No. 801,498. PATENTED OCT. 10, 1905.

C. O. WYMAN.

HARVESTER.

APPLICATION FILED JULY 1, 1903.

4 SHEETS—SHEET 1.

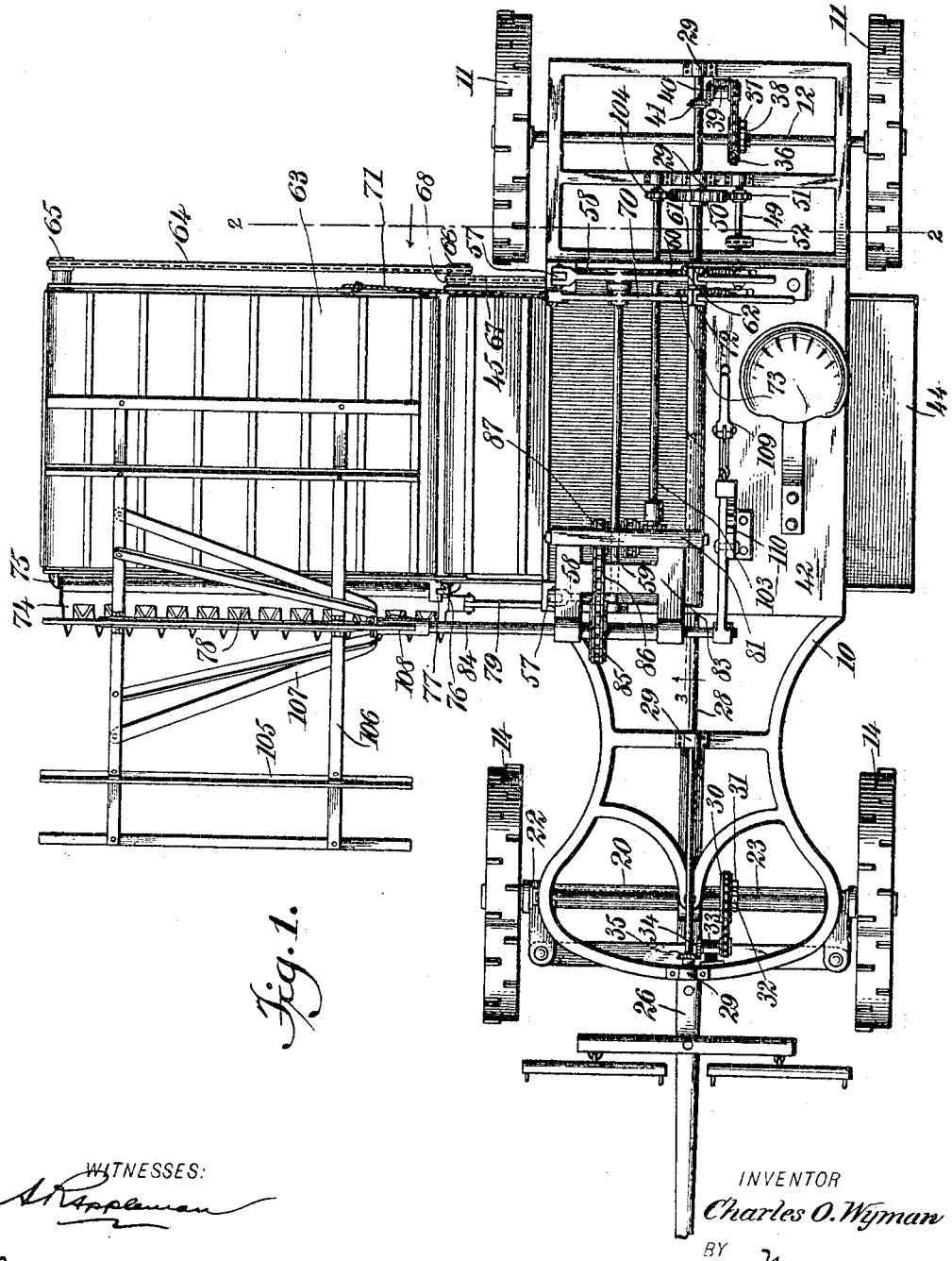


Fig. 1.

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4 SHEETS—SHEET 2.

