

No. 670,455.

Patented Mar. 26, 1901.

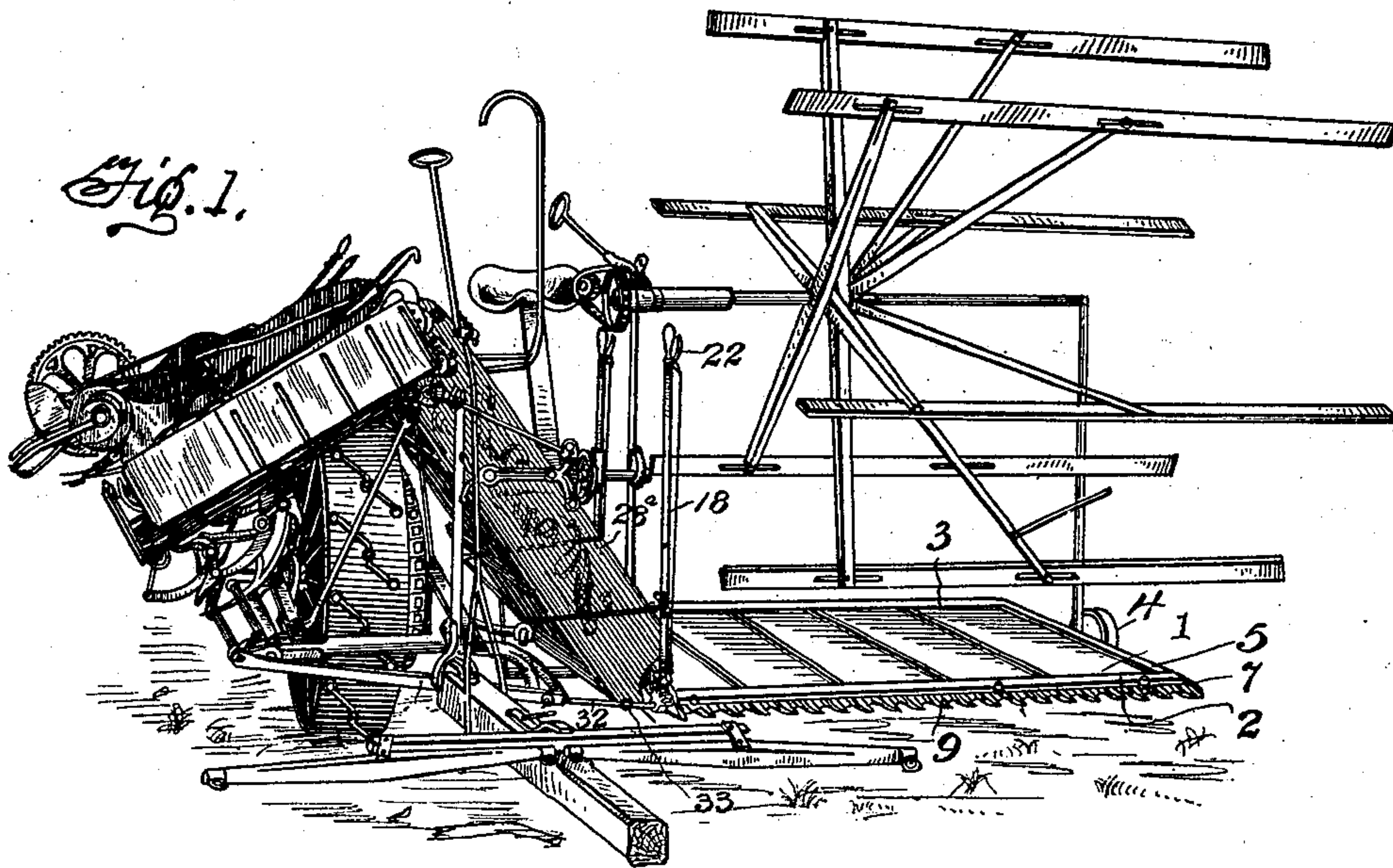
O. NYGREN.

ATTACHMENT FOR HARVESTERS.

(No Model.)

(Application filed Mar. 31, 1900.)

