

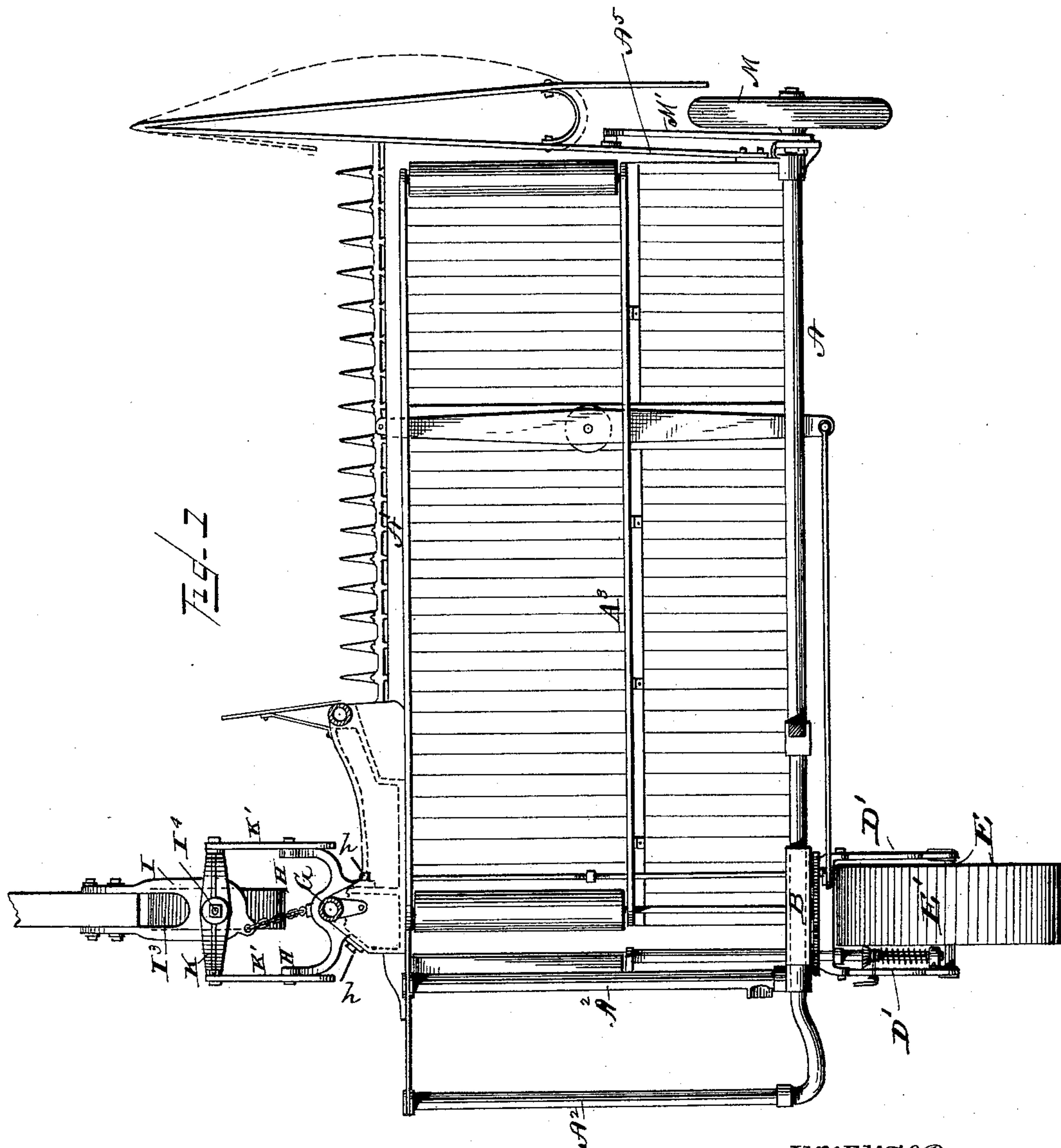
(No Model.)

8 Sheets—Sheet 1.

M. L. NICHOLS.
HARVESTING MACHINE.

No. 414,165.

Patented Oct. 29, 1889.



WITNESSES
F. L. Curand
Marcus L. Byng.