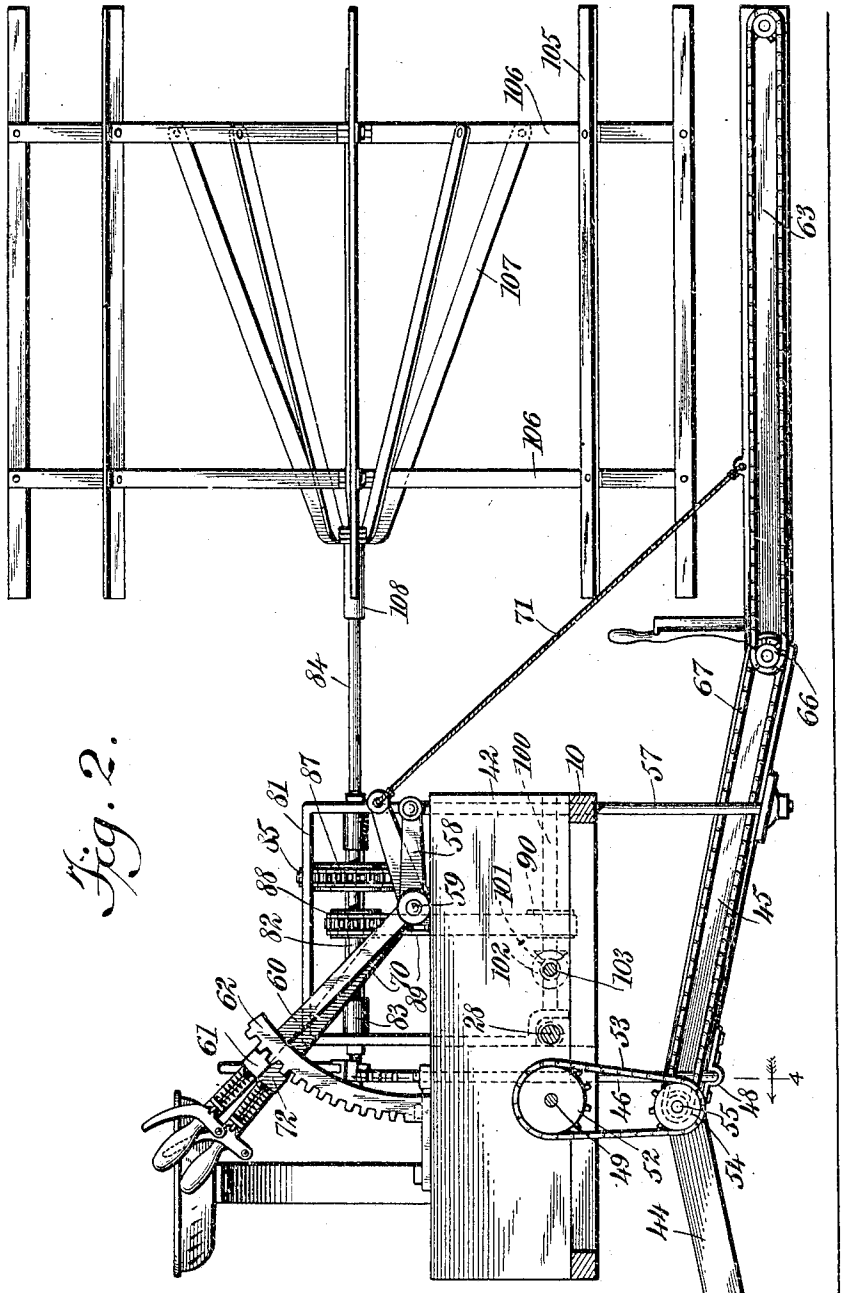


Fig. 2.

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4 SHEETS—SHEET 3.

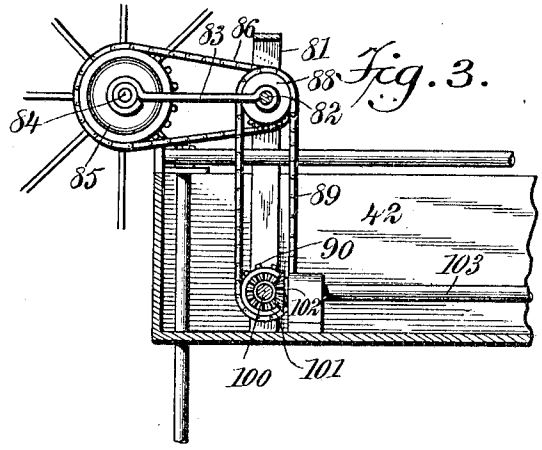
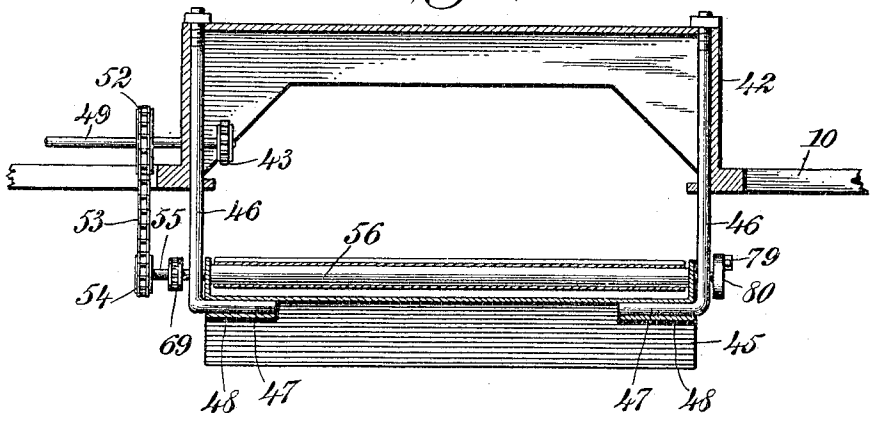


Fig. 3.

Fig. 4.



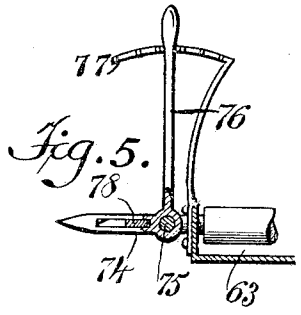


Fig. 5.

