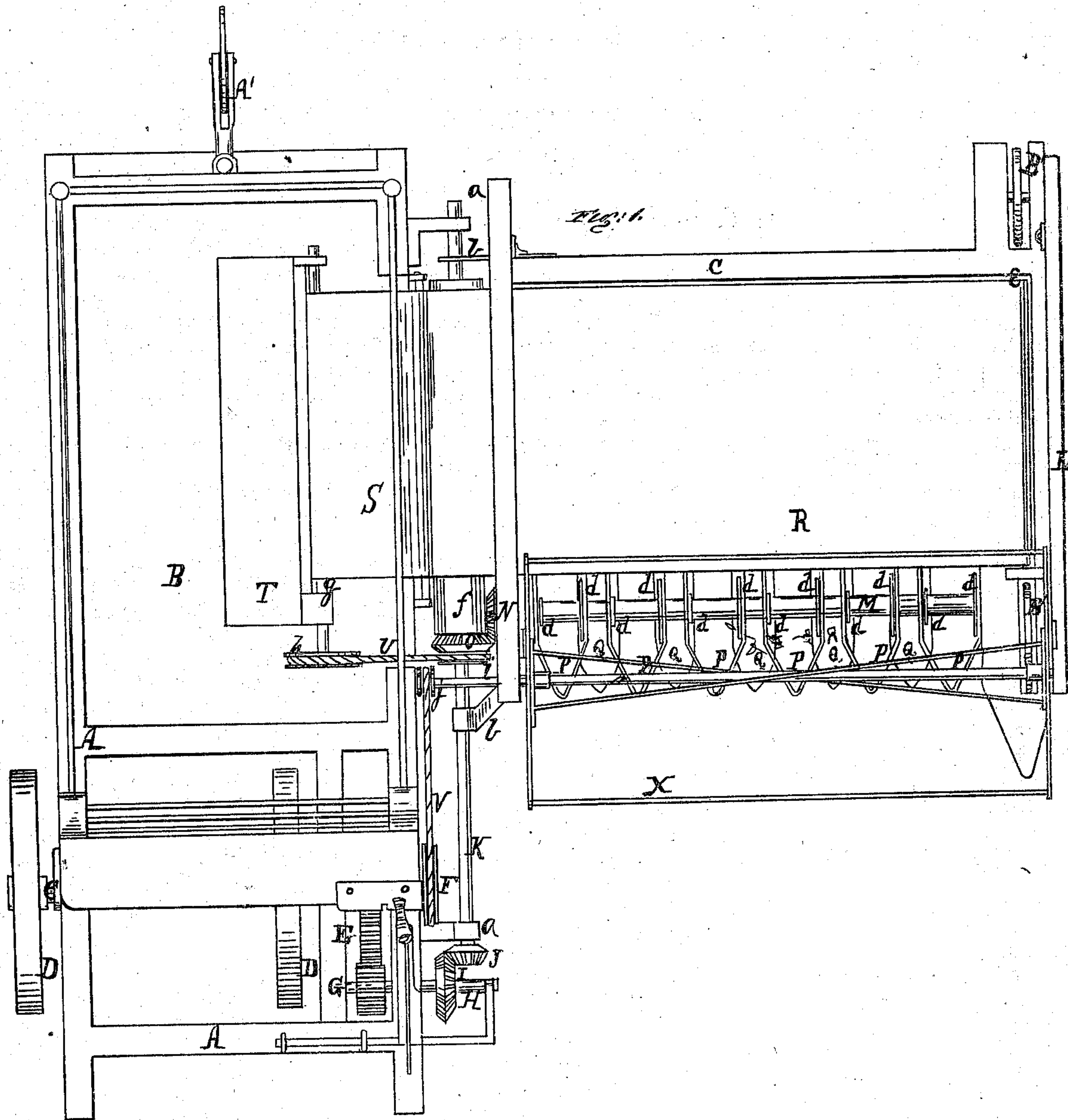


T. M. Lupton,  
Mower.

No. 12824

*Patented. May. 8. 1855*





# UNITED STATES PATENT OFFICE.

T. N. LUPTON, OF WINCHESTER, VIRGINIA.

## IMPROVEMENT IN GRAIN-HARVESTERS.

Specification forming part of Letters Patent No. 12,824, dated May 8, 1855.

*To all whom it may concern:*

Be it known that I, T. N. LUPTON, of Winchester, in the county of Frederick and State of Virginia, have invented a new and Improved Reaper and Harvesting-Machine; and I 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 plan or top view of my improved machine. Fig. 2 is a front view of the cutter-shaft and fingers. Fig. 3 is a transverse view of the cutter-shaft and finger-bar.

