(No Model.) 3 Sheets—Sheet 1.

M. O. WERT.

CORN HARVESTER.

No. 570,832. Patented Nov. 3, 1896.

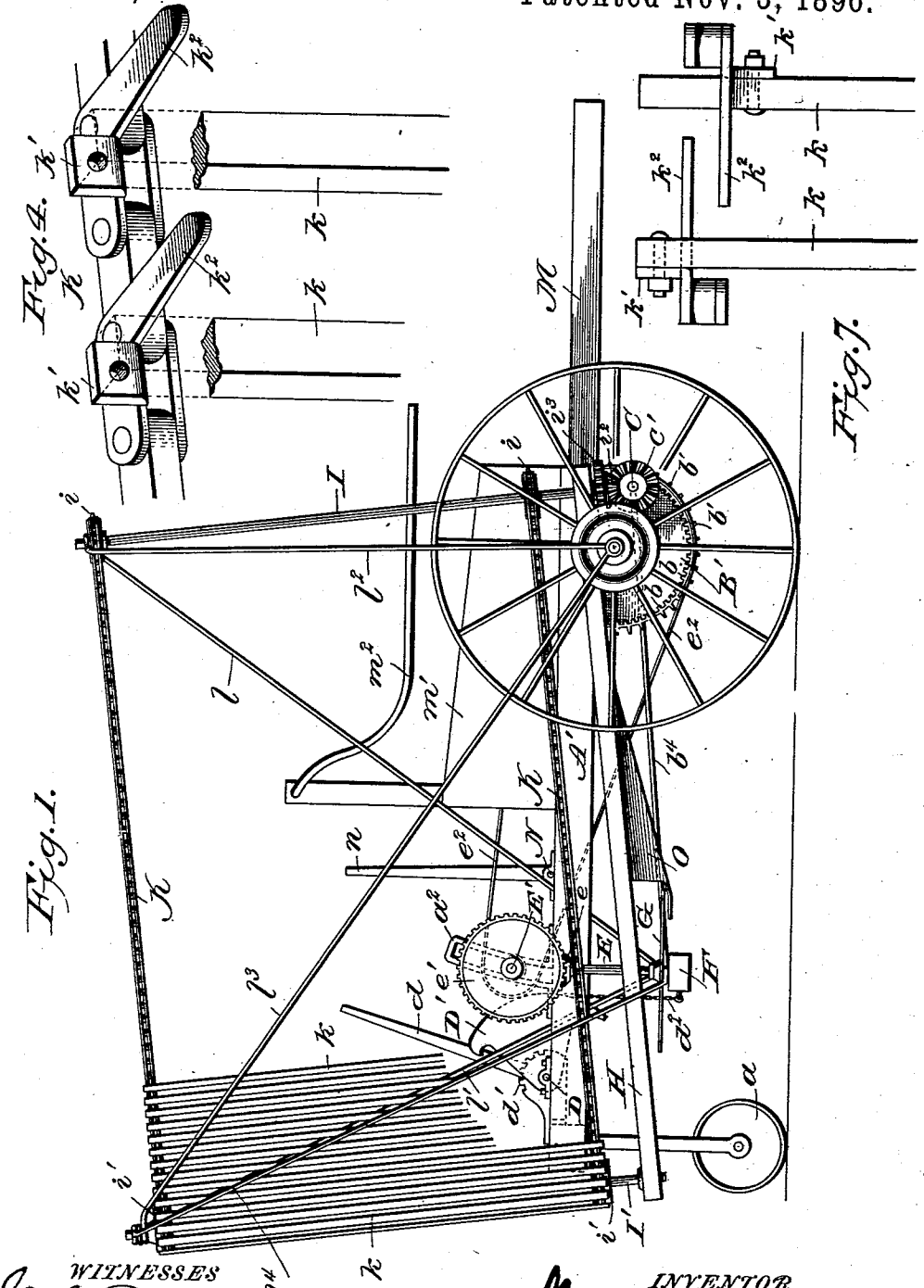

Fig. 1.

Fig. 4.

Fig. 7.

