G. S. CURTIS.

Mowing Machine.

No. 19,411. Patented Feb. 23, 1858.

Fig. 1.

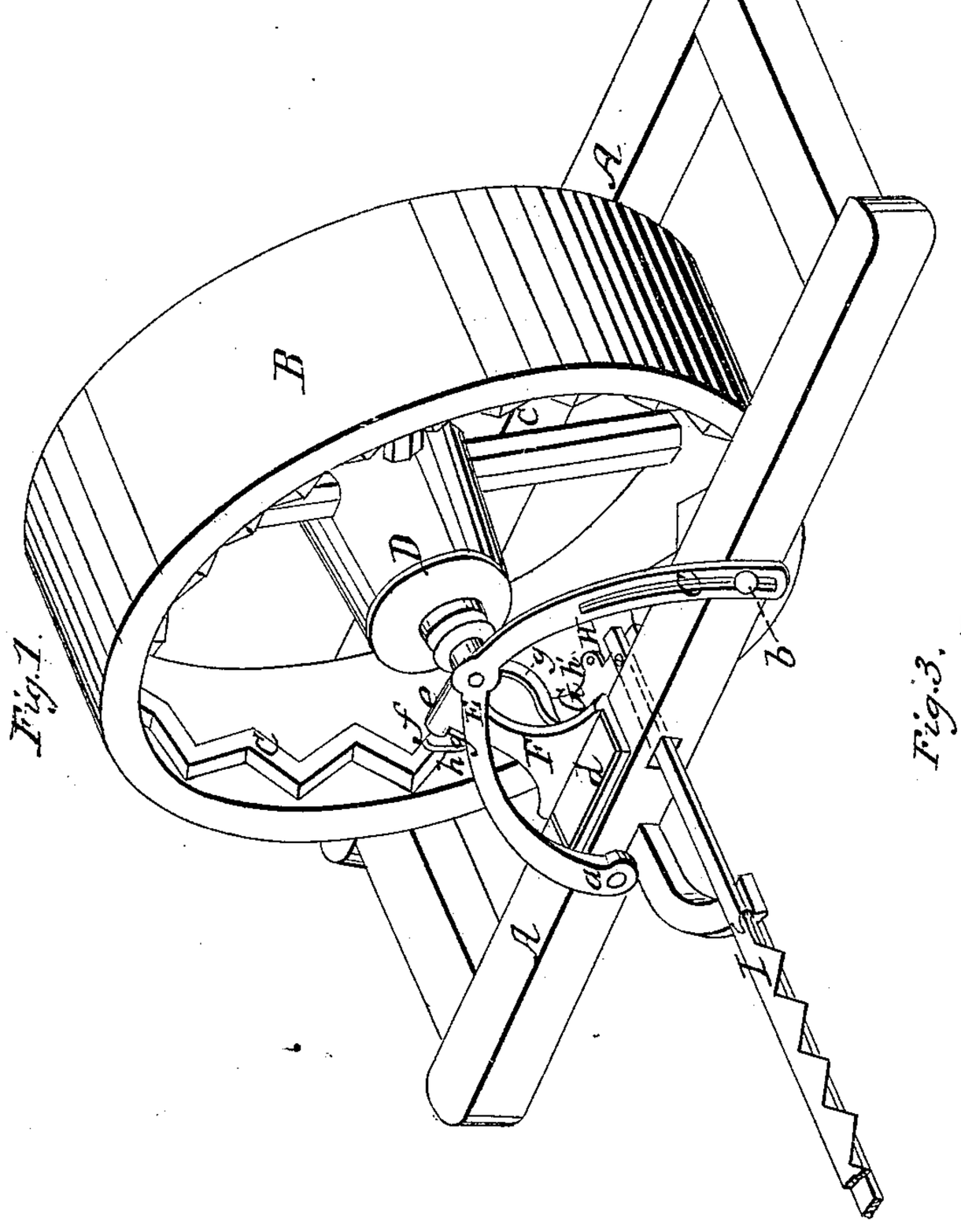


Fig. 2.

