

(No Model.)

3 Sheets—Sheet 1.

W. M. PIATT.
CORN HARVESTER.

No. 501,101.

Patented July 11, 1893.

Fig-1-

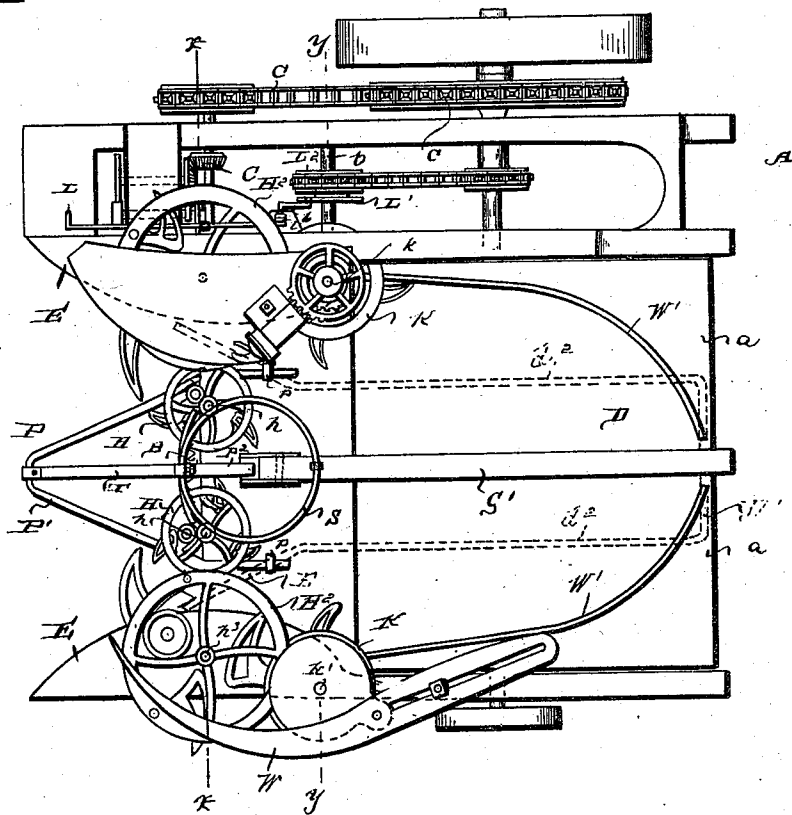
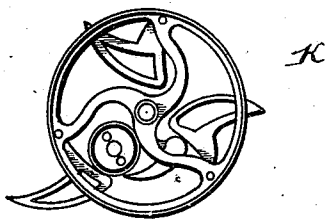


Fig-6-



Witnesses:

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Philip Levasi.

Inventor.

