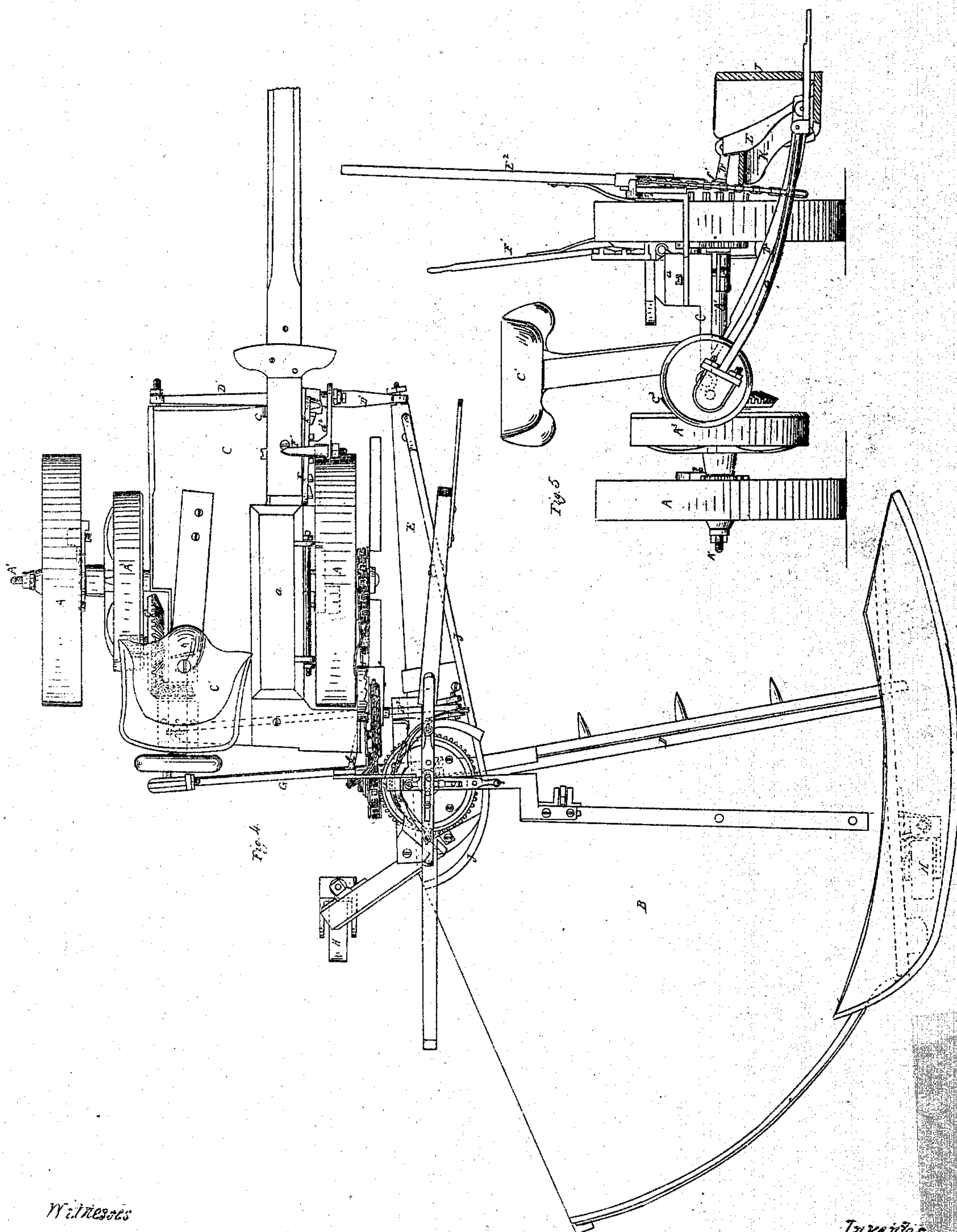


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Harvester Rake.

N^o 61944

Patented Feb. 12, 1867.