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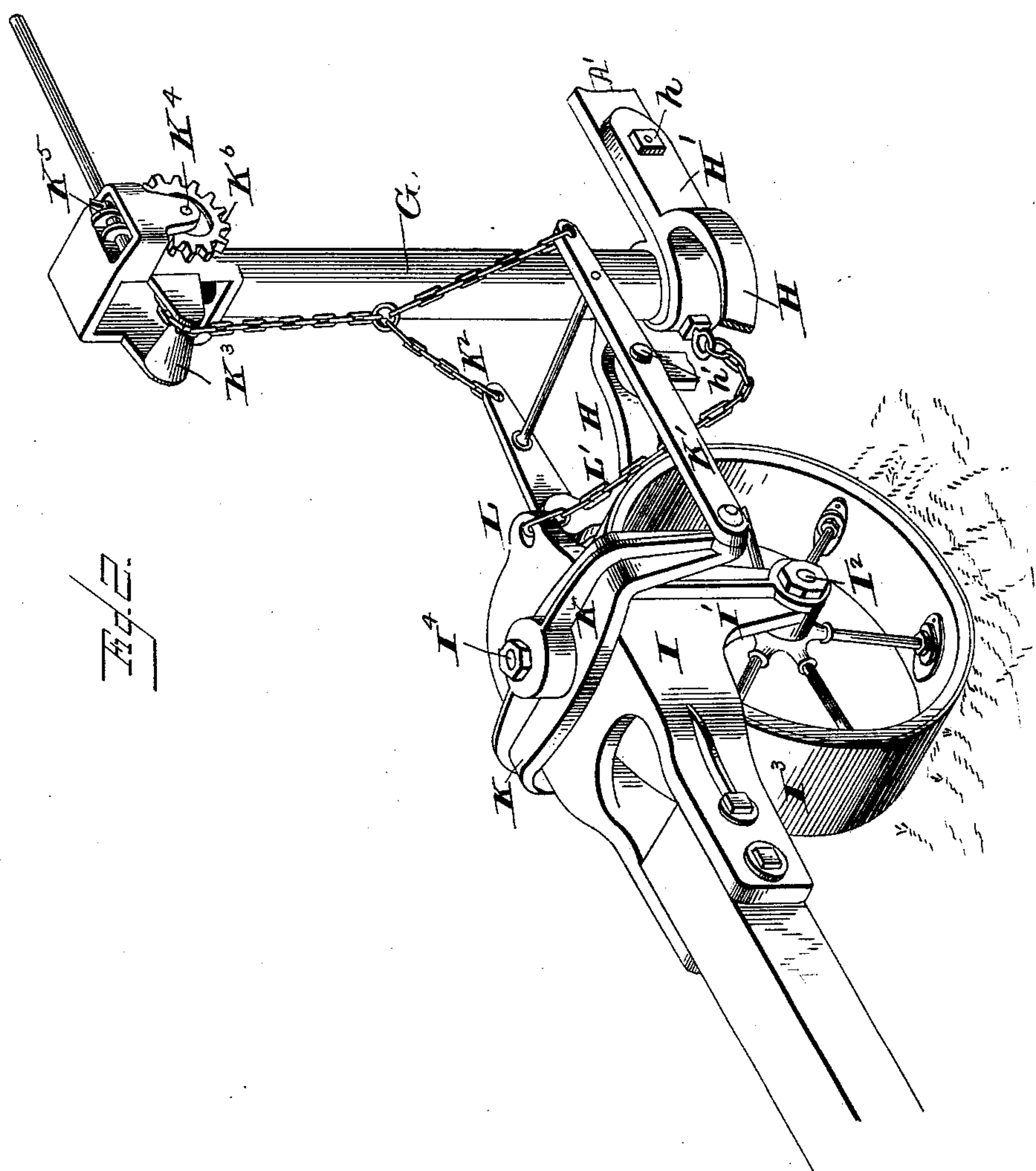
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