

(No Model.)

3 Sheets—Sheet 1.

A. RANK.
Mowing Machine.

No. 235,378.

Patented Dec. 14, 1880.

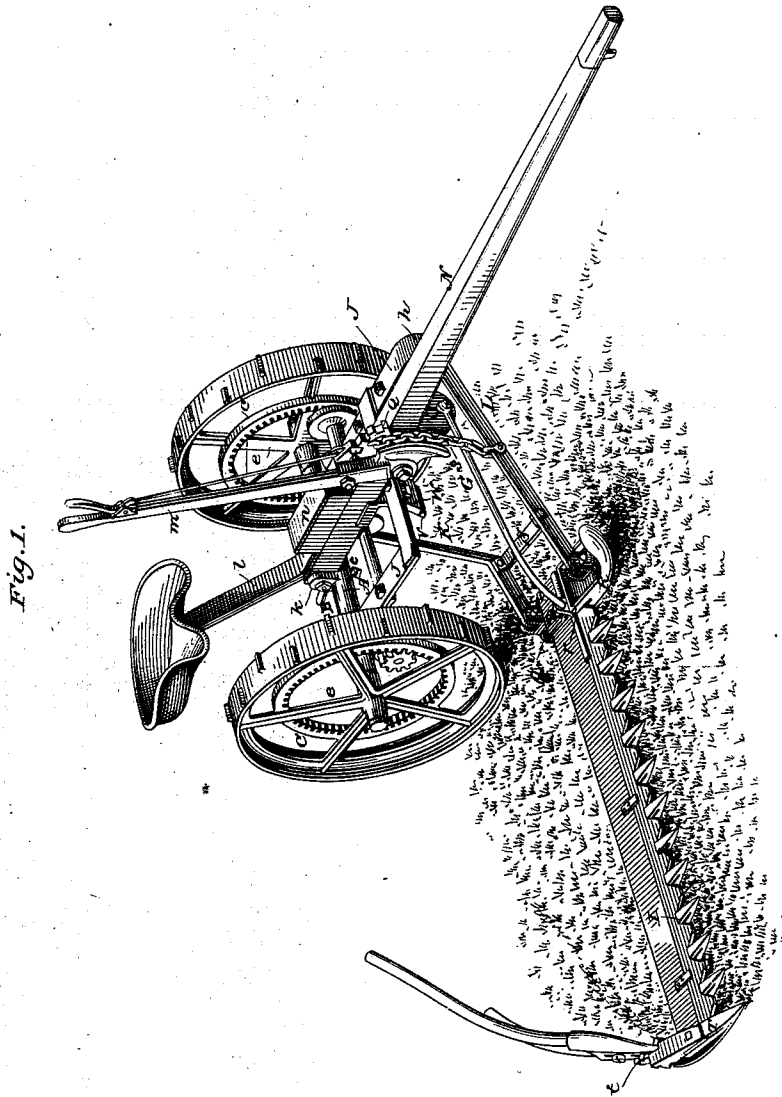


Fig. 1.

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Inventor:

Amos Rank
By his atty
R. A. Smith

(No Model.)

