

L. M. BATTY.

Harvester.

No. 98,220.

Patented Dec. 28, 1869.

Fig. 1.

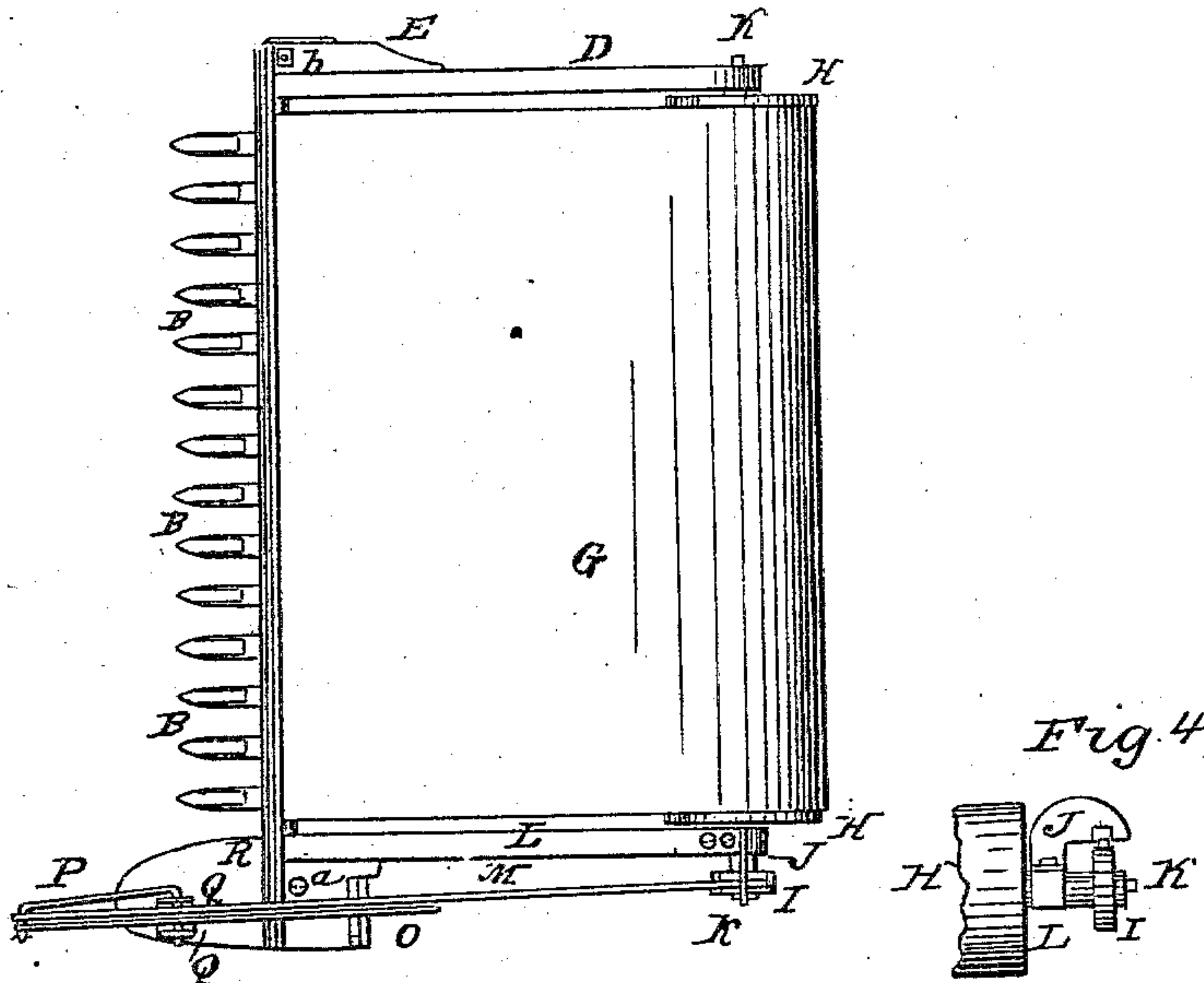