2 Sheets—Sheet 1.



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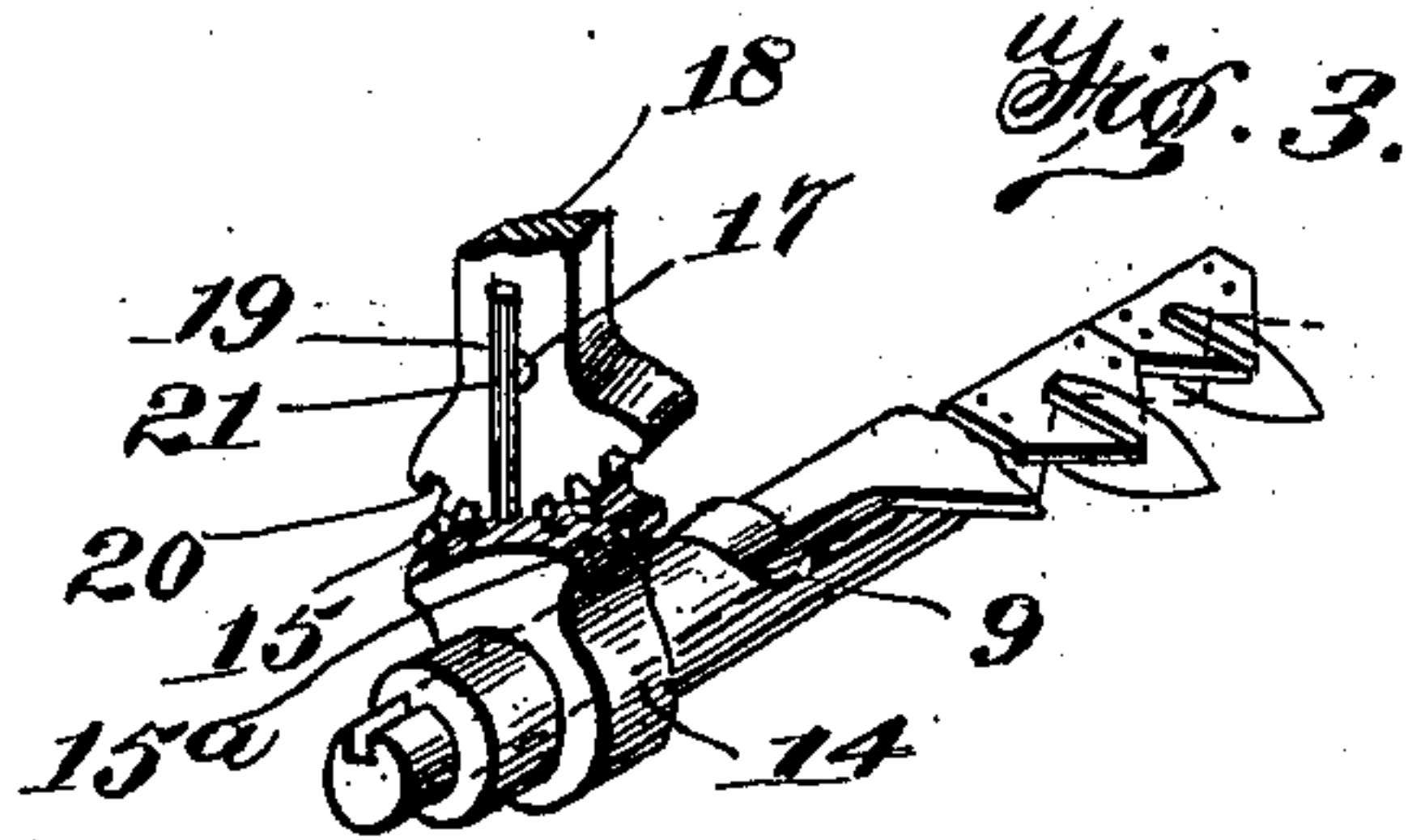