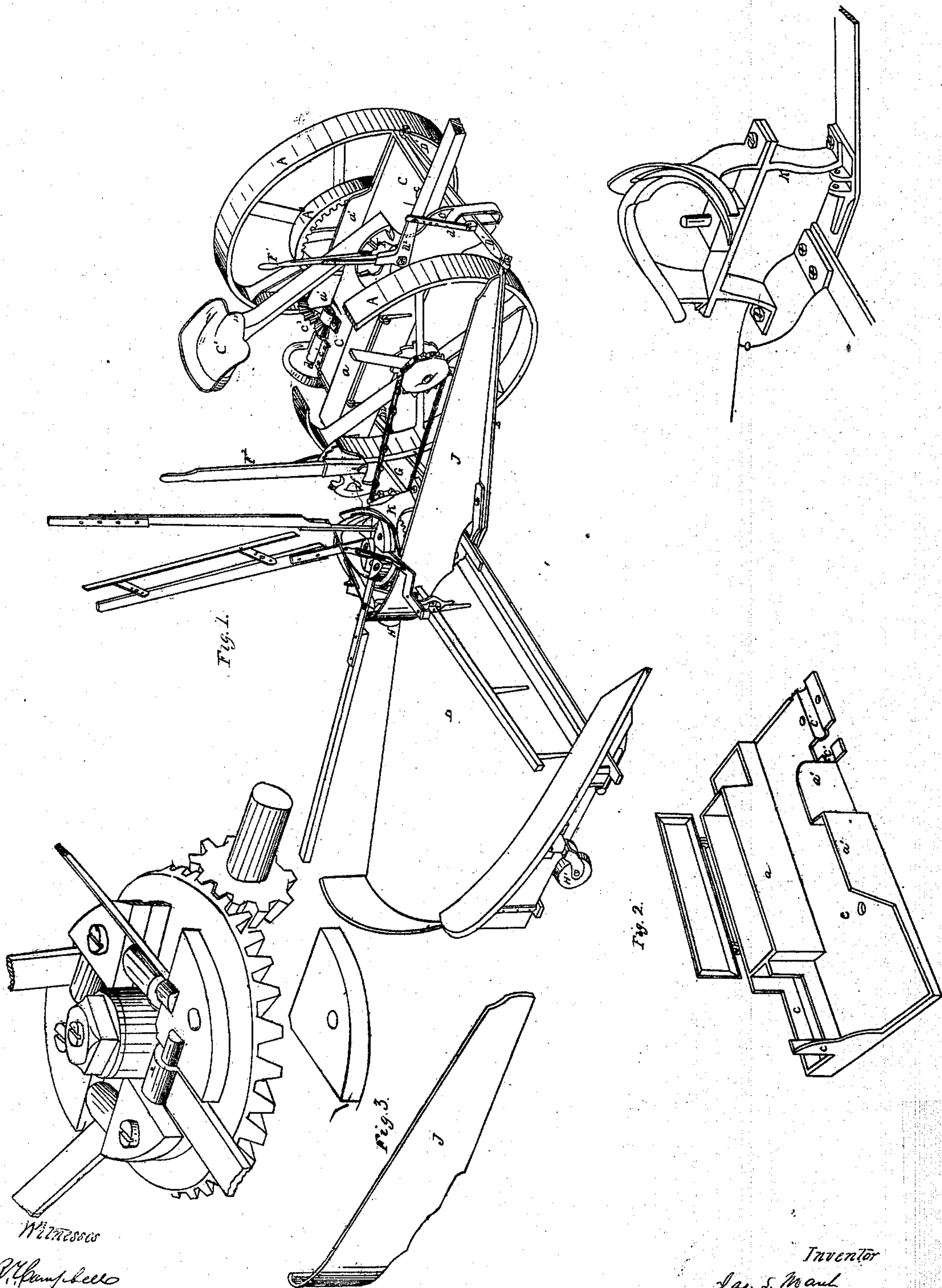
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JAMES S. MARSH, OF LEWISBURG, PENNSYLVANIA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 61,944, dated February 12, 1867.

