

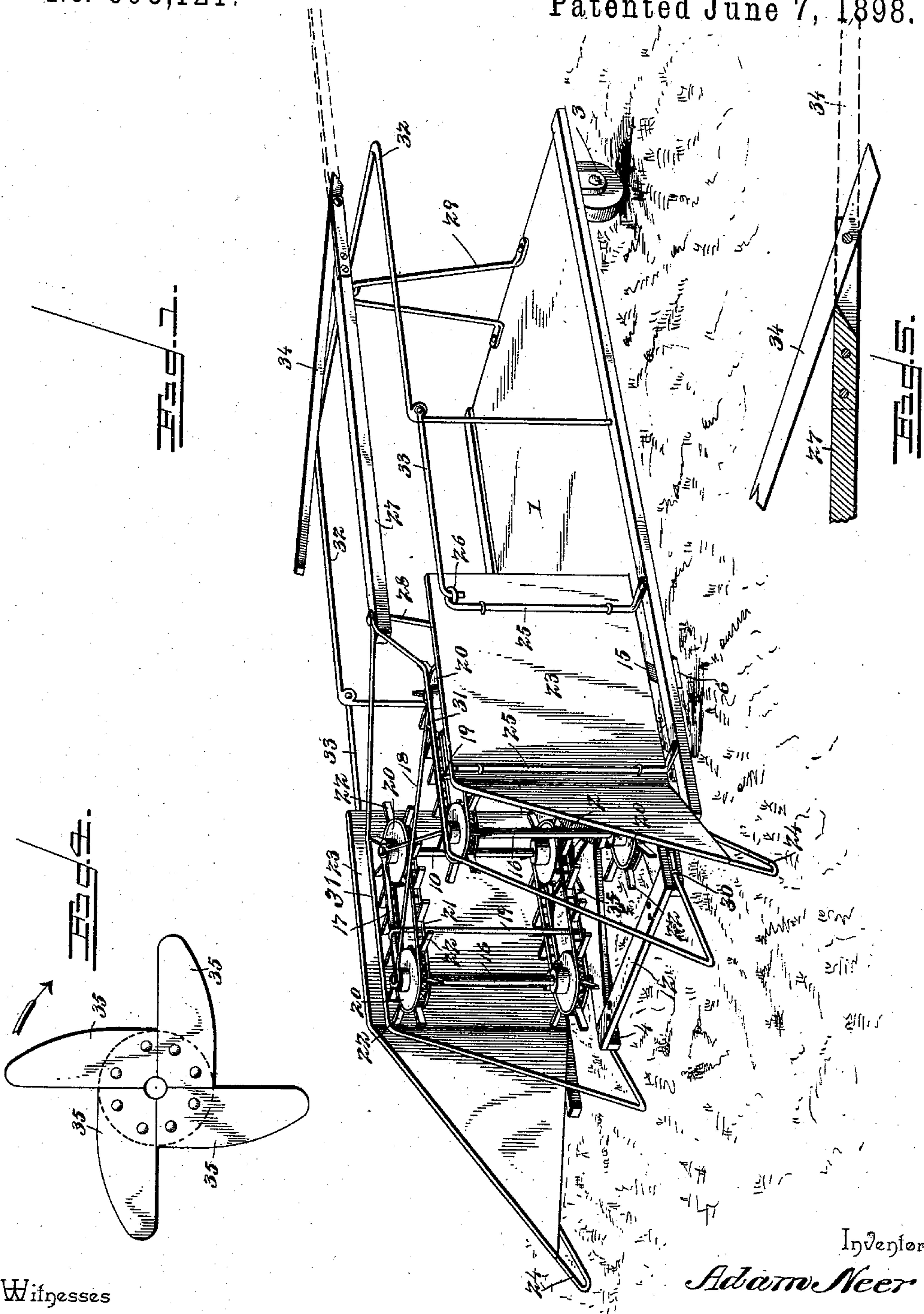
(No Model.)

2 Sheets—Sheet 1.

A. NEER.
CORN HARVESTER.

No. 605,121.

Patented June 7, 1898.



Witnesses
E. M. Stewart.
V. B. Hillyard.

By *W. D. S.* Attorneys,

Cashnow & Co.

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Fig. 2.