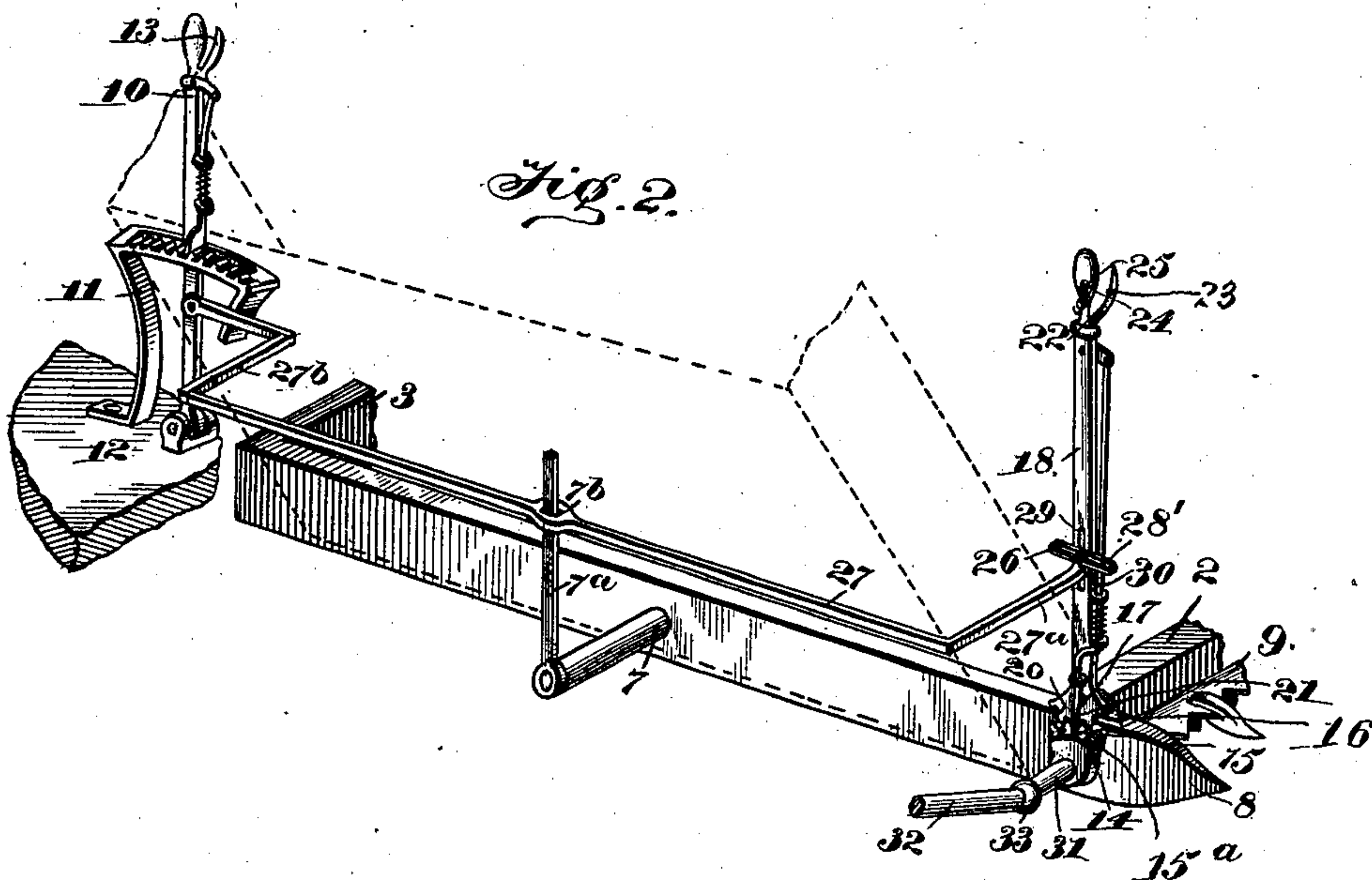
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 670,455, dated March 26, 1901.