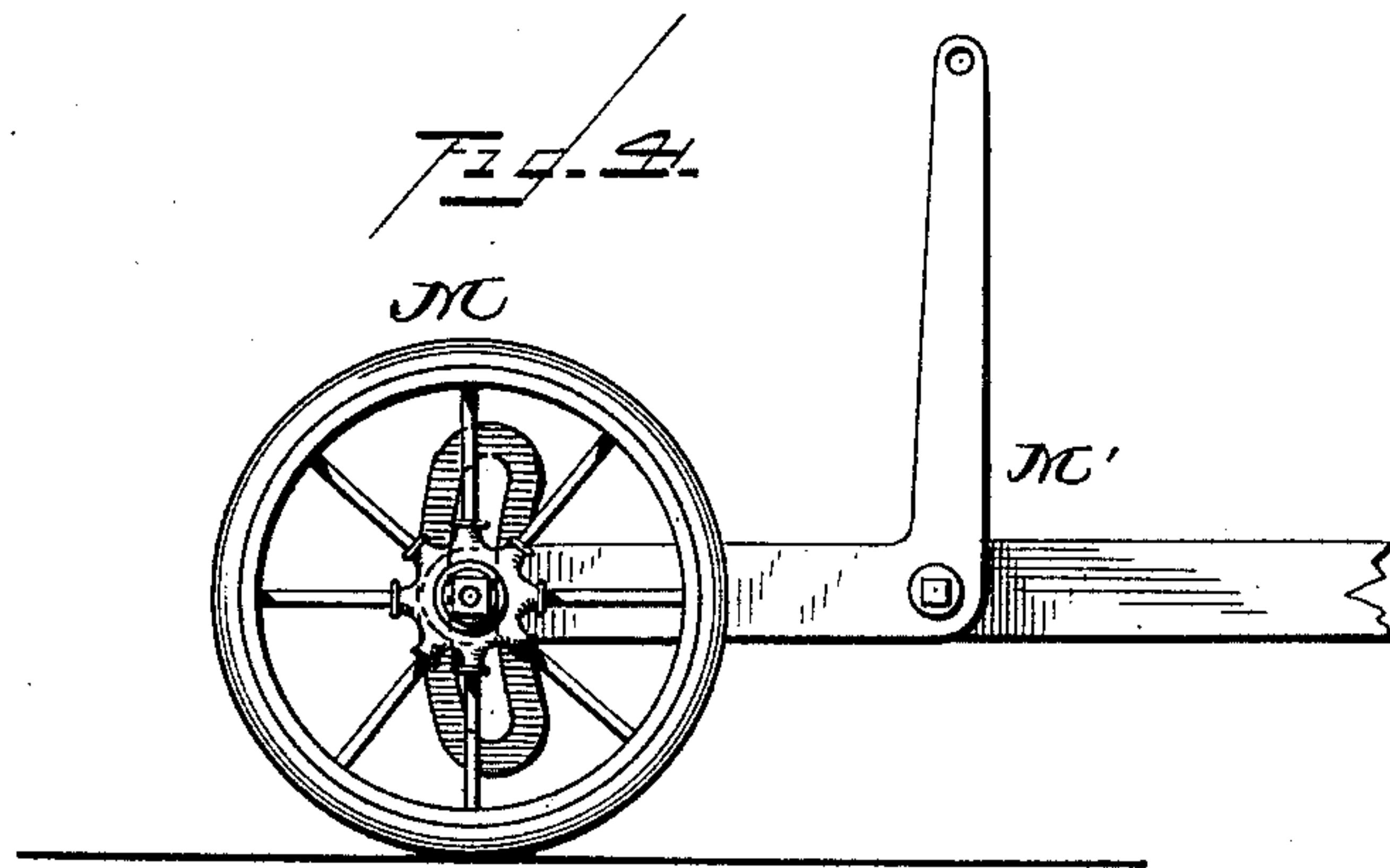
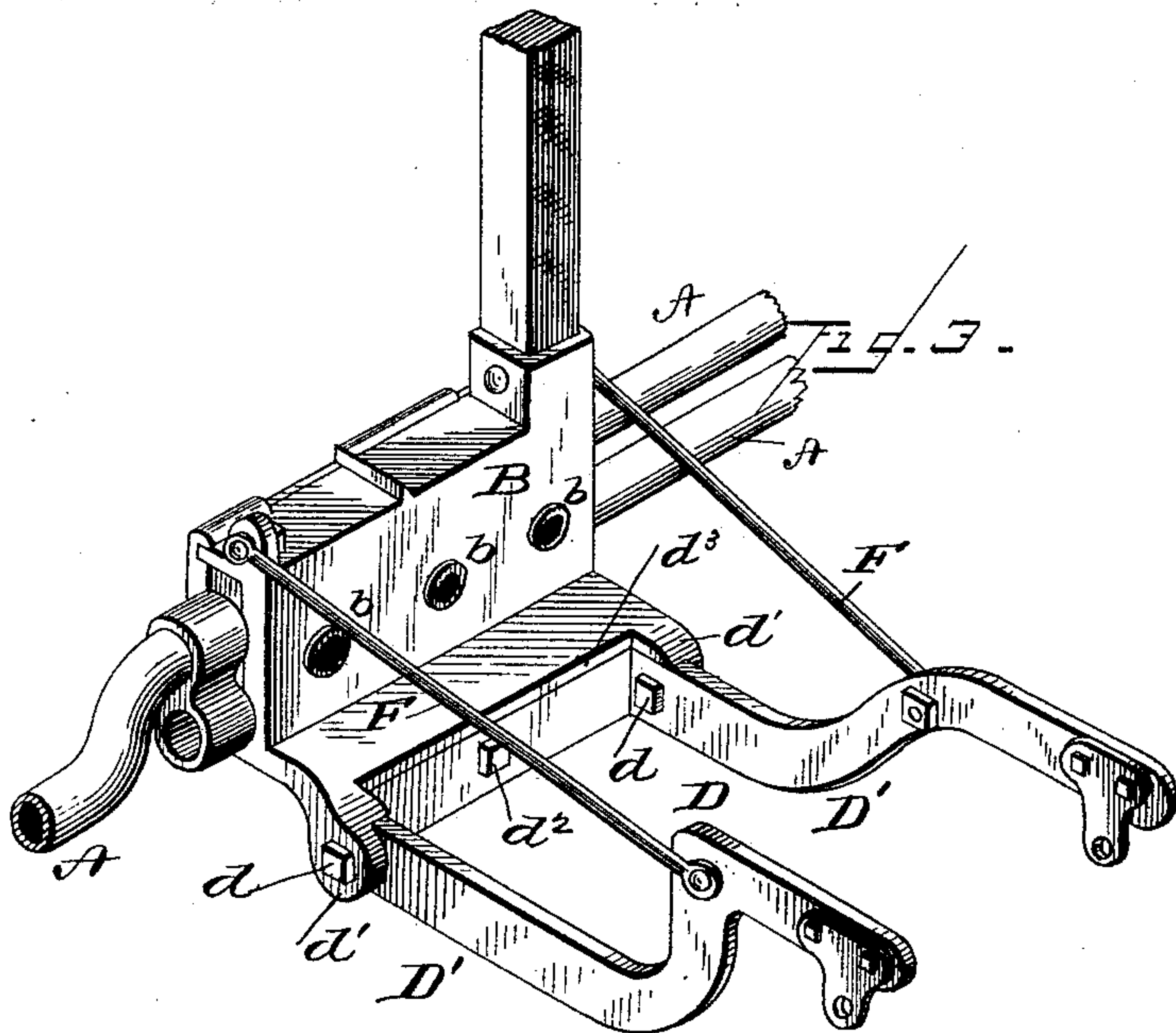
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UNITED STATES PATENT OFFICE.