Fig. 4

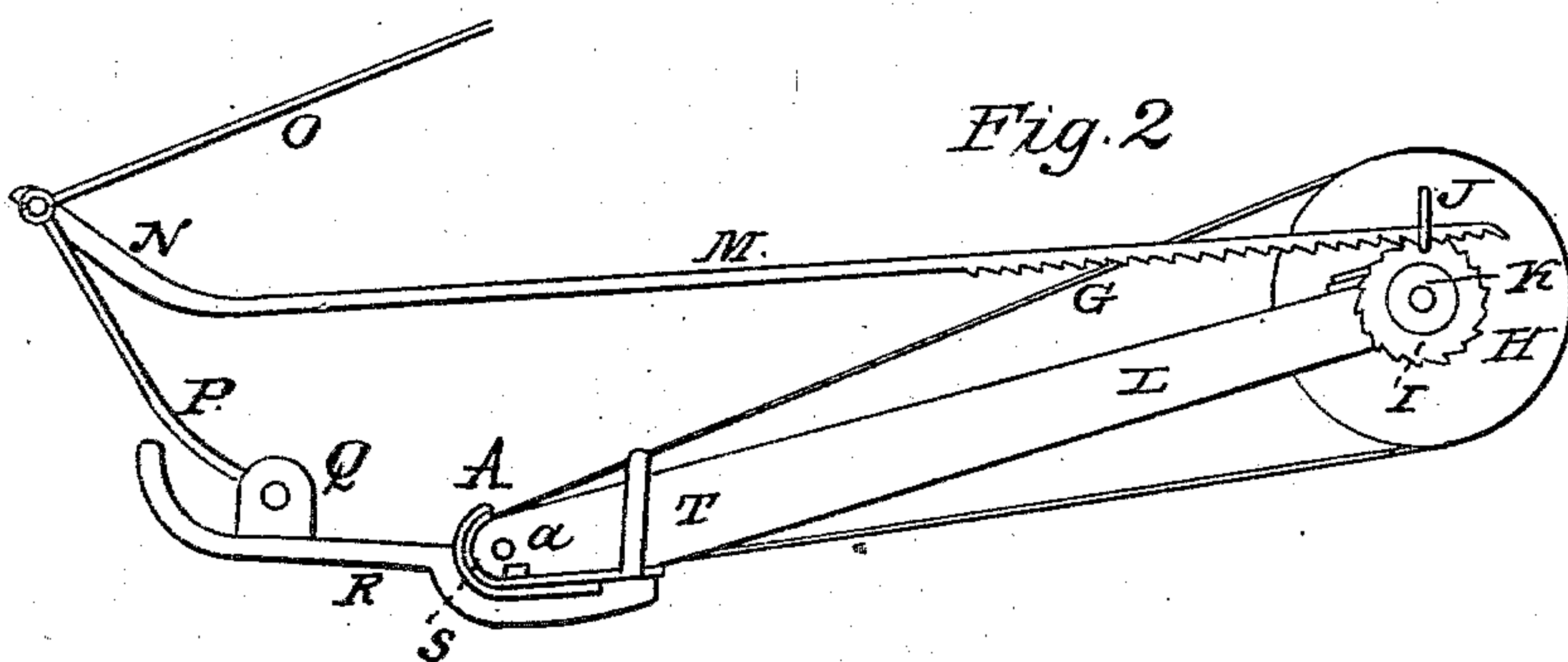
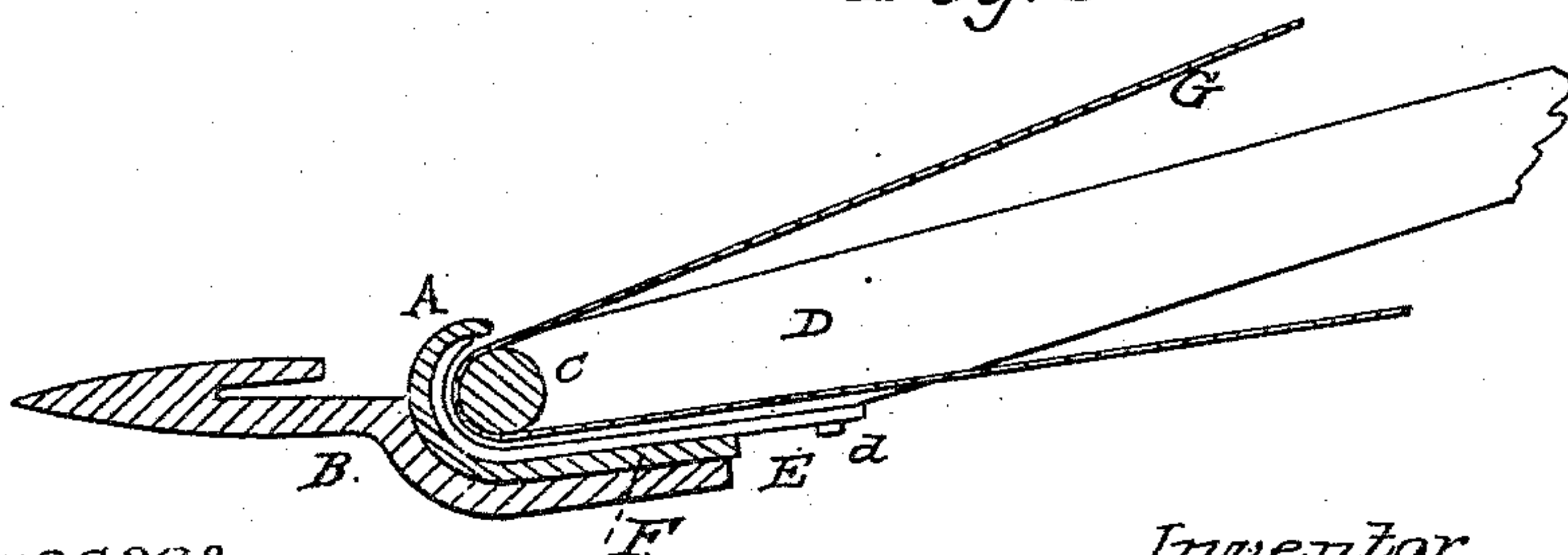