To all whom it may concern:

Be it known that I, JAMES S. MARSH, of Lewisburg, in the county of Union and State of Pennsylvania, have invented certain new and useful Improvements in Harvesting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved reaper and mower arranged for reaping. Fig. 2 is a perspective view of the metal platform, with its tool-box, the gearing being detached. Fig. 3 is a perspective view of the guard for the drag-bar and inner end of the platform. Fig. 4, Sheet 2, is a plan view of the machine. Fig. 5, Sheet 2, is an elevation of the rear end of the carriage, and a section through the inner end of the platform.

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

This invention relates to a convertible harvesting-machine which can be used either as a reaper or mower.

The main object of my invention is to employ, instead of a draft-frame, as hitherto constructed, a metal platform, which is applied upon the axle of two transporting-wheels, and adapted to afford supports for the gearing which transmits motion to the sickle, also a support for the driver's seat, also a support for the draft-pole, and also which is so constructed that the tool-box forms a brace or means for strengthening said platform longitudinally, and admitting of its being made very light and substantial, as will be hereinafter described.

Another object of my invention is to connect the grain-platform to the supporting-platform, which is between the transporting-wheels, in such manner that the attendant, while riding upon the machine, can elevate or depress the front end of the grain-platform at pleasure by means of levers, to which the front end of the drag-brace is pivoted, as will be hereinafter described.

Another object of my invention is to pivot the front end of a drag-brace, which is applied to a platform that is mounted upon two easter-wheels, to adjusting-levers which are under the control of the attendant riding upon the

machine, for the purpose of allowing of the elevation and depression of the cutting apparatus or finger-beam without tilting or canting it at either end, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A A represent two transporting-wheels, which are applied to an axle, A', in such manner that when the machine is backed these wheels shall turn loosely upon it; but when the machine is moved forward the axle shall turn with the wheels.

Upon the axle A a metal platform is mounted, which extends suitable distances both in front and rear of this axle, as shown in Figs. 1 and 4, so as to afford a means for connecting the grain-platform B to it at both ends, as will be hereinafter described.

This platform is cast with the following parts: *a* is the tool-box, which is arranged on the inner side of the platform C in a direction with its length, for the purpose of containing the tools which usually accompany the machines, and also for the purpose of strengthening the platform and admitting of its being made very thin and light.

Directly opposite this tool-box *a* a flange or guard, *a'*, is constructed, upon the outer edge of the platform C, which also affords strength to it and serves as a guard or fender to the gearing.

Elevations *c c* are also cast on the upper surface of this platform, for the purpose of receiving the draft-pole and adding strength where the greatest strength is required.

On the outer edge of the platform C, near its rear end, half-bearings *c' c'* are formed, for receiving and serving, in connection with caps, as means for applying the shaft of the driving-gear *c''* to the platform, which shaft transmits motion to the crank-wheel *d* from the bevel-wheel *c'''*. The short shaft of this bevel-wheel *c'''* may be applied to the platform C in any suitable manner. There may also be an elevation or rib formed around the edge of the platform C for strengthening it at this point.

By thus constructing the platform of one

piece of metal, I am enabled to dispense with a draft-frame as hitherto constructed, and obtain a much firmer support for the gearing and other parts of the machine which it is necessary to apply to said platform. I am also enabled to use short shafts for the spur-wheels c^2 and c^3 , and to drive these shafts by means of an inside gear-wheel, A^3 , which is applied to the axle of the transporting-wheels, as shown in Figs. 1 and 4.

To the inner end of the finger-bar D a drag-brace, E , is rigidly secured, which proceeds forward and upward, and is pivoted at its front end to a transverse arm, D^1 , which is pivoted at its outer end to the front edge of the platform C , and near the outer corner thereof, as shown in Figs. 1 and 4.

The finger-beam D is again connected to the platform C by means of an inclined transverse bar, D^2 , which is pivoted at its lower inner end to the drag-brace E , near the rear end thereof; and at its upper and outer end this brace-bar D^2 is again pivoted to the platform C , near its rear outer corner, as indicated in Figs. 4 and 5.

The arm D^1 is connected by a link, d^1 , to a crank or right-angle lever, F^1 , which is pivoted to a plate, F , that is bolted to the inner side of the platform C . The plate F is constructed in the form of a segment, and the pivot of the lever F is concentric therewith, so that the arm F^1 of this lever can be made to catch between teeth which project from said segment, and thus sustain the forward end of the drag-brace E and cutting apparatus in any position desired.