WITNESSES

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

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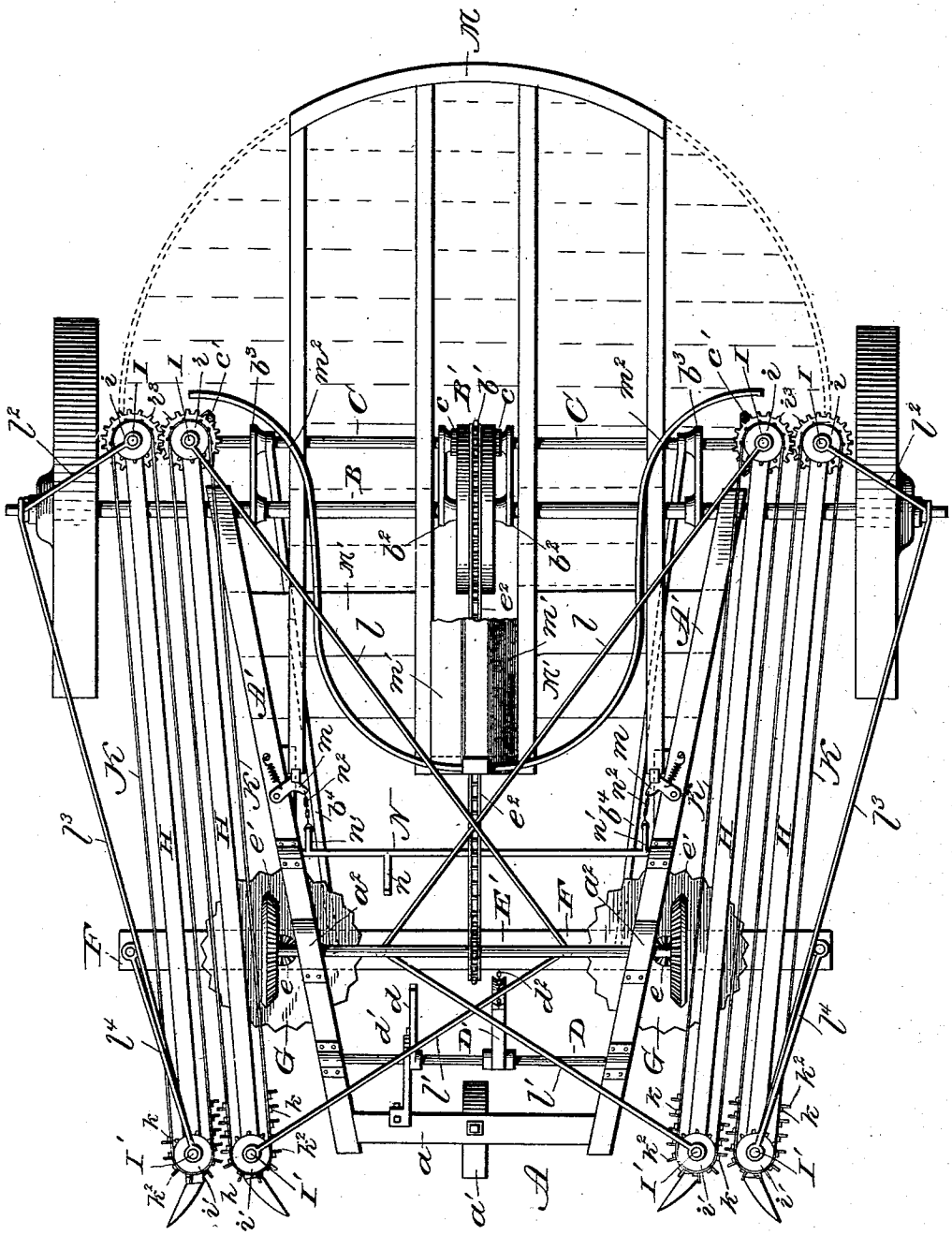

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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Fig. 5.

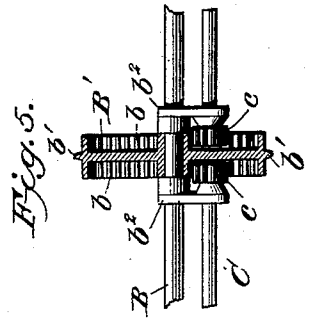


Fig. 6.