3 Sheets—Sheet 2.

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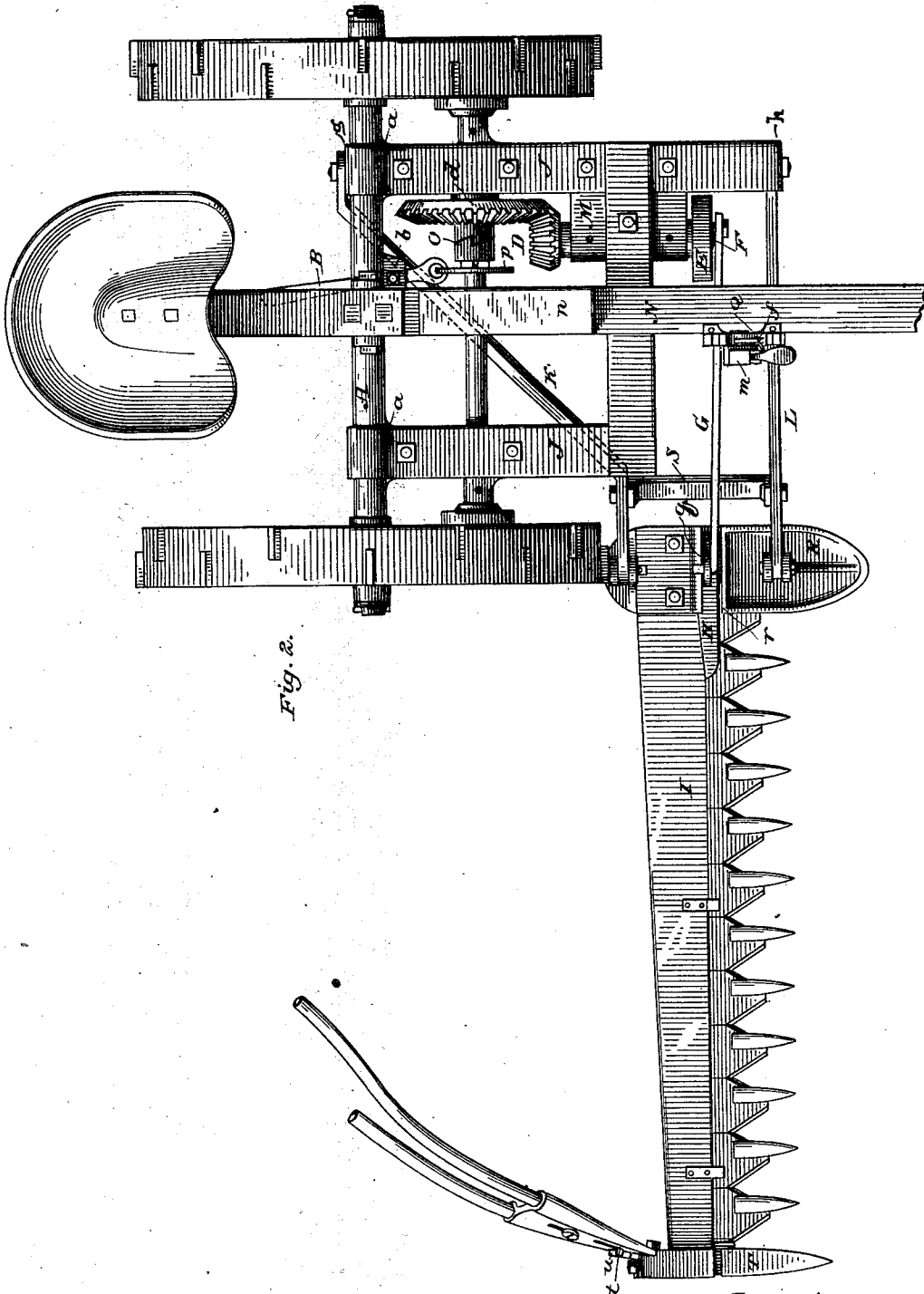


Fig. 2.

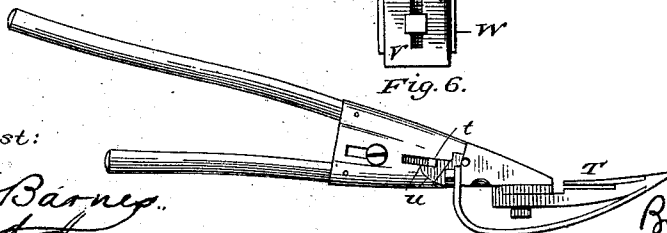
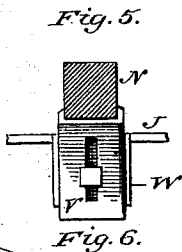
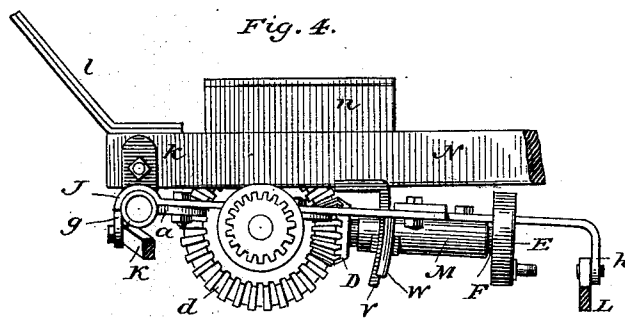
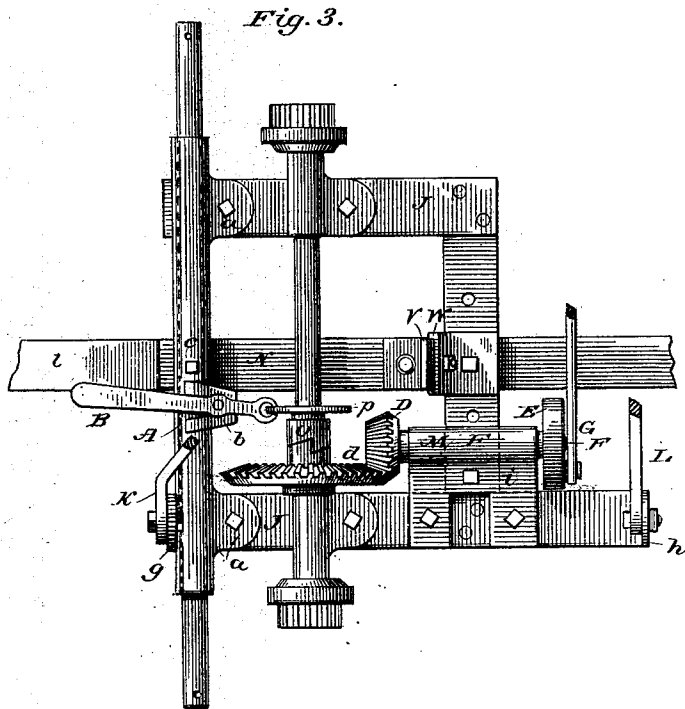
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UNITED STATES PATENT OFFICE.

