(No Model.) 3 Sheets—Sheet 1

R. WIDDOWS.

STALK LOADING APPARATUS.

No. 538,186. Patented Apr. 23, 1895.

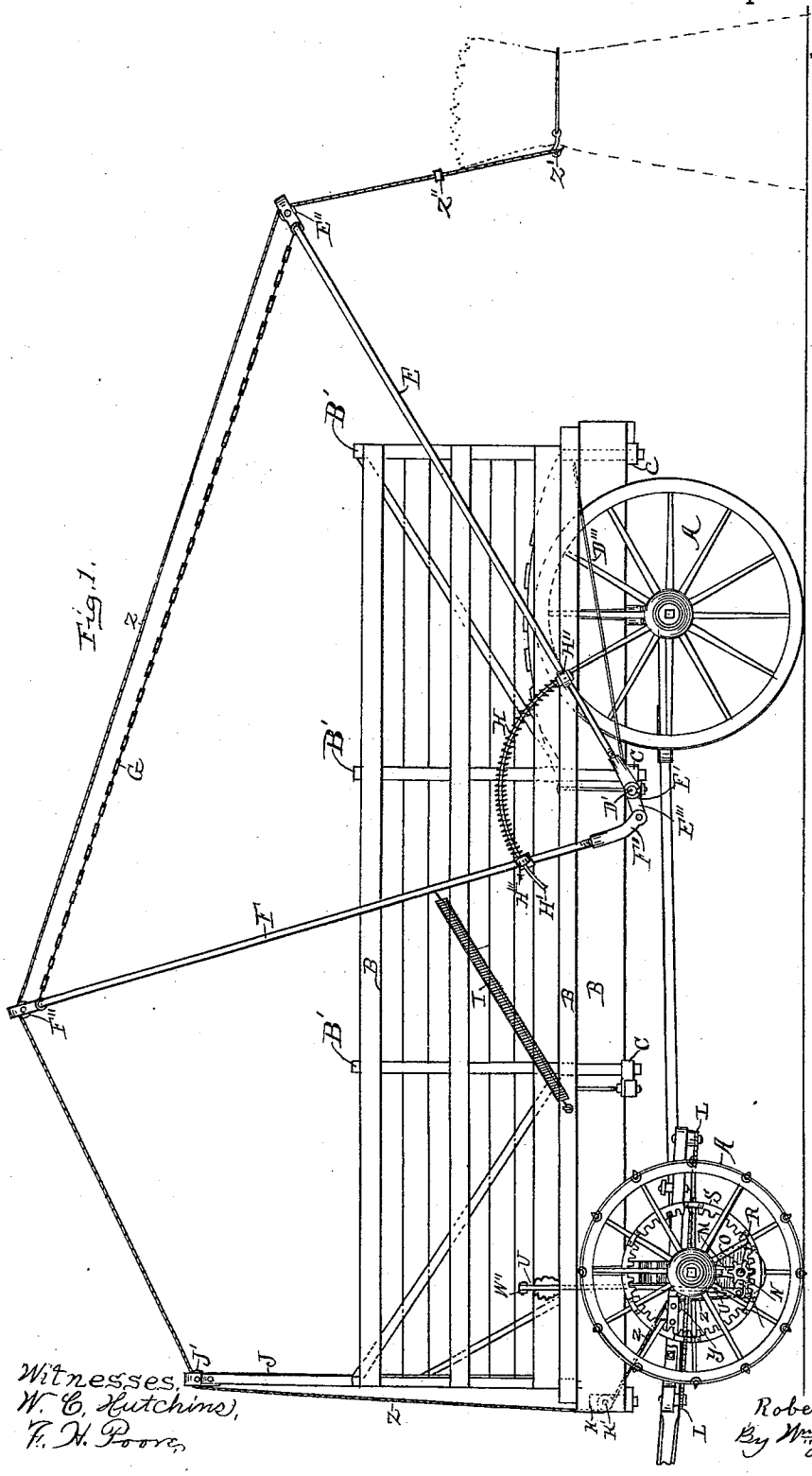

Fig. 1.