Fig. 2

Fig. 3.



Witnesses
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United States Patent Office.

L. M. BATTY, OF CANTON, OHIO.

Letters Patent No. 98,220, dated December 28, 1869.

IMPROVEMENT IN HARVESTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, L. M. BATTY, of Canton, in the county of Stark, and State of Ohio, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon, of which drawings—

Figure 1 is a plan of a harvester-bar and attachments, showing my improvements.

Figure 2 is an end elevation of the same.

Figure 3 is a sectional elevation of the same, taken through the finger-bar, and looking toward the toe of said bar.

Figure 4 is a detached detail of the apron-driving roller and ratchet-wheel.

In the construction of a harvester, with a mechanical delivery for the cut grain from the machine into sheaves, on the ground, it is desirable that the delivery-mechanism be brought as near as possible to the cutters, in order, that as the grain is cut, it shall fall fairly on to the delivery-mechanism, so that as it is carried off, the butts of the grain shall not drag on the finger-bar, and thus injure the evenness of the sheaf.

To effect this result is the object of my invention, which consists, first, in the combination, with a harvester finger-bar, constructed with a concave rear face, of a shaft or roller arranged parallel to the concave face of the finger-bar, and fitting in said face, whereby the desired result is very simply and cheaply effected.

The second part of my invention consists in the novel mode of arranging and operating an endless apron in the rear of the finger-bar, upon which the grain falls as it is cut by the machine, and by which it is delivered in sheaves in the rear of the machine, whenever desired, by the driver on the machine, in an easy and very successful manner.

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

The finger-bar A is of the general form shown, and is made of plate-iron or steel, curved into the concave form shown in fig. 3, the concavity being on the rear face of the bar. As is there shown, the general form of the front of the bar is that of a semicircle, but this can be varied to suit any requirements of construction, the point being that the bar shall, in all cases, be concave on the rear face, so as to admit the front of the delivery-mechanism, and that the upper side of the bar shall not extend further back than is necessary to cover the space between the rear face of the bar and the front half of the front roller of the delivery-mechanism, so as to avoid forming a face on the finger-bar, on which the butts of the grain would drag when the gavel was to be delivered.

The form of the bar insures all the necessary vertical stiffness, and if more lateral stiffness is required than would be obtained in a semicircular section of bar, one edge can be prolonged into the base-plate F, by which the lateral stiffness can be increased, and the apron be protected from injury.

The fingers B are made to fit the front and under side of the bar A, to which they are secured by rivets or screws in an ordinary manner.

The toe-plate E has its front end rounded up, so as to fit into the concave rear face of the bar A, to which it can be firmly secured by a single bolt, *b*, as the fitting of its front end into the concave face of the bar will effectually prevent either a vertical or lateral movement of the plate around the bolt.

The frame-piece D has its front end rounded off, so as to fit in the concave face of the toe-plate E, to which it is secured by one or more screws, *d*; the fitting of the end of said piece under the concave face of the plate E materially aiding in obtaining a stiff connection of plate and piece, as is readily seen.

