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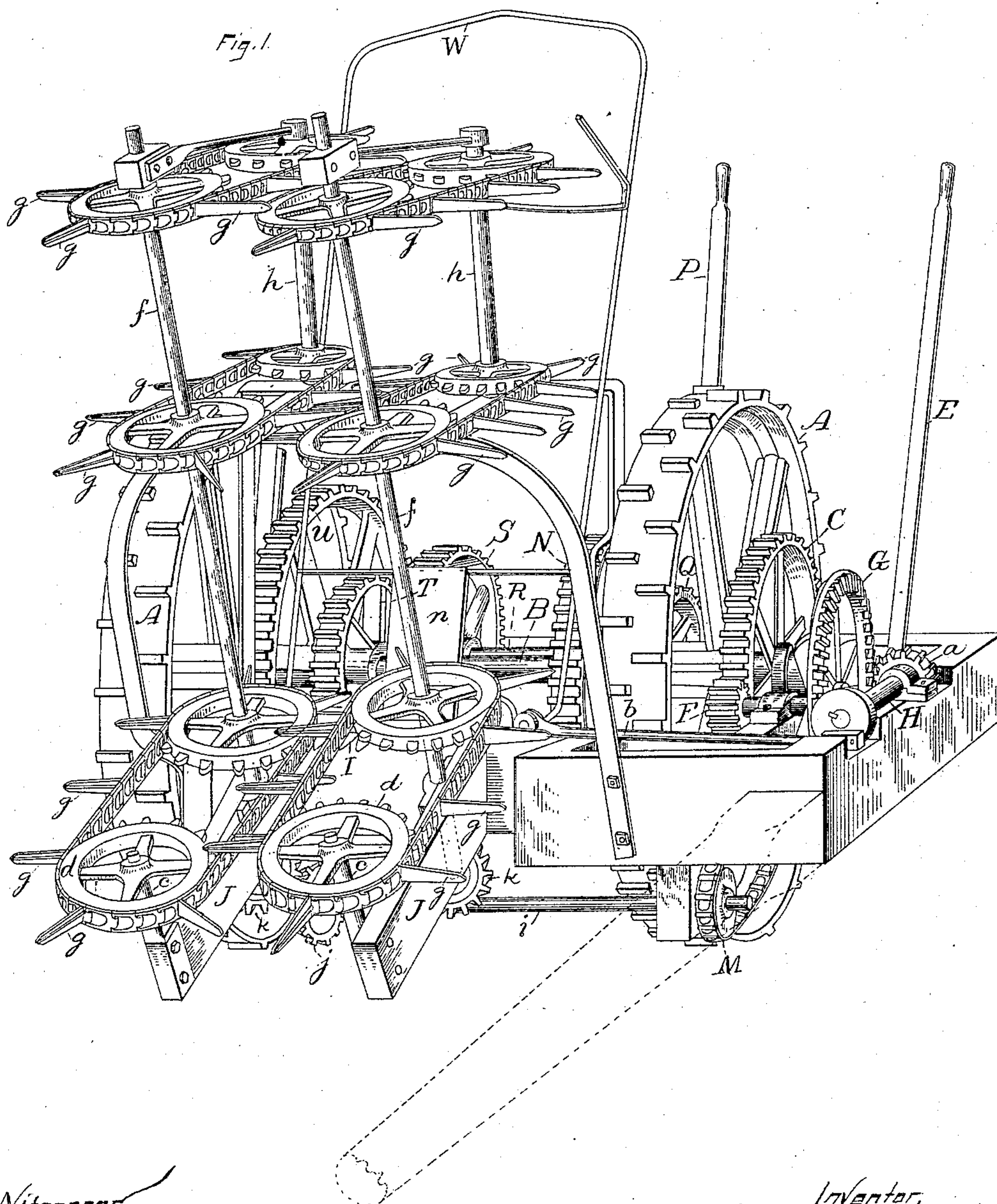
4 Sheets—Sheet 1.

H. S. BARTHOLOMEW.

CORN HARVESTER.

No. 353,476.

Patented Nov. 30, 1886.



Witnesses  
John Edwards Jr.  
Eddy H. Smith

Inventor.  
Harry S. Bartholomew.  
By James Shepard  
Atty.