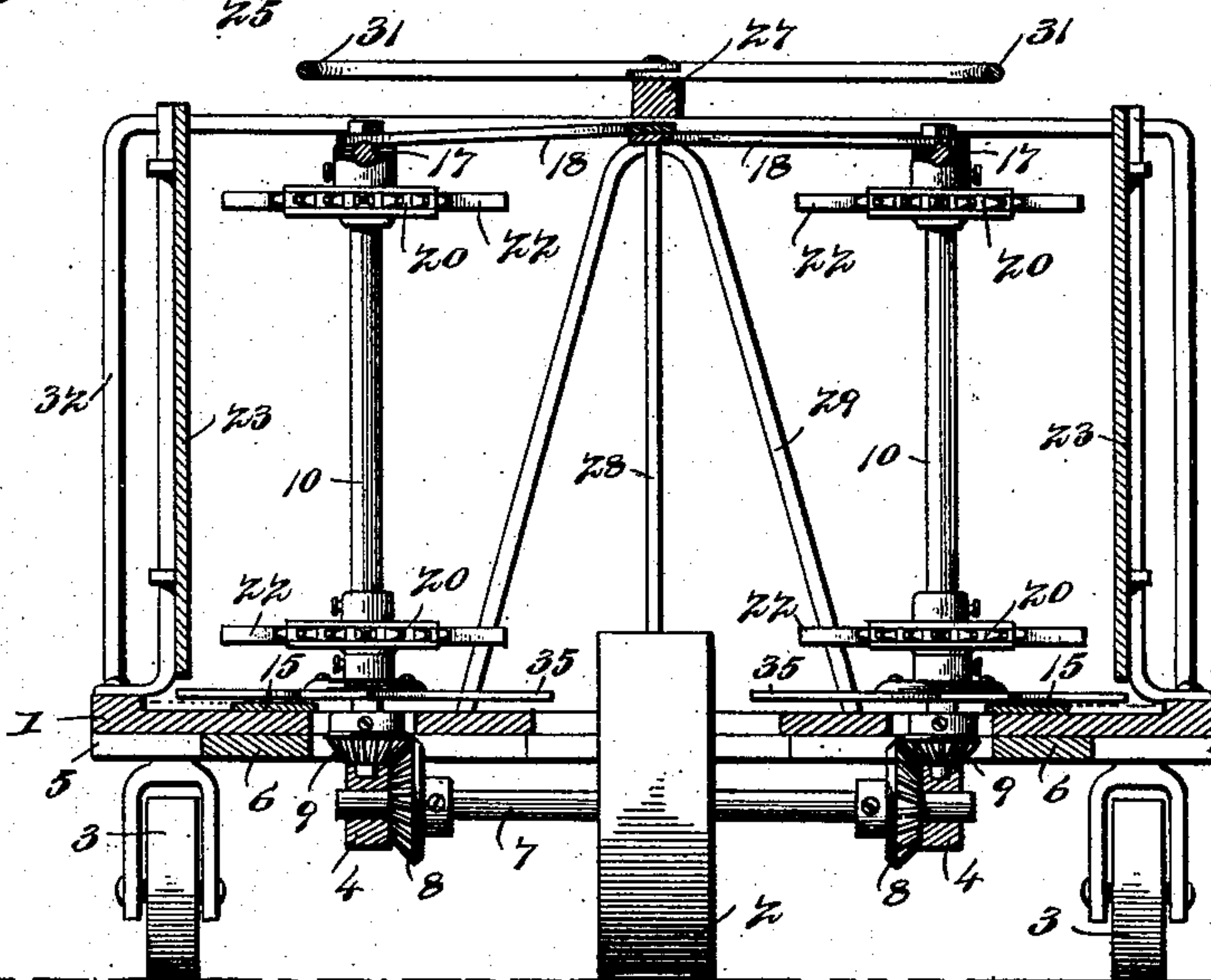
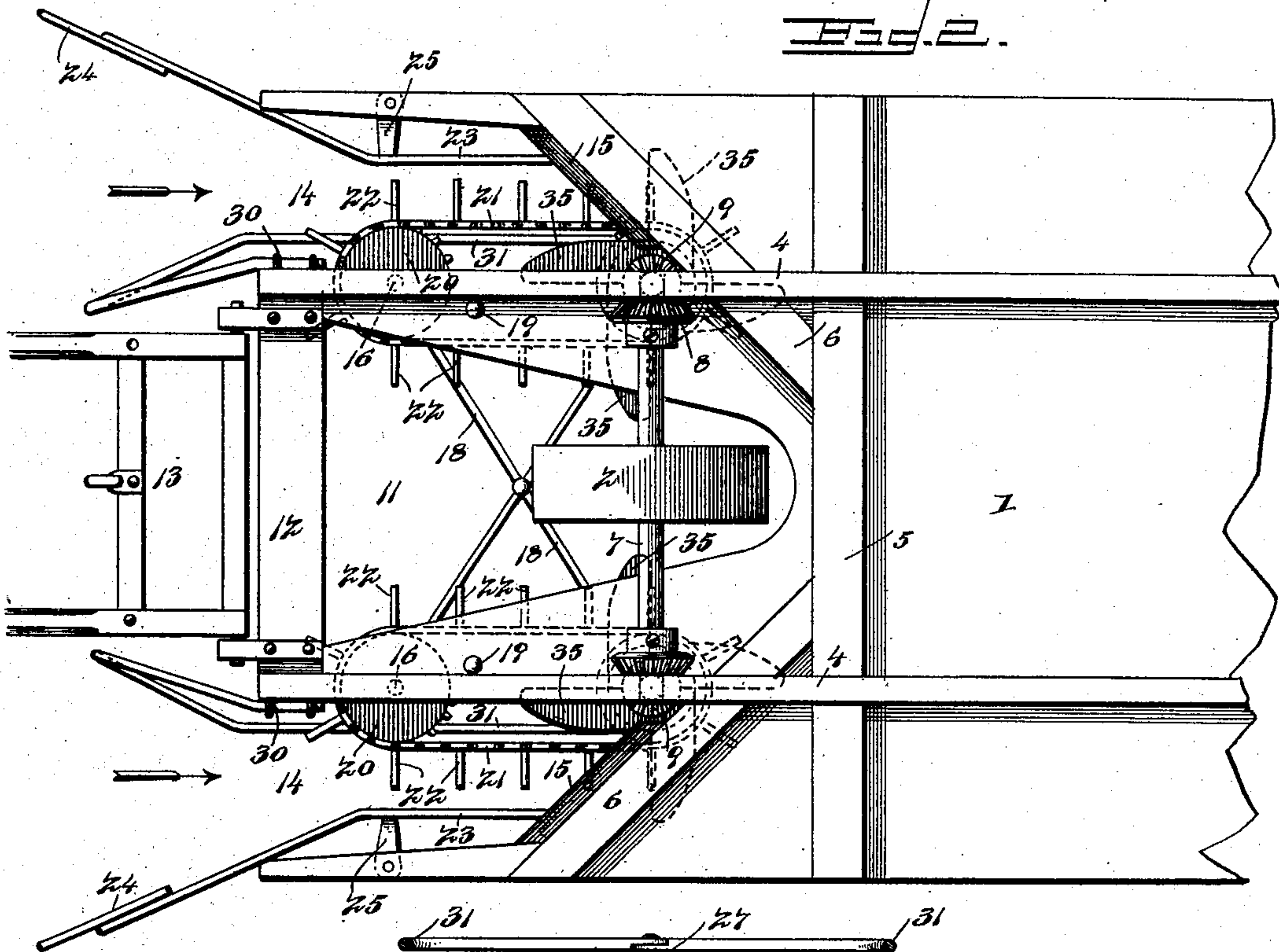


