(No Model.)

F. J. HAZARD.

REAPING AND MOWING MACHINE.

No. 263,288. Patented Aug. 22, 1882.

Fig. 1,

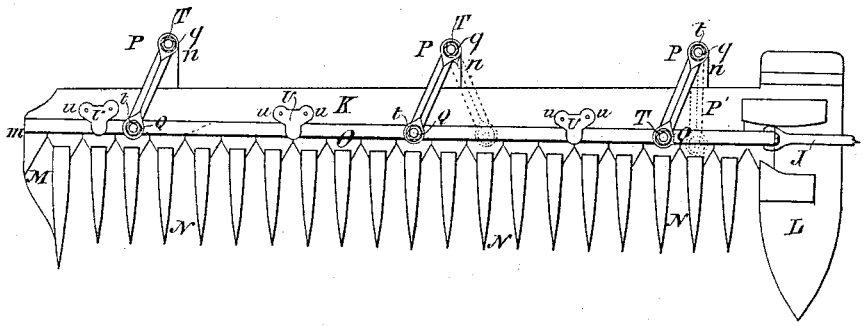
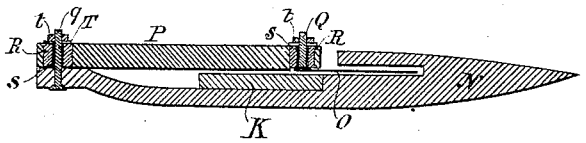


Fig. 2,



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK J. HAZARD, OF BELLEVILLE, ONTARIO, ASSIGNOR OF THREE-FOURTHS TO STEPHEN EDWAY FULLER, OF COLBORNE, CANADA.

REAPING AND MOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 263,288, dated August 22, 1882.

Application filed February 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK JAMES HAZARD, a subject of Her Majesty the Queen of Great Britain, residing at Belleville, in the county of Hastings, Province of Ontario, and Dominion of Canada, have invented a certain new and useful Improvement in Reaping and Mowing Machines, of which the following is a specification.

My invention relates to a peculiar draw and push cut motion given to the knives by the introduction of certain straps which are attached by one end to the knife-bar and by the other to the finger-bar, and thus making each knife-point, when in motion, describe a segment of a circle. This motion will make the work of cutting easier, and tend to compel the machine to clear itself, and thereby prevent clogging.

Figure 1 is a plan of the cutting apparatus of a machine embodying my invention. Fig. 2 is a transverse section of the same.

Similar letters refer to similar parts in the views.

K is the finger-bar, which is connected in the usual manner with the frame of any reaper or mower in general use, and is provided with a shoe, L, and toe M.

O is the knife-bar, which is connected by the pitman J with the working parts of any ordinary reaper or mower, which can have its mechanism readily modified, so as to impart to the knife-bar double the throw which is generally used.

On the finger-bar are the guards N, as in ordinary use. Three of these guards are elongated backward a sufficient distance to receive the end of the straps P, by means of which the width of the finger-bar is reduced, which would otherwise have to be of an extreme width to receive the ends of the straps, and add unnecessarily to the weight of the machine. These straps connect the knife-bar with the finger-bar, and are constructed and secured as follows:

The pins Q are riveted to the knife-bar, and pins *q* to the elongated guards at *n*, and are to receive the ends of the straps. These strap ends are bushed with rubber R, and have tube-bearings S, of metal, to receive the pins Q and *q*, and are held in position by the washers T and nuts *t*.

This device will give to the knife-bar a smooth and, comparatively speaking, noiseless motion, and will largely decrease the jerking and pounding motion which usually occurs in this class of machines. The knife-bar, being thus attached to the finger-bar, will when set in motion, partake of a transverse or lateral motion, as well as of a longitudinal, producing a rocking motion, and will cause the knife-points to describe segments of circles, as shown in dotted lines. It will thus be seen that when the knife-bar is at the center of its stroke the straps will be perpendicular thereto, as shown in dotted lines P′, and the knife-points covered by the guards immediately on leaving that position in either direction the knives draw in to the guards; but on making the return-stroke the knives push out until the center of the stroke is again reached, when the operation is repeated, producing what I designate as "the draw and push cut," which, coupled with the long stroke, provides a cutting apparatus which will do better work with less power, and will not be so liable to get clogged.

U U are keepers fixed on the finger-bar to act as guides for the knife-bar, but only come in contact with the finger-bar at the ears *u u*, the space intervening between them, next to the finger-bar, being open to prevent any dirt, hay, or other substance accumulating and clogging the machine.

m is a lip on the toe M to act as a guard for the outer knife when the knife-bar is extended.

I am aware that prior to my invention reaping and mowing machines have been made with a long stroke, and they have also been made with the draw-cut. I therefore do not claim the former; nor do I use or claim the latter, as I consider that there is a distinction between the draw-cut and the draw and push cut; but

What I do claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the strap P, pins Q and *q*, rubber R, tube-bearings S, and elongated guards *n* with the finger-bar K and knife-bar O, producing the draw and push cut, as shown and specified.

FREDERICK JAMES HAZARD.

Witnesses:

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