4 Sheets—Sheet 1.

C. CLAPP.

Mowing Machine.

No. 102,776. Patented May 10, 1870.

Fig: 1

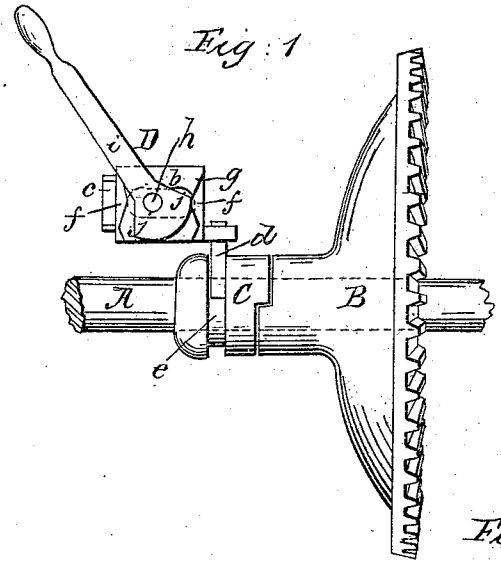


Fig: 2.

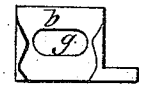
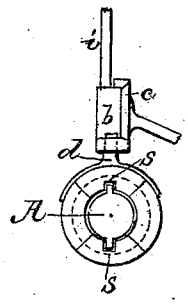


Fig: 3



Witnesses
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4 Sheets—Sheet 2.

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Fig: 4

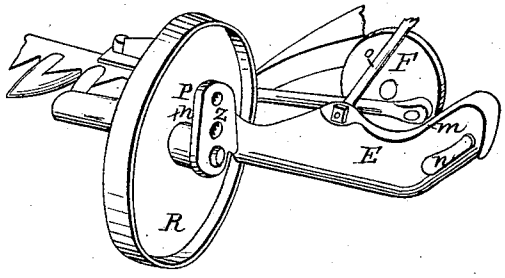
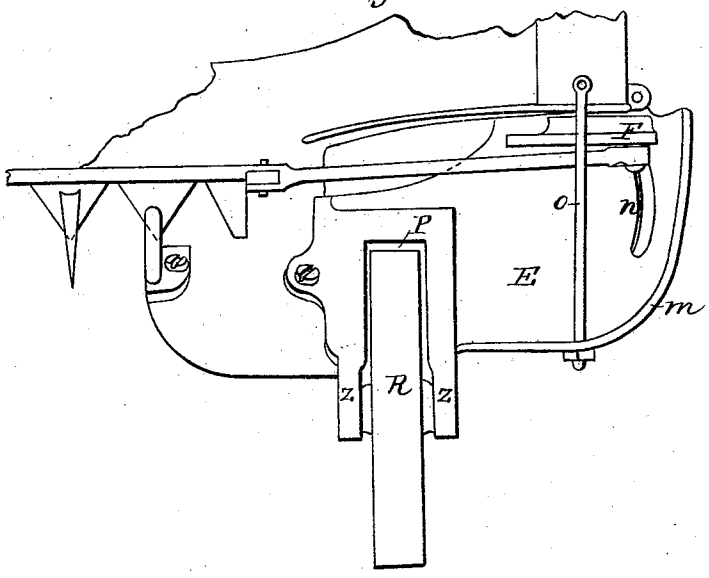


Fig: 5



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Mowing Machine.

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Patented May 10, 1870.

Fig: 7.

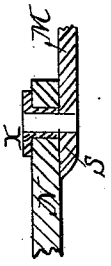
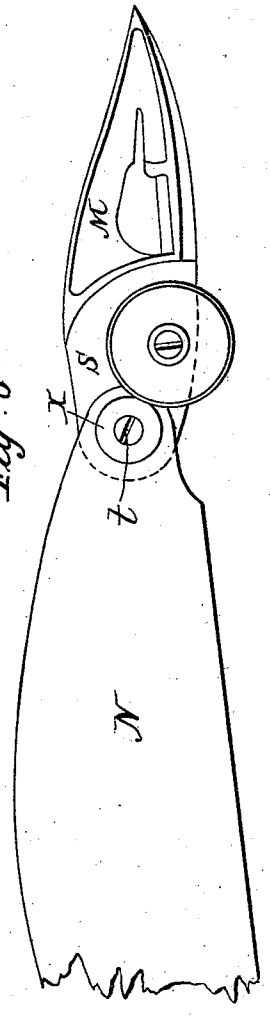


Fig: 6



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4 Sheets—Sheet 4.

C. CLAPP.

Mowing Machine.