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

The nature of my invention consists in a peculiar cutting device for cutting the grass or standing grain, and which device will be hereinafter fully shown and described.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, Fig. 1, represents a rectangular frame, the back part of which is provided with a bottom, B, the side and end pieces of the frame forming sides to the bottom B, similar to a box. The front part of the frame A has a transverse shaft, C, upon it, on which the driving-wheels D D are placed, said shaft C serving as their axle. On the inner end of the shaft or axle C there is hung a toothed wheel, E, and also a pulley, F. The toothed wheel E gears into a pinion, G, which is hung on a small shaft, H, parallel with the shaft or axle C, and having on one end a bevel-pinion, I, which gears into a corresponding pinion, J, on one end of a shaft, K, which runs in bearings *a a*, attached to the inner side piece of the frame A, said shaft K being parallel with the side pieces of the frame A.

L is a rectangular frame, one end of which is secured to the shaft K, and consequently to the frame A, by means of said shaft passing through holes or eyes in metal plates *b b*, attached to the ends of the front and back bars, *c c*, of the frame L, which is therefore allowed to move up or down independently of the frame A, as the shaft K fits loosely in the holes or eyes of said plates *b b*. At the back part of the frame A there is a wheel, A', and also two wheels, B', at the outer end of the frame L. These wheels merely support the frames.

Directly in front of the front bar, *c*, of the

frame L there is a shaft, M, (see Figs. 1 and 2,) the ends of which work in suitable bearings in the frame L. At the inner end of the shaft M there is hung a bevel-pinion, N, which gears into a corresponding pinion, O, on the shaft K. The shaft M is provided with cutters *d*, any proper number being used. The form of these cutters is shown in Fig. 3. Each cutter is formed of two blades, which project an equal length from opposite sides of the shaft; or the cutters may be described as being of oval or elliptical form, and the shaft M passing through their centers.

To the front bar, *c*, of the frame L, which may be termed a "finger-bar," there are secured two sets of fingers, P Q, the fingers P projecting over the shaft M and the fingers Q underneath it, both sets of fingers projecting outward about the same distance beyond the shaft M, as shown in Fig. 3. The upper fingers, P, are formed of stout wire or iron rods, bent, as clearly shown in Fig. 1, so that each finger will inclose two cutters, the front ends of the fingers being bent so as to form a point. The cutters within the fingers are near the inner surfaces of the wire or rods forming the sides of the fingers, a cutter being at each side. (See Fig. 1.) The lower fingers, Q, are formed of metal plates pointed at their ends. The fingers Q are so attached to the finger-bar *c* as to be on a line between the upper fingers, P, (see Fig. 2,) and the wires or rods forming the sides of the upper fingers, P, project a short distance over the sides or edges of the lower fingers, Q. The cutters *d* are placed in a reverse position on the shaft M—that is, every alternate cutter is placed at right angles with the intermediate ones.

R is an endless apron which works over suitable rollers, two, *e e*, at the outer end of the frame L, and the other, *f*, on the shaft K. (See Figs. 1 and 2.)

S is an inclined endless apron, the lower end of which works over a roller attached to the frame A underneath the frame L. The upper end of the apron works over a roller, *g*, on a small table or platform, T, attached to the bottom B at the back part of the frame A.

U is a belt which passes over a pulley, *h*, at one end of the roller *g*, and over a pulley, *i*, on the shaft K.

V, Fig. 1, is a belt which passes over the pulley F at the end of the shaft or axle C, and



over a pulley, *j*, on the reel-shaft W. The reel X on said shaft is of usual construction, supported on proper framing, and requires no particular description.

Operation.—The team is attached to the front part of the frame A, and as the machine is drawn along the cutter-shaft M is made to rotate by means of the bevel-pinions N O, the shaft K being rotated by the bevel-pinions I J. The endless aprons R S are operated by the belt U, which passes over the pulleys *h i*, and the reel X being rotated by the belt V, which passes over the pulleys F *j*. The grass or standing grain passes between the upper fingers, P, and the lower fingers, Q, and as the lower fingers are placed in a line between the upper fingers, and the edges of the two sets of fingers slightly overlap each other, the grass or grain is inclined or bent over at an angle and brought within the sweep of the cutters and cut, (see Fig. 2,) which clearly shows the cutting process, the grass or grain being shown in red. The reel performs the usual office of keeping the grass or standing grain to the cutters.

The above cutting device is simple, not lia-

able to get out of repair, will work effectually, is not liable to clog, and can be manufactured economically.

The cut grain is carried to the box B by the endless aprons R S, and may be bound in sheaves on the bottom B by an attendant, and then thrown on the ground. In cutting grass the endless aprons may be dispensed with.

I do not claim the endless apron R nor the inclined apron S, as they have been previously used; nor do I claim the device for giving motion to the working parts, as that is common to the generality of harvesters; but

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

The employment or use of the cutters *d*, placed on the rotating shaft M, in combination with the two sets of fingers P Q, the above parts being constructed, arranged, and operating in the manner and for the purpose as herein shown and described.

T. N. LUPTON.

Witnesses:

J. R. LUPTON,  
W. G. RUSSELL.