M. GARRETSON.

Clover Harvester.

No. 8,628. Patented Jan. 6, 1852.

Fig. 1.

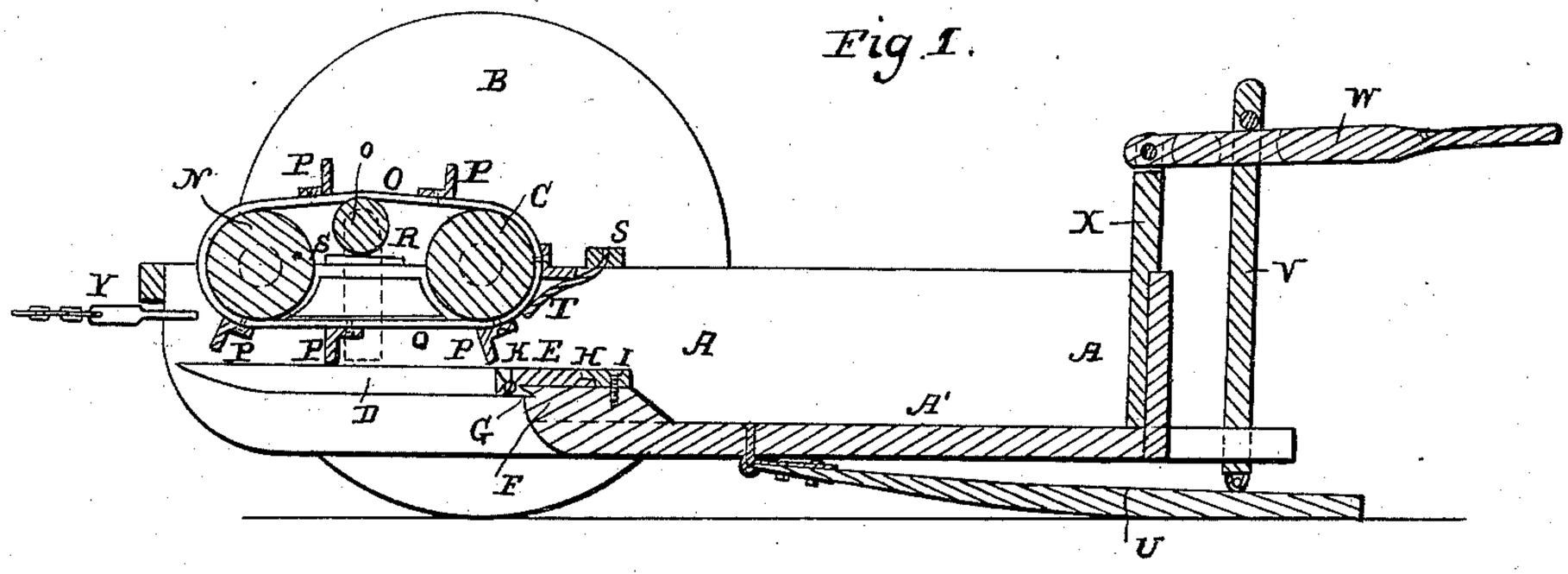


Fig. 2.