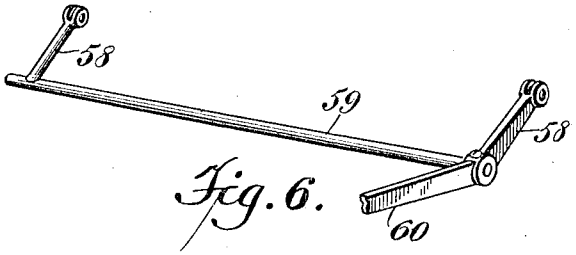


Fig. 6.

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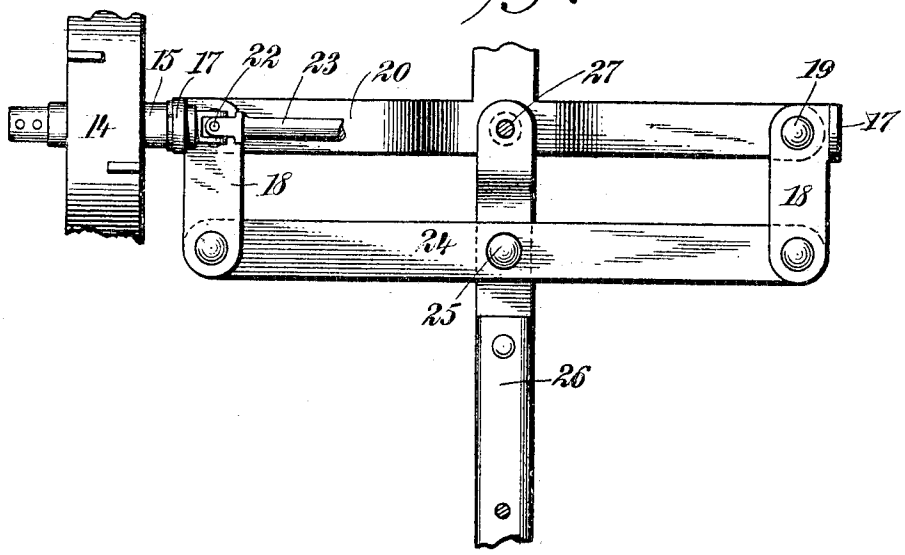
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HARVESTER.

APPLICATION FILED JULY 1, 1903.

4 SHEETS—SHEET 4.

Fig. 7.



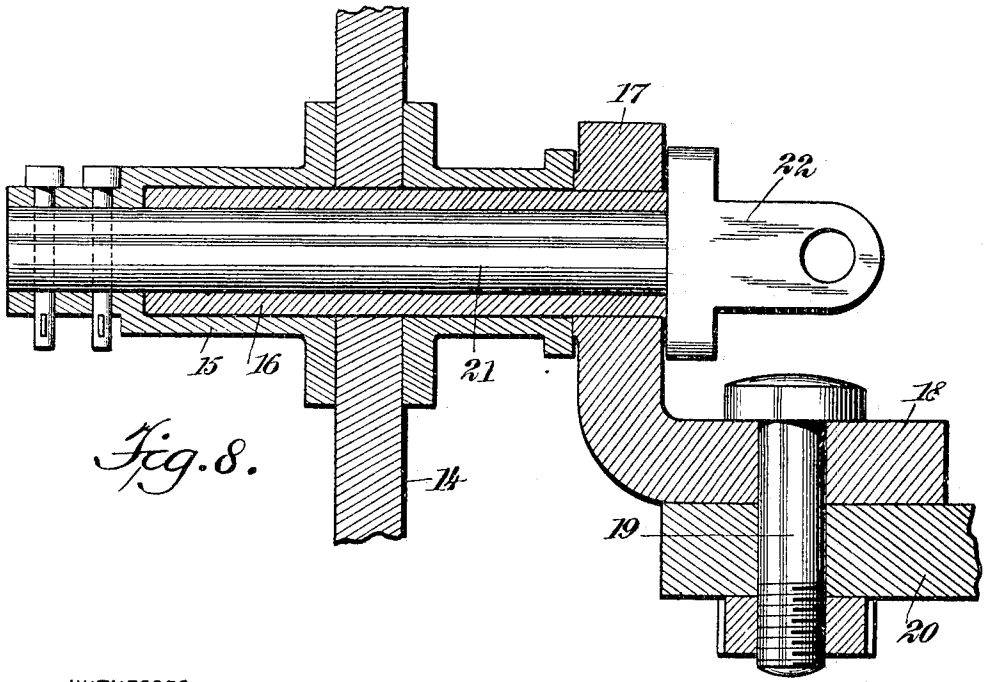


Fig. 8.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES OSCAR WYMAN, OF ANOKA, MINNESOTA.

HARVESTER.

No. 801,498. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed July 1, 1903. Serial No. 163,872.

To all whom it may concern:

Be it known that I, CHARLES OSCAR WYMAN, a citizen of the United States, and a resident of Anoka, in the county of Anoka and State of Minnesota, have invented a new and Improved Harvester, of which the following is a full, clear, and exact description.