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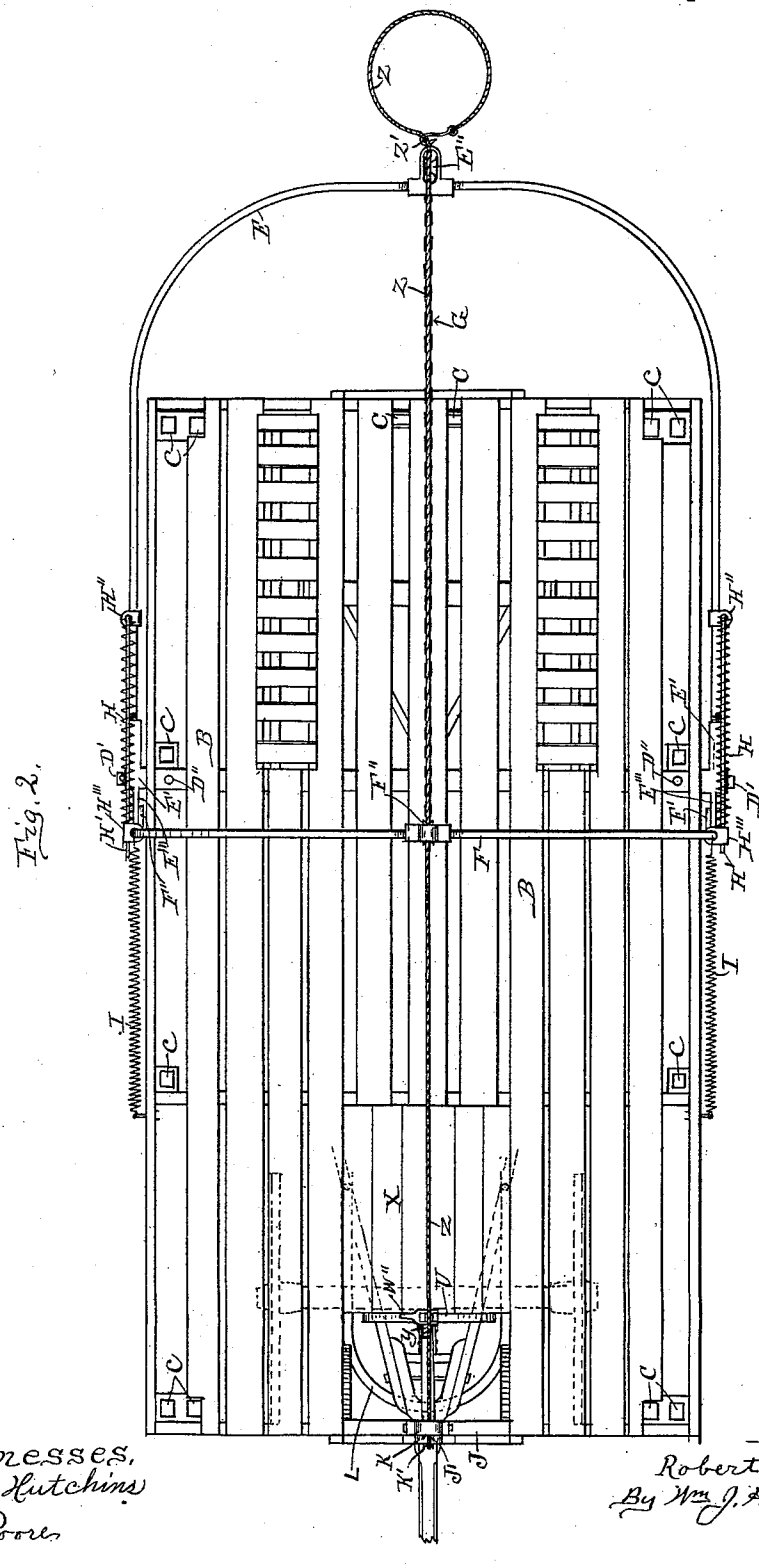

Fig. 2.

