Sheet 1

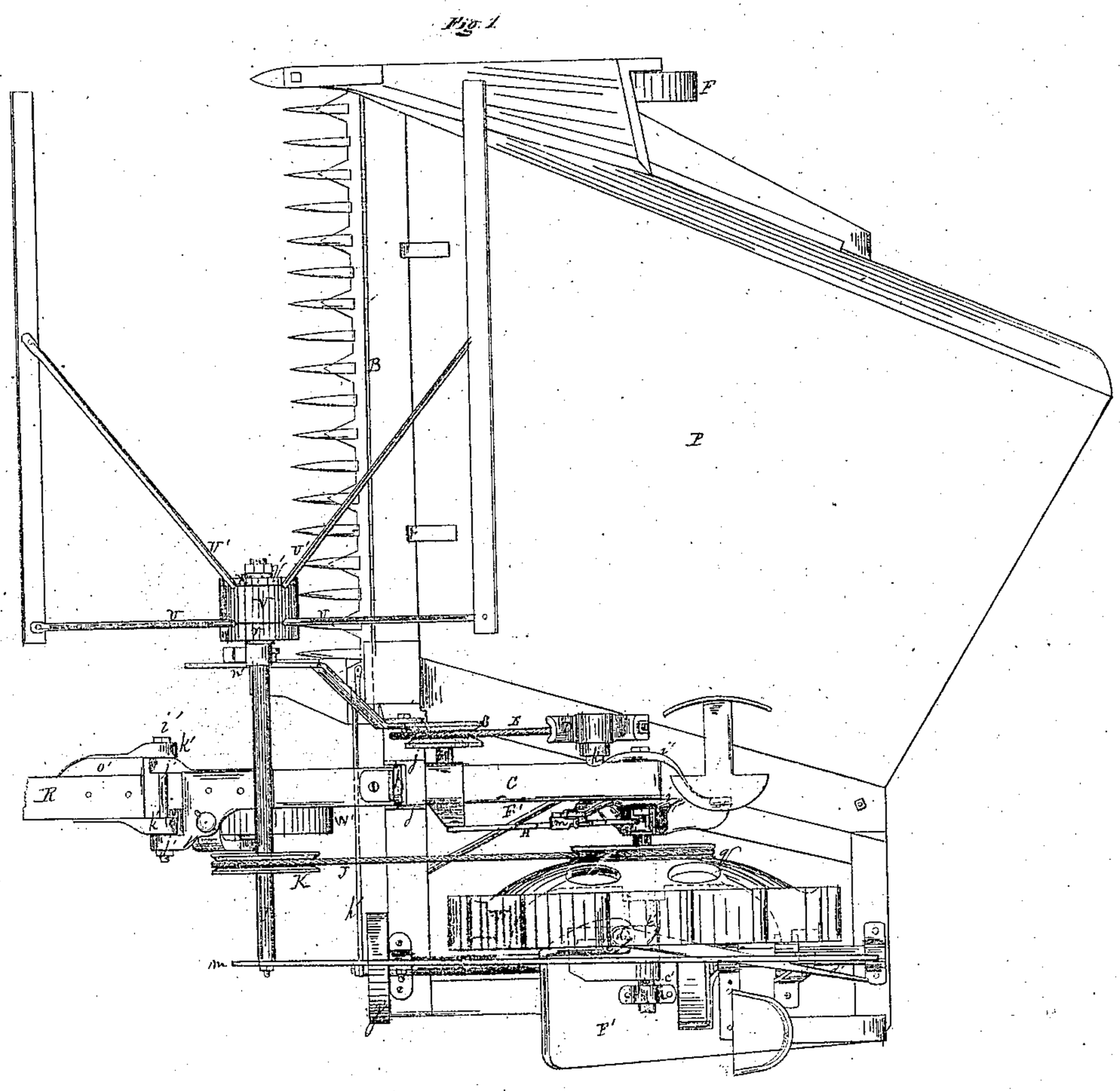
No. 19,919.

D.W Entrikin & L.H Davis'

Imp.t in Harvesters

Patented April. 13. 1858.

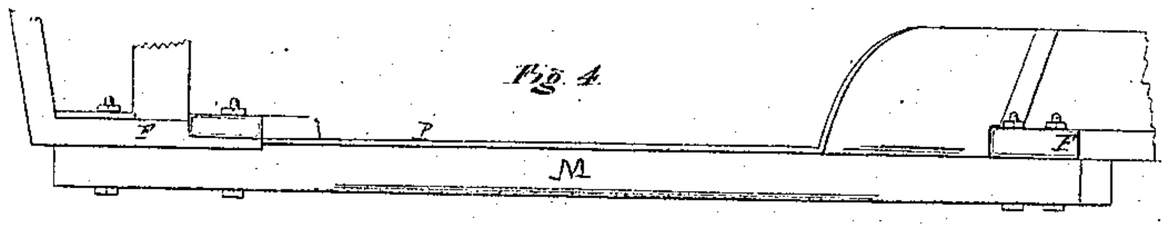
Fig. 1.