The heel-shoe R is notched down and faced to receive the bar A, which fits into it, as shown in fig. 2, where it is retained by the plate S, which is curved up at the end, to fit in the concave face of the bar A, and is held by a screw, *a*, passing through it into the shoe R.

The frame-piece L is rounded off at the end, to fit up under the concave face of the plate S, and is secured to said plate by a screw or bolt, arranged similarly to the bolt *d*, in the piece D.

The roller C is arranged in the concave face of the bar A by journals, which work in boxes in the pieces D and L, and the driving-apron roller H is secured on a shaft, *k*, working in boxes at the other ends of the pieces D L.

The apron G, of cloth, leather, or other suitable material, passes around the rollers C H, as shown, and on it the grain falls as it is cut.

The ratchet-wheel I is secured at the end of the shaft *k*, and is caused to rotate by the rock-bar M, which is held over the ratchet-wheel by the notched guide-plate J, as shown in fig. 4.

The teeth on the ratchet-wheel I and rock-bar M are constructed and arranged as shown, so that as the rock-bar M is moved backward from the finger-bar, the roller H will be revolved, and the apron G moved backward to discharge its gathered load of grain; but in the forward movement of the rock-bar no movement of the apron G will be effected.

The bar M is curved up at its front end, as shown, and is provided with a hole in which the bent end of the rock-lever P is secured, as shown in fig. 1.

The other end of the rock-lever P is bent at right angles, and secured in the lugs Q Q, on the heel-shoe R, thus serving as a journal or rock-shaft for the lever P.

The rod *O* is attached to the bent end of the rock-lever *P*, and extends forward or backward, (according as the machine is a rear or front-cutting machine,) to the driver, seated on his seat on the machine, who, by pushing or drawing on the rod *O*, as the case may be, can cause the apron *G* to discharge its gathered load, as is readily seen.

By giving to the rock-bar *M* the upward turn shown at its front end, the back pressure applied at the end of said bar causes a downward pressure of the same over the ratchet-wheel *I*, and thus insures the interlocking of the teeth on said rock-bar and ratchet-wheel.

From the foregoing description it is evident that by making the finger-bar *A* concave on the rear face, I am enabled to bring the roller *C* much nearer to the cutters in the fingers *B* than would be practicable with the ordinary form of finger-bar, and that by this means the apron *G* is brought up so close to the cutters that the grain falls well over the bar *A* on to the apron *G*, and hence can be easily taken off by the movement of said apron, as before described.

The roller *C*, or a similar shaft, with larger journals, could be used as the back piece of the common dropper, or for any purpose requiring the use of a shaft or roller parallel to the cutter-bar, and close up to the cutters.

I am aware that finger-bars have been before constructed with a concave rear face; hence I lay no claim to such finger-bars, except in combination with a shaft or roller, as is herein described.

I am also aware that aprons have been before used for delivering grain from harvesters; hence I make no claim to the apron *G*, except when arranged and operated as shown; nor do I confine myself to the precise construction here shown for producing the reciprocating motion of the rock-bar *M*, as any mechanic could easily devise other devices for accomplishing the same result; but

What I do claim herein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with a harvester finger-bar, constructed with a concave rear face, of a toe-plate, fitting into the concave rear face of the finger-bar, and secured to the edge thereof, and a frame-piece for the delivery-mechanism, fitting in the concavity in the toe-plate, and secured to said plate, substantially as is herein specified.

2. The combination, with a harvester finger-bar, constructed with a concave rear face, of a heel-shoe, notched and faced to receive the finger-bar, and a retaining plate, fitting into the concave rear face of the finger-bar, and secured to the heel-shoe, substantially as is herein specified.

3. The combination, with a harvester finger-bar, constructed with a concave rear face, of a shaft or roller, arranged parallel to the finger-bar, and in the concave rear face of the same, substantially as is herein specified.

4. The combination, in a harvester, of a finger-bar, constructed with a concave rear face, a roller, arranged in said concave face, a driving roller, arranged between standards extending from said finger-bar, and a dropping-apron, arranged around said rollers, substantially as is herein specified.

5. The reciprocating rock-bar, acting on the ratchet-wheel on the shaft of the driving-apron roller, and actuated by the driver on his seat on the machine, for the purpose of operating an endless dropping-apron for harvesters, substantially as is herein specified.

As evidence that I claim the foregoing, I have hereunto set my hand, in the presence of two witnesses, this 28th day of September, A. D. 1869.

L. M. BATTY.

Witnesses:

JOB ABBOTT,
A. O. MCKINLEY.