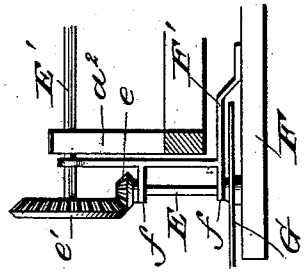
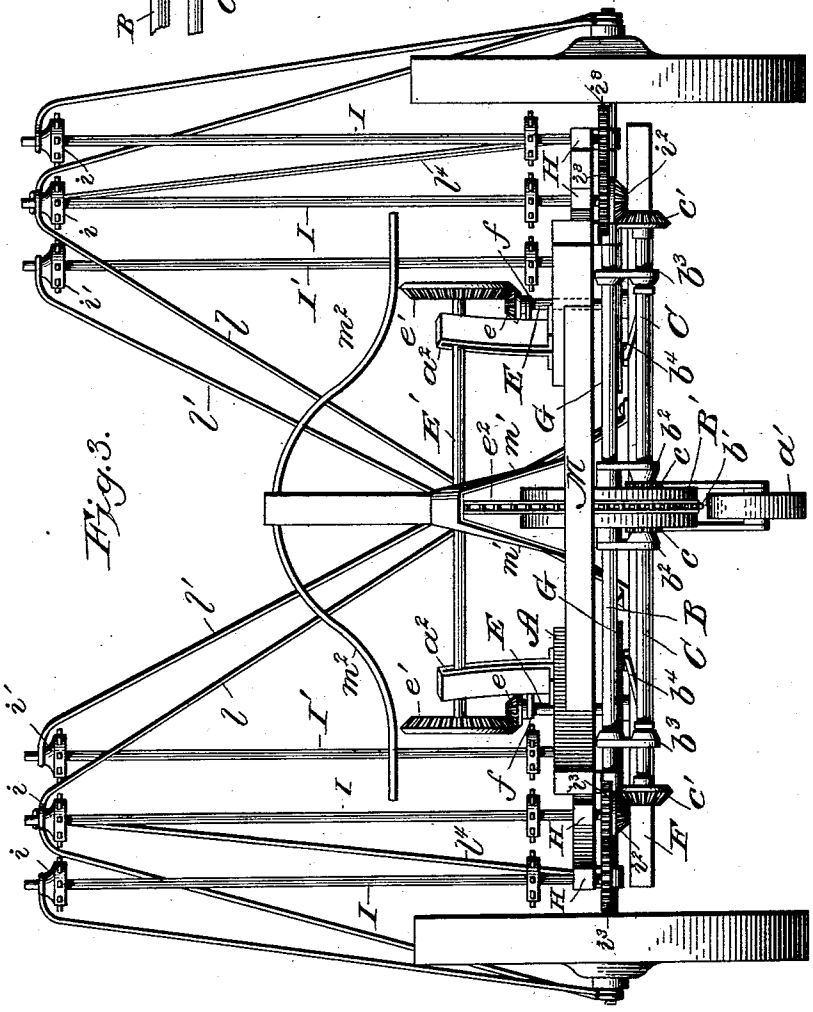


Fig. 3.



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UNITED STATES PATENT OFFICE.

MASON O. WERT, OF POPLAR, OHIO.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 570,832, dated November 3, 1896.

Application filed October 5, 1895. Serial No. 564,726. (No model.)

To all whom it may concern:

Be it known that I, MASON O. WERT, a citizen of the United States of America, residing at Poplar, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Corn-Harvesters; and I do hereby 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.

The object of this invention is to provide a corn-harvester of such construction that two rows of corn can be harvested at the same time and in which the cutting mechanism can be raised and lowered so that the stalks can be cut at the desired height from the ground.

The invention consists in the particular construction and combination of the parts embodying the construction of a frame and adjusting means for the cutters, as well as the construction of the carrier-belts between which the stalks pass and the tilting platform upon which the stalks are received and the shocks formed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a corn-harvester constructed in accordance with my invention. Fig. 2 is a plan view. Fig. 3 is a rear elevation. Fig. 4 is a detail perspective view of one of the endless chains, the upper part of the slats being broken away and indicated in dotted lines. Fig. 5 is a detail sectional view of the gear-wheel carried by the main axle with the pinions in mesh with the gear-teeth thereon. Fig. 6 is a detail view showing the manner of gearing the rotary cutters. Fig. 7 is a detail view of the sprocket-chains, illustrating the manner of arranging the projecting fingers thereof.

A designates the main frame of the machine, which is supported at its rear end upon the axle B of the supporting-wheels and at its forward end by a caster-wheel a', the stock of which bears in the transverse beam a of the main frame. The draft mechanism is connected to the beam a in any suitable manner.