Fig. 3.

Inventor

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Witnesses

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Cash & Co.

UNITED STATES PATENT OFFICE.

ADAM NEER, OF ST. PARIS, OHIO.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 605,121, dated June 7, 1898.

Application filed September 21, 1897. Serial No. 652,465. (No model.)

To all whom it may concern:

Be it known that I, ADAM NEER, a citizen of the United States, residing at St. Paris, in the county of Champaign and State of Ohio, have invented a new and useful Corn-Harvester, of which the following is a specification.

This invention relates to corn-harvesters, and has for its object to improve the general construction of this class of machines, whereby the draft is lightened and a single horse and one man enabled to harvest two rows at the same time. In addition to lightening the draft the labor of the operator is reduced to such an extent that the services of one person will be sufficient for performing the work generally requiring two or more helpers. The stalks as they are cut are received upon a platform until a sufficient quantity has accumulated to make a shock of required size, when they are removed and by the assistance of the machine are formed into a shock and bound by hand.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a corn-harvester constructed in accordance with this invention. Fig. 2 is a view of the machine inverted. Fig. 3 is a transverse section. Fig. 4 is a detail view of a cutter, showing the manner of disposing the blades whereby they mutually brace one another. Fig. 5 is a detail view showing the manner of mounting the folding arm.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference characters.

