

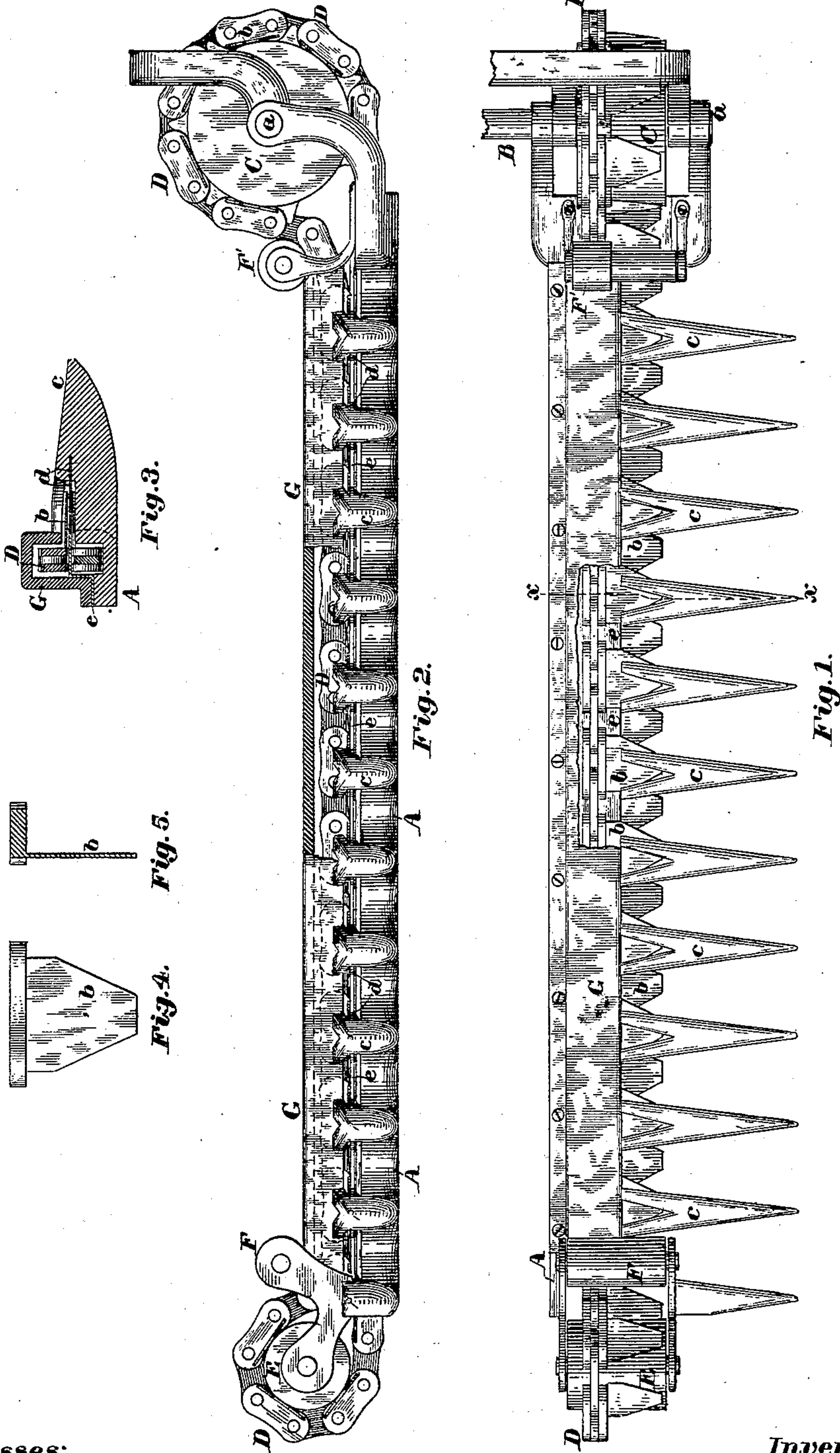
(No Model.)

L. O. DION.

MOWING MACHINE AND HARVESTER.

No. 245,708.

Patented Aug. 16, 1881.



Witnesses:

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UNITED STATES PATENT OFFICE.

LÉON O. DION, OF NATICK, ASSIGNOR TO GEORGE S. TROWBRIDGE,
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MOWING-MACHINE AND HARVESTER.