W. M. Piatt
by C. W. Audron
his Attorney.

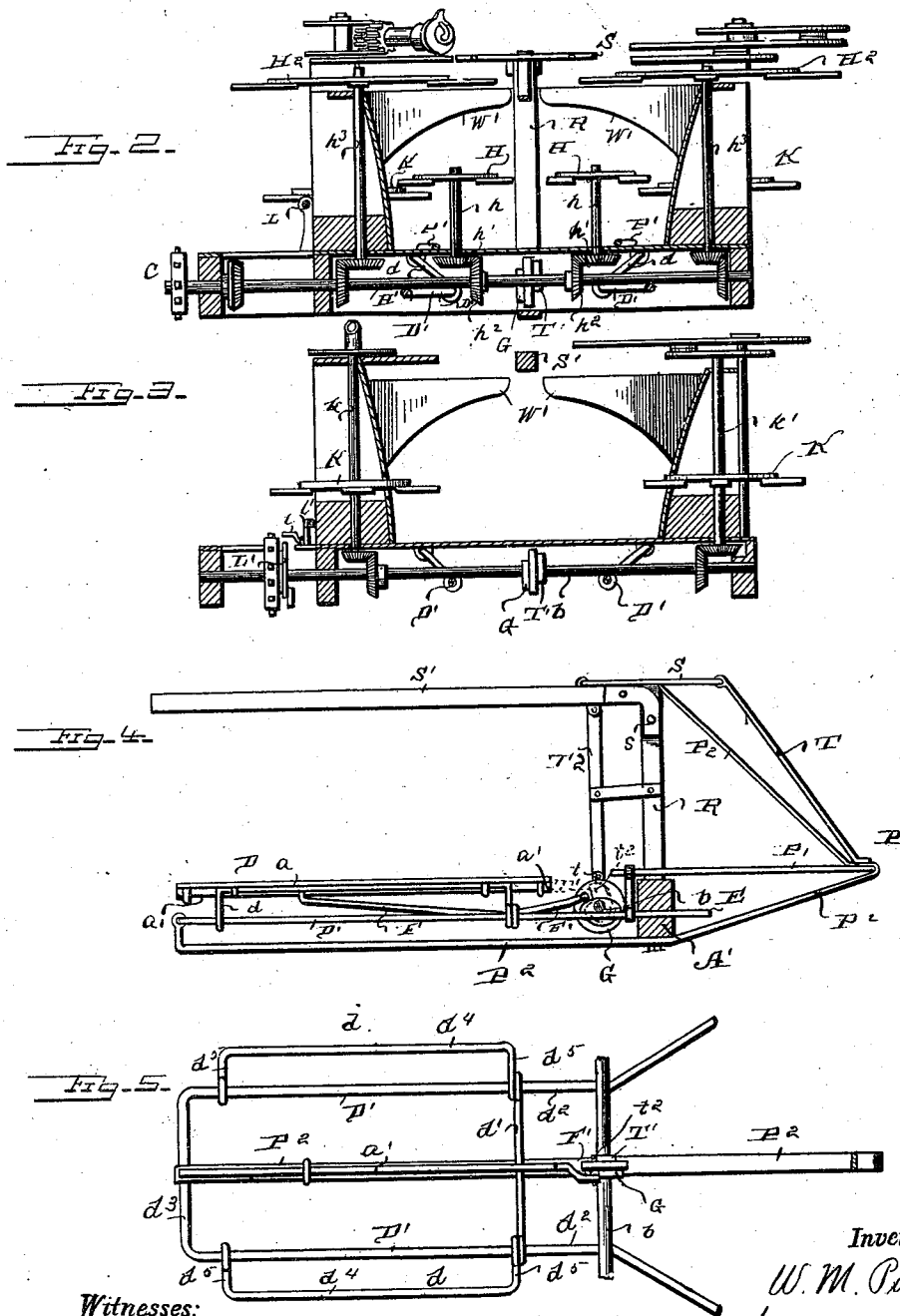
(No Model.)

3 Sheets—Sheet 2.

W. M. PIATT,
CORN HARVESTER.

No. 501,101.

Patented July 11, 1893.



Witnesses:
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Philip C. Masi.

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UNITED STATES PATENT OFFICE.

WILLIAM M. PIATT, OF WEST LIBERTY, OHIO, ASSIGNOR OF ONE-THIRD TO
BEN S. LEONARD, OF SAME PLACE.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 501,101, dated July 11, 1893.

Application filed July 25, 1892. Serial No. 441,144. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. PIATT, a citizen of the United States, and a resident of West Liberty, in the county of Logan and State of Ohio, have invented certain new and useful Improvements in Corn-Harvesters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top plan view of the invention. Fig. 2 is a vertical section on line *xx* of Fig. 1. Fig. 3 is a vertical transverse section on line *yy* of Fig. 1. Fig. 4 is a vertical longitudinal section and Fig. 5 is a plan view of the table frame. Fig. 6 is a detail view of one of the ejector wheels. Fig. 7 is a perspective view, showing the table-operating mechanism in partially folded position, the table being indicated in dotted lines. Figs. 8 and 9 are detail views of the clutch mechanism for throwing the binder shaft into and out of gear. Fig. 10 is a transverse section through the table in its folded position.