AMOS RANK, OF SALEM, OHIO.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,378, dated December 14, 1880.

Application filed June 30, 1880. (No model.)

To all whom it may concern:

Be it known that I, AMOS RANK, of Salem, in the county of Columbiana and State of Ohio, have invented new and useful Improvements in Mowing-Machines; and I do hereby declare that the following is a full and accurate description of the same.

This invention relates to that class of mowing-machines known as "two-wheeled, double-jointed, front-cut" machines, and the points of novelty relate, first, to the manner of constructing the main frame; second, to an adjustment of the divider. These points will be enlarged in the following description.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of my machine. Fig. 2 is a plan of the same, and Figs. 3, 4, 5, 6 are details.

The axle-barrel A is, by preference, to be made of cast metal, cored out hollow, and with the projecting ears *a a* near the ends, and the ear *b* in the center cast on it—the two former for the side pieces of the main frame, and the latter for the fulcrum of the shifting-lever B.

The axle is, by preference, to be made of wrought-iron and to be held firmly in the barrel without turning by means of set-screws *c*, keys, or other proper means.

The gear-ring C in the driving-wheels, the miter-wheels *d*, the bevel-pinion D, the crank E, crank-shaft F, the pitman G, and the knife H and guards I are all to be constructed in the usual well-known ways.

The rectangular main frame J is to be constructed with two side pieces and one cross-piece, of flat wrought-iron of same size. The two side pieces are bent around the axle-barrel at their rear ends, and are firmly bolted or riveted to the projecting ears *a*, cast on the axle-barrel A. The one on the left-hand side is extended down past the axle-barrel, and terminating in an ear, *g*, to which the rear end of the diagonal member K of the coupling-frame is hinged at the opposite or front end. The left-hand side piece of the main frame is also bent downward in a curve, terminating in an ear, *h*, to correspond with the ear *g* at

the rear end, and to the front ear the upper end of the lateral member L of the coupling-frame is hinged, forming two points of hinging the coupling-frame to the main frame in a horizontal line parallel to or coinciding with the crank-shaft center, so that in raising and lowering the cutting apparatus the cutter-section will register unchanged with the guards, or nearly so. The front cross-piece of main frame J is to be made of flat bar wrought-iron of same size as the side pieces, and bolted or riveted to the side pieces of the points of intersection.

The crank-shaft box or barrel M is combined in one piece of casting of suitable shape with a corner stiffening or bracing plate, *i*, for the main frame, and is bolted or riveted to the left-hand side piece and the front cross-piece of the main frame.

The tongue N is hinged at its rear end to the ears on the axle-barrel, at or near the center between the driving-wheels, and to it the seat-spring *l*, the hoisting-lever *m*, and the tool-box *n* are attached. The whiffletrees and neck-yoke are also to be attached to the tongue in the usual well-known ways.