The axle B is adapted to rotate with the supporting or driving wheels, and said axle has mounted centrally thereon a gear-wheel B′, the rim of which is provided on its inner side with gear-teeth b and on its periphery with sprocket-teeth b', this gear-wheel being adapted to drive the stalk-cutters and endless carrier-belts, as hereinafter described. Upon the axle B, on each side of the gear-wheel B′, are mounted hangers b^2 and b^3, which support shafts C C, extending parallel with the axle and terminating at their inner ends adjacent to the spokes of the gear-wheel, where they are provided with pinions c, which mesh with the gear-teeth b, and the outer ends of these shafts are provided with bevel-wheels, which drive the endless carrier-belts. The hangers b^2 and b^3, which carry the shafts C C, are supported at the proper inclination by brace-rods b^4, which extend to a movable part of the machine for the purpose hereinafter set forth.

Upon the forward part of the main frame A is journaled a transverse shaft D, having an operating-lever d, provided with a sliding dog, which engages a segment-rack d', projecting from the beam a, so as to hold the shaft in an adjusted position. The shaft D has rigidly secured thereto a rearwardly-projecting segment D′, to which is attached a flexible connection or chain d^2, said chain being connected to the center portion of a transverse beam F to support the same with respect to the main frame.

Upon each end of the beam F is rigidly secured an upwardly-projecting frame or bracket F′, having bearings $f\,f$ for a vertical shaft E, upon which a stalk-cutter G is mounted, said stalk-cutter being in the shape of a disk having a serrated cutting edge. The vertical shaft E also has a bearing in the transverse beam F and the cutter lies between said beam and a horizontal portion of the upright or bracket F′. It will be understood that this construction is duplicated at each end of the beam F. The upper ends of the shafts E are provided with bevel-wheels e, which mesh with bevel-wheels e' at the ends of a transverse shaft E′, which is driven from the driving gear-wheel B′ by means of a sprocket-chain e^2 passing over a sprocket-wheel on said shaft. The shaft E′ passes through curved guides or standards a^2, secured to the side pieces A′ of the main frame, and also through

the upper end of the uprights or brackets F′, so as to retain the gear-wheels c' in mesh with the gear-wheels e. It will be noted that by the construction and arrangement hereinbefore described the height of the cutters G can be regulated by manipulating the lever d, and held in an adjusted position by causing the sliding dog on the lever to engage one of the rack-teeth of the segment-rack d'.

H H designate longitudinal beams upon which the endless carrier-belts are mounted, and near their rear ends these beams rest upon the axle B, being loosely connected thereto by U-bolts or other suitable connections. The forward ends of the beams H are supported by brace-rods which extend from the axle B and adjustable cross-beam F and are connected to parts carried thereby, as hereinafter more fully set forth. Through the ends of the beams H pass vertical shafts I I′, which extend a considerable distance above said beams and are provided with sprocket-wheels i and i', around which pass sprocket-chains K, to which the slats k of the endless carrier-belts are attached. There are two longitudinal beams H on each side of the machine and consequently two carrier-belts between which the cornstalks pass. The carrier-belts are driven from the shafts C C by the bevel-wheels c' meshing with bevel-wheels i^2 on the lower ends of the vertical shafts I, carried by the inner longitudinal beams H, the shafts I being geared to the adjoining shafts by gear-wheels i^3, as shown in Fig. 3. This gearing is located at the rear end of the machine, so as to leave an unobstructed passage between the belts at the forward end. The carrier-belts are supported in a vertical position and parallel with each other by brace-rods which extend from the upper ends of the shafts I and I′ to the axle B and cross-beam F, the brace-rods l and l', which extend from the upper end of the shafts carried by the inner beam H, being connected to the cross-beam F, while the brace-rods l^2 and l^3, which extend from the shafts carried by the outer beams H, are connected to the outer ends of the axle B, a supplemental brace-rod l^4 extending from the upper end of the outer shaft I′ to the outer end of the beam F. By this manner of bracing the carrier-belts and connecting them to the vertically-adjustable beam F, which carries the cutters, said carrier-belts are tilted when the beam is adjusted, and by means of the connecting-rods b^4 the bevel-wheels on the ends of the shafts C are held in mesh with the bevel-wheels on the shafts of the carrier-belts when the parts are adjusted to any desired position.

M designates a tilting platform which is pivoted a little forward of its center to the axle B, and this platform is held in a horizontal position by means of spring-actuated catches m, which are carried by the side beams A′ of the main frame and engage the forward end of the platform. The catches are disengaged by means of a rock-shaft N, which is supported by the side pieces of the main frame and is provided with an operating-lever n and with rearwardly-projecting arms n', which are connected to the catches by short chains n^2. Upon this platform the attendants stand while receiving the cornstalks from the endless carrier-belts and making them up into shocks, the stalks being placed against the side-boards m' and guide-rail m^2 until a sufficient number have been gathered to form a shock.