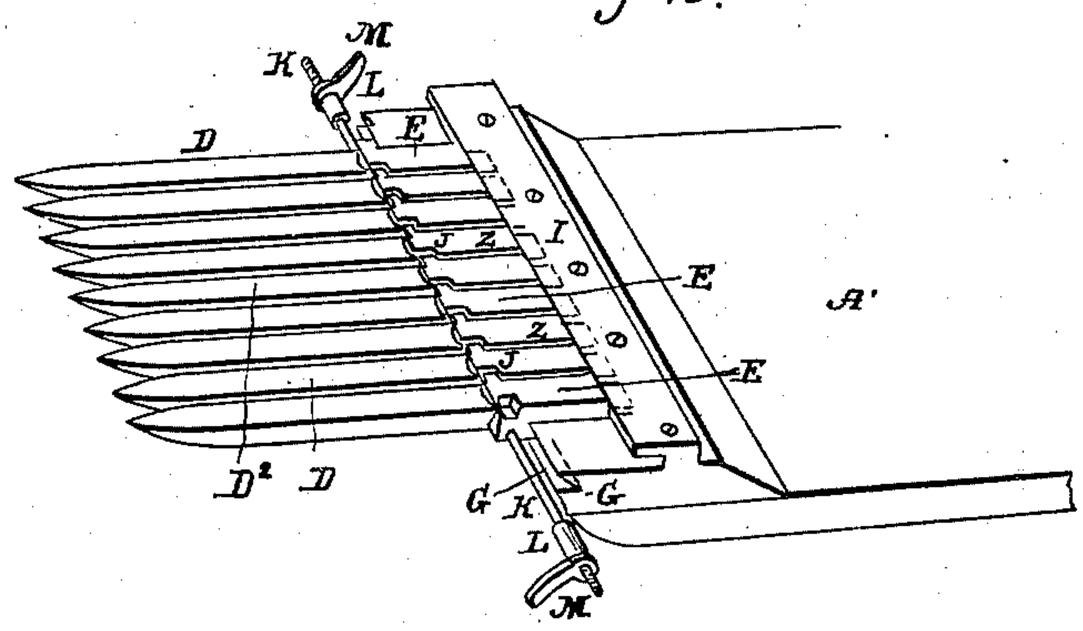


Fig. 3.

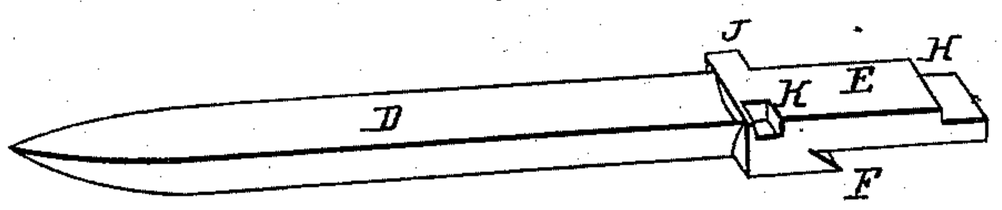


Fig. 4.

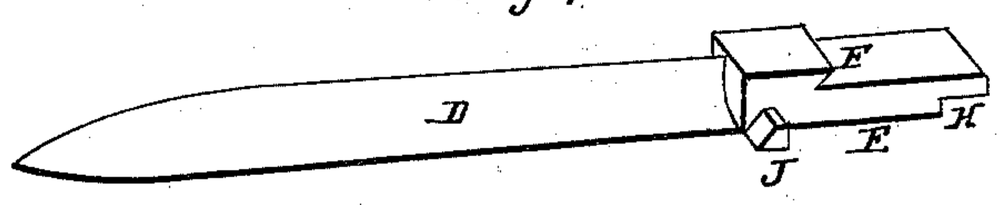
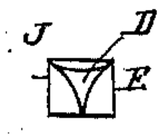


Fig. 5.



UNITED STATES PATENT OFFICE.

MAHLON GARRETSON, OF BERMUDIAN, PENNSYLVANIA.

IMPROVEMENT IN CLOVER-HARVESTERS.

Specification forming part of Letters Patent No. **8,628**, dated January 6, 1852.

To all whom it may concern:

Be it known that I, MAHLON GARRETSON, of Bermudian, in the county of Adams and State of Pennsylvania, have invented a new and useful Improvement in the Machine for Cutting and Gathering Clover-Heads; and I do hereby declare the following to be a full and clear description thereof, reference being had to the annexed drawings of the same, forming part of this specification.

Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a sectional perspective view, showing a series of triangular projecting cutters, and the manner of securing the same to the floor of the machine. Fig. 3 is a perspective view of one of the triangular cutters. Fig. 4 is an inverse perspective view of Fig. 3, showing more clearly the lateral trapezoidal projection, forming a cutter at right angles to the projecting cutter. Fig. 5 is a cross-section showing the form of the triangular cutter.

Where the same letters of reference occur on the several figures they indicate the same parts.

The nature of my invention consists in the manner of confining the series of triangular-formed cutters to the frontward portion of the floor—namely, reducing the under side of the shank of each cutter, and forming thereon angular shoulders for fitting into the groove with which they conform, and reducing the upper side of said shanks at the ends thereof, so as to form right-angled shoulders, which conform to a grooved holding-bar placed over the said reduced ends and forming a counterlock with the angular shoulders, by which each cutter is retained firmly in a horizontal position; and, in connection with the above, providing the shanks of the triangular cutters with a horizontal transverse rod, having its ends (which project beyond the sides of the frame) furnished with short tubes, the inner ends whereof are made to press against the sides of the shanks by means of crank-nuts on the ends of said rod, whereby the triangular projecting cutters are susceptible of lateral adjustment to increase or diminish the space between the cutting-edges thereof, according to the thickness of the blocks placed between their shanks, as represented in Fig. 2; and by means of the aforesaid transverse rod the projecting cutters are prevented from having any frontward movement.

My improvement also consists in providing the shanks of each cutter with lateral projections of a trapezoidal shape, the upper front corners whereof forming right-angled cutters to the triangular projecting cutters, said lateral projections matching or interlocking with corresponding recesses in the upper portion of the adjacent shanks. The object of these lateral cutters is to sever the stems or stalks (by the right-angled plates of the endless revolving band) not cut by their passage between the projecting cutters.