THE ECKERT LITHOGRAPHING CO., WASHINGTON, D. C.

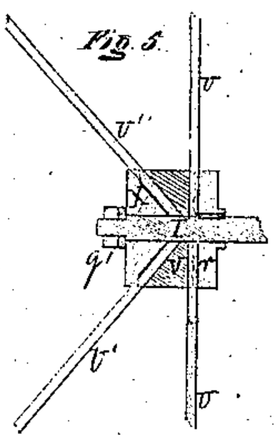
Sheet - 2.

Fig. 4.



19919

Fig. 5.



254
SPECIAL

Fig. 2.

Fig. 6.

Fig. 3.

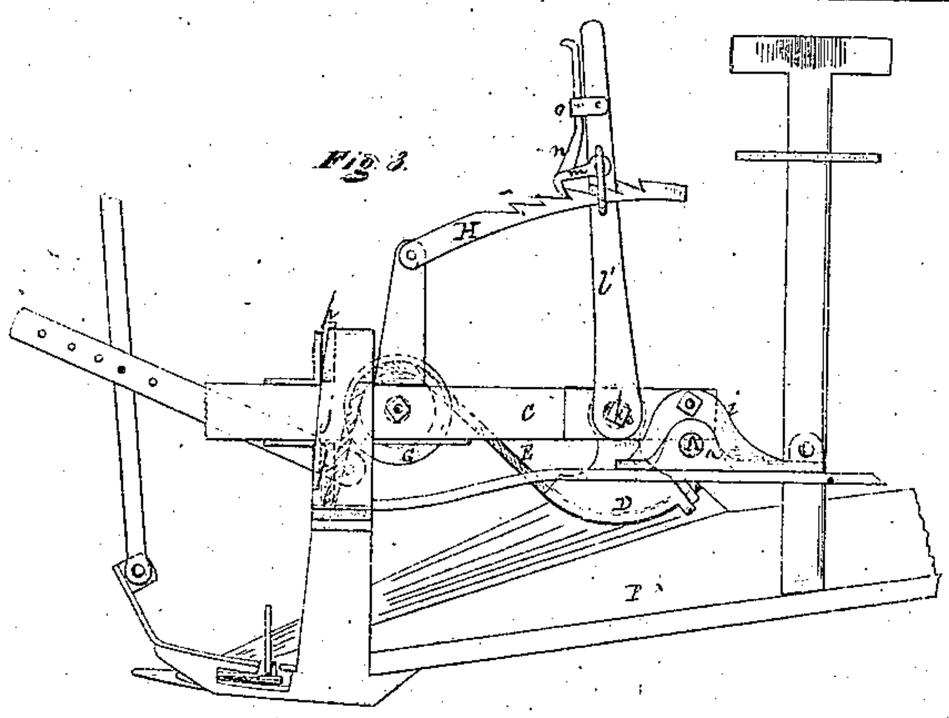
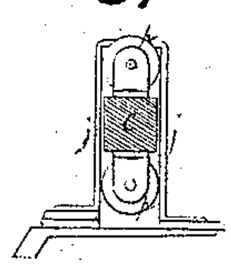


Fig. 7.



THE ECKERT LITHOGRAPHING CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

D. W. ENTRIKIN AND L. H. DAVIS, OF WEST CHESTER, PENNSYLVANIA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 19,919, dated April 13, 1858.

To all whom it may concern:

Be it known that we, DAVIS W. ENTRIKIN and LEVIS H. DAVIS, of West Chester, in the county of Chester and State of Pennsylvania, have invented a new and useful Improvement in Harvesters; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a top view of the machine. Fig. 2 is a side elevation of the same. Fig. 3 is a view showing elevating-lever and parts connected therewith. Fig. 4 is a rear view of frame. Fig. 5 is a sectional view, showing construction of reel. Fig. 6 is a cross-section of internal gear-wheel and pinion driving cutting apparatus. Fig. 7 is a cross-section of tongue, showing rollers above and below.

Similar characters of reference denote the same parts.

Our improvement has reference to the manner of elevating and lowering the cutter-bar, and to the manner of throwing the cutting apparatus into and out of gear, the details of construction and operation being as hereinafter set forth.

