

*H. Opp,*  
*Harvester Blade.*

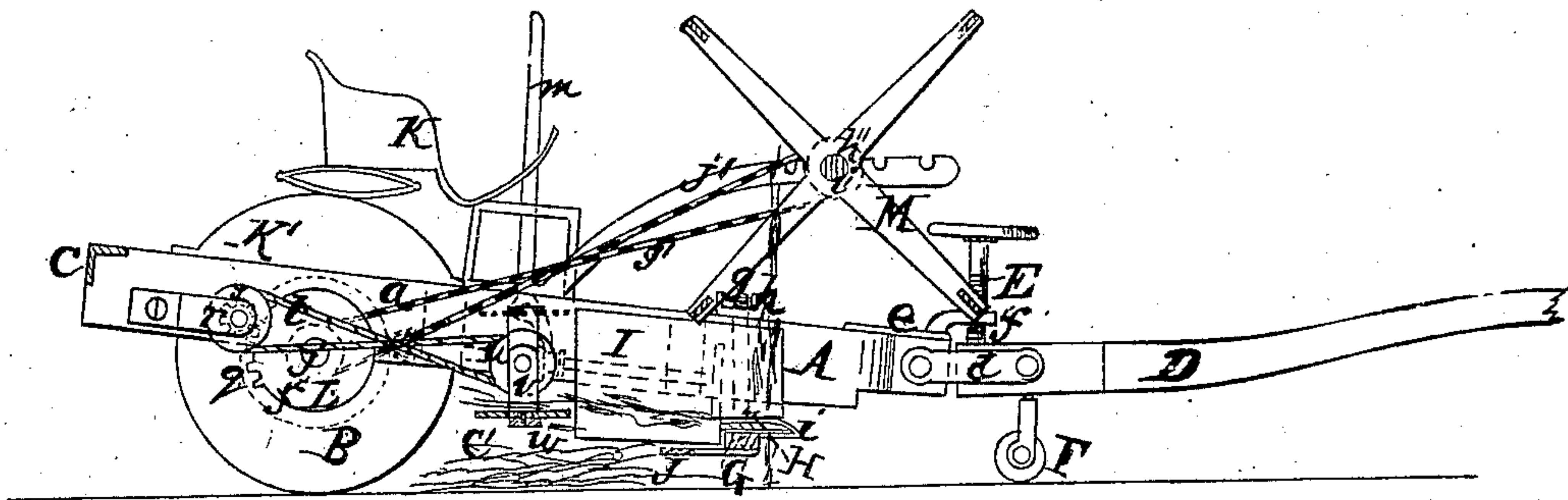
*No 22237*

*Patented Dec. 7. 1858*