The platform 1 is mounted at its front end upon a ground-wheel 2 and at its rear end upon caster-wheels 3 and is braced by longitudinal sills 4, transverse beams 5, and diagonally-disposed bars 6. A shaft 7, hav-

ing the ground-wheel 2 secured at an intermediate point thereto, is journaled at its ends in the longitudinal sills 4 and is provided at its ends with bevel-gears 8, which intermesh with corresponding bevel-gears 9, applied to the lower ends of vertical shafts 10, stepped in bearings applied to the sills 4. The front end of the platform is cut away at an intermediate point, forming an opening 11, in the rear end of which operates the ground-wheel 2, and this opening is closed at its front end by a transverse bar 12, secured at its extremities to the front ends of the sills 4, and to which are applied the shafts 13. Other openings are provided at the front end of the platform upon opposite sides of the middle opening 11, forming side passages 14, into which the stalks pass to the cutting mechanism. The inner ends of the side passages 14 are inclined inwardly and rearwardly and have cutters 15 applied thereto.

Vertical shafts 16, parallel with the shafts 10, are stepped at their lower ends in the sills 4, and their upper ends, like the shafts 10, obtain bearings in longitudinal bars 17, which are braced and connected by stays 18. Vertical stays 19 connect the longitudinal bars 17 with the sills and hold them against upward displacement. Corresponding sprocket-gears 20 are secured to the upper and lower ends of the vertical shafts and are connected by upper and lower sprocket-chains 21, some of whose links have fingers 22 applied thereto extending outwardly to sweep across the side passage 14 and move the stalks rearwardly to the cutting mechanism and platform.

Plates 23 are located at the outer sides of the passages 14 and form vertical walls to support the stalks in their rearward travel through the passages, and the front ends of these plates are deflected outwardly and made tapering, so as to gather in and elevate leaning stalks. Extensions 24 are applied to the tapering ends of the plates 23 and incline downwardly and outwardly and consist of lengths of wire doubled upon themselves and secured at their inner ends to the plates. Standards 25 have their lower ends bent and secured to the platform and have the plates 23 attached thereto, the upper end of the rear standards being deflected so as to form a keeper 26. Guards are located at the inner

side of the passages 14 and are formed of wire secured at its front end to the platform and at its rear end to a horizontal bar 27, located midway of the sides of the platform and elevated therefrom and supported at its front end upon a standard 28 and at its rear end by means of an inverted-V standard 29. The rear portion of the guards inclines inwardly and the front portion is bent to incline upwardly, inwardly, and rearwardly in an opposite direction to the outwardly-bent end of the adjacent plate 23, whereby a flaring mouth is formed to receive the stalks and direct them into the side passage. The lower ends of the guards are bent rearwardly and secured to the front ends of the sills 4, as shown at 30. The horizontal portion 31 of the guards extends parallel with the side plates and with the outer portion of the sprocket-chains and serves to support the upper ends of the stalks in their rearward travel.

A holder 32 is mounted upon the rear portion of the platform and consists of a stout wire or rod having its end portions bent, forming a holder of U form, and having the end portions bent vertically and secured at their lower extremities to the platform, the rear end of the holder being secured to the standard 29 in any desired manner. The purpose of this holder is to receive the stalks and support them upon the platform in such a position as to admit of them being readily removed for forming the shock. A space is formed between the rear edge of each side plate 23 and the front end of the holder to admit of the operator gaining access to the platform for removing the stalks therefrom, and this space is closed by a pivoted bar 33, whose free end is received and held in place by the keeper 26. When the pivoted bars 33 are projected across the spaces, the stalks pass rearwardly to the holder without escaping laterally through the side spaces, and when the operator desires to gain access to the platform the pivoted bars are turned back out of the way, as will be readily understood.

The horizontal bar 27 comes midway between the side arms of the holder 32 and prevents the stalks received upon one side of the platform from toppling over at their upper ends and falling upon the opposite side of the platform, which would interfere with the free operation of the machine. An arm 34 is hinged or pivoted to the rear end of the horizontal bar 27, so as to fold upon the latter and be turned into a horizontal position when desired for supporting the shock during its formation. When the machine is cutting the stalks, the arm 34 is preferably folded upon the bar 27, and when the machine is at rest and the shock being formed the arm 34 is turned into a horizontal position and extends beyond the rear end of the machine, the stalks being placed so as to rest against the said arm, and after the shock has been formed and its upper end bound the machine is drawn forward, so as to release the arm 34 from the

shock, as will be readily understood. The arm 34 when folded aligns vertically with the horizontal bar 27 and serves to support the upper ends of the stalks as the latter are received upon the rear portion of the platform and into the holder. The arm 34 is extended a short distance beyond its pivotal connection with the bar 27, and its extremity is beveled to match with the rear extremity of the bar 27, whereby the pivoted arm is held in a horizontal position when in service, as indicated by the dotted lines in Figs. 1 and 5.