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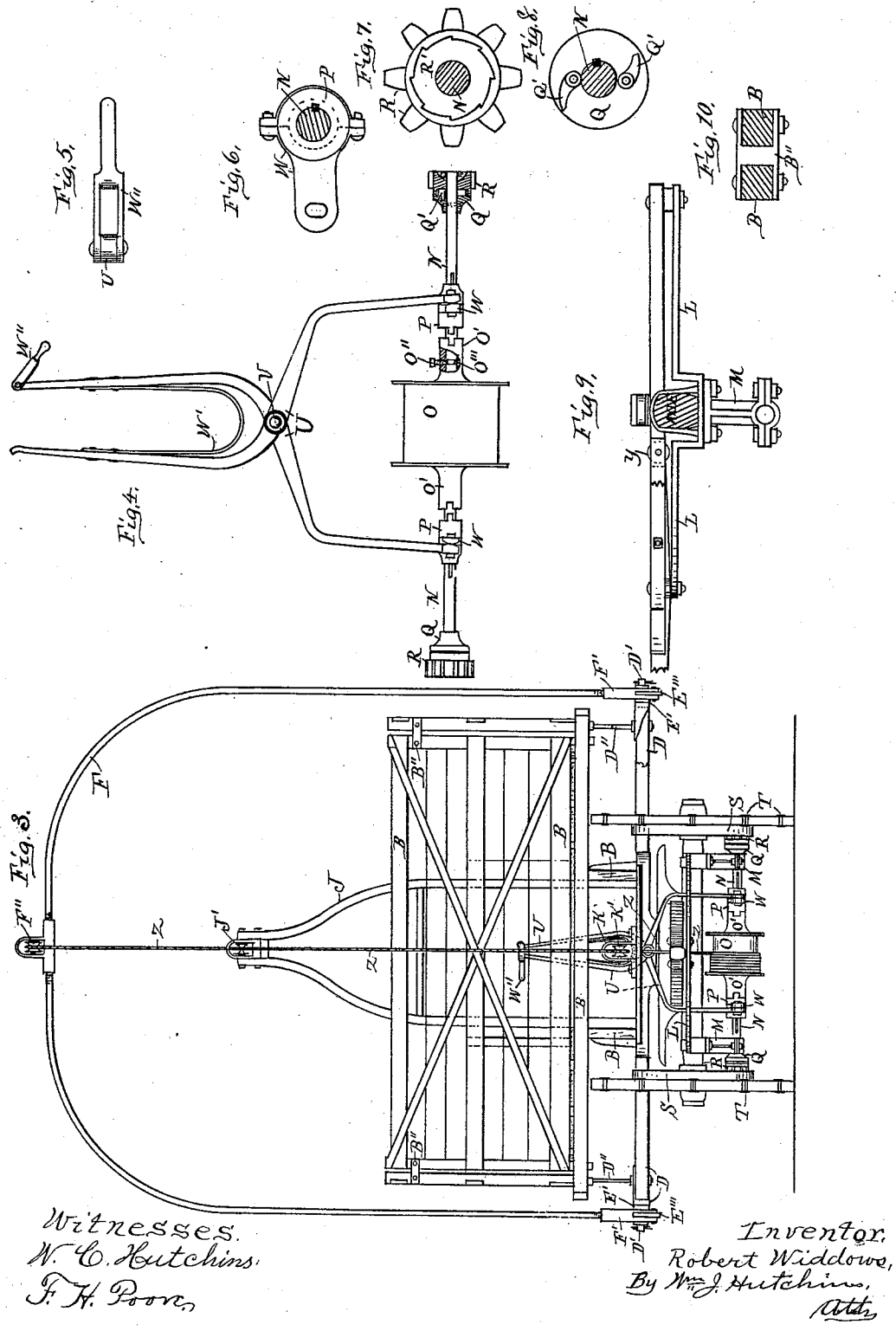

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UNITED STATES PATENT OFFICE.

ROBERT WIDDOWS, OF WICHITA, KANSAS.

STALK-LOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 538,186, dated April 23, 1895.