This invention relates particularly to a grain-harvester; and the prime object of the invention is to provide a four-wheeled frame and to drive all of the operative parts of the harvester and its binding mechanism equally from said wheels, thus giving the apparatus a more certain and stable base and providing a driving mechanism which will operate with uniform efficiency unaffected by inequalities in the ground over which the machine is being drawn and by turning of the machine from one side to the other.

A further feature of the invention lies in the arrangement of the platform and binder-deck with respect to the improved framing and in the arrangement of the reel with respect to said parts.

Various other features of major or minor importance are involved, and all will be fully set forth hereinafter.

This specification is an exact description of one example of the invention, while the claims define the actual scope thereof.

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

Figure 1 is a plan view of the invention. Fig. 2 is a sectional elevation on the line 2 2 of Fig. 1. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a detail section illustrating the adjustable finger-bar of the cutting mechanism. Fig. 6 is a detail perspective view of the rock-shaft and the arms thereof employed for raising the platform to regulate the height of the cut. Fig. 7 is an enlarged plan of the front-wheel mounting devices, and Fig. 8 is a section of one of the front-wheel hubs.

The main framing 10 may be of any desired construction and will not be herein specifically described. 11 indicates the rear supporting-wheels, which are fastened on an axle 12, sustaining the rear part of the frame. The front wheels 14, as best shown in Figs. 7 and 8, have their hubs 15 mounted to turn freely on sleeves 16, which are fastened rigidly to brackets 17, projecting upward from arms 18. Said arms are pivoted by bolts 19 (see Fig. 8) to a transverse bolster-like part 20, this part being rigidly connected with the frame 10 and lying below the same, as shown in Fig. 1. The hubs 15 are fastened at their outer ends to spindles 21, which turn loosely in the sleeves 16 and have universal connections 22 with the respective ends of a transverse shaft 23, this shaft extending over the frame member 20 immediately under the main frame 10. The arms 18 project forward and are pivotally connected at their front ends by a rod 24, which is also connected, by a pivot-pin 25, with the tongue 26, to which the team is hitched. This tongue extends rearward to the before-mentioned frame member 20 and is mounted to swing thereon by means of a pin 27, as best shown in Fig. 7. As the vehicle is drawn over the ground the rotation of the wheels 14 is transmitted, through the parts 21 and 22, to the shaft 23, and as the pole 26 is turned from side to side to steer the vehicle the wheels 14 are turned around the axes of the pins 19, the parts 20 and 23 remaining in their transverse position. Owing to the coincidence of the axes of the pins 19 and the universal joints 22 this turning of the wheels to turn the harvester does not affect the driving of the shaft 23.

Mounted on the frame 10 and extending longitudinally and centrally thereof throughout its length is the main shaft 28, this shaft being carried in boxes 29. (See Fig. 1.) On the shaft 23 is a sprocket-wheel or other form of gear 30, this gear being loose on the shaft and having means whereby as the shaft turns upon the forward movement of the harvester the gear is driven and as the shaft turns upon the rearward movement of the harvester said gear is not driven. These means may be of any desired sort and are here illustrated as a spring-pawl 31 on the gear 30 and a ratchet 32, fastened to the shaft 23. The gear 30 is suitably connected with a short counter-shaft mounted in a box 33 at the front portion of the frame 10, so as to drive said shaft. 34 indicates a bevel-gear carried by said counter-shaft and in mesh with a similar gear 35 on the main shaft 28. Therefore the forward movement of the wheels 14 imparts a rotary movement to the shaft 28 independently of any sluing movement of the wheels incident to the turning of the harvester.

The rear wheels 11 are also utilized to drive

the main shaft 28, and this is effected by a gear 36 on the shaft 12, such gear coacting with a pawl 37 and ratchet 38, similar to the parts 31 and 32, before described. The gear 36 is, in connection with a counter-shaft, carried in a box 39, and said counter-shaft transmits its movement to the main shaft 28 through the movement of gears 40 and 41, fastened, respectively, to the counter-shaft and the shaft 28 and intermeshed with each other. By this arrangement each of the four wheels on which the harvester is mounted exerts its influence equally on the main shaft 28, driving said shaft from each end, and thus insuring a motion of the shaft the regularity of which will not be disturbed either by unevenness in the surface over which the harvester is drawn or by the turning or other similar movements thereof.

Mounted on the frame 10 at approximately the middle thereof is a boxing or casing 42, about which the binding mechanism is grouped. Since this mechanism forms no part of my invention, it will not be here illustrated or described. In Fig. 4 the gear 43 may be taken as the driving element or prime mover of this group of mechanism. 44 indicates the binder-deck, and 45 the grain-elevator frame and apron. These parts 44 and 45 are sustained by two hangers 46 in the form of rods fastened in the box 42 and depending therefrom, the lower ends being turned laterally to form journals 47, loosely fitting in boxes 48, formed on or fastened to the elevator 45, whereby to mount the parts 44 and 45 to swing around the horizontal axes of said journals 47. 49 indicates the shaft on which the before-mentioned gear 43 is fastened. Said shaft runs parallel with the shaft 28 and projects from the rear of the box 42 (see Fig. 1) and is driven from the shaft 28 by means of a spur-gear 50 on said shaft and a pinion 51 on the shaft 49. A gear 52, here shown as a sprocket, is fastened to the shaft 49 just rearward of the box 42, and a chain 53 passing over this wheel extends downward to a similar gear 54 on the shaft 55 of the upper roller 56 of the elevator-apron. By this means the elevator-apron is driven.