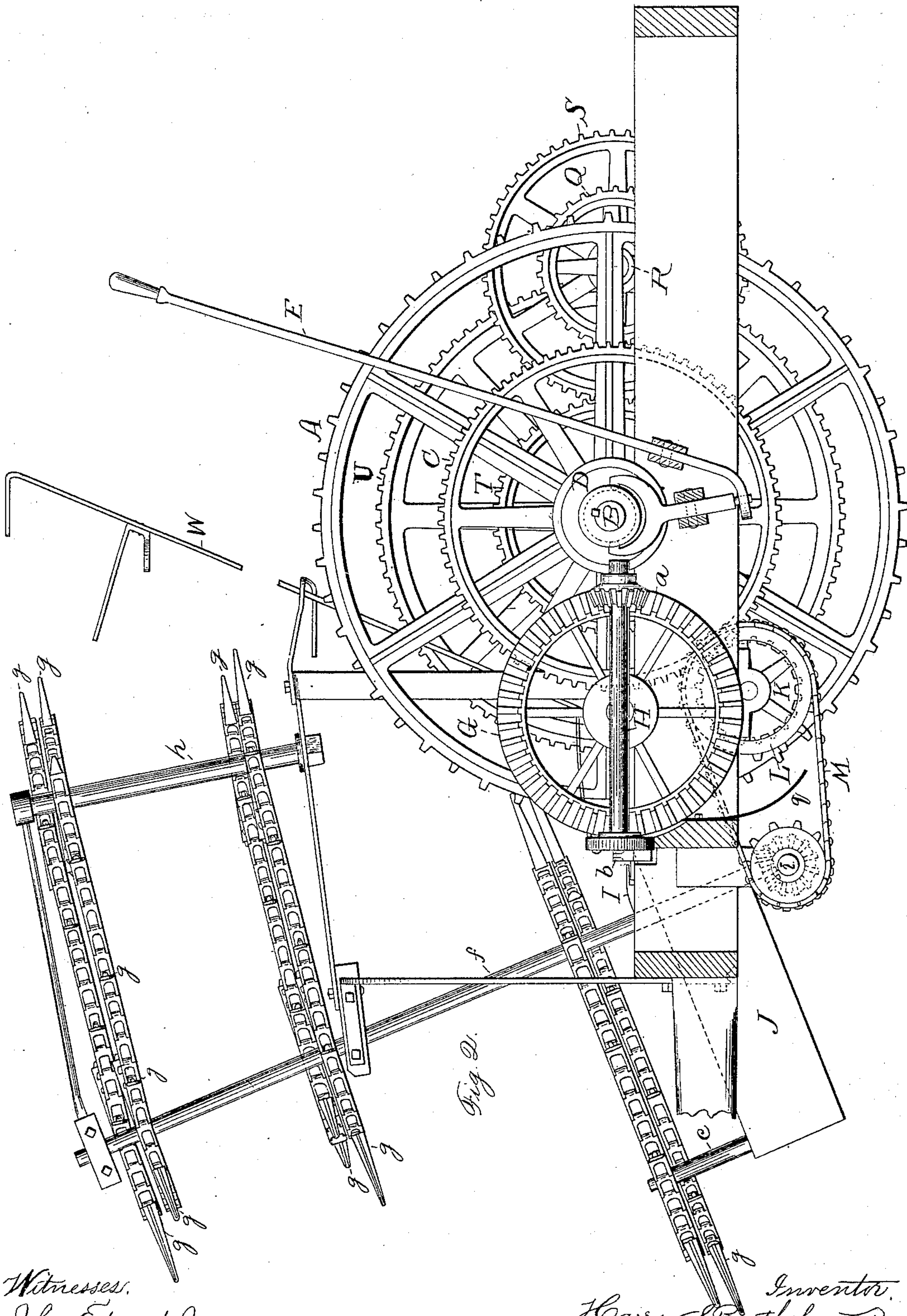
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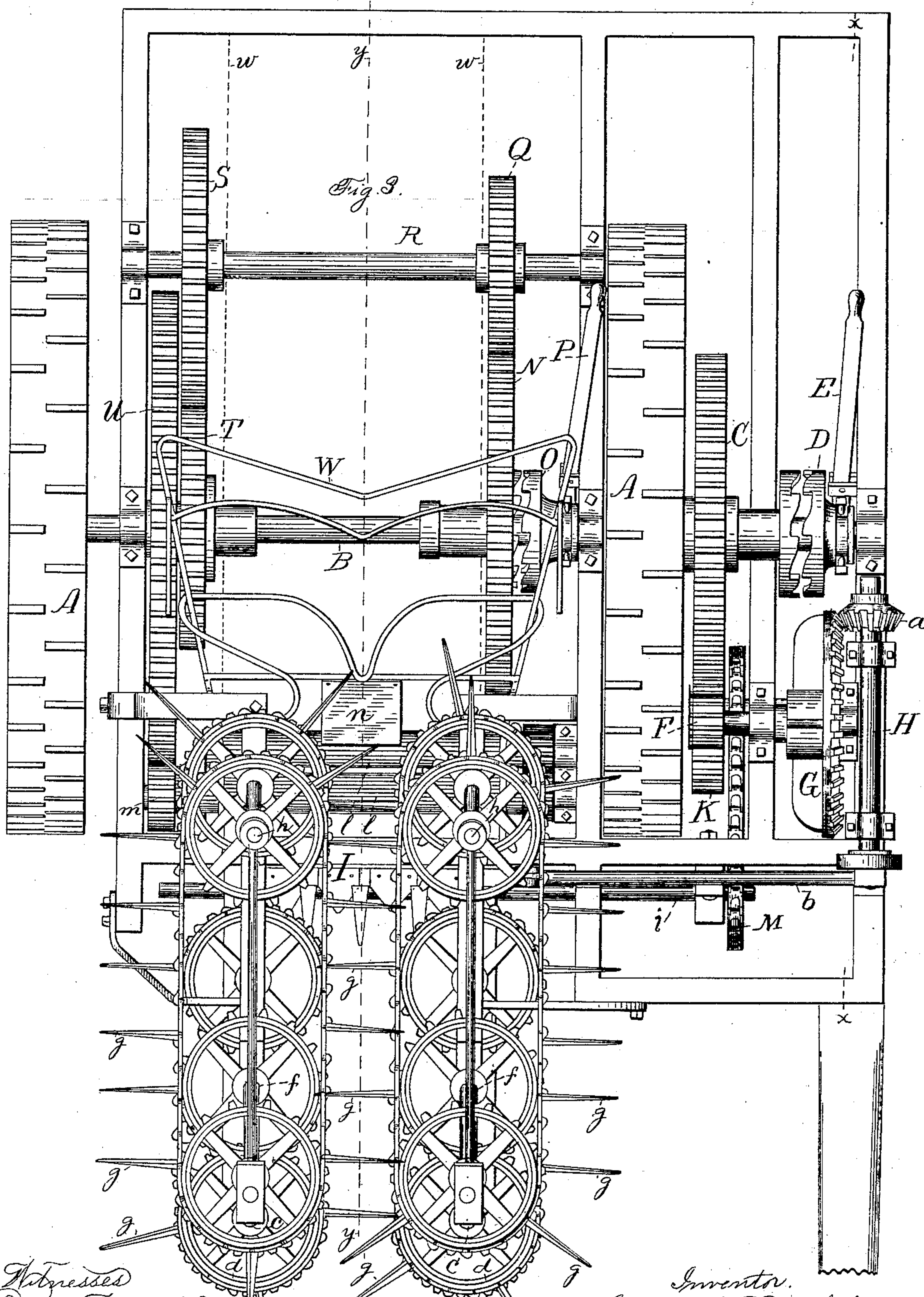
