

(No Model.)

2 Sheets—Sheet 1.

W. W. SMITH.
CORN HARVESTER.

No. 555,406.

Patented Feb. 25, 1896.

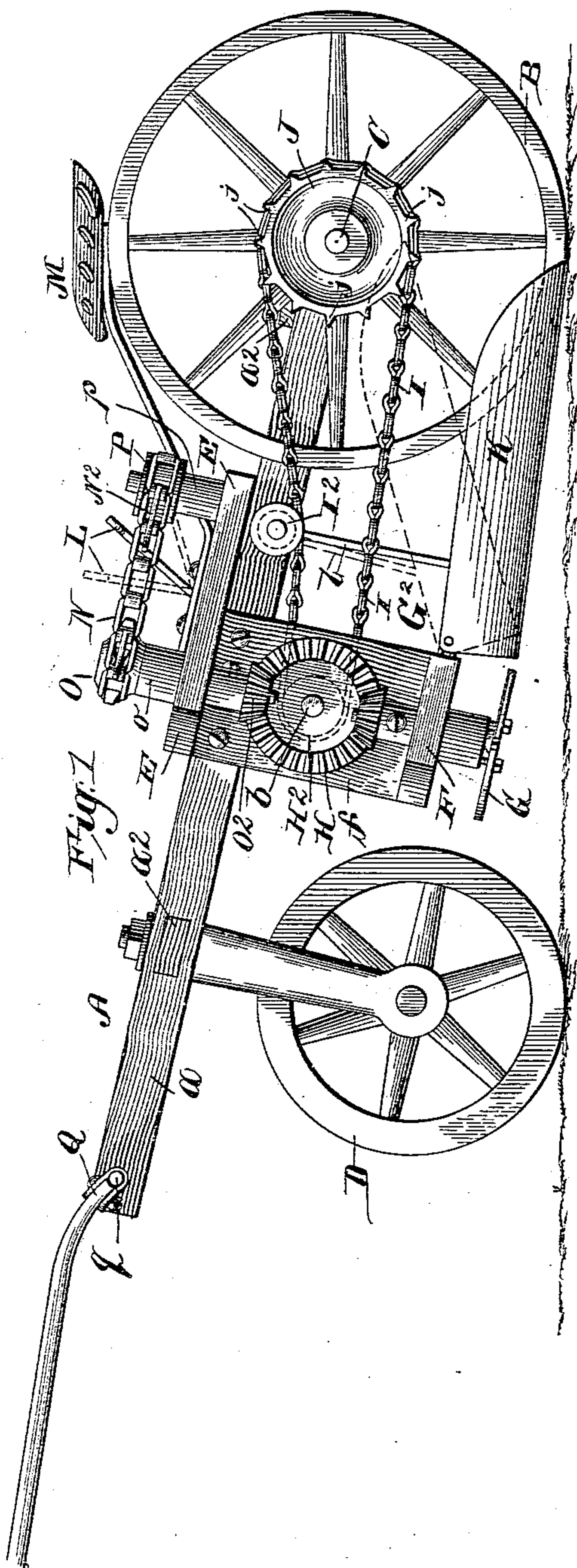


Fig. 1

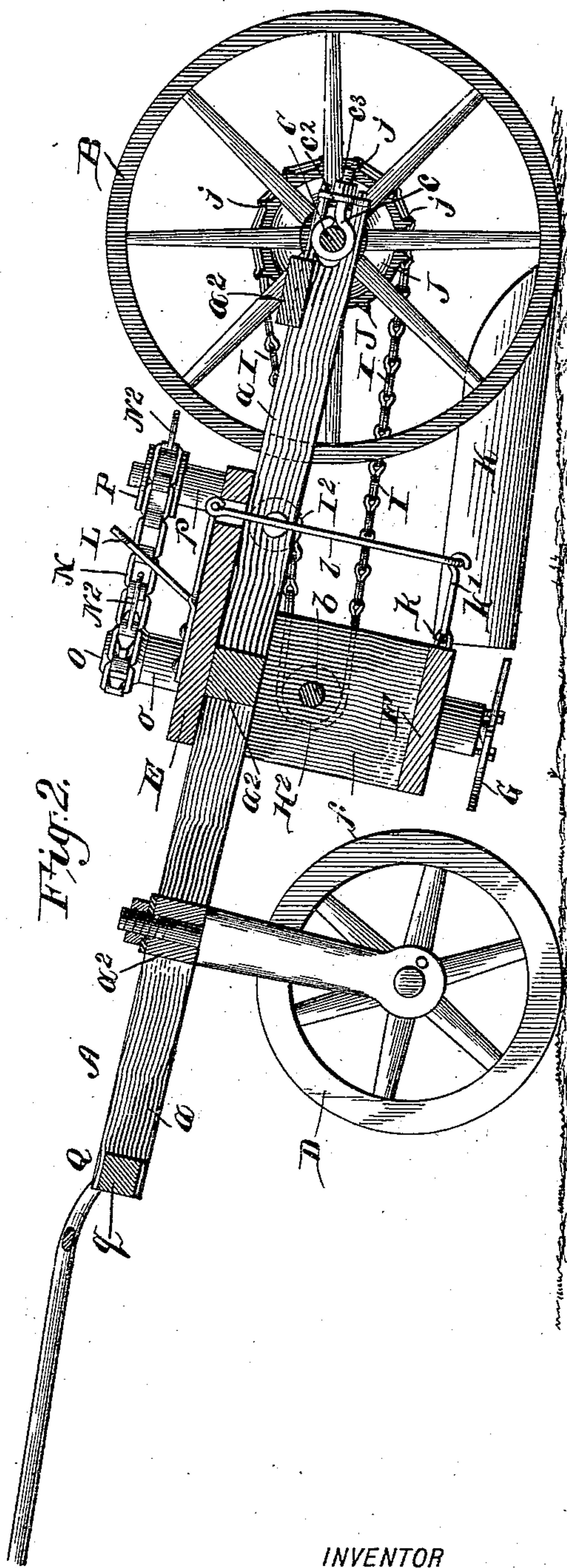