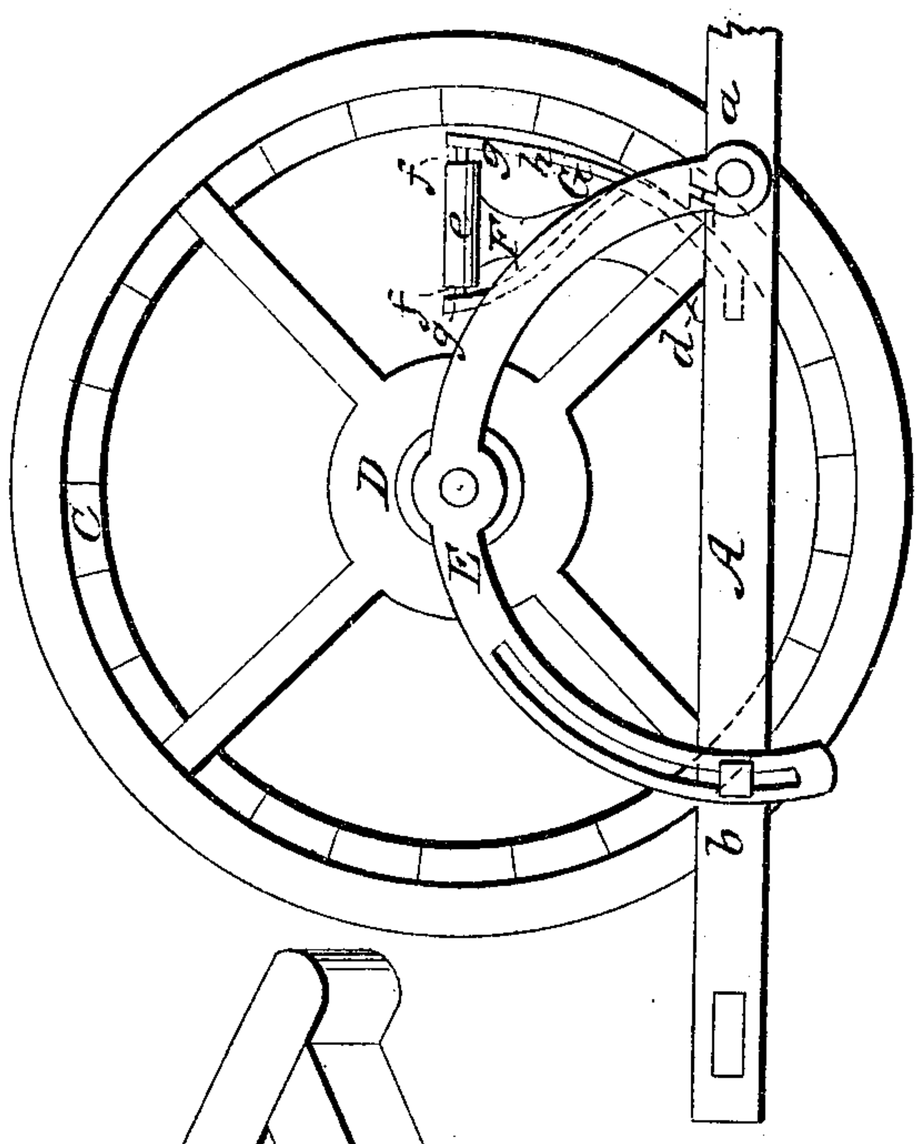
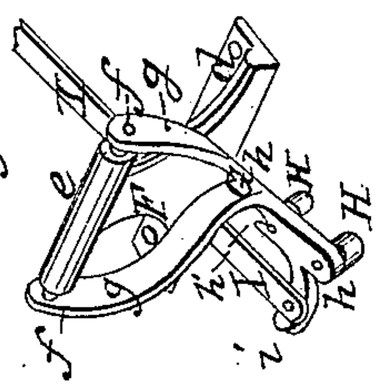


Fig. 3.



