

(No Model).

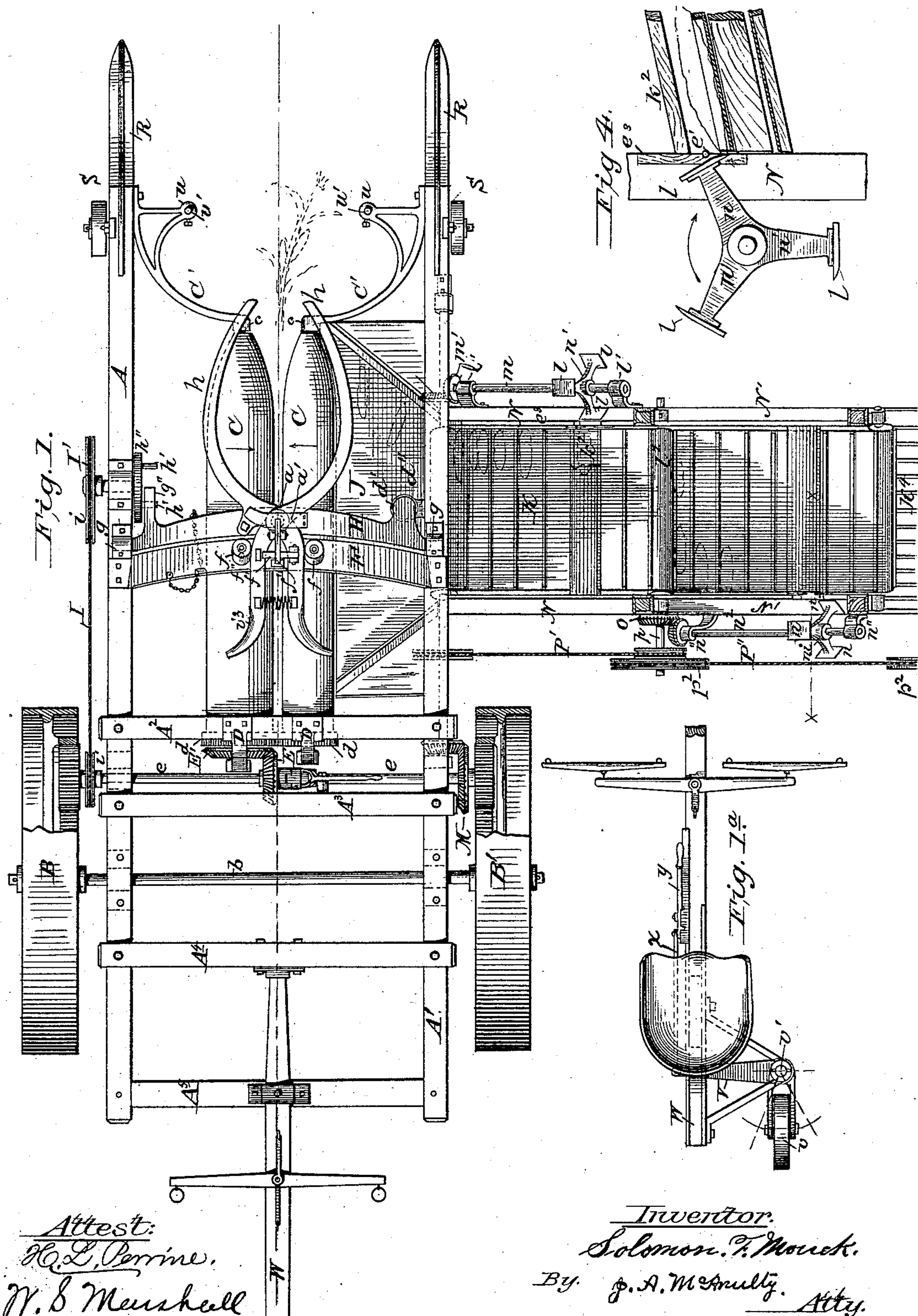
3 Sheets—Sheet 1.

S. F. MOUCK.

CORN HARVESTER.

No. 300,000.

Patented June 10, 1884.



Attest:
H. L. Perrine,
W. S. Marshall

Inventor.
Solomon F. Mowck.
By J. A. McNulty. Atty.