Application filed March 31, 1900. Serial No. 10,980. (No model.)

To all whom it may concern:

Be it known that I, OSCAR NYGREN, a citizen of the United States, residing at Lake City, in the county of Wabasha and State of Minnesota, have invented certain new and useful Improvements in Attachments for 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.

My invention relates to grain-binding harvesters, and more particularly to certain improvements whereby the relative position of the grain-platform and the sickle-bar and fingers may be changed at will and the frame and bar simultaneously or separately adjusted upon their pivotal supports.

In harvesters as at present in use the finger-bars are firmly fixed to the grain-platform, so that in order to change the plane of the sickle-bar and fingers the whole platform must be tilted.

The special object of my invention is to provide means whereby the finger-bar may be fixed with relation to the grain-platform or may be adjusted independently thereof or may be raised when the front of the platform is lowered.

With this object in view my invention consists in the improved construction, arrangement, and combination of the parts of a harvester, which will be hereinafter fully described and afterward specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of so much of a harvester as is necessary to illustrate my invention. Fig. 2 is a perspective view of a part of the grain-platform and my preferred adjusting means detached from the harvester, the elevator being outlined in dotted lines. Fig. 3 is an enlarged detail perspective view of the means for holding the finger-bar in its different adjusted positions.

Corresponding parts of the several figures will be indicated by the same numerals of reference.

Referring to the drawings by numerals, 1 indicates a grain-apron which is supported in the usual manner upon end rollers journaled

in the front bar 2 and rear bar 3 of the grain-platform frame.

4 indicates the supporting-wheel for the outer edge of the grain-platform, the axle of which is secured to the grain-platform and passes through the side bars 5 and 6 of the frame at 7, forming a pivotal support for the grain-platform, upon which it may be tilted in the usual manner to raise and lower the forward edge. The side bars 5 and 6 of the grain-platform extend in advance of the front bar 2, as at 7 and 8, and in these extensions of the side bars is pivotally journaled the finger-bar 9, which for the sake of lightness and strength will be preferably made of pipe.

Pivotally secured to a rigid part of the machine in reach of the driver when seated is a lever 10, which passes up through a slot in a curved rack 11, secured to a rigid part of the machine, the curve of the rack having the pivot of the lever as a center. The lever 10 is provided with the usual spring-pawl to enter the teeth of the curved rack 11 and be held normally in engagement therewith to secure the lever at any inclination at which it may be desired, but which pawl may be withdrawn to adjust the lever on its pivot by means of the usual grip-lever 13, pivoted to the lever near its outer end.

In my invention means are provided as follows for adjusting the sickle-bar independently of the inclination of the frame: To the finger-bar is rigidly secured a rack 14, which is a segment of a gear, being curved on its outer face and provided with usual teeth 15. To the side bar 6 of the grain-platform frame is made or secured an upward extension 16, to which, by means of a pin or bolt 17, is pivoted a hand-lever 18, the lower end 19 of said lever being curved and toothed at 20 to correspond with the teeth 15 of the curved rack 14, before referred to, and in engagement therewith. The curved rack 14 will be preferably extended laterally beyond the plane of the outside of the lever 18 and its curved end 19 and provided with holes 15^a, and a spring-pawl 21, mounted on the lever 18, will be normally held in engagement with the holes 15^a to secure the sickle-bar and finger-bar at any inclination to which they may be adjusted by the lever, said pawl being op-

