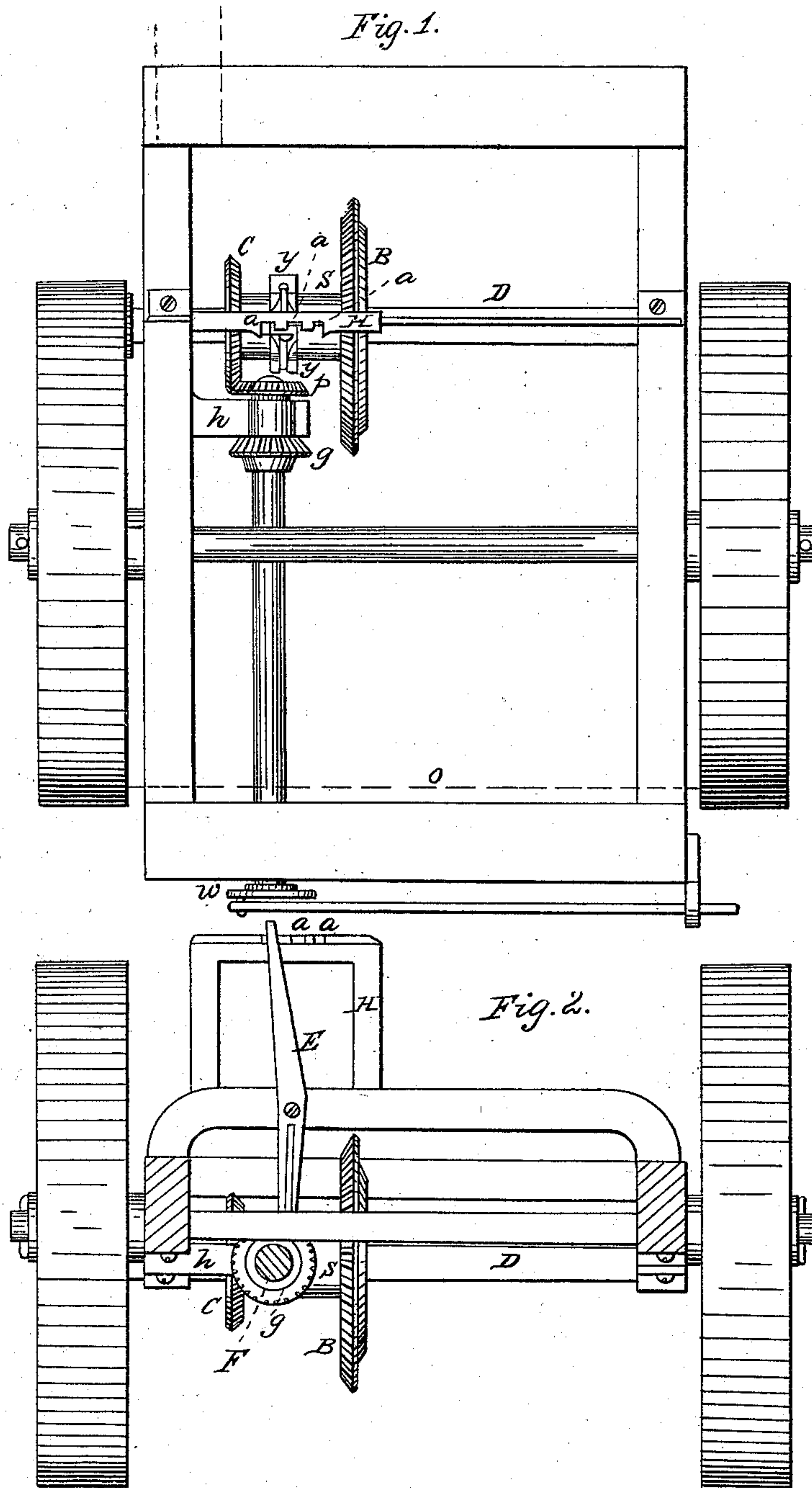


M. EASTERBROOK.
Reaping and Mowing Machine.

No. 54,875.

Patented May 22, 1866.



Witnesses:
W. O. Loughborough
A. H. Billings

Inventor:
M. Easterbrook

UNITED STATES PATENT OFFICE.

M. EASTERBROOK, OF GENEVA, NEW YORK.

IMPROVEMENT IN REAPING AND MOWING MACHINES.

Specification forming part of Letters Patent No. 54,875, dated May 22, 1866.

To all whom it may concern:

Be it known that I, M. EASTERBROOK, of Geneva, in the county of Ontario and State of New York, have invented a new and useful Mode of Changing the Speed of the Cutters of Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view of my invention. Fig. 2 is a rear elevation of the same, the rear end of the frame, as indicated by the red line *o* in Fig. 1, being removed.

Similar letters of reference indicate corresponding parts in both figures.

It has been found extremely desirable to change the relative speed of the knife-bar for cutting grain or grass, a much higher speed being necessary for the latter than for the former.

The object of this invention is to accomplish that result; and its nature consists in providing a system of differential gearing and adjusting the same means of a hand-lever, whereby the operator may make the desired changes while the machine is in action, or throw the cutters out of gear entirely when necessary.

To enable others to make and use my invention, I will describe its construction and operation.

I provide the ordinary bevel-wheel *B* with a sleeve, *S*, to which is attached another bevel-wheel, *C*, of a less diameter. The sleeve *S* is feathered to the shaft *D*, and is grooved to receive the collar or yoke *y* of the adjusting-lever *E*. The two bevel-wheels gear into the pinions *p* and *g*, which latter may be of equal diameter, and are keyed to the crank-shaft *F*. This end of the shaft is supported in the hanger-arm *h*, which is properly bolted to the frame.

The two bevel-wheels *B* and *C* should be

far enough from each other to allow them both to be entirely out of gear when the lever *E* is placed in its intermediate point of adjustment, which of course enables the operator to throw the cutters out of gear or increase or decrease their speed by the same lever.

It may be desirable to make the two bevel-wheels *B* and *C* in one, in which case the pinion *g* should be feathered to the crank-shaft *F*, and the pinion *p* made to revolve loosely upon a sleeve projecting from the feathered pinion, and it should be prevented from sliding longitudinally by an ordinary fork or yoke fixed to the arm *h* or other convenient point.

The sleeve of the feathered pinion *g* should project far enough through the pinion *p* to have a clutch that would be thrown out of gear with that pinion when the other is thrown in gear with its bevel-wheel, the pinion *p* always remaining in gear.

It might be desirable to have the wheels *B* and *C* keyed to the shaft and swing the pinion end of the crank-shaft. The spring of the lever *E* keeps it in either of the notches *a* of the arch *H*, in which it may be placed by the operator.

The crank-wheel *w* is attached to the rear end of shaft *F*, as seen in Fig. 1.

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

1. The sliding gears *B* and *C*, connected together by the feathered sleeve *S*, and arranged to slide upon the shaft *D* without moving the latter longitudinally, as and for the purposes set forth.

2. The arrangement of the hand-lever *E*, ratcheted arch *H*, and yoke *y*, in combination with the feathered connecting-sleeve *S* and gears *B* and *C*, as shown and described, and for the purposes specified.

M. EASTERBROOK.

Witnesses:

WM. S. LOUGHBOROUGH,
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