A rotary cutter is secured to the lower end of each shaft 10 and coöperates with the cutters 15 and is composed of a series of blades 35, grouped about the shaft 10 and having the inner end of each blade abutting against the rear edge of the forward blade, whereby the blades mutually strengthen and support one another, as clearly indicated in Fig. 4. The front edges of the blades curve rearwardly toward their outer ends and act in opposition to the inclined cutters 15 to sever the stalks by a shear action.

The machine is advanced over the field between adjacent rows of stalks by a single horse hitched to the shafts 13 and walking between the said rows, and the stalks enter the side passages 14 and are moved rearwardly by the sprocket-chains 21 with their fingers and are cut by the mechanism described herein and are received upon the platform within the holder 32. After a sufficient quantity of the stalks has accumulated to form a shock the machine is stopped and the stalks are removed by armfuls from the platform and placed against the extended arm 34, and when the shock is formed and bound the machine is again moved forward and operates in the manner set forth. It will thus be seen that the stalks accumulate upon the platform 1 without requiring any attention on the part of the driver, the bar 27 preventing the stalks upon one side of the platform interfering with the stalks upon the opposite side of the platform, and after a sufficient quantity of stalks has accumulated to form a shock the pivoted bars or gates 33 are opened and the driver or attendant removes the stalks from the platform, armful by armful, through the spaces normally closed by the said gates 33 and places the armfuls of stalks in the rear of the machine upon the ground and against the bar 34, which has been turned into a horizontal position, as shown by the dotted lines in Fig. 1. This bar 34 supports the stalks during the formation of the shock, and after the shock has been formed and bound the bar is withdrawn from the shock when starting up the team. This manner of forming the shock obviates the use of tilting platforms, cranes, or operating mechanism for automatically dumping the shock upon the ground, thereby enabling the machine to be of light construction and draft, and comprises a minimum number of operating parts. The operation of removing

the stalks from the platform can be quickly performed and in about the same time as is generally required for straightening the stalks upon the platform and operating the mechanism for automatically placing the shock upon the ground and resetting the said mechanism for the next shock of that class of machines in which the shock is formed and bound upon the platform and dumped upon the ground by mechanical appliances.

Having thus described the invention, what is claimed as new is—

1. In a corn-harvester, the combination of a platform having side passages, guards at the sides of the said passages and having their front ends inclining in opposite directions, forming flaring mouths, cutting apparatus at the inner ends of the side passages, an elevated holder at the rear end of the platform and having side spaces between its front ends and the rear edges of the outer guards, means for closing the side spaces, and a horizontal bar intermediate of the platform and dividing the holder longitudinally, substantially as set forth.

2. In a corn-harvester, the combination of a platform having side passages, guards at the sides of the said passages, the inner guards having their rear end portions inclining inwardly and rearwardly, cutting apparatus at the inner ends of the side passages, a holder at the rear end of the platform and having side spaces between its ends and the rear edges of the outer guards, means for closing the side spaces, and a horizontal bar dividing the holder longitudinally and having the rear converging ends of the inner guards secured thereto, substantially as set forth.

3. In a corn-harvester, the combination of a platform having side passages provided at their inner ends with cutting apparatus, guards at the sides of the said passages having their front ends flaring, the inner guards having their rear ends inclining inwardly, a horizontal bar intermediate of the platform

and having the rear ends of the inner guards secured thereto, standards for supporting the horizontal bar at a distance above the platform, a rod bent intermediate of its ends forming a substantially U-shaped holder having its middle portion supported by the rear standard, and having its front end portions bent vertically and attached to the platform and disposed so as to provide side spaces in the rear of the outer guards, means for closing the side spaces, substantially as and for the purpose set forth.

4. In a corn-harvester, the combination of a platform having a passage provided at its inner end with a cutting apparatus, guards at the sides of the passage, a holder at the rear end of the platform and having a space between its front end and the rear edge of the outer guard, and a bar for closing the said space and adapted to be turned aside to admit of access to the platform, substantially as set forth.

5. In a corn-harvester, the combination with a platform having side passages at its front end provided with cutting and stalk-feeding mechanisms, an elevated holder over the platform to receive the stalks, a longitudinal bar subdividing the holder and separating the stalks and having its rear end inclined, and an arm pivoted to the rear portion of the longitudinal bar and having its rear end beveled to match with the beveled extremity of the said longitudinal bar to support and hold the pivoted arm horizontally, said arm being adapted to fold upon the longitudinal bar and assist in supporting the stalks as they are received upon the platform, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ADAM NEER.

Witnesses:

JOHN H. SIGGERS,
ROBT. E. CRUMP.