SPECIFICATION forming part of Letters Patent No. 245,708, dated August 16, 1881.

Application filed July 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, LÉON O. DION, of Natick, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Mowing-Machines and Harvesters, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the cutters, cutter-bar, and gathering-fingers of a mowing-machine or harvester; and it consists in a novel construction and arrangement of an endless belt or chain of cutters, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given.

Figure 1 of the drawings is a plan of so much of a mowing-machine as is necessary to illustrate my invention, with a portion of the casing which incloses or covers the cutter-chain broken away. Fig. 2 is a front elevation of the same, also having a portion of the casing or cover broken away. Fig. 3 is a transverse section on line *xx* on Fig. 1, and Figs. 4 and 5 are respectively a plan and a vertical section of one movable cutter enlarged.

A is the knife-bar proper, pivoted at *a* to the frame of the machine, and to the shaft B, around which it may be moved when it is desired to raise it from the ground in the usual manner.

The shaft B carries at its front end the chain wheel or drum C, around which passes the endless chain D, composed of a series of double flat links alternating with a series of single flat links, in a well-known manner, said chain being extended to the outer end of the cutter-bar, and passing around the pulley E and under the guide-rolls F and F', as shown in Fig. 2. Each of the outer flat links upon one side of the chain has formed thereon and projecting therefrom at right angles to the broad face of said link a cutter-blade, *b*, which may be made in one piece with said link, as shown in Figs. 4 and 5, or it may be riveted thereto. The cutter-blade *b* projects from the link near one edge, as shown in Fig. 5, and as a consequence, when the chain of cutters is placed in position on the drum C and pulley E, and be-

neath the guide-rolls F and F', and motion is imparted thereto by rotating the drum C, the cutters upon the upper and lower portions of the chain will move in opposite directions, and in paths parallel to and not far removed from each other.

Projecting from the front edge of the bar A are a series of gathering-fingers, *c*, of ordinary construction, except that within the slot formed in the rear portion of each a stationary blade, *d*, is secured so as to divide said slot into two, in such a manner that the cutters attached to the chain when moving in one direction pass beneath said stationary blade *d*, and when moving in the opposite direction pass above the same, but in each case in close proximity thereto.

The lower edge of the lower portion of the chain D travels in a groove formed in the upper side of the bar A for the purpose, and it is retained therein and kept from contact with the upper portion of the chain by the thin plate *e*, which is secured at its rear edge to the bar A, and the front portion of which lies between the two parts of the chain and abuts against the rear ends of the stationary blades *d*, as shown in Fig. 3.

The upper portion of the chain D is guided in its movement by a groove formed in or by the casing or cover G, as shown in Fig. 3.

It will be seen that two lines of cutters move in opposite directions continuously, and that each cutter severs whatever grass or grain may be forced into a position between it and the finger toward which it is approaching, one portion of said finger and the stationary blade *d* serving as abutments against which the grass or grain stalk is pressed while being cut, while the other portion of said finger and the opposite edge of the blade *d* co-operates in the same way with the cutter that is moving in the opposite direction. By this arrangement and mode of operating the cutters the effectiveness of the machine is greatly increased by virtue of the increased cutting capacity.

Rotary motion may be applied to the shaft B in any well-known manner, and in practice the chain and cutters where they pass around the drum C and pulley E would be inclosed in a casing, to prevent the grass from getting en-

tangled therein; but said casing is left off in the drawings, in order to more clearly show the chain and cutters.

5 A plain flexible band or belt may be substituted for the chain without affecting the principle of my invention so long as the cutter or cutters move continuously past the fingers in two different planes, one above the other, but in close proximity to each other.

10 What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The gathering-fingers *c*, provided with the stationary or fixed cutter-blade *d*, in combination with an endless belt or chain-cutter, ar-

15 ranged and adapted to travel past said stationary blade upon each side thereof, and in opposite directions, substantially as described.

2. The combination of the endless chain *D*, provided with the cutters *b*, bar *A*, fingers *c*, stationary blades *d*, division-plate *e*, casing *G*, 20 drum *C*, pulley *E*, and guide-rolls *F* and *F'*, substantially as described.

Executed at Boston, Massachusetts, this 1st day of July, A. D. 1881.

LÉON O. DION.

Witnesses:

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