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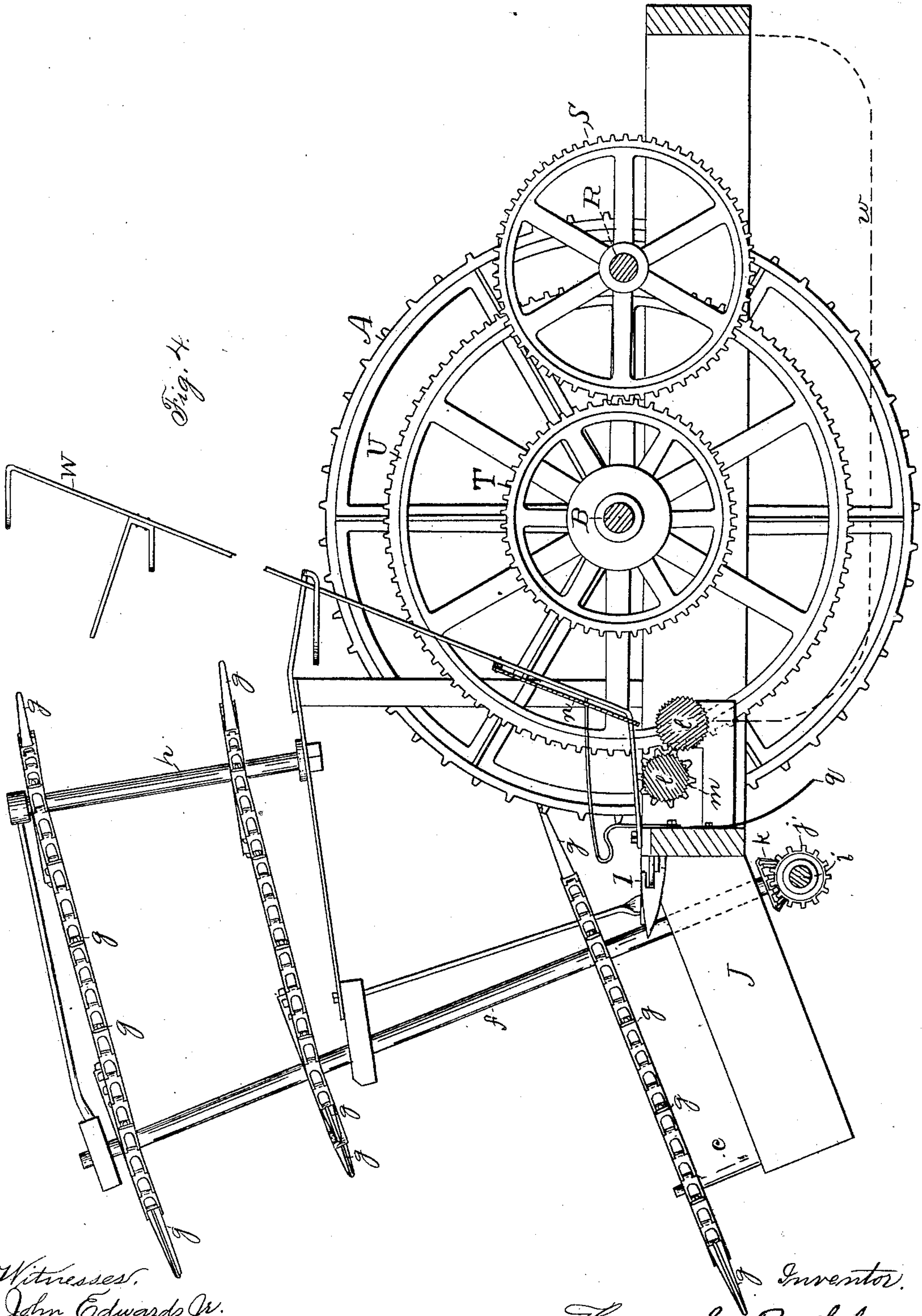
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# UNITED STATES PATENT OFFICE.