The hoisting-lever *m* is provided with a pawl, *f*, and hand-rod to control the same, and lever-plate Q is bolted to the tongue, back of the hoisting-lever, to hold the lever at any desired point.

The shifting-clutch O is cast in one piece, with a projecting flange, P, on one end, and the shifting-lever B is cast at its ends in the form of a fork to straddle the edge of the flange P on the shifting-clutch.

The crank-wheel E is to be made with one or more crank-holes properly babbitted or bushed in the usual well-known ways.

The pitman G may be made with a hook or crank at each end—the upper one to fit the holes in the crank-wheel E, and the lower one to fit the hole or eye in the knife-head *g*, or in some other approved way. The pitman is held in the crank-wheel by a large-headed bolt, made with a shoulder at the proper point in its length, and is held in the knife-head by the flange cast on the shoe R for this purpose.

The coupling-frame is made of three pieces, K, L, and S, of flat bar-iron of same size. The

rear member, K, is made to stand in a diagonal and oblique relation to the main frame and cutting apparatus, and at its lower end is bent outward and downward, and terminates in an eye, and is hinged to the rear or heel end of the inner shoe, R. At the other end it is bent in the opposite direction, terminating in an eye and hinged to the downward-projecting ear *g* at the rear left-hand side of the main frame. The front member of the coupling-frame is left straight, with an eye formed on each end. The lower end is hinged to the front end of the shoe R, and the upper end is hinged to the downwardly-projecting ear *h* at the front end of the left-hand side piece of the main frame. To this member of the coupling-frame is also attached the hoisting-chain *s*.

Between the two members of the coupling-frame described, at their lower ends and near the shoe, is a short brace, S, bent upward at each end, so as to form ears, by which it is bolted or riveted to both the rear and front members, K L. The brace S stiffens the coupling-frame and serves to keep the pitman and knife in place when the cutting apparatus is folded up over the tongue for transportation.

The shoes, the track-clearer, the driving-wheels, the seat, &c., not herein described, are to be constructed in some of the usual well-known ways.

The track-clearer is pivoted to the outer shoe, T, and in a vertical plane, by means of a sliding latch or bolt, *t*, which may be placed in engagement with any one of a series of steps or notches, *u*, made in a suitable part of the shoe to hold the track-clearer up, as may be required.

It is desirable to maintain a substantial uniformity of height for the main frame: and because the height of the tongue will necessarily vary with different teams, I provide a means of adjustment between the tongue and frame in segment-plates V W, one of which is slotted, and a coupling-bolt, whereby said plates may be moved upon each other and fixed at any desired point. The angle of the plane of the cutter to the ground is determined, also, by the adjustment of the plates V W, because the coupling-arm in this case has two points of

engagement with the main frame and no torsional flexibility.

Having now described my invention, what I claim as new is—

1. A rectangular main frame for a mowing-machine, made of wrought-metal bars and projecting wholly from one side of a tubular main axle-sleeve provided with ears *a a*, to which said bars are bolted, in the manner and for the purpose substantially as shown and described.

2. A rectangular main frame, J, for a mowing-machine, made of wrought-metal bars, in combination with the cast axle barrel or sleeve, constructed with the upwardly-projecting ears *k* for the tongue and the horizontally-projecting ears *a* for the side bars of said main frame, substantially as shown and described.

3. A rectangular main frame for a mowing-machine, made of wrought metal, in combination with a cast axle barrel or sleeve, A, constructed with horizontally-projecting ears *a a* *b*, the latter for a fulcrum for the shifting-lever B, substantially as shown and described.

4. A rectangular main frame, J, for a mowing-machine, made of wrought metal, the left-hand side bar whereof is constructed with the downwardly-projecting ears *g h*, in the manner and for the purpose substantially as shown and described.

5. A rectangular main frame for a mowing-machine, made of wrought metal, in combination with the crank-shaft box M and frame-stiffening corner-piece *i*, constructed substantially as shown and described.

6. A rectangular main frame for a mowing-machine, made of wrought metal and projecting wholly from one side of the main axle, in combination with a triangular coupling-frame K L, made wholly of wrought metal and constructed in the manner substantially as shown and described.

7. The outer shoe, T, provided with steps or notches *u u*, combined with the track-clearer provided with a latch or bolt, *t*, as set forth and described.

AMOS RANK.

Attest:

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