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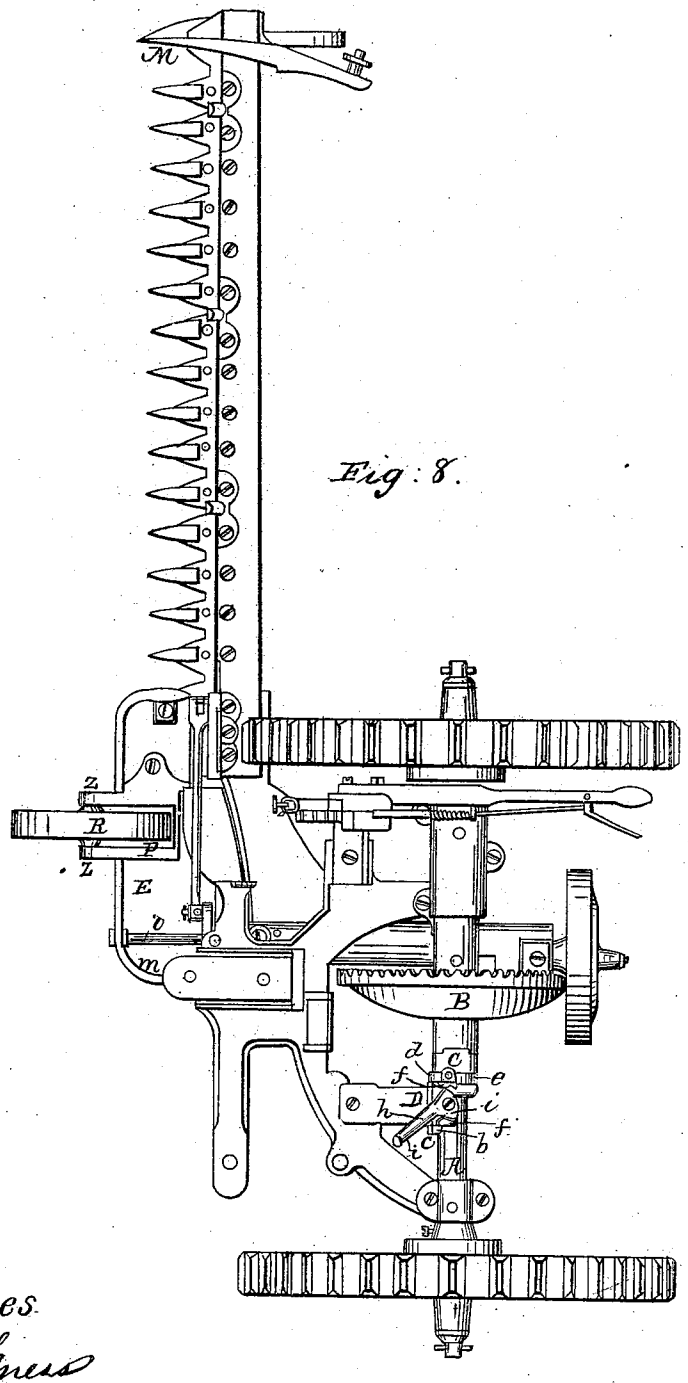

Fig: 8.

Witnesses.
Chas. A. Harkness
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Inventor.
Chas. Clapp.
by Atty
D. J. Brown

UNITED STATES PATENT OFFICE.

CHARLES CLAPP, OF TRUMANSBURG, NEW YORK, ASSIGNOR TO ERASTUS C. GREGG AND CHAUNCEY P. GREGG, OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **102,776**, dated May 10, 1870; antedated November 10, 1869.

To all whom it may concern:

Be it known that I, CHARLES CLAPP, assignor to ERASTUS C. GREGG and CHAUNCEY P. GREGG, of Trumansburg, in the county of Tompkins and State of New York, 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 the same, reference being had to the annexed drawings, making a part of this specification, wherein—

Figures 1, 2, and 3 represent the gear-shifter; Figs. 4 and 5, the grass-shield and roller; Figs. 6 and 7, the attachment for the grass-board; and Fig. 8 a top view of the machine, showing the connection of the various parts.

The letters used show corresponding parts wherever they occur.

The gear-shifter is designed particularly for harvesters, which are geared directly from the main axle, and have what is commonly called the "bevel-wheel" upon such axle.

A is the main axle; B, the bevel-wheel, placed loosely upon the axle A, and has one end of its hole *a* so made as to form one part of a clutch, as shown in the drawings, of which the other part is composed of a sleeve, C, which slides upon the axle A, but is so attached to said axle by slots or feather-ways in the sleeve and pins or feathers on the axle, or their equivalent, that such sleeve will turn with the axle. Consequently, when the clutch is closed up, the bevel-wheel will turn with the axle, and when thrown out no motion is communicated to said wheel.