HARRY S. BARTHOLOMEW, OF BRISTOL, CONNECTICUT.

## CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 353,476, dated November 30, 1886.

Application filed November 17, 1884. Serial No. 148,103. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY S. BARTHOLOMEW, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification.

In the accompanying drawings, Figure 1 is a perspective view of my harvester. Fig. 2 is a side elevation of the same, but with the frame-work in section on line *x x* of Fig. 3. Fig. 3 is a plan view of the same, and Fig. 4 is a section on line *y y* of Fig. 3.

This application is the one referred to in my Patent No. 319,054, June 2, 1885, as constituting the new application to be filed as a substitute for the withdrawn application, No. 106,619, filed September 17, 1883.

The machine is one which is designed to be drawn over the fields, as in other harvesters, and to have the proper motion communicated to its parts through one of the driving-wheels A A. These wheels are mounted upon the axle B, which extends across the frame at or near the middle of its length.

Loosely mounted upon the axle B is a gear-wheel, C, the hub of which is provided with clutch-teeth for engagement with the clutch D. This clutch is fitted to the axle B upon a spline, and is moved longitudinally on the axle by means of the shipping-lever E. When the clutch is disengaged from the pulley C and the machine is being drawn along, the gear-wheel C will remain stationary upon the axle B, and when the clutch is thrown into action said gear revolves with the axle. This gear C meshes first into the pinion F, which is mounted upon the same shaft as the beveled gear-wheel G, thereby imparting motion to said wheel. This beveled gear meshes into the beveled pinion *a* upon the shaft H, by which the motion is imparted to the cutter-bar through the pitman *b*.