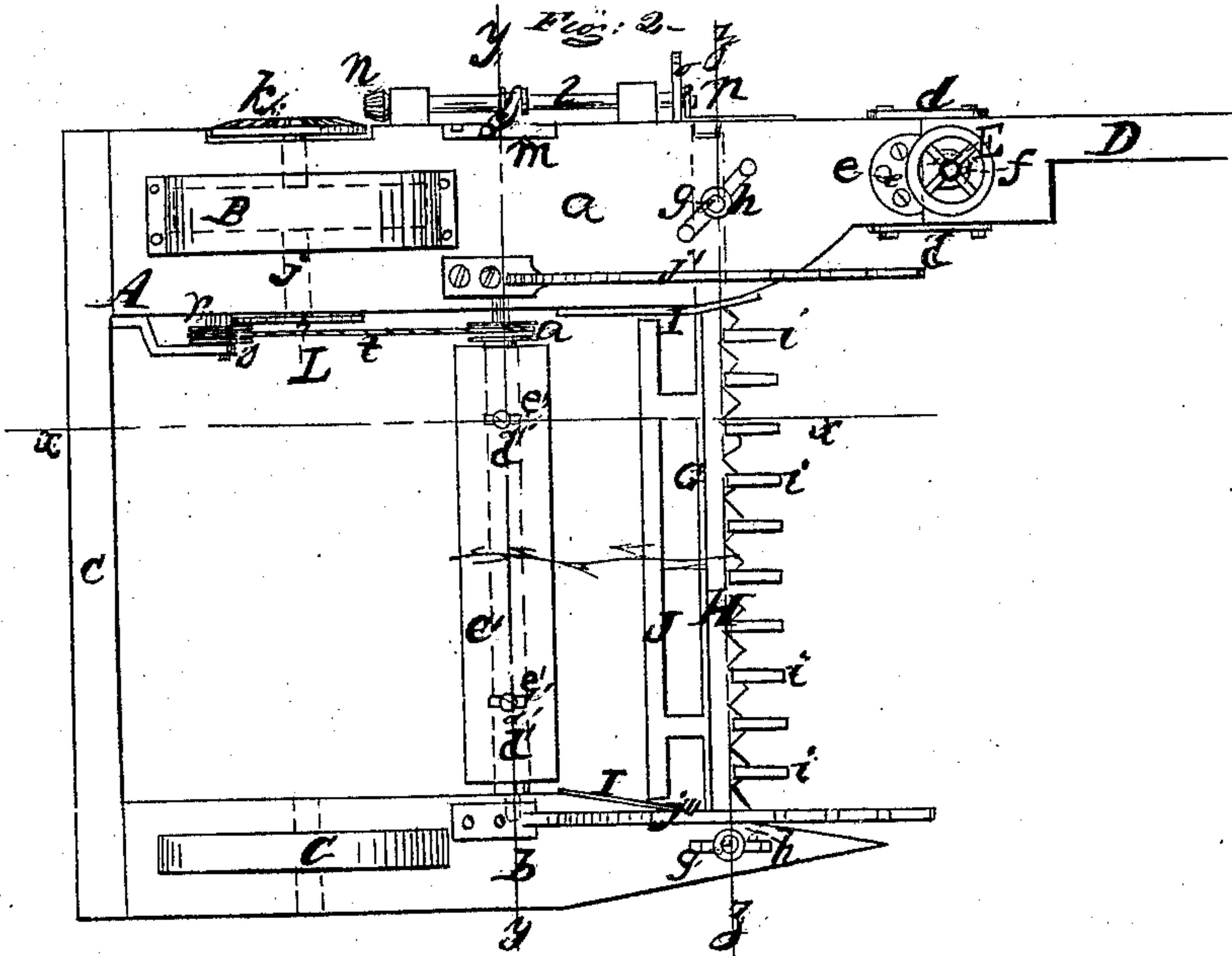
*Witnesses*  
*Casper Thill*  
*Friedrich Bender*