In front of the tilting platform is located a supplemental rigid platform M′, which receives the stalks, as hereinbefore mentioned, and upon this supplemental platform the attendant stands after placing the shocks at the rear portion of the tilting platform, and by operating the rock-shaft N said shocks will be deposited upon the ground. The boards which make up the stationary platform M′ are secured to the under side of the longitudinal beams A′, and the forwardly-projecting beams of the tilting platform rest thereon when said tilting platform is in a horizontal position and in engagement with the catches.

To the under side of the longitudinal beams H are secured guide-plates O, which extend from the cutters G in an upward inclination to the platform M. These guides receive the ends of the stalks after they leave the cutters and guide them to the platform.

Each alternate link of the sprocket-chain K is provided with an upwardly-projecting portion k', to which the slats k are attached, and with an outwardly-projecting finger k^2, which projects into the space between the carrier-belts and pushes the stalks along to the platform. The fingers of one of the carrier-belts are formed on the upper plates of the links, while those of the adjacent belt are formed on the lower plates, so that when said fingers enter the passage-way between the belts the fingers of one belt will overlap the fingers of the other.

From the foregoing description, in connection with the accompanying drawings, the operation of the machine will be readily understood, it being borne in mind that two rows of corn are harvested at the same time and the draft-animals walk between the rows.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-harvester, the combination, of a wheel-frame, a tilting frame or platform carried by the axle and adapted to be placed in locked engagement with the wheel-frame; cutting and gathering mechanism mounted on a vertically-adjustable frame which is pivoted on the axle and connected to a rock-shaft supported on the wheel-frame; shafts C C in swinging connection with the axle and geared thereto by a gear-wheel thereon having internal teeth; rods b^4 extending from the adjustable frame to the shafts C C; together with two sets of parallel beams H having upright shafts carrying endless belts with projecting

fingers, said upright shafts being geared to the shafts C C; and brace-rods extending from the upright shafts of the gathering mechanism to the axle and adjustable frame, the parts being organized substantially as shown and for the purpose set forth.

2. In combination with a corn-harvester having vertical shafts I and I′ driven from the axle of the supporting-wheels and provided with sprocket-wheels, of sprocket-chains K each alternate link of which is provided with a projecting portion to which the slats are attached and with a projecting finger, the projections and fingers being formed on the upper plate of one of the sprocket-chains and on the lower plates of the adjacent sprocket-chain, substantially as shown and for the purpose set forth.

3. In a corn-harvester, the combination of the main frame having a transverse axle upon which are mounted the supporting-wheels and a combined sprocket-wheel and gear-wheel, substantially as shown, transverse shafts C C in swinging connection with the main axle and provided at their inner ends with pinions in mesh with said gear-wheel on said axle; parallel beams H H on each side of the machine, and vertical shafts supported by said beams and carrying endless conveyers, said vertical shafts being geared to the shafts C C; together with a vertically-adjustable frame carrying rotary cutters driven from the sprocket-wheel on the main axle, a transverse shaft mounted on the main frame and provided with a segment connected by chain to the adjustable frame, and a lever and rack for holding said shaft in an adjusted position, the shafts C C being connected to the adjustable frame by rods, the parts being constructed and organized substantially as shown and for the purpose set forth.

4. In a corn-harvester, the combination of the main frame having a transverse axle upon which are mounted the supporting-wheels and a combined sprocket-wheel and gear-wheel, substantially as shown; transverse shafts C C in swinging connection with the main axle and provided at their inner ends with pinions in mesh with said gear-wheel on said axle; a vertically-adjustable cross-bar carrying rotary cutters mounted on vertical shafts; a transverse shaft E′ geared to said vertical shafts and by sprocket-chain to the sprocket-wheel on the main axle, inclined and slotted bearings for the transverse shaft E′, and means for holding the cross-bar in an adjusted position; together with parallel beams H H located at each side of the machine, upright shafts supported on said beams and geared to the shafts C C, said upright shafts carrying endless conveyers, rods connecting the shafts C C to the adjustable cross-bar, and rods connecting the upper ends of the upright shafts to the adjustable cross-bar and to the ends of the main axle, the parts being constructed and arranged substantially as shown and for the purpose set forth.

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

MASON O. WERT.

Witnesses:
O. J. ROGERS,
G. W. BILES.