Fig. 2

WITNESSES:

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Chas. R. Wright

INVENTOR
Wilson W. Smith

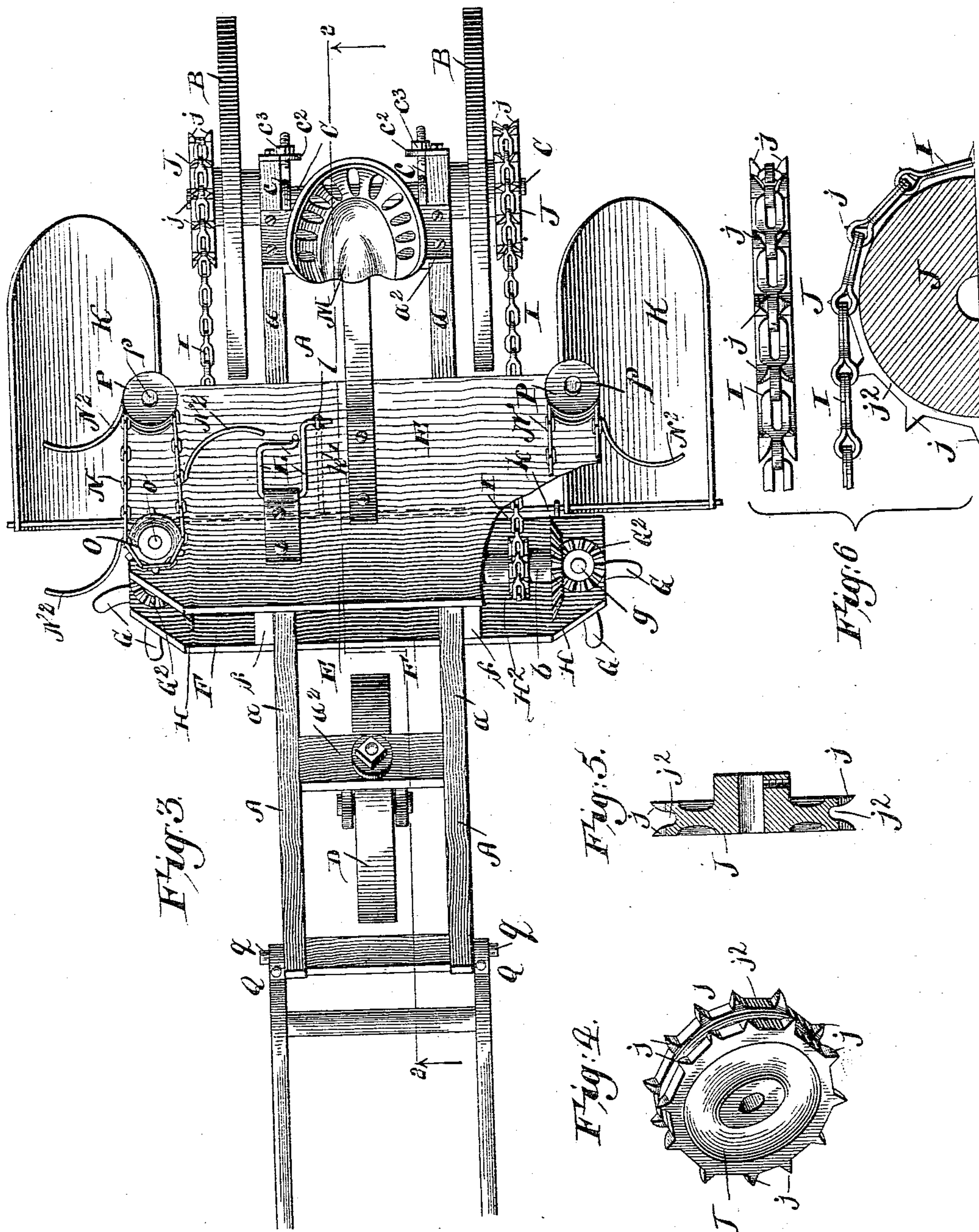
BY *Munn & Co.*

ATTORNEYS.

