A. B. J. FLOWERS.

Harvester.

No. 18,240. Patented Sept. 22, 1857.

Fig. 1.

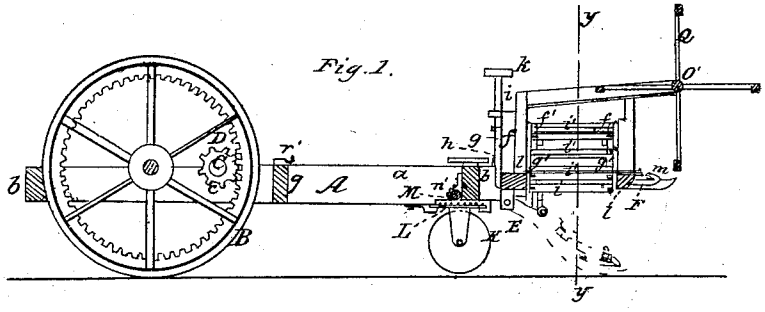


Fig. 3.

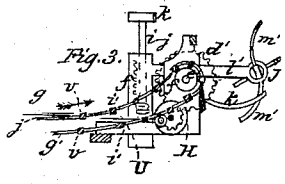
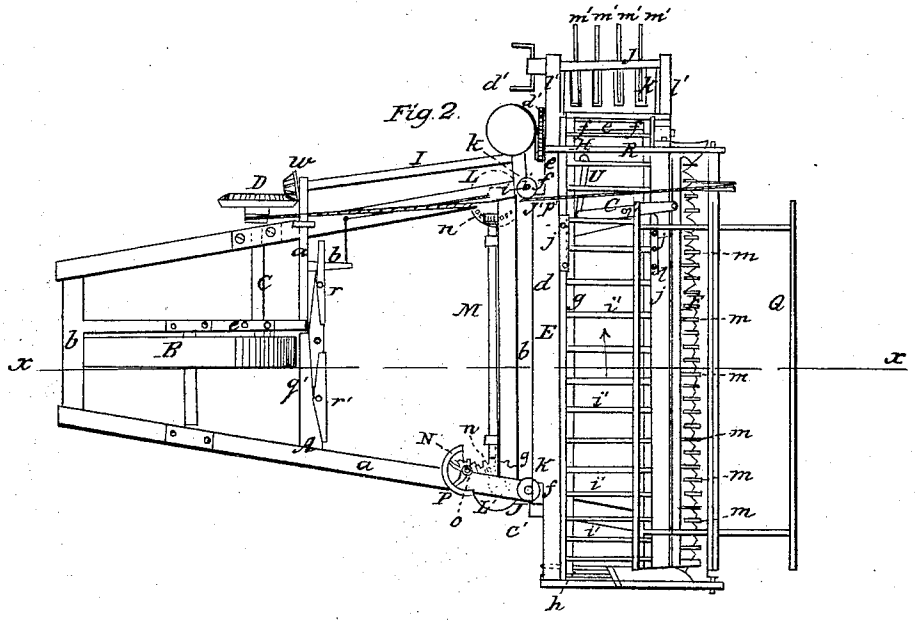


Fig. 2.



N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

ANDREW B. J. FLOWERS, OF GREENFIELD, INDIANA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **18,240**, dated September 22, 1857.

To all whom it may concern:

Be it known that I, ANDREW B. J. FLOWERS, of Greenfield, in the county of Hancock and State of Indiana, 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 longitudinal vertical section of my improvement, *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same. Fig. 3 is a longitudinal section of the discharge end of the endless apron or carrier, the plane of section also passing through the device employed for discharging the grain from the machine in sheaves or gavels. *y y*, Fig. 1, indicates the plane of section.

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

My invention consists in the peculiar construction and arrangement of mechanism for guiding the machine.

A represents the frame of the machine, the side pieces, *a a*, of which are placed obliquely with the end pieces, so that the front end is somewhat wider than the back end, as plainly shown in Fig. 2.

B represents the driving-wheel, which is placed within the frame A at its back end. This driving-wheel is cogged on its inner periphery, as shown clearly in Fig. 1, and a pinion, *c*, gears therein. This pinion *c* is placed on the end of a shaft, C, which is fitted transversely on the frame A, and has a beveled toothed wheel, D, on its outer end.

E represents a rectangular frame, which is fitted to the front end of the frame A. The back piece, *d*, of this frame has two uprights, *e e*, attached to it, and these uprights are placed by the side of uprights *f f*, attached to the front end of the frame A—one at each side. To the back piece, *d*, vertical racks *g g* are also attached, and screws *h* gear into these racks, said screws being attached to vertical rods *i*, which work at the back sides of the uprights *f f*. The upper ends of the uprights *e e* have each a guide-hook, *j*, attached, said guide-hooks passing behind the uprights *f f*, as shown clearly in Fig. 2. The upper ends of the rods *i* are surmounted by hand-wheels *k*, and by turning the rods *i* it will be seen that the frame E may be elevated or depressed to the desired height from the ground, the uprights *f f* and *e e*, with the guide-hooks *j j*, serving as guides to the frame E, and also serving as the means whereby it is attached to the front end of the frame A.