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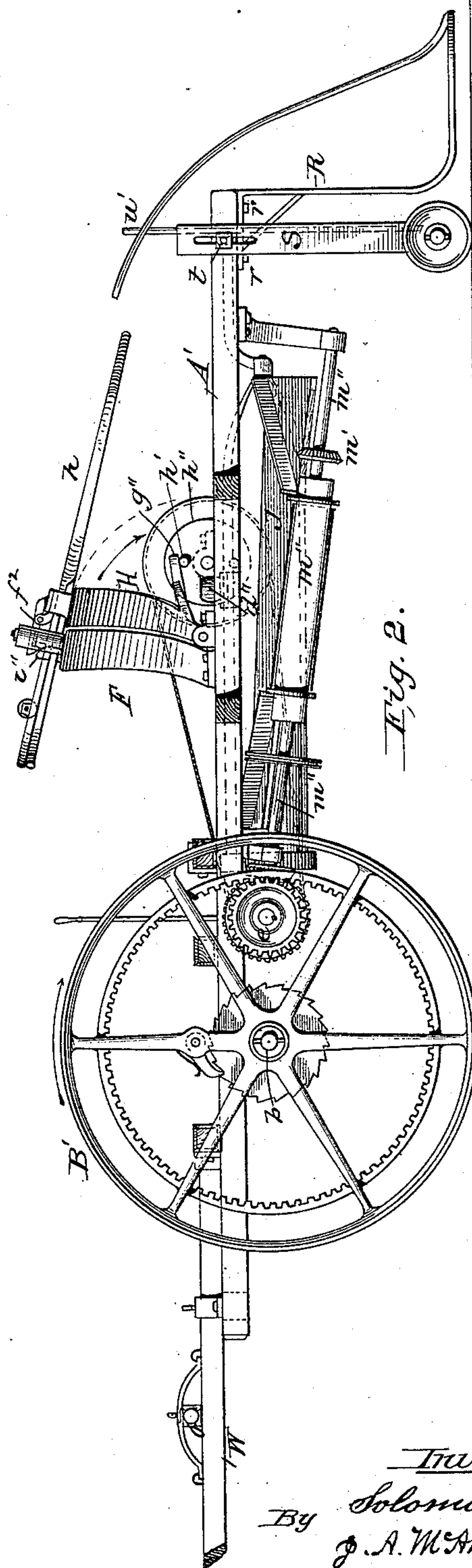
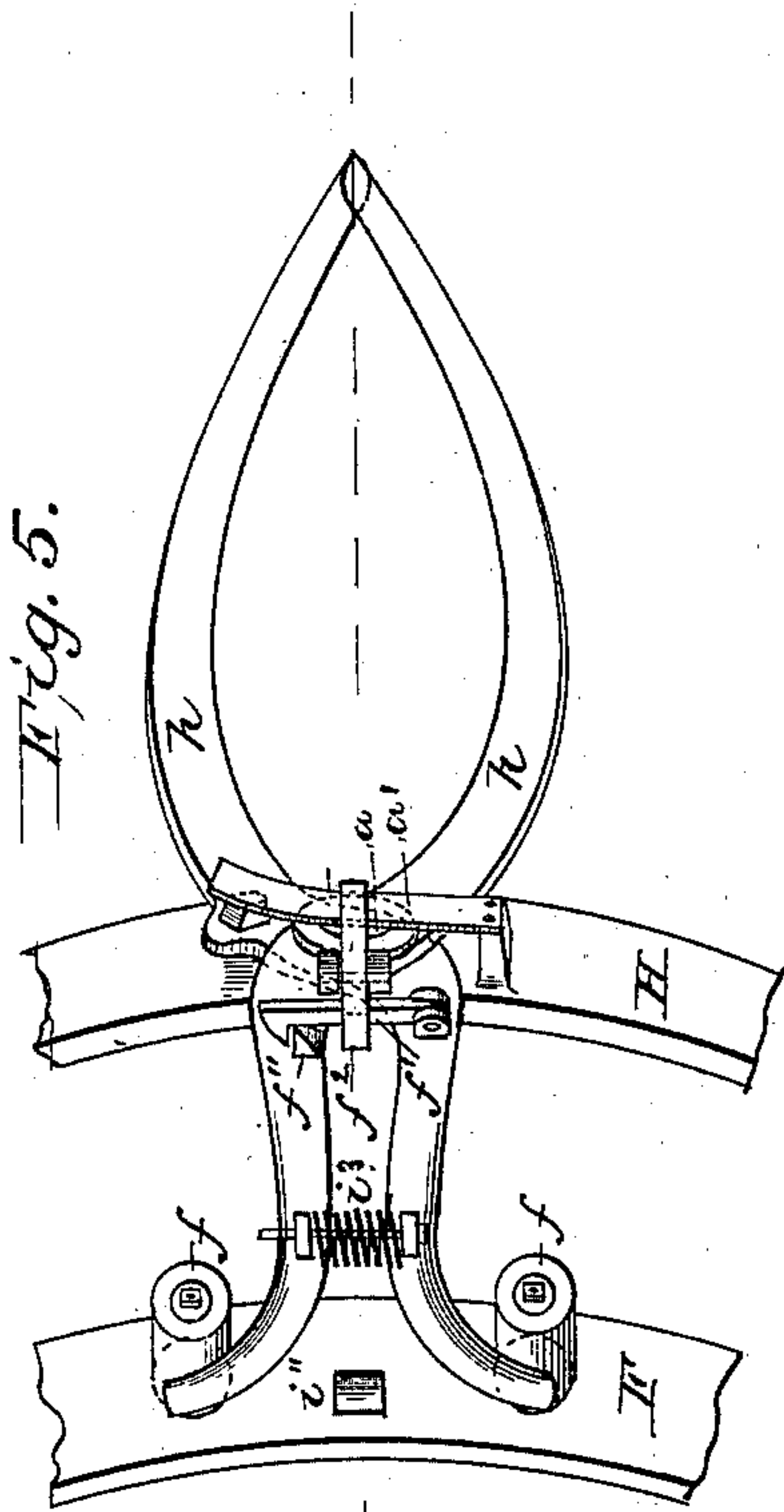