I designate the cutting mechanism, which is substantially the same as in other mowing and harvesting machines, and consequently need not be further described. This cutting mechanism is long enough for cutting one row of corn at a time. Upon the front of the frame of the machine are two bars or beams, J, which slant downward and forward, as shown. Near

the forward ends of the beams are shafts *c*, at the upper ends of which are pulleys *d*. Back of shafts *c*, which incline forward, are long shafts *f*, which also incline forward. Near the lower ends of the shafts *f* are other pulleys and chains having ingathering-fingers *g*, which are made to run over these pulleys and the pulleys *d* upon the shorter shafts *c*.

Back of the shafts *f*, and mounted upon suitable bearings at the top of the machine, are other shafts, *h*, having pulleys near both their upper and lower ends, over which other chains having ingathering-fingers *g* run in connection with similar pulleys toward the upper ends of the shafts *f*. There is a set of the shafts *c f h* upon each side of the cutting mechanism, said shafts bearing pulleys and chains having ingathering-fingers, as shown. The gear-wheel C, at a point a little below the pinion F, meshes into and drives a larger pinion or gear-wheel, K, Fig. 3, which wheel K carries with it the sprocket-wheel L, over which a chain, M, runs to a pulley upon the shaft *i*, that extends across the front of the machine just under the cutting mechanism. This shaft has upon it two bevel-wheels, one of which wheels is shown at *j*, Figs. 1 and 4. Said wheels *j* mesh into bevel wheels or pinions *k* at the lower ends of the shafts *f f*, and thereby drive said shafts, together with the chains running over the pulleys thereon.

Upon the axle B is a gear-wheel, N, loosely mounted thereon, and provided with clutch-teeth for being acted upon by the clutch O, which clutch is operated by the shipper P. When the clutch is engaged with the gear N, said gear is driven by the axle, and thereby drives the gear Q, with which it meshes, to impart motion to the shaft R. At the other end of the shaft R is another gear-wheel, S, which meshes into the gear-wheel T. This wheel T is mounted loosely upon the axle B, and has connected to it, so as to move therewith, a larger gear-wheel, U. A pair of fluted husking-rollers, *ll*, Figs. 3 and 4, are placed a little back of the cutting mechanism. These rollers are geared together, as shown at the right hand of Fig. 4, while the forward roller has a pinion, *m*, at its opposite end, which pinion meshes into and is driven by the gear-wheel U.



Above the husking-rollers, and slanting back therefrom, is a rack or frame, W, having a series of arms for catching and directing the stalks of corn. At the lower end of this frame is the apron or guard *n*.

The operation of my machine is as follows: The shipping-levers are operated to throw the clutches into gear and to communicate motion to the various parts, the machine being drawn along in such manner as to present the ingathering-fingers to a row of standing corn. The chains and fingers, passing around the pulleys *d* in front of the machine and near the ground, gather up the stalks of corn and draw them in between the pulleys *d d*, even though said stalks may be lopped over considerably. The pulleys and chains upon one side of the machine are set a little higher than those upon the opposite side, in order that the ingathering-fingers may lap by each other when they are brought into their confronting position. The shafts *e* and *f* being inclined forward, as shown, the ingathering-fingers gradually bend up and straighten the stalks of corn as the cutting mechanism approaches them. Before the cutting mechanism acts upon the stalks, they are also caught by the sets of ingathering-fingers, which pass around the pulleys upon the shafts *f* and *g*. These ingathering-fingers move backward as fast as or a little faster than the machine moves forward, and consequently they not only present the stalks to the cutting mechanism, but they firmly hold the stalks against the cutting mechanism. After the stalks are cut, the two sets of fingers upon the shafts *f* and *h* still hold the stalks of corn in practically an upright position, and carry them back to the husking-rollers *l l*. The frame W prevents them from falling over to the rear after they are discharged by the fingers, so that the butts of the stalks fall upon and are caught by said rollers. These rollers draw the stalks down between them, and so soon as the ears approach the rolls they are broken from the stalk and husked, after which they fall over upon the back side of the rolls without passing between them.

The apron *n* prevents the ends of the stalks from springing by and passing back of the rollers as the stalks are released by the fingers. The rear pulleys of the chains are substantially over the husking-rollers, and the arms of the frame W are so shaped as to hold the stalks against the fingers, even after they turn outward over the rear pulleys, whereby the fingers in delivering the stalks spread them out both to the right and left and distribute them along the length of the husking-rollers, so that when the stalks are passing rapidly through between said rollers the ears will not be too crowded for efficient husking. In order to turn the ends of the stalks backward a little, so that they may readily pass from the rollers to the rear of the machine, I place the curved guard or fender *q*, Figs. 2 and 4, upon the frame just under the rollers.