This invention has relation to corn harvesters, and is in some respects an improvement over the machine shown and described in my former patent, No. 474,761, dated May 10, 1892, the improvement relating particularly (first) to the drop wings or table, (second) the packing mechanism, (third) the ejecting device, (fourth) the pilot or front center guard, and (fifth) the means for throwing the binding mechanism into gear.

With the improvement of these features in view, the invention consists in the novel construction and combination of parts, all as hereinafter specified, and pointed out in the claims.

Referring to the accompanying drawings, the letter A designates the frame of the machine, which is a double row cutter. B is the cutter bar, and C the driving mechanism for said bar, all substantially as set forth in my patent above referred to.

D designates my improved drop table, which comprises the two longitudinal wings *a*, *a*, which are hinged or pivoted to a central lon-

gitudinal rod *a'*. Said table is supported upon the frame D', which as shown may consist of a metal rod or pipe bent into angular form, comprising the parallel side portions *d*², *d*², the rear arm *d*³, and the transverse arm *d*⁴. The forward portions of the side arms *d*², *d*², are secured to the cross bar A' of the main frame, and from there extend forwardly and outwardly, as indicated by the dotted lines in Fig. 1, and are secured to the outer guards E, E. The table is connected to the frame D' by means of the angular hinge rods *d*, *d*, one of which is loosely secured by its longitudinal portion *d*⁴ to the under side of each wing *a*, its end arms *d*⁵ projecting inwardly and having a loose bearing on the respective arm *d*² of the frame. This connection it will be apparent, permits the two wings an upwardly and inwardly folding movement.

F designates the operating lever which is fulcrumed upon the transverse arm *d*⁴ of the frame D'. The longer rear arm of this lever has a loose sliding connection with the central hinge rod *a'*, while its shorter arm F' is cranked, the crank having an engagement with the cam of a cam wheel G, carried by the shaft *b* which actuates the binder mechanism. When the said shaft is thrown into operation, as hereinafter described, this cam wheel is revolved, and by reason of the engagement of the cranked arm F' of the lever F with the cam of said wheel, said arm will be depressed when the crank reaches that portion of the cam having the greatest eccentricity. This operation elevates the longer arm of said lever, which is connected to the hinge rod *a'* of the table, so that said rod is elevated, carrying therewith the table, which will fold upwardly and inwardly into the position shown in Fig. 7.

The jib S' is pivoted to the jib or center post R at *s*, and is supported by an arm T² pivoted thereto at its upper end, and at its lower end carrying a small roller *t*, which travels on a second cam T' on the cam wheel G. This cam is placed oppositely to the cam which operates the lever F, so that as the said lever is operating to fold the table, the jib is being raised to its greatest elevation. As the table folds upward and inward, in wedge fashion, it partially divides the shock under-

neath, the shock in the meantime being in a manner suspended on the jib. At the time the table is folded to its greatest extent the roller t reaches the offset t^2 of the cam T' and the jib is dropped abruptly, precipitating the shock in perpendicular position upon the ground. The two cams are of such shape as to hold the jib down and the table folded sufficiently long for the latter to withdraw from under the shock, leaving the latter wholly upon the ground. At this time the more eccentric portions of the cams again commence to act to restore the parts to their normal positions. Previous to its discharge, the shock has been bound by the operation of the needle W and the binding mechanism in the manner described in my patent hereinbefore referred to.

H, H , designate the lower packers on the vertical packer shafts h, h , driven by bevel pinions h' thereon which mesh with similar pinions h^2 on the packer driving shaft H' .

H^2 are the upper packers, carried and driven in the same manner as the lower packers upon the vertical shafts h^3 . Said upper packer wheels should be of greater diameter than the lower packer wheels, and the rims thereof should overhang the circumferences of the lower wheels, as shown. This, it will be seen, will have the effect of throwing the tops of the corn inward, and out of the perpendicular, and greatly aid the formation of the shock.

K, K , designate the ejector wheels, which are keyed one to the knotter shaft k , and the other to the needle shaft k' , at an elevation of about eight inches from the table. These wheels, as shown in detail in Fig. 6, are similar to the packer wheels, and their purpose is to carry the stalks remaining in the throats of the guards upon the drop table, and thereby aid the clean discharge of the shock.