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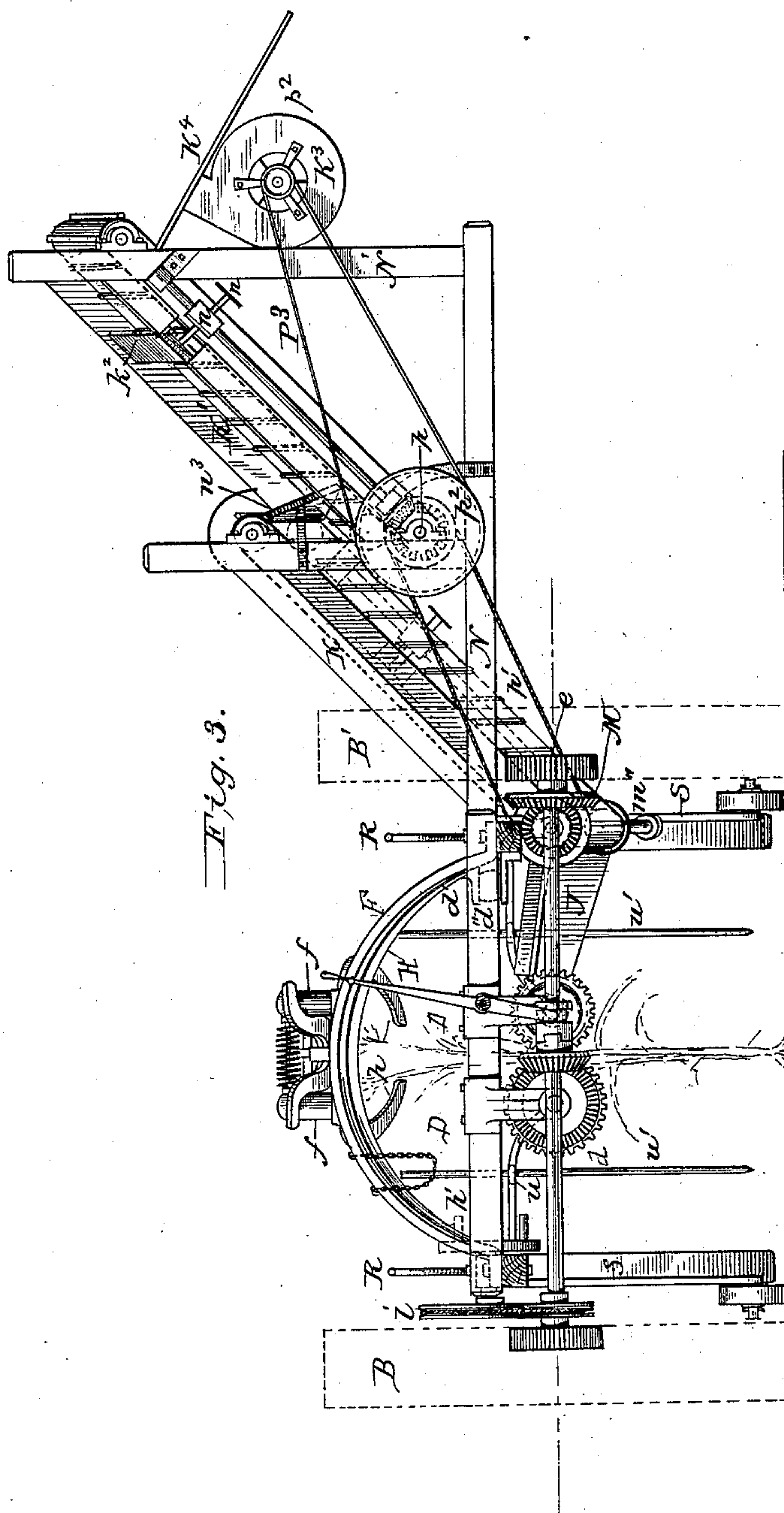