To the sleeve is attached a lever arrangement, D, convenient to the driver's seat, to move the sleeve and shift the gear of the machine. This arrangement consists of a slide, *b*, upon a guide, *c*, which guide is held firmly to its place by an arm extending to the frame of the draft-pole or any other firm portion of the machine suitable for the purpose, and the bearing-faces of such guide and slide are made to act in a line parallel with the main axle. This slide is provided with a downwardly-projecting arm, *d*, which fits into a circumferential groove, *e*, formed in the sleeve C, as shown in the drawings, and which brings the slide *b* and the sleeve C into a position where they can be made to act mechanically with each other.

In the rear side of the slide *b* is a recess, which has at the ends thereof bearing-surfaces *f f*, substantially as shown in the drawings; and it also has the slot *g* for the pivot *h* of a lever, *i*, to pass through and allow the slide *b* to move backward and forward upon the guide *c*.

The lever *i* has its lower part flaring out, so that its inclined edges *j j* will operate against the bearing-surfaces *f f*, producing a kind of cam-lever action combined, which enables a person sitting upon the driver's seat to move the lever *i* so that its edges *j j* will act upon the bearing-surfaces *f f*, move the slide *b* upon the guide *c*, and, by means of the arm *d* acting upon the sleeve C, produce a shifting of the gear of the machine, as may be desired. This lever is so arranged that when thrown completely over either way the bearing will be on a line with the center of motion, so that it will remain in position and permanently hold the clutch in or out of gear.

The grass-shield E (shown in Figs. 4 and 5) is designed to keep the grass from clogging the pitman and the crank-wheel and shaft by partly inclosing them within the shield. Its general form will be substantially as indicated by the drawings, with a rim, *m*, passing around behind the crank-wheel F, and near such wheel having a slot, *n*, in and out of which the knife-bar may be drawn through or under the grass-shield.

G is the inner shoe of a machine in the ordinary form, secured to the finger-bar, and upon that side the grass-shield is made to come up flush and match the same, so that together they will appear like an enlarged shoe. The grass-shield is bolted or otherwise securely fastened to the shoe at that end of the same, and at the other end is, in like manner, secured to the frame which holds the shoe and cutter-bar. It may be strengthened by a rod, *o*, extending from the rim *m* to the upper side of said frame, or it may be secured or strengthened in any other convenient manner.

The outer end of the shield is formed with a large slot, *p*, at each side of which is an uprightly-extending ear, *z*, between which is pivoted an adjustable roller, R.

By thus arranging the roller R, as it were, between the inner shoe and the grass-shield, it is thereby removed farther from the standing grass, and it is not so likely to throw up

stones and other refuse matter to be caught by the first two or three knives of the machine, and at the same time is secured the most efficient operation of the roller in guiding the cutter-bar when the machine is in use without detracting from the operation of the inner shoe and grass-shield in performing their respective functions.

Experience has demonstrated that in the ordinary method of attaching the grass-board for a track-clearer, which must necessarily be loose upon the pivot or joint by which it is hinged in order to produce an efficient operation thereof, the board at the joint will soon become worn by use, and the pivot-hole therein enlarged by such wearing. To obviate that difficulty I use a hollow-rimmed thimble, through which passes such pivot or bolt.

M is the outer shoe, in ordinary form, with a flange, *s*, at the rear end, upon which is attached the grass-board N, made in any ordinary form. O is the wheel for the outer shoe. To secure the attachment of the grass-board N to the flange *s*, so that it may operate loosely and permit an easy play for it as a track-clearer, I use the bolt *t* in the form of a screw, or its equivalent, around which is the rimmed thimble *x*, having a wide rim or flange, and set tight in the wood, so that the bearing is made by the thimble on the bolt.

By thus effecting metallic bearings where the friction exists, I prevent the wearing of the hole in the grass-board and the enlargement of the same, and effect a like result in preserving the wood from wear by the use of the rim to the thimble to act as a washer for that purpose.

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

1. The self-locking device for moving the clutch-sleeve C, consisting of the slide *b* on the guide *c*, with its cam-surfaces *f f*, in combination with the slotted lever *i*, with its self-locking cams *j j*, arranged and operating substantially as herein specified.

2. The grass-shield E, constructed as described, and provided with the bearings *z z*, formed to receive and adjust the height of the roller R when secured to and arranged in combination with the inner shoe, G, substantially in the manner and for the purpose herein set forth.

CHAS. CLAPP.

Witnesses:
N. B. SMITH,
J. R. EMERY.