*Inventor*  
*Henry Opp*

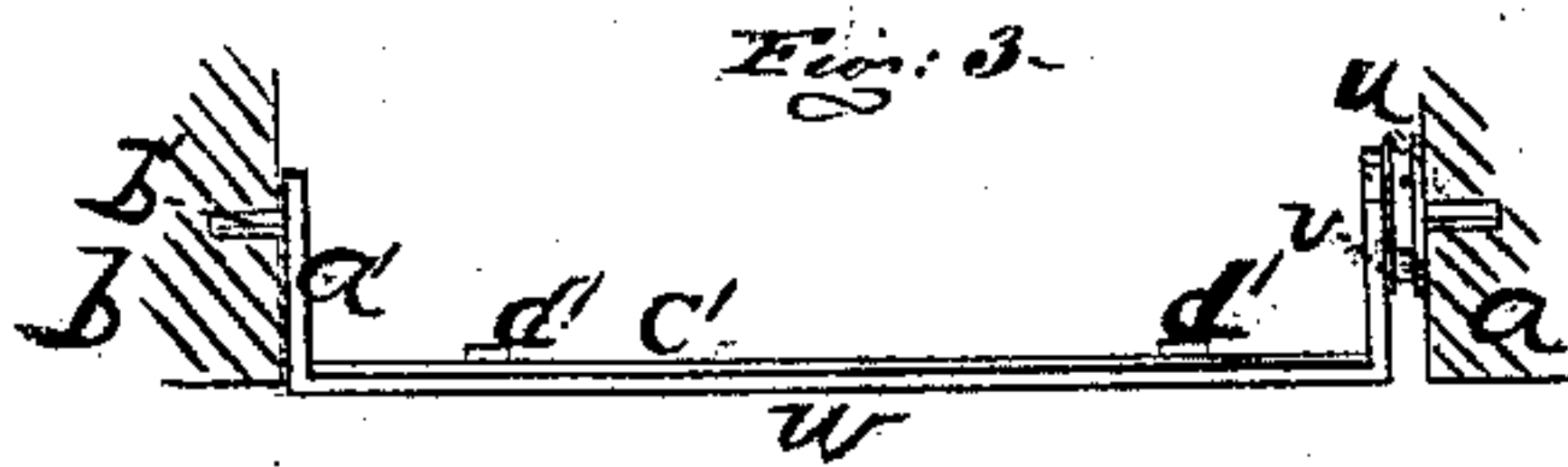
*Fig. 1.*



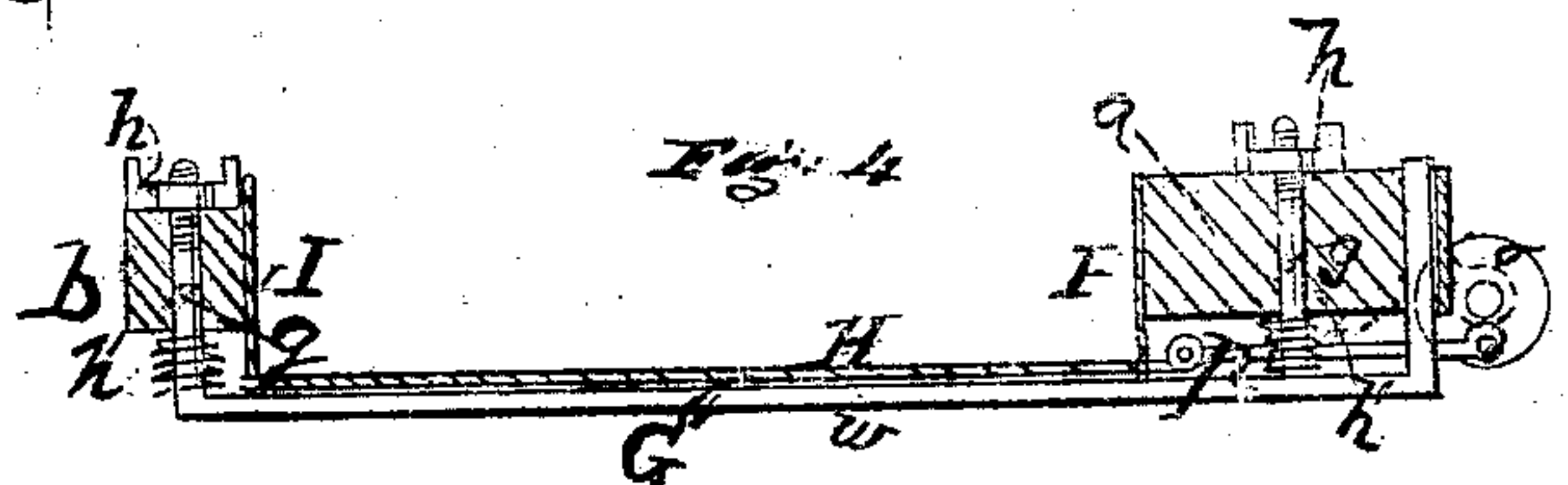
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*





# UNITED STATES PATENT OFFICE.

HENRY OPP, OF BELLEVILLE, ILLINOIS.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 22,237, dated December 7, 1858.

*To all whom it may concern:*

Be it known that I, HENRY OPP, of Belleville, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same. Fig. 3 is a section of the same, taken in the line *y y*, Fig. 2. Fig. 4 is also a section of the same, taken in the line *z z*, Fig. 2.

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

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the frame of the machine, which is formed of two parallel beams or bars, *a b*, placed at a suitable distance apart, and connected at their back ends by a traverse-bar, *c*. In the bar *a* a wheel, B, is placed, and a wheel, C, is placed in the bar *b*. These wheels are of equal size, and support the machine.

To the front end of the bar *a* a draft-pole, D, is attached by links *d d*, and to the end of the bar *a* a metal plate, *e*, is attached, said plate having a nut, *f*, at its outer end, through which a vertical screw, E, passes, the lower end of said screw bearing on the inner end of the draft-pole D, which is supported by a cast-wheel, F, as shown plainly in Fig. 1.

G is the finger-bar, the ends of which are bent upward at right angles, as shown at *g g*, Fig. 4, and pass through the bars *a b*, the upper part of the ends *g g* of the finger-bar being made in cylindrical form, and having screw-threads formed on them to receive thumb-nuts *h h* above the bars *a b*.