Application filed August 19, 1893. Serial No. 483,531. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WIDDOWS, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Stalk-Loading Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1, is a side elevation of the loader; Fig. 2, a top view of the same; Fig. 3, a front-end elevation of the same; Fig. 4, a detailed view of the winding drum and lever mechanism of the loader; Fig. 5, a top view of the clasp of the levers of said mechanism; Fig. 6, a detailed side view of one of the clutch arms, of said winding drum mechanism; Figs. 7 and 8, detailed views of the pinion ratchet mechanism, of said winding drum mechanism; Fig. 9, a detailed side view of the support of the winding drum mechanism of the loader, and Fig. 10, a detailed top view of a corner coupling iron of the loader rack.

This invention relates to certain improvements in an apparatus designed as an attachment to farm wagons for loading fodder, such as corn stalks and the like, on the rack of the wagon, and is especially adapted for use in a field, for gathering the stalks in the field, and consists of certain novel construction and arrangement of parts, which improvements are fully set forth and explained in the following specification and pointed out in the claims.

Referring to the drawings A represents an ordinary wagon, such as is commonly used on a farm, and B represents a rack body, or platform, placed upon the wagon, and provided about its sides and ends with a series of sockets C, and B′ represents side and end upright parts of the rack, which are provided with depending posts placed in said sockets as a means of support, and at each corner the said upright rack portions, or parts, are connected together by means of forked coupling irons B″ as shown in Fig. 3, and represented in detail in Fig. 10, which irons are placed with a fork embracing a post of each adjoining part and provided with a cross-bolt passing through each fork and post embraced. Across the under side of the rack forward of the rear wagon wheels, is arranged a cross beam D, bolted at its center portion to the rack beams, and supported at each end by a hanger bolt D″, and also braced at such ends as shown at D‴ in Fig. 1, and provided at each end with a laterally extending stud D′, which studs project beyond a vertical line of the rack sides.

E represents an arched derrick provided at each foot, or end, with a hub E′ which hubs are respectively sleeved on the studs D′ where they are held by means of cotters. F represents a similar derrick and is provided at each foot, or end, with a forked piece F′, which parts F′ are respectively placed astride, or forked on, an extending arm E‴ of hubs E′ where they are pivotally secured by means of cross pins, or bolts, through said forks and arms. The derricks thus arranged are adapted to be brought up over the rack and are each provided at their central upper portion with a pulley frame, respectively provided with the pulleys E″ and F″, and are, at said upper portion connected together by means of a chain G, so they may not spread too far apart, and are yieldingly held apart, the limit of the chain, by means of a coil spring H, at each side of the rack, which springs are respectively sleeved on a curved bar H′, which bars are each fixed at one end to the uprights of derrick E by means of a box H″, and arranged to slide through a similar box H‴ of the uprights of derrick F, and derrick F is yieldingly held inclined forward by means of a coil spring I; a spring at each side of the rack connected at one end to the uprights of the derrick, and to the rack side at its opposite end.

The forward end of the rack is provided with a standard J which is provided at its upper end with a pulley frame having therein a pulley J′ and at the lower forward end of the rack is a pulley frame K having therein a pulley K′.

Attached to the under part of the front truck of the wagon is a bar frame L bent semicircular at its forward or central portion, stepped down at the wagon axle, and secured, at its two rear extending ends and central forward portion, to the wagon hounds, by means of bolts as shown, and is clipped, at each side to the wagon axle. The purpose of

said bar frame is to provide greater strength to the wagon truck. Secured by means of the clips of said bar frame, and depending from the wagon axle, is a pair of hanger bearings M and N is a shaft supported by said bearings, which has centrally sleeved thereon, a winding drum O, which is provided at each end with a clutch faced hub O′, and is held from longitudinal movement, on said shaft, by means of a set screw O″ with its end terminating in an annular groove O‴ of the shaft. Feathered on said shaft, each side of drum O, is a clutch head P, adapted to be thrown into and out of gear with the drum, and fixed on the shaft, near each end thereof, is a head Q provided with pawls Q′ and sleeved on each end of the shaft adjacent said heads Q is a pinion R provided with an annular ratchet chamber R′ into which the pawls Q′ of heads Q are placed, in which position the said pinions are held by means of cotters as represented in Fig. 4, and by means of such pawl and ratchet construction the pinions may rotate in one direction independent of the shaft, as is occasioned in this construction when turning the wagon, and when rotated in the opposite direction cause the shaft to rotate therewith; and as a means of operating said pinions, annular gears S are secured, one to each forward wagon wheel, in mesh with said pinions, as shown, so that when said wheels travel said pinions and shaft are rotated, and as a means of preventing the wagon wheels slipping on the ground, they are provided with a series of lugs detachably attached to their tires, as shown at T.