In the drawings, F is the main frame, P the platform, and B the finger-bar. The shaft of the main driving-wheel W rests in bearings *a a* on the gear-frame F′, and is capable of a longitudinal motion in said bearings to regulate the meshing of teeth *a′* and pinion *b* on shaft *c*. This movement of the shaft A and main driving-wheel W is produced by the action of a crank, *d*, in a slot, *e*, of a flange, *f*, on a slide-piece, *g*. This piece rests against a shoulder, *b′*, of the shaft and a pin, *c′*, so as to move the shaft and wheel by power applied to lever *d′* at the head of the aforesaid crank-shaft.

A rapid reciprocation is given to the cutter-bar by means of the internal gear on shaft *c*, with which the pinion *e′* on the head of shaft *f′* meshes. At the opposite extremity of shaft *f′* is the wheel *g′*, with which the cutter-bar is eccentrically connected by rod *h′*. Hooks *h* on standards *h″* serve to hold lever *d* in position.

The draft-tongue C is attached to the frame F′ by a bolt passing through lugs *i i* and runs forward between two upright plates, *j j*. The axis of the bolt by which the tongue is attached to the lugs is above the axis of the axle A of the main wheel W, so that in backing the machine there will be a constant tendency to lift the cutter-bar over obstructions. It also draws the bar downward when moving forward.

Upon the side of the tongue is a curved piece, D, secured to a shaft, *k*, passing through the tongue, a lever, *l′*, being secured to the shaft *k* on the opposite side of the said tongue. To the rear extremity of the curved piece D is secured a chain, E, passing over a pulley, G, on the side of the tongue and secured to the front of the frame F′, so that by the movement of lever *l′* the finger-bar B will be moved vertically.

Upon the tongue is a curved ratchet, H, by which the pawl *m* on the lever *l′* holds the finger-bar at any desired elevation. This pawl has a rod, *n*, passing through an eye, *o*, by which it is lifted from the ratchet.

Above and below the tongue are wheels *p p*, slightly smaller than the space between the plates *j j*. By these wheels a broad bearing is given to side pressure, and the tongue prevented from twisting; and these wheels act to prevent friction in the vertical movement of the front portion of the machine. The front of the tongue is supported by a caster-wheel, W′.

The pole R is attached to the tongue by a bolt, *i′*, passing through two sets of lugs, *j′* and *k′*, the one on the extremity of the tongue and the other on the pole. There is a projection, *o′*, on the inner side of the pole to give the space between lugs *k′* the same as the distance between lugs *j′*. This permits the pole to be so attached that the outside of lug *k′* upon projection *o′* shall rest against the inside of lug *j′* on that side, thereby moving the pole toward the gear side of the machine. This change is advantageous when converting the machine from a mower to a reaper. It is necessary to place the team in such a position as will enable it to resist the pressure against the cutting apparatus.

The reel-shaft I has its bearings at *m′ n′*, and is driven by band J passing over pulley K o the shaft and pulley *q* on the driving-wheel.

The reel-head is constructed in the following manner: The shaft passes entirely through the head and has a screw-thread cut on its extremity. Secured to the shaft is the plate *r*.

cut out to receive the arms *u*. A collar, V, is then slipped upon the shaft, cut out on one side to hold arms *u*, and on the other side formed with a concavity to receive the oblique arms *u'*, upon which the conical cap X is forced by nut *q'*. This cap, being forced to a firm bearing, effectually clamps the arms *u u'* to the head of the reel, thus rendering the reel capable of being taken apart for purposes of transportation.

The cross-piece M, which forms the rear of the main frame, and which supports the rear of the platform when the machine is designed as a reaper, is bolted under the side pieces of the frame. When the platform is removed this piece is to be bolted upon the aforesaid side pieces so as to give additional space between its under surface and the ground. It is necessary that this piece have the low position when supporting the platform, in order that the platform may be level; but when the platform is removed the bar is then too low for mowing purposes. The machine is therefore constructed with the side pieces of the frame extending rearward and permitting the bolting of piece M either upon their upper or lower faces, the same bolt-holes serving for both positions of the bar, the upper and lower faces of the side pieces being respectively on the same level, and in every respect prepared for the reception of the aforesaid bar.

Having described our invention and the operation thereof, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of shaft *k*, curved attachment D, lever *l'*, pulley G, tongue C, and ratchet H, substantially as and for the purpose set forth.

2. The combination of the slotted slide-piece upon the main axle with the crank working in said slot, substantially as and for the purpose set forth.

3. The combination of the rollers *p p* above and below the tongue with the vertical plates *j j*, as and for the purposes hereinbefore specified.

In testimony whereof we have hereunto signed our names before two subscribing witnesses.

DAVIS W. ENTRIKIN.
LEVIS H. DAVIS.

Witnesses:
GEO. PATTEN,
JOHN S. HOLLINGSHEAD.