A is the body of the machine, forming the receiver for the cut clover-heads. B is one of the propelling and supporting wheels. C is the cylinder-axle of the supporting-wheels. D D are the triangular projecting cutters, each having its three sides the segment of a circle of the same radius, and its upper opposing edges made sharp and acting as cutters, as shown in Fig. 5. The three edges of each cutter D are united at the point, as shown in Figs. 3 and 4, thus offering no resistance to the stalks of clover. These triangular projecting cutters D are arranged upon an elevated portion of the floor A′ parallel to each other, and are of any required length, so that as the machine is moved forward the stalks of clover are received between the cutting-edges thereof and the heads severed therefrom and thrown into the receiver. The manner of confining these triangular projecting cutters D is as follows: The shank E of each cutter is reduced on its under side about two-thirds the length thereof so as to form an angular shoulder, F, which conforms to a groove, G, made in the edge of the elevated portion of the floor A′, (see Fig. 2,) and the upper side of the end thereof is reduced so as to form a right-angled shoulder, H, which conforms to a grooved holding-bar, I, placed over said reduced ends and secured by screw-bolts, thus securely retaining the triangular projecting cutters D in a horizontal position, and at the same time allowing for lateral adjustment thereto when required. From one side of each cutter-shank E extends horizontally a trapezoidal-shaped projection, J, Figs. 3 and 4, the upper front corner thereof forming a right-angled cutter to the projecting cutter D, and in the same horizontal plane with the latter. The side of each adjacent shank E is also provided with a recess, *k*, corresponding to the lateral projection J, into which the latter matches, said lateral projections forming (when the projecting cut-

ters are properly adjusted) a transverse cutting-bar, J, far more effectually severing the heads of clover from the stems by means of right-angled plates projecting from an endless revolving band. The larger portion of the shanks E of each cutter are provided with holes through which passes a horizontal transverse rod, K, whose ends project beyond the sides of the frame and are furnished with tubes L, the inner ends whereof being made to press against the sides of the shanks E by the action thereon of crank-nuts M, placed on the screw ends of said rod K and turned to the right, by which the projecting cutters are made to approach each other laterally, according to the size of the blocks Z placed between their shanks, and thus decrease the space between the projecting cutters; and in the same manner the spaces between the cutters may be increased, if desirable, by turning the crank-nuts M to the left and inserting between the shanks larger blocks of wood Z. (See Fig. 2.) The central cutter, D^2, Fig. 2, is permanently screwed to the floor A′, so that the cutters on either side thereof may have lateral adjustment.

Mounted upon the frame A, in front of the axle-cylinder C and above the points of the projecting cutters, is another cylinder, N, around which and the axle-cylinder passes a broad band, O, provided with a series of right-angled projecting plates, P, situated relatively to the projecting cutters, so as to pass (with the rotation of the band) over the edges of the projecting cutters, and thus aid in severing the heads of the clover from the stems, and serve to sharpen the adjacent edges of the cutters and keep them clear during the progress of the machine.

The journal-boxes of the axle-cylinder C and front cylinder, N, (which may be of any required diameter,) may be made adjustable by any convenient means—such as screw-bolts—by which the endless band O, with its right-angled severing and clearing plates P, may be properly adjusted in relation to the projecting cutters.

Q is a roller mounted between the cylinders C N upon two studs, R, rendered adjustable by wedges *s*, for the purposes of keeping the revolving band O taut, thus rendering the action of the right-angled plates P alike during their passage over the projecting cutters.

S is a transverse bar, from which project fingers or arms T in such a manner as to prevent the ascent of the cut heads of clover with the right-angled plates during the rotation of the band.

In order to adapt the points of the cutters to take off the heads of the clover at varying heights from the surface of the ground, there is attached to the under side of the rear portion of the frame a sled, U. From the rear end thereof projects the fulcrum-post V of a hand-lever, W, attached to a post, X, projecting from the frame, by which the angle of the cutters with a horizontal plane is changed. When the cutters are brought to the required angle the rear portion of the frame may be sustained in any convenient manner.

Having thus described my improvements in the clover-head harvester, what I claim therein as new, and desire to secure by Letters Patent, is—

The lateral projections J, whose ends are fitted into the mortises or recesses *k* in the shanks of the cutters D, and whose upper front edges are made sharp, said projections serving the twofold purposes of interlocking with the contiguous cutters and acting as cutters themselves, as described, for severing the heads from the stalks.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

MAHLON GARRETSON.

Witnesses:

JOHN F. CLARK,

ABEL N. RUSSELL.