If desired, a receptacle may be placed underneath the machine to receive the husked ears of corn as they fall back of the husking-rollers, the contour of which receptacle in side view is indicated by the broken lines *w* in Fig. 4, and the position of its two side edges is indicated by the broken lines *w* in the plan view of Fig. 3.

While I prefer the ingathering mechanism herein shown and described, it is not essential to all features of my invention, and other ordinary gathering mechanism may be substituted therefor. I also prefer to employ two sets of pulleys and chains upon the shaft *h* and upper end of shaft *f*; but the machine may be made to do fair work with the upper set of these pulleys and chains omitted.

I am aware that prior patents for corn-harvesters show machines in which the husking-rollers are located at the rear of the machine, so that the stalks after being cut are laid down and passed through the rollers horizontally, and I hereby disclaim the same.

I am also aware that prior patents show corn-harvesters with chains provided with fingers upon each side of its cutting mechanism, and the same is hereby disclaimed. These latter harvesters contained no husking-rollers.

I am also aware that a prior patent for a corn harvester and husker shows a series of pointed fingers fixed to the forward part of the frame, and having divergent spaces between said fingers which lead to narrow longitudinal spaces, and back of said fingers endless chains having short side projections confronting but not meeting each other, and by the sides of the spaces between the chains stripping-plates, underneath which are pulling-rolls for drawing the stalks down to bring the ears against the stripping-plates and breaking them from the stalk, after which the chains carry the ears to a table, from whence they are conveyed to the husking-rolls. Such a construction is hereby disclaimed.

In my harvester the ingathering mechanism also presents the stalks to the husking mechanism, and without first throwing the stalks over into a horizontal position. By my arrangement of the driving-gears the axle is located near the middle of the machine, so that the same is nicely balanced.

I am aware that a prior patent shows a corn-harvester in which there are husking-rollers and a set of gathering-fingers, the latter mounted on a belt which runs over pulleys at the front of the machine and on the main axle, also at a point between the front and rear pulleys, whereby the belts are deflected away from each other and the fingers release their hold on the cornstalks before the stalks are presented to the rollers. In connection with these fingers there is a spiral device acting against a plain-faced roller, which receives the stalks from the gathering-fingers and presents them (assisted by drawing the machine over the ground, the stalks not being cut) to the husk-



ing-rollers. Such a combination of husking-rollers, spiral device, and gathering-fingers is hereby disclaimed.

I claim as my invention—

5 1. The combination of husking-rollers, the holding-frame above said rollers, and the opposing sets of chains carrying fingers and mounted upon pulleys, with the rear pulleys located over the husking-rollers, substantially  
10 as described, and for the purpose specified.

2. The combination of the cutting mechanism, the husking-rollers, and gathering mechanism, which presents the stalks, first, to the cutting mechanism, and, second, to the husk-  
15 ing-rollers while the stalks are practically in an upright position, substantially as described, and for the purpose specified.

3. In a corn-harvester, the combination of the cutting mechanism, the shafts *c* and *f*, inclined forward and bearing pulleys, with the  
20 shaft *c* located forward of the cutting mechanism, while the rear edge of the pulley on the shaft *f* is higher than and extends rearward to a point above said cutting mechanism, and a  
25 set of gathering-fingers mounted on a chain and running over said pulleys, substantially as described, and for the purpose specified.

4. In a harvester, the combination of cutting and husking mechanism with the shafts *c f h*,  
30 bearing pulleys and chains having ingather-

ing-fingers, substantially as described, and for the purpose specified.

5. The combination of the axle B, provided with driving-wheels A, the cutting mechanism located at the forward end of the machine and  
35 extending transversely across its frame, the husking-rolls mounted horizontally just back of the cutting mechanism, in front of the axle, and parallel to both, and suitable connecting-gearing for operating said parts, substantially  
40 as described, and for the purpose specified.

6. In a corn-harvester, the combination of a pair of husking-rolls whose axes extend transversely to the length of the machine, two  
45 opposing series of gathering-fingers moving inwardly toward each other at the front and outwardly from each other at the rear, and having the fingers in one series lap by those of the other series when they are brought into  
50 their confronting position, and the rack or frame above said husking-rolls, at the rear of the fingers, for catching the stalks of corn while the fingers are moving outwardly, substantially as described, and for the purpose specified.

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