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ATTORNEYS

UNITED STATES PATENT OFFICE.

WILSON W. SMITH, OF FRITCHTON, INDIANA, ASSIGNOR OF ONE-THIRD TO
WILLIAM PHELPS AND LOUIS FULCHER, OF LOUISVILLE, KENTUCKY.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 555,406, dated February 25, 1896.

Application filed June 20, 1895. Serial No. 553,438. (No model.)

To all whom it may concern:

Be it known that I, WILSON W. SMITH, of Fritchton, in the county of Knox and State of Indiana, have invented a new and useful Improvement in Corn-Harvesters, of which the following is a specification.

My invention relates to improvements in corn-harvesters, and has for its object to provide a harvester which can be drawn between two rows of corn to cut the same and deposit it in piles ready to be tied into bundles.

The invention has also for its object to provide a machine of the character indicated which can be operated by a single attendant, and which is simple and cheap.

The invention consists in the particular construction and combination of parts, as hereinafter fully described and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference refer to corresponding parts in all the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is a section on line 2 2 of Fig. 3. Fig. 3 is a plan view. Fig. 4 is a perspective view of one of the sprocket-wheels. Fig. 5 is a sectional elevation of the same, and Fig. 6 is a plan and partly sectional elevation of the sprocket-wheel and a portion of the chain.

A is a rectangular frame, consisting of the side bars a , and the cross-bars a^2 . The frame is supported in an inclined position, as shown, by the drive-wheels B secured to the axle C, mounted in the rear ends of the side bars a , and the caster-wheel D mounted in the front cross-bar a^2 of the frame. Upon the frame in front of the wheels B the platform E is secured, and below the platform and suspended from the side bars a by hangers f is the cross-beam F. The platform E and cross-beam F project beyond the sides of the frame, as shown.

In the projecting ends of the beam F the vertical shafts g , carrying the winged cutters G on their lower ends and the beveled pinions G^2 on their upper ends, are mounted. The pinions G^2 mesh with bevel gear-wheels H secured to the ends of the transverse shaft

h mounted in the hangers f , and upon the said shaft between the gear-wheels H and the said hangers are secured the sprocket-wheels H^2 . The endless chains I pass around the sprocket-wheels H^2 under guide-pulleys I^2 on the side bars of the frame and around the sprocket-wheels J, hereinafter referred to, and secured to the axle C outside of the drive-wheels B, so that the shaft h will be revolved as the machine is drawn forward, and through the medium of the pinion G^2 and gear-wheels H rotary motion will be imparted to the cutters G. Secured to the rock-shaft k , mounted on the rear side of the cross-beam F, are the dumping platforms or droppers K, which receive the corn cut by the cutters G. The rock-shaft k is provided with a rearwardly-projecting arm k' , to which is secured the connecting-rod l , the upper end of which is secured to the foot-lever L mounted on the platform E adjacent to the driver's seat M. By this construction the dumping platforms or droppers K can be held in an inclined position by the driver pressing upon the foot-lever L until they have received a sufficient quantity of cut corn to form a bundle, when by releasing the foot-lever they will be lowered and the corn deposited on the ground. These dumping platforms or droppers can be of any desired shape so as to hold and retain the corn thereon, but I prefer to make them semicylindrical, as shown.

In order to catch the corn as it is cut and deliver it to the receiving platforms or droppers, I mount upon the projecting ends of the platform E the endless chains N provided with the curved fingers N^2 . The endless chains N are driven by the sprocket-wheels O on the upper ends of shafts o , mounted in the ends of the platform E, and provided with beveled pinions O^2 on their lower ends, which mesh with the beveled gear-wheels H. The chains pass around the said sprocket-wheels O and flanged pulleys P, mounted on shafts p on the platform E in rear of the shafts o .

In order to take up the slack in the chains I, the axle C is mounted in adjustable bearings c in the rear ends of the side bars of the frame. Any suitable bearings may be employed, but in the drawings the axle is shown

in slots in the rear ends of the side bars a of the frame, and the bearings c for the axle project through plates c^2 on the rear ends of the side bars a , and are provided with nuts c^3 , so that by adjusting the nuts the axle can be adjusted to take up any slack in the chains. The sprocket-wheels J , instead of having their teeth projecting through the links of the chain, as is usual, engage the ends of the links. For this purpose the wheels are formed with two rows of teeth j , which project on opposite sides of the ends of the links, as best shown in Fig. 6, and in order that the chains may hug the wheels closely annular grooves j^2 are formed in the periphery of the wheels to receive the joint of the chains.