The outer or free end of the elevator 45 is sustained by two vertically-extending rods 57, which extend upward through the box 42 and are respectively connected with the arms 58 of a rock-shaft 59, extending longitudinally of the machine and suitably mounted on said box 42. This rock-shaft has a hand-lever 60 attached thereto, and said lever is furnished with spring-pawl devices 61, coacting with a toothed quadrant 62, which parts are of the usual construction. By operating said rock-shaft 59 the rods 57 may be raised or lowered, and thus the elevation of the outer end of the elevator 45 may be adjusted at will. A platform 63 is pivotally mounted on the outer end of the elevator 45, and the apron of the platform is driven by a chain 64, passing over a sprocket-wheel 65 at the outer end of the platform and over a sprocket-wheel 66 at the outer end of the elevator. Said sprocket-wheel 66 is fastened on the axis of the outer roller of the elevator 45, and this roller is driven by a sprocket-chain 67, which passes over a sprocket-wheel 68 at the outer end of the elevator inward around a sprocket-wheel 69 on the before-mentioned shaft 55 of the roller 56. (See Fig. 4.) By this system of gearing the platform and elevator-aprons are properly driven without interfering with the before-described adjustment of the elevator or of the adjustment of the platform, the devices for which will now be described. An elbow-lever 70 is fulcrumed on the shaft 59 and has one end connected by a rope 71 or the like with the platform 63. The other arm of the lever 70 is provided with pawl devices 72, coacting with a toothed quadrant 73, by which the position of the lever 70 may be regulated at will. By means of this lever and the connection 71 the platform may be swung around the center of its mounting at the outer end of the elevator 45, so that the platform may be placed at any desired inclination to the horizontal, or, if desired, it may be raised to perpendicular position, in which position the platform will be wholly inactive. By operating the levers 60 and 70 the elevation of the platform from the ground may be regulated at will, so as to regulate the height of the cut which is being made. The devices for pivotally mounting the platform at its inner end are not material and have not been specifically described. It is sufficient that the platform be pivotally supported on the outer end of the elevator 45.

The cutting mechanism consists of a finger-bar 74, which is mounted to swing around a supporting-bar 75, attached to the platform 63. (See Figs. 1 and 5.)

76 indicates a hand-lever attached to the finger-bar 74 and which coacts with a toothed rack or quadrant 77, suitably supported on the framing of the platform. By means of this hand-lever 76 the inclination of the finger-bar to the horizontal may be regulated at will.

78 indicates the sickle-bar, which works with the finger-bar in the usual manner and is connected to a pitman 79, which extends inward and is joined to a crank-disk 80, mounted on the forward end of the axis of the before-mentioned roller 56. By this arrangement the cutter mechanism is operated to perform its usual functions.

On the box 42 a scaffold 81 is mounted, (see Figs. 1 and 3,) and in this scaffold is arranged a horizontal rotary shaft 82, carrying loosely the swinging support 83. In this support is mounted the shaft 84 of the reel. Said shaft carries fast thereto a gear 85, here shown as a sprocket-wheel, and over the sprocket-wheel 85 works a chain 86, which passes to a similar

gear 87, fastened on the shaft 82. Said shaft 82 is driven by means of a sprocket-gear 88, having a chain 89 running over it and in turn driven from a sprocket-wheel 90, mounted on a shaft 100. The sprocket-wheel 90 is driven from a bevel-gear 101, which in turn takes its motion from a gear 102, fast on a shaft 103. This shaft 103 passes longitudinally of the machine forward from the before-mentioned gear 50 and is driven therefrom by a pinion 104, fast to the shaft 103 and meshed with the spur-gear 50 before described. By this train of gearing the shaft 84, carrying the reel, is continuously driven from the main shaft 28.

The reel is juxtaposed to the platform and operates therewith and with the cutter mechanism, according to the usual plan. Said reel comprises the outer transverse members or blades 105, pivotally joined to the radial arms 106, said arms being in turn pivoted to the shaft 84. To the outer series of arms 106 links 107 are connected, and these links extend inward and are pivotally joined to a runner 108, mounted on the shaft 84 and having suitable devices for holding it in its outer or inner position. When the runner 108 is thrown outward, as in Fig. 2, the reel is distended and in operative adjustment, and when the runner is moved inward the outer members or blades 105 of the reel are folded snugly against the shaft, thus placing the reel in compact form, which greatly facilitates shipping and storing the same.

In order that the reel may be raised and lowered, I provide a lever 109, provided with a suitable thumb-latch adapted to engage a rack 110, said lever being attached to the shaft 84, as shown in Fig. 1.

The use and operation of the invention will, it is thought, be fully understood from the foregoing by persons skilled in the art.