MARION L. NICHOLS, OF NEW YORK, N. Y.

HARVESTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 414,165, dated October 29, 1889.

Application filed February 12, 1889. Serial No. 299,597. (No model.)

To all whom it may concern:

Be it known that I, MARION L. NICHOLS, of New York, county of New York, State of New York, have invented new and useful Improvements in Harvesting-Machines, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to that class of machines supported upon three or more wheels, and in which the grain is carried to the binding devices between the master and the front supporting wheel; and the invention consists in connecting the master-wheel frame rigidly with the main frame of the machine and the front supporting-wheel thereto through a saddle or frame and rocking levers, and in connecting the wheel-frame to the saddle through a swivel-connection, whereby, while permitting the ready adjustment of the cutter or the raising and lowering of the same, the said supporting-wheel is free to be turned on a vertical axis independent of the connecting-levers to facilitate the turning of the machine.

In the accompanying drawings, Figure 1 is a plan or top view of so much of a harvesting-machine as is necessary to show my improvement and with the canvas or apron removed. Fig. 2 is a perspective view of the front supporting-wheel, showing the manner of connecting the same to the main frame through the saddle and the levers, by which the relation of the machine to said front supporting-wheel is changed or adjusted. Fig. 3 is a perspective view of a portion of the rear frame-bars of the machine, showing the angle-frame connected thereto and the master-wheel frame. Fig. 4 is an end view of the frame, showing the grain-wheel, its arm, and the means for connecting said arm to the main frame.