In my former patent above referred to, mechanism was provided for automatically throwing the binder shaft and its gear into operation; but in the present machine it is designed to provide against irregularity of action or variation in the size of shocks, which might arise from the use of the automatic compressor and trip of the said patent, and the following mechanism is employed:—

L designates a foot-trip lever within reach of the operator's foot, and connected to a rock shaft l by a link l^3 . Said rock shaft has a crank arm l' which is in engagement with a clutch wheel or section L' , which is feathered on the shaft b . When said foot lever is depressed, the arm l' of the rock shaft acting upon the wheel or section L' , slides it endwise on the shaft b into engagement with the driving wheel L^2 which normally runs loosely on said shaft, and is driven by gear from one of the axles, as indicated. The rock shaft l is fulcrumed at l^2 , in front of the shaft b , and its arm l' has a wedge-shaped end, which upon the rocking backward of said shaft, swings upwardly, within the circumference of the clutch wheel or section L' , and acts thereon

to move it endwise into engagement with the driving wheel, as above described. Other well known forms of clutch operating mechanism may however be employed.

P designates my improved center guard and pilot, which consists of a V-shaped bow P' , the arms of which are clamped to the top of the cross beam of the frame, and project to the rear thereof, where they are connected to the arms of the wing-supporting frame by the hangers or braces p .

p^2 is the keel which is secured at its upper end to the top portion of the center post R , running thence to the bow of the guard, thence under the cutter bar to the rear end of the wing-supporting frame to which it is secured. It is also held to the under side of the cross beam.

S is the ring guard level with the upper end of the center post R , and hinged to the jib S' . T is a brace supporting said ring guard and running to the bow P' .

W' are spring plates or fingers between which the shock is packed.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a corn harvester, the combination with the binding mechanism, and the cam wheel thereof, of a centrally-hinged drop table having an upward and an inward fold, and a lever connected to the hinge of said table and engaging said cam wheel, substantially as specified.

2. In a corn harvester, the combination with the cutting mechanism, the packers, and the driving gear, of the hinge drop table comprising the two wings connected by a central hinge rod, the supporting frame, the link connection between said frame and wings, and the cam-actuated operating lever, substantially as specified.

3. In a corn harvester, the combination with the cutting mechanism, the packers, the binding mechanism, and the driving gear, of the drop table comprising the two wings connected by a central hinge rod, the supporting frame, the link connections between said frame and wings, the operating lever having one arm provided with a sliding connection with said hinge rod, the cranked arm of said lever, and the cam wheel carried on the driving shaft of the binder mechanism, said cam wheel having a groove engaged by the crank of said lever, substantially as specified.

4. In a corn harvester, the combination with the lower packer wheels, of the upper packer wheels the rims of the upper wheels overhanging the rims of the lower wheels, substantially as specified.

5. In a corn harvester, the combination with the vertical needle shaft and the knotter shaft, of the ejector wheels carried by said shafts shortly above the plane of the drop table, substantially as specified.

6. In a corn harvester, the combination with the upper and lower packer wheels, of the

ejector wheels carried on the lower portions of the needle and knottershafts, substantially as specified.

5 7. In a corn harvester, the combination with the wing-supporting frame, the center post, the jib pivoted to said post, the keel secured at its upper end to said post and running to the bow, thence underneath the cutter bar, rearward and secured to the cross frame and
10 said wing supporting frame, the ring guard hinged or pivoted to the jib, and the brace loosely connected at its upper end to said guard, and at its lower end to the bow, substantially as specified.

15 8. In a corn harvester, the combination with

a centrally hinged drop table having an upward and an inward fold, a lever connected to the hinge of said table, the binding mechanism, the cam wheel on the driving shaft of said binding mechanism, said cam wheel being arranged to operate said lever, and foot-lever mechanism for throwing said binding mechanism and cam wheel into gear, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM M. PIATT.

Witnesses:

R. N. JORDAN,
JEFF DAVIS.