Fig. 3.

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UNITED STATES PATENT OFFICE.

SOLOMON F. MOUCK, OF EMPIRE, COLORADO.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 300,000, dated June 10, 1884.

Application filed April 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON F. MOUCK, a citizen of the United States, residing at Empire, in the county of Clear Creek and State of Colorado, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in corn-harvesters in which the machine is pushed in front of the team; and the objects of my invention are, first, to provide a means of lifting the fallen stalks from the ground; second, to remove the corn-ears from the stalks; third, to provide a means of conveying the ears of corn to a wagon or other suitable receptacle; fourth, to provide a means of cutting off the silk ends of the ears, thereby loosening the husks, and, finally, providing a means of separating the husks, silk, and dirt from the ears. These objects I attain by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 is a top view of my invention; Fig. 2, a side elevation with the elevators and separator removed; Fig. 3, a rear elevation, partly in section, with elevators and separator attached. Fig. 4 is a detail view of the cutters for clipping off the ends of the ears. Fig. 5 is a detail view of the lifting attachment. Fig. 1^a is a detail plan view of the rear portion of the tongue, with the steering-wheel.

Similar letters and figures represent similar parts throughout the several views.

The side rails, A and A', with the cross-rails A², A³, A⁴, and A⁵, constitute the frame of my machine. This frame is mounted on an axle, b, which is carried by the wheels B and B'.

To the side rails, A and A', is bolted an arch, F, which is provided with two upright rollers, f f. In front of the arch F is pivoted, at g g, a rocking arch, H, carrying a lifting device constructed in the shape of tongs, for the purpose of raising the fallen stalks and bringing them between the rollers C C. The rocking arch H, carrying the tongs, inclines forward, and the tongs are precipitated forward and downward by their own weight on the line indicated by the arrow in Fig. 2, and are closed at the termination of the descent by means of the rollers f f, forcing inward the

curved ends of the tongs h until the latch f' hooks over the catch f''. The latch f' is held in proper place by means of the spring presser-bar f², which is pivoted to the top of the bolt that secures the tongs to the arch H. The arch H, carrying the tongs closed, is raised by means of the pin h', situated on the wheel h'', being brought in contact with the arm g'' of said arch H. The crank-wheel h'' is driven by a band, I, and pulleys i i, as shown in Fig. 1, or their equivalents. When the rocking arch H is brought back to the position shown in Figs. 1 and 2, the latch f and spring-bar f² are brought into contact with a trip-lug or lifter, i'', thus disengaging the latch f' and allowing the tongs to open, as shown in Fig. 1. A spring, i³, is arranged between the rear arms of the tongs h h, for the purpose of holding the tongs open until they are precipitated forward sufficiently for the rollers to again force them shut. The wheels B and B' drive the shaft e, carrying the bevel-wheel E. The latter meshes into the bevel-wheel E', driving the rollers C C, which are attached to the frame of the machine by means of the hangers D D and the bearings c c in the brackets C' C'. The rollers C C are geared to each other by the cog-wheels d d. The rollers C C receive the cornstalks between them, catching the stalks below the ears, and roll them downward through between the rollers. The ears, being much larger than the opening between the rollers, will not pass through, but are forced off the stalks, and as the one roller is smaller than the other the ears roll over it onto the inclined table J, from which the ears slide onto the elevator K, to which motion is imparted by the shaft m'', the latter being geared to the shaft e by means of the bevel-gearing M, as shown in Figs. 1, 2, and 3. The elevator K is inclined upward and forward in such a manner as to carry the ears up along the front edge of the same, and as they pass under a board, k², the forward or silk ends are removed by knives arranged on arms n', attached to the shaft m, revolving in bearings in the hangers l', and driven by the shaft m'', to which it is geared by means of the bevel-gearing m'. The elevator K passes the ears onto the inclined board n³, a suitable shield being provided to prevent the ears from turning while passing from the elevator K over the upper roller and the incline n³ onto the

