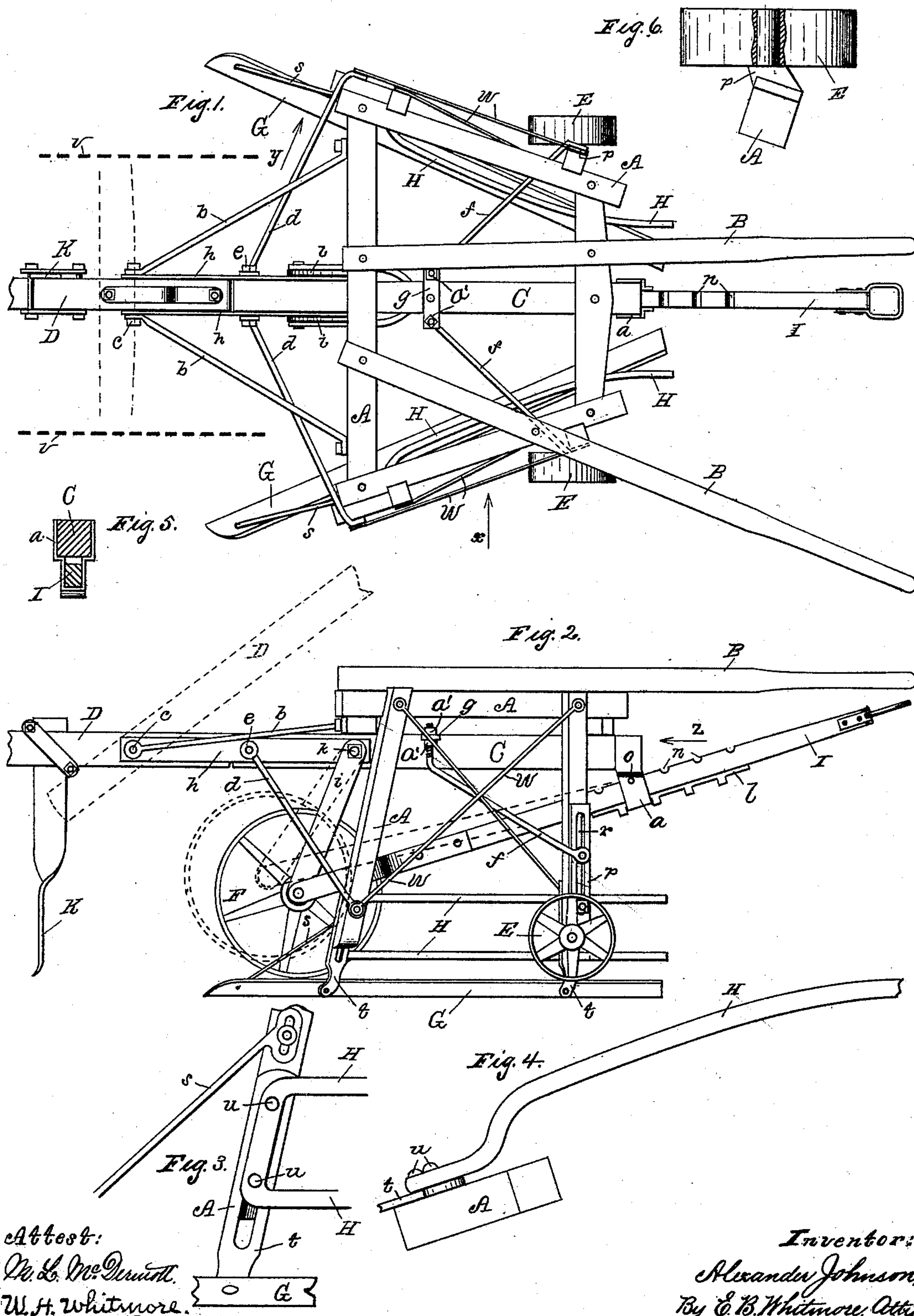


(No Model.)

A. JOHNSON.
BEAN HARVESTER.

No. 418,188.

Patented Dec. 31, 1889.



Attest:
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UNITED STATES PATENT OFFICE.

ALEXANDER JOHNSON, OF WATERPORT, NEW YORK.

BEAN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 418,188, dated December 31, 1889.

Application filed May 13, 1889. Serial No. 310,540. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER JOHNSON, of Waterport, in the county of Orleans and State of New York, have invented a new and useful Improvement in Bean-Harvesters, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

The object of my invention is to produce an improved bean-harvester, the same being hereinafter fully described, and more particularly pointed out in the claims.

In this machine two opposite diverging cutters are used, each to take up a row of beans as the machine advances, there being gatherers for the vines at each side, serving to collect the beans into a windrow at the rear of the machine. The cutters are made adjustable upon the frame, and also the carrying-wheels upon which the device is supported. The handles are thrown to one side, so that the operator may walk at one side of the windrow of beans. The tongue is held upon a pivotal bolt, so that it may be turned back over the machine when not in use.