Various changes in the form, proportions, and minor details of my invention may be resorted to at will without departing from the spirit and scope thereof. Hence I consider myself entitled to all such variations as may lie within the intent of my claims.

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

1. The combination of a frame, two carrying-wheels at each end thereof, a main shaft extending longitudinally along the frame from one end to the other, gearing connecting each end of the shaft with the wheels adjacent thereto, and an operative device mounted on the frame and driven from said main shaft.

2. The combination of a frame, a carrying-wheel, means for mounting said wheel to slue or oscillate around a vertical axis, for the purpose specified, a revoluble shaft having universal connection with the wheel to be driven therefrom, and an operative device mounted on the frame and driven from the shaft.

3. The combination of a frame, two wheels mounted thereon to slue or turn around vertical axes, for the purpose specified, a shaft extending between said wheels and universally connected therewith, whereby to drive the shaft irrespective of the sluing action of the wheels, and an operative device mounted on the frame and driven from said shaft.

4. The combination of a frame, a carrying-wheel, a sleeve on which the wheel is mounted, means for mounting the sleeve to swing around a vertical axis, for the purpose specified, a spindle extending loosely through the sleeve and in connection with the wheel, a shaft having universal connection with the spindle, and an operative device mounted on the frame and driven from said shaft.

5. The combination of a frame, two carrying-wheels, means for mounting said wheels to slue or oscillate around vertical axes, for the purpose specified, a shaft having universal connection with the wheels to be driven therefrom, an operative device mounted on the frame and driven from said shaft, forwardly-projecting arms having connection with the wheels to impart sluing motion thereto, a cross-piece extending between the arms and connecting the same, and a draft-tongue pivoted to the cross-piece and to the frame.

6. The combination of a frame, two carrying-wheels at the rear thereof, a rear axle to which said carrying-wheels are connected, two front carrying-wheels, means for mounting said wheels to slue or oscillate around vertical axes on the frame, draft devices having connection with the front wheels to impart said sluing movement thereto, a shaft having its ends respectively in universal connection with the front carrying-wheels, a main shaft extending longitudinally from end to end of the frame, gearing connecting the first-named shaft with the main shaft, to drive the latter, gearing connecting the rear axle with the main shaft to drive the latter, and an operative device mounted on the frame and driven from the main shaft.

7. In a harvester, the combination with the main frame, of a binder-deck, an elevator-frame, said deck and elevator-frame having connection with each other, means for mounting the elevator-frame to swing around an axis at the stubbleward end thereof, means for imparting such swinging movement, a platform and its appurtenances carried at the outer end of the elevator-frame, the platform being pivoted on the grainward end of the elevator-frame, and means for swinging the platform on the elevator independently of the movements thereof.

8. In a harvester, the combination with the main frame, of an elevator-frame, means for mounting said frame to swing around an axis at the stubbleward end thereof, means for imparting said swinging movement, a platform and its appurtenances pivotally mounted at the grainward end of the elevator-frame, and means in connection with the platform for

swinging the same independently of the movement of the elevator-frame.

9. In a harvester, the combination of a frame, two carrying-wheels at the rear portion thereof, two carrying-wheels at the front portion thereof, two of said wheels being capable of turning or sluing to turn the harvester, harvesting mechanism mounted on the frame, and gearing connecting the harvesting mechanism with all four of the carrying-wheels, whereby to drive the harvesting mechanism from all of said wheels.

10. The combination of a frame, two carrying-wheels mounted at the rear portion thereof, two carrying-wheels mounted at the front portion thereof, a shaft extending longitudinally along the frame from one end to the other, means connecting the end portions of the shaft respectively with the front and rear wheels to drive the shaft, an operative device mounted on the frame, and gearing connecting said device with an intermediate portion of the said longitudinal shaft.

11. In a harvester, the combination with a wheeled frame, of an elevator-frame located under the wheeled frame and pivotally mounted thereon at the stubbleward end of the elevator-frame, a platform and its appurtenances pivotally mounted on the grainward end of the elevator-frame, and independent means for adjustably holding the elevator and platform.

12. In a harvester, the combination with a wheeled frame, of an elevator-frame located under the wheeled frame and pivotally mounted thereon at the stubbleward end of the elevator-frame, a platform and its appurtenances pivotally mounted on the grainward end of the elevator-frame, independent means for adjustably holding the elevator and platform, and a binder-deck extending stubbleward from the pivoted end of the elevator-platform.

13. In a harvester, the combination of a frame, a carrying-wheel, means for mounting the wheel on the frame to turn or slue to turn the harvester, a revoluble shaft mounted on the frame and having universal connection with the wheel to be driven therefrom, and harvesting mechanism mounted on the frame and connected with said shaft.

14. In a harvester, the combination of a frame, harvesting mechanism mounted thereon, a shaft extending longitudinally of the frame, means connecting the shaft with the harvesting mechanism to drive the same, a carrying-wheel, means for mounting the wheel on the frame to enable the wheel to turn or slue to turn the harvester, and means establishing a universal connection between the said shaft and wheel to drive the shaft from the wheel.