The front piece, *l*, of the frame E forms the finger-bar, *m* being the fingers, which are attached to said bar, and F is the sickle, which works through the fingers in the usual manner, the sickle being provided with the usual pointed or rounded teeth. A reciprocating motion is given the sickle F by means of a lever, G, which works on a fulcrum-pin, *u*, the lever G being actuated by a pitman, *v*, which is attached to a crank-pulley, H, on the front end of a shaft, I. The back end of this shaft I has a beveled pinion, *w*, upon it, which pinion gears into the beveled toothed wheel D. The bearing of the shaft I at its back end is in a sliding rod, *a'*, which is actuated by a lever, *b'*, for the purpose of throwing the pinion *u* in and out of gear with the wheel D. (See Fig. 2.)

On the front end of the shaft I, and just back of the crank-pulley H, a pinion, *c'*, is placed. This pinion gears into a wheel, *d'*, at the inner or back end of a shaft, *e'*, on which two bosses, *f'*, are placed—one at each end. Around those bosses *f'* straps *g'* pass, said straps passing around rollers *h'* at the opposite end of the frame E. To these straps *g'* bars or slots *i'* are secured, and the straps *g'* work underneath plates *j'*, or their equivalents, attached to the inner edges of the front and back pieces, *l d*, of the frame E. The plates *j'* serve as guides to the straps *g'*, and are essential, as the shaft *e'* is placed somewhat higher than the rollers *h'*. The straps *g'*, with the slots *i'* attached, form an endless apron or carrier.

To the end of the frame E adjoining the shaft *e'* concave bars *k'* are attached. These bars extend the whole width of the frame E, and their form is distinctly shown in Fig. 3. Horizontal arms *l'* are attached to the end of the frame E, and a shaft, J, is fitted between said arms. This shaft is provided with curved arms *m'*, which are sufficiently long to extend or pass between the bars K' as the shaft J is turned. (See Fig. 3.)

The front end of the frame A is supported by swivel-wheels K K. These wheels are attached to rotating circular plates or disks L L', which are attached to the under side of the frame. These plates or disks are provided

with teeth, into which pinions n' gear, said pinions being at the end of a shaft, M, which works in bearings attached to the front end of the frame A. One of the plates or disks L′ has a portion of its periphery cogged, and a pinion, N, at the lower end of an upright shaft, O, gears therein. The shaft O has a hand-wheel, P, on its upper end.

Q represents a reel, the shaft or axis O′ of which is fitted in the ends of bars R R, attached to the frame E. The reel is driven by a band, p', from the shaft C.

The team or horses are placed within the frame A at its front part, the whiffletrees r' being attached to a cross-piece, g''. As the machine is drawn along it will be seen that the endless apron is moved in the direction indicated by the arrow 1, the apron being operated from the driving-wheel B by the shafts I C, with the proper gearing attached. The grain as it is cut is thrown upon the apron by the reel Q, and is conveyed by said apron into the receptacle formed by the concave bars K′. When said receptacle is full it is discharged therefrom by an attendant, who rotates the shaft J one-half of a revolution, the teeth m' throwing the grain out of the receptacle. The receptacle holds sufficient grain to form a sheaf or gavel. The machine is turned by merely turning the swivel-wheels K. This is done with the greatest facility by connecting the two plates or disks, L L′, by means of the shaft M, and having the pinion N gear into the plate or disk L′, so that by turning the rod O the two swivel-wheels are actuated simultaneously. The grain may be cut at any desired height by simply raising or lowering the frame E by turning the rods i i.

It will be observed that the plates L L′ of the caster-wheels K K have gear-teeth cast upon their peripheries and also on their flat surfaces. A great saving in the manufacture is thus effected, as thus no gear-cutting is required. The edges of said plate L L′ also serve to a certain extent as guides for themselves and for the caster-wheels.

It will also be observed that by casting the gear-teeth of one of said plates L L′ upon the upper surface thereof, while another set of teeth is cast upon the under surface of the opposite plate, the use of an intermediate pinion is entirely obviated, and a considerable expense in the constuction of the machine is thus saved. It will be seen that the two pinions n n' gear respectively with the teeth upon the upper and lower surfaces of the plates L L′, so that by turning the hand-wheel N both caster-wheels are simultaneously turned in the same direction.

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

Guiding the machine by means of the caster-wheels K K, upright shaft i, and the horizontal shaft M, in combination with the peculiarly-constructed caster-plates L L′, said parts being arranged to operate in relation to each other in the manner set forth.

ANDREW B. J. FLOWERS.

Witnesses:

ANDREW T. HART,

MOSES W. HAMILTON.