The main frame is made in oblong rectangular form, having the rear frame-bars A A, front-sill or angle bar A', cross-bars A², longitudinal bar A³, and end frame-bar A⁵. The rear frame-bars A and cross-bars A² are preferably made of metal tubing or gas-pipe, while the front sill is made in the usual angle form, to which the fingers are attached. The rear frame-bars A A have connected thereto, adjacent to the cross-bars A², an angular frame

B, having bearings *b b b* formed therein for the different shafts from which motion is communicated to the various mechanisms for cutting, delivering, and binding the grain. The master-wheel frame D is connected to this frame B through end bolts *d*, engaging the bars thereof, and lugs or ears *d'*, formed with said frame B, and by a central bolt *d*², engaging a flange *d*³, depending from the lower face of said frame B; and said master-wheel frame consists of the side bars D' D', connected with the central cross-bar to form an open-ended frame, and in the ends of the side bars D' D' are formed or connected the bearings for the axle E of the master-wheel E'. Brace-rods F are connected to the side bars D' D' and to the frame B to strengthen and form a more rigid connection between the frames B and D.

The front-sill or angle bar A' has mounted thereon, near the inner end of the cutting apparatus, a lifting-post G, hereinafter referred to. A frame or horn H, bent at its inner portion to conform to the shape of the lifting-post, is provided with arm H', through which it is secured to a forwardly-extending portion of the bar A' by means of a bolt *h*, and having a similar connection with the frame on the opposite side. (Not shown.) The frame or horn is provided with the arms which extend out from each side of the lifting-post and curved upward and outward, and have formed at their upper ends bearings or journals *h'*, on which the lifting-levers (hereinafter referred to) are mounted.

The front supporting-wheel frame I has the tongue rigidly connected thereto, and is provided with depending arms I', in the lower end of which are formed the bearings for the axle I² of the front supporting-wheel I³. Extending from the upper face of the wheel-frame I is a pivot-pin or journal I⁴, and on which journal is mounted saddle K, straddling the wheel-frame, and to the depending arms of which saddle are connected levers K', the journals or the fulcrums of which are formed in the arms H', and which levers extend back and have the lifting-chains K² connected thereto, the said chains passing up over a roller K³, mounted in suitable bearings in the lifting-post and being connected to a

shaft or windlass K^4 , also mounted in bearings in the lifting-post, and which shaft or windlass is revolved to wind the chain thereon by any suitable mechanism, preferably a worm and gear $K^5 K^6$, as shown.

A lug L is formed on the wheel-supporting frame to the left of the center of the journal or on the opposite side from the cutters, and to which lug is connected a stay or stop chain L' , which is in turn connected to an eye or bolt secured to the lifting-post to connect the wheel-frames with the main frame, the object of which chain is to prevent the tongue from being thrown too far around toward the cutters and reel in turning the machine and to form a brace or fixed connection between the wheel and main frame when said wheel has been turned sufficiently far to permit the ready turning of the machine.

The grain-wheel M is mounted on the end of a bell-crank lever or arm M' , connected to the main frame about centrally of the width of the machine from front to rear.

The operation of the several parts will be readily understood, and such parts as are shown and not particularly described herein, as also the parts of the machine to complete the harvester and binder, may be constructed in any preferred manner.

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

1. In a harvester, the combination of the front supporting-wheel frame, a saddle with which the front-wheel frame has a swivel-connection, and levers connected to the saddle and to the main frame for changing the relation of the cutters to the ground.

2. In a harvester, the combination of the master-wheel frame having a rigid connection with the main frame, a front supporting-wheel frame having the tongue rigidly connected thereto, a saddle to which the front supporting-wheel frame is swiveled, and levers connected to the saddle and to the main frame for changing the relation of the cutters to the ground, substantially as set forth.

3. In a harvester, the combination of the front supporting-wheel frame, a saddle to which the wheel-frame is swiveled, and levers connecting the main frame and saddle for raising and lowering the cutters, and a stay-chain uniting the main frame and wheel-frame for limiting the swivel movement of the wheel-frame relative to the saddle, substantially as set forth.

In testimony whereof I have hereunto set my hand this 9th day of February, A. D. 1889.

MARION L. NICHOLS.

Witnesses:

ALEX. MAHON,
A. G. HEYLMUN.