15. In a harvester, the combination of a frame, harvesting mechanism mounted thereon, a longitudinal shaft mounted on the frame, means connecting the shaft and harvesting mechanism, to drive the latter from the former, a carrying-wheel at each end of the frame, one of said wheels being mounted to turn or slue to turn the harvester, means connecting the said shaft with said wheel to drive the shaft from the wheel without interfering with the sluing movement thereof, and means connecting the shaft with the remaining wheel to drive the shaft from said wheel.

16. In a harvester, the combination of a frame, a carrying-wheel, means for mounting the wheel on the frame to turn or slue to turn the harvester, a longitudinally-extending shaft mounted on the frame, means connecting the shaft and wheel to drive the shaft from the wheel, said means including a universal joint, harvesting mechanism mounted on the frame, and means connecting the shaft and harvesting mechanism to drive the latter.

17. In a harvester, the combination of a frame, harvesting mechanism mounted thereon, a revoluble shaft mounted on the frame, means connecting the shaft with the harvesting mechanism, to drive the latter, two carrying-wheels mounted on the frame to turn or slue around vertical axes, whereby to turn the harvester, a transverse shaft extending between said carrying-wheels and having universal connection therewith at the respective ends of the shaft, and means connecting the transverse shaft with the first-named shaft.

18. In a harvester, the combination of a frame, harvesting mechanism mounted thereon, a revoluble shaft mounted on the frame, means connecting the shaft with the harvesting mechanism, to drive the latter, two carrying-wheels mounted on the frame to turn or slue around vertical axes, whereby to turn the harvester, a transverse shaft extending between said carrying-wheels and having universal connection therewith at the respective ends of the shaft, means connecting the transverse shaft with the first-named shaft, a pole pivotally mounted on the frame, a transverse rod pivoted to the pole, and arms respectively connected with the mounting devices of the wheels, to which arms the ends of said rod are pivoted.

19. In a harvester, the combination of a wheeled main frame, an elevator-frame pivotally mounted on the main frame, an elevator on the elevator-frame, a platform-frame pivotally mounted on the elevator-frame, a platform-apron, a rock-shaft mounted on the main frame, an arm attached to the rock-shaft, a connection between said arm and the platform-frame, to adjustably sustain the platform-frame, means for adjustably holding the arm, and means for adjustably holding the elevator-frame.

20. In a harvester, the combination of a wheeled main frame, an elevator-frame pivotally mounted on the main frame, an elevator on the elevator-frame, a platform-frame pivotally mounted on the elevator-frame, a plat-

form-apron, a rock-shaft mounted on the main frame, an arm attached to the rock-shaft, a connection between said arm and the platform-frame to adjustably sustain the platform-frame, means for adjustably holding the arm, and means for adjustably holding the elevator-frame, said means for adjustably holding the elevator-frame comprising a vertically-extending rod connected to the frame, a swinging arm connected to the rod and means for adjustably holding the arm.

21. In a harvester, the combination with the wheeled main frame, of an elevator-frame pivotally mounted thereon, a platform-frame pivotally mounted on the elevator-frame, an elevator on the elevator-frame, a platform-apron on the platform-frame, means for adjustably holding the elevator-frame, and means for adjustably holding the platform-frame, said means for holding the elevator and platform frames being independently operative to permit the independent adjustment of the platform and elevator frames.

22. In a harvester, the combination with the main frame, of an elevator-frame pivotally mounted on the main frame at the stubbleward end of the elevator-frame, a binder-deck extending stubbleward from the pivoted end of the elevator-frame, an elevator on the elevator-frame, a platform-frame pivotally mounted on the grainward end of the elevator-frame, a platform-apron on the platform-frame, means for adjustably holding the elevator-frame, and means for adjustably holding the platform-frame, said means being independent of each other to permit the independent adjustment of the elevator and platform frames.

23. In a harvester, the combination of a main frame, an elevator-frame pivoted at one end thereon, an elevator on the elevator-frame and comprising an apron, and a roll at each end of the frame, a crank connected to the roll at the pivoted end of the frame, a pitman connected to the crank, a platform-frame pivotally mounted on the elevator-frame, and a cutting apparatus on the platform-frame and connected with the pitman to be driven thereby.

24. In a low-down harvester, the combination of a main frame, an elevator and its frame pivotally mounted beneath the harvester-frame, a platform and its appurtenances pivotally mounted on the free portion of the elevator-frame, and means for adjustably sustaining the elevator and platform.

25. In a low-down harvester, the combination of a main frame, an elevator and its frame pivotally mounted beneath the harvester-frame, a platform and its appurtenances pivotally mounted on the free portion of the elevator-frame, means for adjustably sustaining the elevator and platform, and a binder-deck projecting stubbleward from the pivotal end of the elevator and frame.

26. In a harvester, the combination of a main frame, a pivotally-mounted elevator and frame carried thereon, a platform and cutting apparatus, and means for driving the cutting apparatus, said means including a rotary shaft mounted at the pivoted end of the elevator-frame.

27. In a harvester, the combination of a main frame, a pivotally-mounted elevator and frame carried thereon, a platform-frame pivotally mounted on the free portion of the elevator-frame, a cutting apparatus on the platform-frame, and means for driving the cutting apparatus, said means including a rotary shaft mounted on the pivoted end of the elevator-frame.