UNITED STATES PATENT OFFICE.

GEORGE S. CURTIS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **19,411**, dated February 23, 1858.

To all whom it may concern:

Be it known that I, GEORGE S. CURTIS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Reaping and Mowing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a reaper with my improvement applied to it. Fig. 2 is a side view of the same, and Fig. 3 is a perspective view of a portion of the improvement detached from the reaper.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists in the stirrup for vibrating the cutter-bar when made of circular form and with two prongs or bearings at its upper end for receiving the journal on which it swings, two side bearings for the friction-rollers which run in contact with the zigzag cam, and an extension for the cutter-bar to be attached to, and when said stirrup is arranged astride the zigzag cam, and to vibrate laterally on a pivot of a curved overhanging standard, and operating in relation to and in combination with the slotted pillow-blocks, as presently set forth.

By my invention an exceedingly simple means for reciprocating the cutter-bar can be employed, and the adjustment of the cutter-bar, frame, and friction-rollers can be effected without altering the necessary relation between the rollers and the zigzag cam, and expense reduced, friction avoided, and the utility of the reaper enhanced generally.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the frame of the reaper; B, the driving-wheel, with a zigzag ring-cam, C, formed round its inner circumference.

D is the axle of the wheel. It rests on yoke-shaped pillow-blocks E, which are pivoted at one end to the frame, as shown at *a*, and held permanently on the frame at the other end by a set-screw, *b*, which passes through a curved slot, *c*, of the pillow-block. The slot *c* is cut on a line struck from the pivot *a*, and allows of the frame and cutter-bar being raised and lowered, as may be required, without changing the necessary relation of the zigzag cam to the mechanism which vibrates the cutter-bar.

F is a curved overhanging standard, fastened to the frame A at *d*. The upper end, *e*, of this standard terminates in two short journals, *f f*.

G is the stirrup, which vibrates the cutter-bar when actuated by the zigzag cam. The upper end of this stirrup is forked in order that it shall receive between its prongs *g g* the upper end of the standard F, and swing or vibrate upon the short journals *f f* of the same, as shown in Figs. 1, 2, and 3. The outer prong or side, *h*, of the stirrup is made to form part of a circle, or is concentric with the inner circumference of the rim of the driving-wheel, as shown in Fig. 2, in order that it shall always maintain the same relation to the zigzag cam, no matter what be the extent of its adjustment by means of the circular slot in the pillow-blocks E. The stirrup extends down in a curved line to a point nearly under the axle of the driving-wheel, and has two side ears or bearings, *h' h'*, for the friction-rollers H H to be attached to, as shown in Figs. 1 and 3. By thus forming ears on the stirrup one friction-roller comes on one side of the zigzag cam and the other on the opposite side.

I is the cutter-bar. It passes through the frame A, and attaches to the upper side of the lower extremity, *i*, of the stirrup.

From the foregoing description of parts it may be evident that if the driving-wheel is set in motion the undulations of the cam will come in contact with the friction-rollers of the stirrup, and vibrate the stirrup and cutter-bar laterally in the most perfect manner, and with but little loss of power from friction, as the stirrup has no other bearing-points besides those *f f* of the standard on which it swings, and as the power is applied at a point so far away from said bearing-point of the standard F.

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

The stirrup G, for vibrating the cutter-bar, when made of circular form at *h*, and with two prongs or bearings, *g g*, at its upper end, two side bearings, *h'*, and an extension, *i*, and when said stirrup is arranged astride the zigzag cam C, and to vibrate laterally on a pivot of a curved overhanging standard, F, and operating in relation to and in combination with the slotted pillow-blocks E, substantially as and for the purposes set forth.

GEO. S. CURTIS.

Witnesses:

W. A. MARTIN,

HENRY CURTIS.