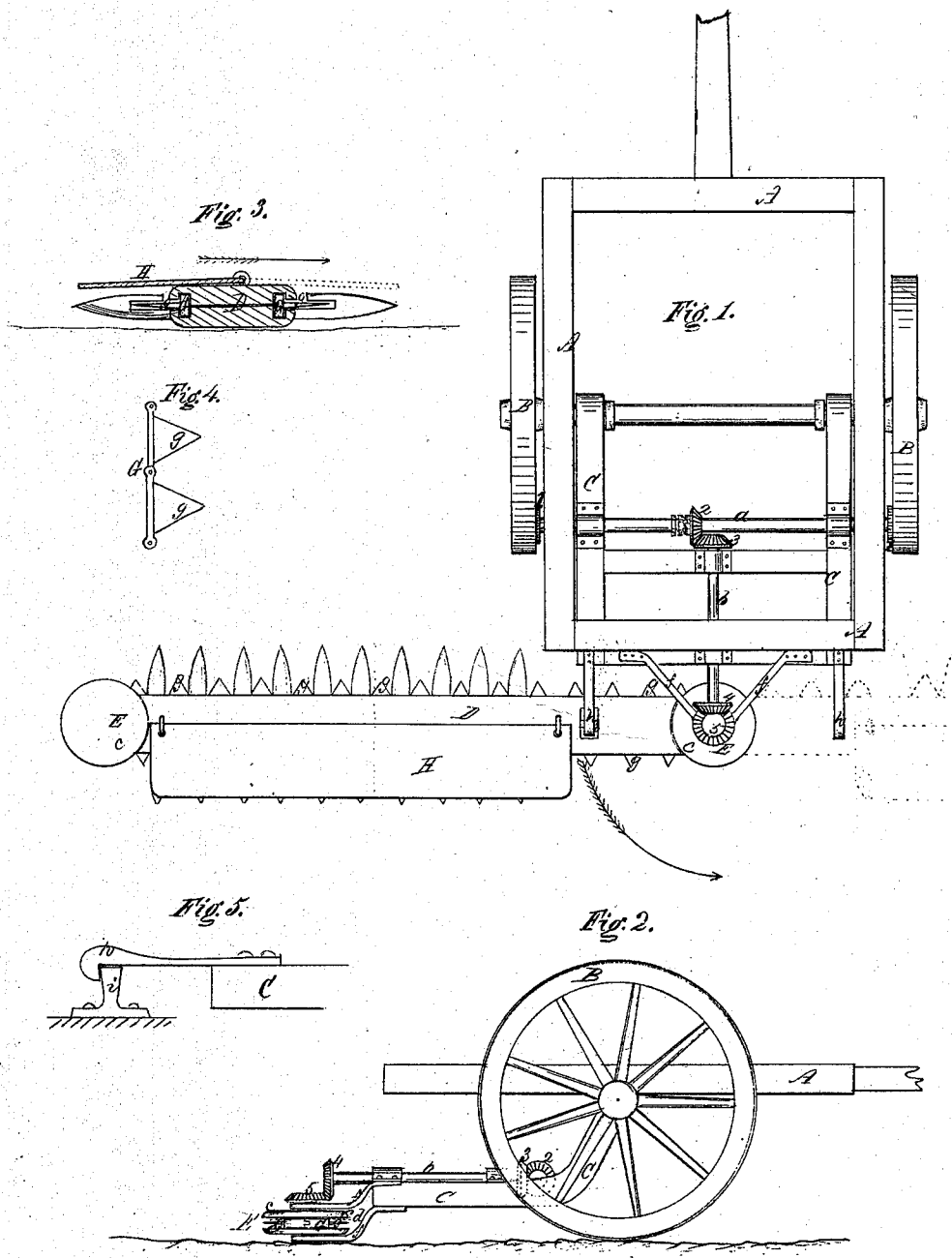


C. H. CHARLESWORTH & J. H. SHORT.  
HARVESTER.

No. 103,136.

Patented May 17, 1870.



Witnesses.  
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# United States Patent Office.

CLARK H. CHARLESWORTH AND JOSEPH H. SHORT, OF AVOCA, NEW YORK.

Letters Patent No. 103,136, dated May 17, 1870.

## IMPROVEMENT IN HARVESTERS.

The Schedule referred to in these Letters Patent and making part of the same

### To all whom it may concern :

Be it known that we, CLARK HERBERT CHARLESWORTH and JOSEPH H. SHORT, both of Avoca, in the county of Steuben and State of New York, have jointly invented a certain new and useful Improvement in Harvesters, of which the following is a specification, referring to the accompanying drawings.

#### Nature of the Invention.

This invention consists in a reversible cutting-arrangement for harvesters, capable of being turned to either side of the machine, and having a shifting leaf, the knives being attached to an endless belt or chain, constantly running in one direction, as hereinafter described.

#### General Description.

In the drawings—

Figure 1 is a plan.

Figure 2, a side elevation.

Figure 3, a cross-section of the finger-bar.

Figures 4 and 5, detail views.

A is the main frame, and

B B, the driving-wheels.

C is a secondary frame, hung to the axle of the main frame, so as to rise and fall freely.

A shaft, *a*, rests in the secondary frame, having pinions 1 1, which engage with an internal gear of the driving-wheels and a central bevel-gear, 2, which gives motion to bevel-gear 3 of right-angled shaft *b*.

At the opposite end of this shaft is another bevel-gear, 4, which gives motion to bevel-gear 5, by which the cutters are run, as will presently be described.

The finger-bar D is constructed with spools or pulleys E E at the ends, which turn freely.

These spools consist each of upper and lower head-disks *c c*, of sufficient diameter to cover the knives, presently to be described, while the intermediate body *d*, which forms the spool proper, is made flat-sided, to receive the lags of the belt or chain.

The inner spool is braced by suitable bearings *f f*,

and has the bevel-gear 5 connected rigidly with it, by which the motion is given.

The endless band or chain G, which passes around the spools, is suitably inclosed or covered by the finger-bar, and it is armed with horizontally-projecting knives *g g*, which act with the ordinary finger-guards in the usual manner, except that they always run one way.

Thus arranged, the finger-bar may be used on either side of the machine, by simply swinging around horizontally, as shown by the arrow, fig. 1.

It is secured in position on either side by double-acting hooks and catch *h i*, or some other equivalent arrangement.

In order to prevent clogging of the rear side of the finger-bar in either position, we employ, on top of the same, a centrally-hinged leaf, H, running longitudinally, and capable of being turned over to reverse its position, as shown by the black and dotted lines in fig. 3. By this means it is adjusted to the horizontal change of the finger-bar to one side or the other.

We are aware that the ordinary finger-bar with reciprocating cutters has before been changeable from one side to the other of the machine. We are also aware that an endless-belt cutter has before been known, but made fixed to the machine and not adjustable.

We expressly disclaim such features. We claim a novelty in the use of the shifting leaf H, combined with the shifting finger-bar and endless belt.

What we claim as our invention is—

The combination and arrangement of the shifting finger-bar D, endless knife-belt G, the spools E E, and the shifting leaf H, the whole operating as described and for the purpose specified.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

CLARK H. CHARLESWORTH.

JOSEPH H. SHORT.

Witnesses:

SAMUEL E. HASKIN,

I. J. HASKIN.