The mechanism for throwing the clutch heads P consists of a compound, or two part lever U, the parts of which cross and are pivotally connected together, as shown at V; the lever parts being respectively jointed, at their lower ends with arms W which annularly clasp the heads P. (See Fig. 6.) The levers thus connected and jointed are seated on the wagon tongue hounds, with their cross above the hounds, and with their upper portion extending up through the rack frame immediately forward of the wagon front bolster, and in front of an operator's standing platform X of the rack, and between the upper portion of said levers is a U shaped spring W′ which tends to yieldingly hold the upper portions of the levers apart, and their lower portions likewise from each other and hence yieldingly holds the clutch heads P thrown out of gear with the drum O; but by bringing the upper portions of the levers together and throwing the clasp W″, which is pivoted to one lever, over the fellow lever, which holds them together, the levers will be operated to throw the clutch heads P into gear with the drum, so that at such times the drum will rotate with shaft N.

Y represents a pulley set in a frame attached to the rear end of the wagon tongue, and Z represents a cable attached at one end to drum O. From thence it is passed up over pulley Y, under about pulley K′, thence up over pulley J′, thence to and over pulley F″ and finally to and over pulley E″ and terminates at its end passing off from pulley E″ with a hook Z′, and a distance back from the hook with a stop which, when it comes against the pulley E″ prevents further passage forward of the cable over said pulley.

In use a team is hitched to the wagon in the usual manner, and the wagon is hauled to the field and backed up to a shock of corn stalks. The rear end of cable Z is then grasped, and pulled back, which brings the derricks to the position shown in Fig. 1. The cable end is then brought about the shock of stalks and the hook Z′ placed on the cable forming a noose about the stalks as represented in Fig. 1. At this period of operation the levers U are operated to throw the clutch heads into gear with the winding drum, where they are held by the clasp W″. The team is then started to haul the wagon which action operates the winding drum and therefore winds thereon the cable, causing it to be taken up at the rear, and therefore pulls up on the stalks, and when the stop Z″, of the cable, engages pulley E″ the derricks are turned forward which action brings the upper portion of derrick F close to standard J and brings the upper portion of derrick E up over the rack and raises the stalks with it, and when the stalks have reached the desired position above the rack the operator throws clasp W″ back, preferably by kicking it, which instantly, by reason of the action of spring W′ reverses the levers U and therefore throws the clutches out of gear; which action leaves the drum free to turn, and by reason of their weight, the stalks will fall on the rack. Thus the loading of the stalks is done while the wagon is traveling from one shock of stalks to another, and when a succeeding shock is reached another like operation is performed, which operations are continued, advancing from one shock to another, until the rack is fully loaded.

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

1. In the loader described the combination with the rack and winding drum mechanism, the derricks E and F pivotally supported on studs of the rack, and provided with pulleys at their upper portion for carrying a hoisting cable, and adapted to be turned on their support as specified, and of the cable arranged connecting said derricks and winding drum, and provided with a free end adapted to be placed about a bundle of stalks and be actuated by the winding drum mechanism, in the manner substantially as and for the purpose set forth.

2. In the stalk loader described, the combination with the derricks E and F the spring for yieldingly holding the said derricks apart, and the chain for holding them from separating too far, and of the coil springs for yield-

ingly supporting the derrick F against movement rearward, substantially as and for the purpose specified.

3. In the stalk loader described the combination with the derricks E and F, of curved bar H′, the coil spring H sleeved on said bar, and the chain G, arranged connecting said derricks, substantially as and for the purpose set forth.

4. In the stalk loader described, the combination with the derrick E mounted on studs, as shown; the derrick F pivotally connected with the extending arms of derrick E, and the chain for connecting said derricks and the springs for yieldingly supporting and holding them apart, substantially as set forth.

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Witnesses:
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