On the lower parts of the ends *g g* of the finger-bar, below the bars *a b*, spiral springs *h' h'* are placed, one on each, as shown clearly in Fig. 4, the springs having a tendency to keep the finger-bar depressed as far as the nuts *h h* will permit. To the finger-bar G fingers *i* are attached, and a sickle, H, is fitted and works therein, the sickle being of the usual saw-toothed reciprocating kind.

To each end of the finger-bar G a vertical plate, I, is attached, said plate extending up-

ward at the inner sides of the bars *a b*, and placed in oblique positions, corresponding to the form of the inner sides of the bars.

To the back part of the finger-bar G, and to the lower ends of the plates I I, a bar, J, is attached, said bar being parallel with the finger-bar G, as shown clearly in Fig. 2.

To the outer end of the axle *j* of the wheel B a bevel-wheel, *k*, is placed, and to the outer side of the bar *a* a sliding rod, *l*, is placed, said rod being actuated by a lever, *m*, which extends upward by the driver's seat K, that is placed on the cap or cover K' of the wheel B. The back end of the rod *l* has a bevel-pinion, *n*, placed on it, and to the front end a crank-wheel, *o*, is attached, the crank-wheel having a connecting-rod, *p*, secured to it, which rod is attached to and drives the sickle H when the bevel-pinion *n* is thrown in gear with the wheel *k*.

To the inner end of the axle *j* of the wheel B a wheel, L, is attached. This wheel has a few teeth, *q*, formed on its periphery. These teeth, as the wheel L rotates, gear at every revolution of said wheel into a pinion, *r*, at the inner side of bar *a*, the axis of the pinion being in the bar *a*.

To the outer end of the axis of the pinion *r* a pulley, *s*, is attached, and a band, *t*, passes around said pulley, and a pulley, *u*, which is also placed at the inner side of bar *a*, and has a pendent arm, *v*, attached to its outer side, the lower end of said arm having one end of a horizontal bar, *w*, attached, the opposite end of said bar being attached to a pendant, *a'*, the upper end of which is provided with a journal, *b'*, that fits into the inner side of bar *b*, and is allowed to turn freely therein.

To the bar *w* a plate, *c'*, is attached by screws, the screws *d'* passing through oblong slots *e'* in the plate, so as to render said plate adjustable to a certain degree, and longitudinally with the machine. This will be understood by referring to Fig. 2.

On the axle *j* of the wheel B there is also placed a pulley, *f'*, (see dotted lines, Fig. 1,) around which a band, *g'*, passes, said band also passing around a pulley, *h''*, on the shaft *i'* of a reel, M, the shaft *i'* working in suitable bearings in curved arms *j'*, attached to the bars *a b*.

The operation of the machine is as follows: As the machine is drawn along the sickle H is operated from the axle *j* of the wheel B by



means of the gearing and crank-wheel previously described, and the cut grain, by the aid of the reel M, falls, as it is cut, on the plate  $c'$  and bar J, as shown in black, Figs. 1 and 2, the heads of the grain resting on plate  $c'$ . At every revolution of the wheel L its cogs  $q$  gear into the pinion  $r$  and rotate it, and this motion is communicated by the belt  $t$  to the pulley  $u$ , and consequently the plate  $c'$  will be turned around the journal  $b'$ , and the axis of pulley  $u$  being the center. This movement of the plate  $c'$  discharges the grain from the machine intermittingly, and consequently in gavels. (See red lines, Fig. 1.) I would remark that it is not essential that the plate  $c'$  make a complete revolution in order to discharge the grain; a partial revolution, merely sufficient to allow the heads of the grain to drop, would do; but perhaps an easier or more perfect movement of the parts would be obtained by the arrangement shown and described. The grain may be cut the desired height from the surface of the ground by adjusting the thumb-nuts  $h$   $h$ , said adjustment regulating the height of the finger-bar G and sickle H, and in case the fin-

ger-bar and sickle meet with obstructions of any kind the driver, by merely stepping forward on the bar  $a$  and screwing down the rod E, will elevate the front end of the machine, the back end of the draft-pole serving as a bearing for the screw E.

By this invention all raking attachments, which are necessarily more or less complicated, are avoided, the machine as a whole is rendered extremely simple, and there are no parts liable to get out of repair or become deranged or inoperative by proper use.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The employment of the plate  $c'$ , operated as described, in combination with the bar J, or its equivalent, attached to the finger-bar G, the whole being constructed and arranged as and for the purpose set forth.

HENRY OPP.

Witnesses:

PETER SINTEL,  
FRIEDRICH HARTLOB.