Thills Q are connected to the forward part of the frame by means of the shaft q passing through the side bars of the frame, or they can be connected in any other suitable manner.

The operation is as follows: The driver seated on the seat M presses with his foot upon the foot-lever L , which, as before described, holds the platforms or droppers K in an inclined position, and as the machine is drawn forward the corn will be cut by the cutters G and caught and delivered by the fingers N^2 of the endless chains N onto the droppers K . As soon as a sufficient quantity of corn is received upon the droppers to form a bundle, the driver releases the foot-lever, when the droppers will by their own weight and the weight of the corn thereon drop down and deposit their contents upon the ground, it being understood that the corn being of a greater length than the droppers will come in contact with the ground as soon as the droppers are lowered, and that as the machine moves forward the droppers will pass from beneath it.

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

1. In a corn-harvester, the combination with a wheel-supported frame provided with a transverse beam suspended therefrom, a revolving shaft mounted in the beam, and a cutter on the lower end of the said shaft, of a rock-shaft mounted on the rear side of the transverse beam and projecting beyond the end of the same, said shaft being provided with a rearwardly-projecting arm, a semicylindrical dumping-platform secured to the end of the said shaft, a foot-lever on the frame, and a rod connecting the foot-lever with the arm of the rock-shaft, substantially as described.

2. In a corn-harvester, the combination with a wheel-supported frame provided with a platform on the upper part and with a transverse beam suspended from the frame below the platform, the ends of the platform and beam projecting beyond the sides of the frame, of a shaft mounted in the projecting end of the transverse beam and provided with a cutter on its lower end and a pinion on its upper

end, a transverse shaft mounted in the hangers supporting the transverse beam and provided with a gear-wheel meshing with the pinion of the cutter-shaft, means for operating the transverse shaft from the axle of the drive-wheels, an endless chain on the platform and provided with fingers, and means for operating the endless chain from the transverse shaft, substantially as described.

3. In a corn-harvester, the combination with a wheel-supported frame provided with a platform and with a transverse beam suspended below the platform, the ends of the platform and beam projecting beyond the frame, of a shaft mounted in the projecting end of the transverse beam and provided with a cutter on its lower end and a pinion on its upper end, a transverse shaft mounted in the hangers of the transverse beam and provided with a gear-wheel meshing with the pinion of the cutter-shaft, means for operating the transverse shaft from the axle of the supporting-wheels, a vertical shaft mounted in the projecting end of the platform and provided with a sprocket-wheel at its upper end and on its lower end with a pinion meshing with the gear-wheel of the transverse shaft, a shaft also mounted in the projecting end of the platform and provided with a flanged pulley on its upper end, and an endless chain provided with arms and passing around the flange-pulley and sprocket-wheel, substantially as described.

4. A corn-harvester, comprising an inclined and wheel-supported frame, provided with a platform and a transverse beam suspended below the platform, the ends of the platform and beam projecting beyond the sides of the frame, cutter-shafts mounted in the projecting ends of the transverse beam, semicylindrical dumping-platforms hinged to the rear of the transverse beam, means for operating the dumping-platforms from the platform of the frame, shafts mounted in the projecting ends of the frame-platform one of the said shafts being provided with a sprocket-wheel and the other with a flanged pulley, endless belts provided with fingers and passing around said sprocket-wheels and pulleys, and means for operating the cutter-shafts and one of the shafts of the platforms from the axle of the supporting-wheels, substantially as herein shown and described.

5. A corn-harvester comprising an inclined frame supported at the rear by two drive-wheels and at the front by a caster-wheel, said frame being provided with a platform and a transverse beam below the platform, cutter-shafts mounted in the ends of the transverse beam and provided with pinions on their upper ends, vertical shafts mounted in the ends of the platform and provided with pinions on their lower ends and sprocket-wheels on their upper ends, shafts also mounted in the ends of the platform and provided with flanged pulleys, endless chains provided

with fingers and passing around the sprocket-
wheels and pulleys, transverse shafts pro-
vided with a pinion meshing with the pinions
of the cutter-shaft and the pinions of the ver-
5 tical shafts mounted in the platform, means
for operating the transverse shafts from the
drive-wheels, semicylindrical dumping-plat-
forms mounted on the rear of the transverse
beam and means for operating the dumping-
platforms from the platform of the frame, sub- 10
stantially as herein shown and described.

WILSON W. SMITH.

Witnesses:

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H. J. WATJEN.