elevator K'. The latter receives motion from the band p' , connecting the shaft p with the shaft m'' . As will be seen by reference to the drawings, the elevator K' is raised at the front in order to slide the ears to the rear of the same, and as the ears pass under the board k^3 the revolving cutters n clip off the stem ends of the ears. The cutters n are mounted on arms n' , which are attached to the shaft n^3 , the latter being journaled to the bracket-hangers n'' , which are bolted to the elevator-frame N'. The shaft n^3 is driven by means of the bevel-gearing. The elevator K' passes the ears onto a rack, K⁴, from which they slide off into the box of a wagon or other receptacle drawn along beside the harvester, for the purpose of receiving the husked ears. The action of the rollers C C forcing the ears off from the stalks often leaves the husks with the stalks; but when the husks adhere to the corn ears, they are loosened by the cutting off of the ends of the ears, and as the ears and husks pass over the open rack K⁴ they are subjected to a blast of air from a revolving fan, K³, arranged under the rack, to which motion is imparted by a band from the pulley p^2 , mounted on the shaft p , blowing and separating the husks, silk, and all foreign matter from the ears.

I attach to the forward ends of the side rails, A and A', guards R by means of the bolts rr , for the purpose of raising from the ground and forcing inward any leaning stalks.

Near the front ends of the side rails, A and A', are attached standards S, made to rise or lower at will, having wheels attached to their lower ends. By means of this device the front end of the harvester may be raised or lowered to conform to the different heights of the corn to be harvested.

The brackets C' are provided with holes at u , in which are placed rods u' , held in place by means of set-screws. These rods assist in straightening the leaning corn into line with the rollers preparatory to being taken up by the tongs.

I prefer to push my machine in front of a team of horses or steam motor, although I do not wish to confine myself to that method.

In using horses in operating I prefer to attach them in the manner shown in Figs. 1 and 1^a, where it will be seen that a yoke and double-trees are attached to a tongue, w , near the end of which, in the rear of the team, is provided a seat for the driver, convenient to which is arranged a guide-lever, y , having a connection, x , to the arm V, which is attached to the stem v' , carrying the guide-wheel v , which should be arranged to rise and lower by means of a spring attachment in the stem v' , allowing the guide-wheel to adjust itself to irregularities in the ground over which it travels.

My purpose in placing the guide-wheel at one side of the guide-pole, as shown in Fig. 1^a, is to have the wheel travel between the rows of corn,

At those parts of the elevators where the cutters clip off the ends of the ears I arrange covering-boards $k^2 k^3$ in such a manner as to prevent the ears from tilting up or being thrown out of the elevators when the ends of the ears are being cut off. A portion of the guide-board e^3 having to be removed at that portion of the elevator-frame where the knives are stationed, a small rod, e' , is attached to the elevator-frame, stretching across in front of the knives, which prevent the ears from sliding into the space and having more cut from them than is desirable.

To the rocking arch H is attached a chain, which engages with a hook on the arch F, for the purpose of securing the rocking arch and the tongs in an elevated position while removing the harvester from place to place.

To the rocking arch is attached an arm, d' , which strikes a rubber cushion secured to the frame for the purpose of preventing a severe jar to the machinery when the arch H is precipitated forward.

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

1. The rocking arch H, provided with the arms g'' and d' and journals g .
2. The combination of the lifting-tongs h h , the latch f' , the catch f'' , the hinged spring f^2 , the spring-bar a' , the bolt a , and the spring v^2 .
3. The combination, in a corn-harvester, of the rocking arch H, having arms g'' and d' , and the lifting-tongs h h , secured thereto by means of the bolt a .
4. In a corn-harvester, the combination of the rocking arch H, having arm g'' , the crank-wheel h'' , the pin h' , the shaft I', the band I, and the band-pulleys i i .
5. The combination, in a corn-harvester, of the lifting-tongs h h , the rollers f f , and arch F, as specified.
6. In a corn-harvester, the combination of the rollers C C, the bearings c c , the brackets C' C', the hangers D D, the cog-wheels d d , the bevel-gear wheels E E', and the shaft e , all operating as described.
7. In a corn-harvester, the combination of the side rail A', frames N N', elevator K, roller l^2 , shaft m'' , bevel-gearing m' , brackets l' l' , shafts m , arms n' , knives l , cross-board k^2 , and slide-board n^3 , as described.
8. In a corn-harvester, the combination of the frames N N', elevator K', drive-shaft p , bevel-gear O, hangers n'' , shaft n^3 , arms n' , knives n , and board k^3 , as described.
9. In a corn-harvester, the combination, with the elevators for conveying the ears, of the knives for cutting off the ends of the ears.

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

SOLOMON F. MOUCK.

Witnesses:

GEO. H. ANDERSON,
JOHN S. VOGHT.