erated by means of the usual grip-lever 22, pivoted to the lever 18 near its handle end. The pin 23 projects laterally from the grip-lever 22, and may be engaged by a hook 24, pivoted at 25 to the lever 18 in order to hold the grip-lever close to the end lever, and thus retain the spring-pawl 21 in its outward position and free from engagement with the holes 15^a. A bar or handle 7^a is secured to the axle or pivot 7 and projects upward, as shown in Fig. 2. At 26 a link or bar 27 is pivoted to the lever 18, the end of the said link or bar 27 being longitudinally slotted at 28'. The lever 18 is vertically slotted, as at 29, and a screw or bolt 30, passing through the slots 28 and 29, serves to connect the levers 10 and 18 together for joint movement. The link 26 is offset, as at 27^a and 27^b, to pass under the elevator 28^a. (Shown in outline in dotted lines in Fig. 2 and in full lines in Fig. 1.) The handle or bar 7^a passes through an eye 7^b in the link 27. When the screw 30 is loosened, the slotted link 27 will be permitted to move on said screw or pin, so that the movement of the lever 10 will not affect the position of the lever 18, in which case the levers 10 and 18 will be independently movable, whereby, by means of the lever 10, the angle of the inclination of the platform may be adjusted, and by means of the lever 18 the inclination of the sickle-bar and finger-bar with relation to the grain-platform may be independently adjusted. When, however, the screw 30 is tightened up, a forward movement of the lever 10 will adjust the grain-platform frame by throwing it forward and downward, and, through the medium of the link or bar 27, will press the lever 18 forward, which, by reason of the interposition of the curved racks and the engagement of the teeth 15 and 20, will throw the points of the fingers forward. The relative positions of the levers 10 and 18 may be adjusted by means of the slot 28 of the bar 27, and the relative amount of joint movement of the levers 10 and 18 may be adjusted by raising and lowering the screw 30 in the slot 29. By means of this mechanism the difficulty which heretofore existed in the use of harvesters in which the finger-bar and the grain-platform were rigidly connected will be overcome. For example, when cutting lodged grain the platform of the ordinary machine is tilted downward at the forward end, which causes the guards or fingers to run into the ground; but with my mechanism the guards may be independently or simultaneously adjusted with the tilting of the frame, so that the guards or fingers may be made to occupy substantially a horizontal position, no matter what the inclination of the frame may be. In cutting short straight grain these adjustments will be extremely helpful for the reason that the grain may be cut much nearer to the ground without throwing so much weight on the necks of the horses as is done in tilting

the platforms of the machines provided with fixed finger-bars.

31 and 32 indicate the two parts of the usual pitman for reciprocating the sickle-bar. Usually this pitman is a rigid bar; but in order to accommodate the pitman to the pivotal motion of the sickle-bar I have constructed it of the two parts named and connected these parts by means of a ball-and-socket or suitable universal joint 33.

I desire it to be understood that any well-known means may be used for tilting the platform and that the means for simultaneously or independently adjusting the inclination of the guards or fingers with relation to the platform or the joint in the pitman may be varied without departing from the spirit and scope of my invention.

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

1. In a harvesting-machine, the combination with the usual grain-platform, of a lever for tilting the same, a finger-bar pivoted in the front of the platform-frame, a lever for tilting the finger-bar, and means for connecting the two levers, whereby the tilting of the platform and of the finger-bar are jointly and simultaneously effected, substantially as described.

2. In a harvesting-machine, the combination with the usual grain-platform, a horizontal axis therefor, a lever for tilting the same, a finger-bar pivoted to the front of the platform-frame, a lever pivoted to a fixed part of the machine near the rear end of the frame, a link connecting the two levers and provided with an eye, and a bar or handle on the axis of the platform passing through said eye, substantially as described.

3. In a harvesting-machine, the combination with the usual grain-platform and a lever for tilting the same, of a finger-bar pivoted in the forward edge of the platform-frame, a lever pivoted to the platform-frame for tilting the finger-bar, a link pivoted to the platform-tilting lever at its rear end and longitudinally slotted at its forward end, and a screw or bolt passing through its slot and engaging the finger-bar-tilting lever, substantially as described.

4. In a harvesting-machine, the combination with the usual grain-platform and a lever for tilting the same, of a finger-bar pivoted in the front edge of the frame, a lever pivoted to the frame for tilting the finger-bar, said lever being provided with a longitudinal slot, a link or bar pivotally secured to the platform-tilting lever, and a screw or bolt in the longitudinal slot of the finger-bar-tilting lever for connecting the pivoted bar or link with said lever, substantially as described.

5. In a harvesting-machine, the combination with the usual grain-platform and a lever for tilting the same, of means for securing the platform at any desired adjustment, a finger-

bar pivoted in the forward edge of the platform and provided with a curved rack, a lever pivoted to the platform and provided with a curved rack engaging the rack of the finger-
5 bar, a link or bar connecting the platform-lever with the finger-lever, a spring-pawl on the sickle-bar lever normally in engagement with the holes of the finger-bar rack, and means for retaining said pawl out of engage-

ment with said holes to permit of the conjoint operation of the platform-lever and finger-lever, substantially as described.

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

OSCAR NYGREN.

Witnesses:

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W. C. URSE.