Referring to the drawings, Figure 1 shows a plan of my improved bean-harvester, and Fig. 2 a side elevation, seen as indicated by arrow *x* in Fig. 1, parts being shown in two positions by full and dotted lines. Fig. 3 is a view at the inside of the right forward leg of the frame indicated by arrow *y* in Fig. 1, serving to show more fully the manner of holding the gatherers for the vines; Fig. 4, a plan view of the gatherers and associated parts at the left side of the machine; Fig. 5, a view indicated by arrow *z*, Fig. 2, showing the tongue-bar and handle for the forward wheel transversely sectioned. Fig. 6 shows a rear leg of the frame with its ground-wheel and axle, the wheel being partially sectioned through the hub. Figs. 3, 4, and 6 are drawn to a larger scale than the other figures.

Referring to the parts, A is the frame of the machine; B B, the handles; C, the tongue-bar, and D the tongue.

E E are carrying-wheels for the machine, secured to the respective rear legs of the frame, and F a forward carrying-wheel held under the tongue-bar.

G G are the cutters, these being long

straight steel blades held obliquely under the frame, as shown.

H H are the gatherers for the vines, converging toward their rear ends, for the purpose of collecting the two rows of vines into a windrow after being cut up by the blades.

I is a handle, by which the forward wheel is operated, said handle passing through a loop *a*, rigid with the rear end of the tongue-bar.

K is a track-clearer for the wheel F, secured to the tongue.

b b are braces reaching from a bolt *c*, passing through the tongue back to the frame A.

d d are other braces connected with the tongue-bar by a bolt *e*, and extending to the outside braces of the respective forward legs of the frame. *f f* are similar braces extending from a plate *g*, secured to the tongue-bar, to the outside surfaces of the respective rear legs of the frame. The tongue is held to turn in a vertical plane upon the bolt *c*, between two iron straps *h*, rigid with the tongue-bar. The leading-wheel F is held by pivotal links *i*, fitted to turn upon a bolt *k*, passing through the tongue-bar. Being thus held, the wheel may be moved forward or backward by the handle I, the latter being provided with a notched bar *l*, engaged by the loop *a*, to hold the wheel in any position of adjustment. To move the handle I through the loop, it is first raised to bring the loop out of the notch in the bar *l*. When the handle is placed so that the loop *a* occupies one of the notches, it is held in that position by a pin *o*, notches *n* being formed in the upper surface of the handle in which to receive the pin.

Throwing the wheel F forward allows the forward end of the cutters to sink more deeply into the ground, and by drawing the wheel back the cutters will be raised so as to just skim the surface of the ground. If the wheel be drawn clear back, so the links *i* are vertical, the forward ends of the cutters will be raised clear from the ground and become inoperative. Usually the cutters pass about one inch under the ground at the front ends and two to three inches at the rear ends.

The wheels E E are held upon axles *p p*, which are secured to the outer faces of the rear legs of the frame. These axle-pieces are

slotted at *r*, Fig. 2, so that the wheels may be forced downward to regulate the depth to which the rear ends of the blades cut, and also to raise them clear from the ground when required.

The forward ends of the cutters are supported by braces *s*, secured to the inner faces of the forward legs of the frame. These braces are slotted at their upper ends, as shown in Fig. 3, to admit of a vertical adjustment of the cutters on the frame. The cutters are otherwise held by slotted holders *t*, secured to the inner faces of the legs. By this means the cutters may be vertically adjusted upon the frame when necessary.

The gatherers *H* are each composed of two parallel parts or tines, and are secured to the frame by bolts *u u*, passed through their respective heads and fastened in the respective forward legs of the frame. These bolts pass through the slots in the holders *t* for the cutters, and are loosened when the latter are vertically adjusted. Diagonal brace-rods *w* are employed at each side of the frame to stiffen the latter.

The rods *ff*, in addition to acting as braces, also serve as adjusters for the distance between the heels of the cutters. These rods are vertical for some distance at their upper ends, are also threaded, and provided with set-nuts *a' a'*, one above and one below the plate *g*. By drawing these rods up by means of the set-nuts the lower ends of the rear legs of the frame will be drawn toward each other, which will bring the rear ends of the cutters and the gatherers nearer together.

By forcing the rod downward by means of the lower set-nuts the free ends of the rear legs will be pressed apart, serving to spread the heels of the cutters and gatherers. The upper ends of the legs are not joined movably to the upper timbers of the frame for the purpose of this motion, it being found that the springing or yielding of the parts answers the purpose.

With this machine I use a long evenner and neck-yoke for the draft-team, allowing the horses to walk outside of the respective rows of beans.

What I claim as my invention is—

1. In a bean-harvester, in combination with a trapezoidal frame, converging cutters secured adjustably to the frame, converging gathering-rods held to the frame, a middle supporting forward wheel suspended from the frame to swing in a vertical plane, and a longitudinally-moving handle to swing said wheel, substantially as and for the purpose set forth.

2. In combination with the tongue-bar, the frame of a bean-harvester, and adjusting-rods *f*, secured to the rear legs of the frame and connected with said tongue-bar, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 1st day of May, 1889, in the presence of two subscribing witnesses.

ALEXANDER JOHNSON.

Witnesses:

E. B. WHITMORE,
M. L. McDERMOTT.