The arm or handle F^1 is pivoted to the upright arm of the lever F , and acted upon by a light spring, so that it can be easily handled by the attendant while sitting upon the seat C' .

The two transverse bars D^1 and D^2 allow the finger-beam to vibrate freely about the outer joints, also to be elevated or depressed.

When the raking attachment and the grain-platform are detached from the machine, I employ a hand-lever, F^2 , in conjunction with the forward lever above described, for the purpose of enabling the attendant, while upon the seat C' , to raise or lower the cutting apparatus bodily, as well as to adjust the height of cut and the pitch of the sickle. This lever F^2 is pivoted to a plate, f , in the form of a segment; and it has a grooved segment secured to its lower end, to which a chain, f' , is attached, that is fastened to a rod, g . This rod g is secured to, and projects out in rear of, the bar D^2 , beneath the pitman-rod G , as shown in Fig. 5, so that by drawing the long arm of the lever F^2 forward, the chain f' will lift the finger-beam. A tooth and ratchet are used in conjunction with lever F^2 for fixing this lever in any desired position.

When the machine is used as a reaper the rear lever F^2 can be detached, the forward lever being left on the platform C to enable the driver to raise or lower the front part of the platform B with its cutting apparatus.

In rear of the finger-beam D , and applied to support the platform B , are two caster-wheels,

H H' . The inner one, H , is pivoted to the vertical guard-board of the divider, and the outer one, H' , is applied to a short beam, which is secured to the inner forward corner of the platform. Being thus supported, the platform can be raised or lowered, by means of the forward lever F^1 , uniformly—that is to say, both the inner and outer ends of the finger-beam, and the platform which is secured to it, will be elevated or depressed alike, neither end being allowed to sag. The axes of the caster-wheels become the fulcrum about which the platform is adjusted while cutting grain.

In Figs. 1, 4, and 5, J represents a guard or fender, which extends from a point which is near to front end of the drag-brace E over this bar, and curves around the arched standard K , so as to gather the inner standing grain and press it up to the sickle, and also prevent the grain from becoming entangled with the gearing and rake joints. This curved portion of the guard J extends over and is suitably attached to the platform B , while its straight portion extends over and is suitably secured to the drag bar or brace E , as shown in Figs. 1 and 5. This fender J should extend well up at the point where it protects the gearing of the rake; but it should not be so high as to interfere with the horizontal sweep of the rake and beater or reel-arms.

I have represented a rake and reel or beater attachment applied to the machine which I have above described; but as other raking attachments may be used in conjunction with my machine, I will not here particularly describe the construction of the rake shown.

It will be seen that the rake-arms are pivoted to a crown-wheel which is supported upon the outer forward corner of the platform, and so arranged and operated that they sweep around over the platform, then rise to a vertical position, and descend again in front of the cutting apparatus, so as to sweep the grain, when cut, around and deliver it upon the ground from the outer side of the platform.

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

1. Casting the platform C in one piece, with a tool-box on its upper surface to give the required strength to this platform, and with recesses in its outer corner for gears c^2 c^3 , substantially as described, and shown in Fig. 2 of the drawings.

2. The double-hinged-joint platform supported upon inner and outer caster-wheels H H' , in combination with the adjustable transverse bar D^1 and drag-bar E , substantially in the manner and for the purpose described.

3. In combination with the hinged platform, caster-wheels H H' , suspending devices D^1 and E , the lever F^1 and link d^1 , substantially as and for the purposes described.

4. The combination of the lever F^2 with the hinged cutting apparatus and draft-frame, transverse bar D^1 , link d^1 , drag-bar E , and transverse bar D^2 , all arranged and operated

substantially in the manner and for the purpose described.

5. The combination and arrangement of the forward adjusting device F^1 with the rear adjusting device F^2 , each having a separate axis, whereby the ordinary adjustment is retained, and the adjustment of the pitch of the points

of the guard-fingers made to suit the condition of the grass to be cut, substantially as described.

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