28. In a harvester, the combination of a main frame, a pivotally-mounted elevator-frame, an elevator comprising rollers and an apron running thereover, one of the rollers being mounted at the pivoted end of the elevator-frame, means for driving said roller, a platform, a cutting apparatus, and means for driving the cutting apparatus, said means being connected to and driven from the said roller at the pivoted end of the elevator-frame.

29. A low-down harvester, comprising a frame having carrying-wheels at the front and rear ends thereof, and harvesting mechanism pivotally mounted on the frame on an axis extending longitudinally thereof and extending transversely of the frame under the same intermediate of the said front and rear carrying-wheels.

30. A low-down harvester comprising a frame extending longitudinally of the machine, two carrying-wheels at the front of said frame, two carrying-wheels at the rear of said frame, said wheels being essentially uniform, and harvesting mechanism pivotally mounted on the frame on an axis longitudinally thereof and extending transversely of the frame under the same intermediate the said front and rear carrying-wheels.

31. A low-down harvester, comprising a frame having carrying-wheels at the front and rear ends thereof, the front wheel or wheels being arranged to turn or slue to turn the harvester, harvesting mechanism mounted on the frame and extending transversely thereof under the frame and intermediate of the said front and rear carrying-wheels, and gearing for driving the harvesting mechanism, said gearing having connection with all of the carrying-wheels, whereby the carrying-wheels jointly drive the harvesting mechanism.

32. A low-down harvester comprising a frame extending longitudinally of the machine, two carrying-wheels at the front of said frame and mounted to turn or slue to turn the harvester, two carrying-wheels at the rear of said frame, said wheels being essentially uniform, harvesting mechanism mounted on the frame and extending transversely thereof under the same, intermediate the said front and rear carrying-wheels, and gearing for driv-

ing the harvesting mechanism from all of said carrying-wheels, whereby the carrying-wheels jointly drive the harvesting mechanism.

33. In a harvester, the combination of a frame, carrying-wheels at the front and rear thereof, harvesting mechanism mounted on the frame intermediate said wheels, and gearing for driving the harvesting mechanism from both front and rear carrying-wheels.

34. In a harvester, the combination of a frame, a carrying-wheel at each end thereof, one of said wheels being mounted to turn or to slue to turn the harvester, harvesting mechanism mounted on the frame, and gearing for driving the harvesting mechanism from all of said carrying-wheels.

35. In a harvester, the combination of a frame, extending longitudinally of the machine, two front carrying-wheels mounted on the frame to turn or slue to turn the harvester, two rear carrying-wheels mounted on the frame, harvesting mechanism mounted on the frame, and gearing for driving the harvesting mechanism from all of said wheels.

36. In a harvester, the combination of a frame running longitudinally of the machine, front and rear carrying-wheels sustaining the frame, harvesting mechanism mounted on the frame and extending transversely thereof between the front and rear carrying-wheels, one of said carrying-wheels being mounted to turn or slue to turn the harvester, and gearing for driving the harvesting mechanism from all of said carrying-wheels.

37. In a harvester, the combination of a longitudinally-extending rigid frame, two carrying-wheels at the front thereof, two carrying-wheels at the rear thereof, the front carrying-wheels being arranged to turn or slue to turn the harvester, harvesting mechanism mounted on the frame, intermediate the carrying-wheels, and gearing for driving the harvesting mechanism from all of said wheels.

38. In a harvester, the combination of a main frame, four uniform carrying-wheels connected therewith and sustaining the frame, two of said wheels being located at the forward portion and two of said wheels being located at the rearward portion of the frame, the front carrying-wheels being capable of turning or sluing to turn the harvester, a draft-tongue in connection with the front turning-wheels to impart said turning or sluing movement, a binder-deck sustained by the frame, an elevator-frame, an elevator operating on the frame, a platform juxtaposed to the elevator-frame, a platform-apron, a cutting apparatus, and means for driving the mobile parts from two of said carrying-wheels.

39. In a harvester, the combination of a main frame, a binder-deck mounted thereon, an elevator-frame in connection with the grainward end of the binder-deck, an elevator, means for mounting the elevator-frame to permit its grainward end to be moved vertically, means for so moving the elevator-frame, a platform mounted to swing on the grainward end of the elevator-frame, a platform-apron, and means for swinging the platform independently of the elevator-frame.

40. In a harvester, the combination of a main frame, four uniform carrying-wheels connected with and sustaining the frame, two of said wheels being located at the front portion of the frame and two at the rear portion thereof, the front carrying-wheels being capable of turning or sluing to turn the harvester, a draft-tongue in connection with the front carrying-wheels to impart said turning or sluing movement thereto, a binder-deck sustained by the main frame, an elevator-frame sustained by the main frame, an elevator operating on the elevator-frame, a platform, means for sustaining the same, a platform-apron on the platform, and means for driving the mobile parts from two of said carrying-wheels, said binder-deck, elevator-frame, elevator, platform and apron being located intermediate the forward and rear carrying-wheels.

41. In a grain-harvester, the combination of a main frame, two uniform carrying-wheels connected therewith and running on the ground, one of said wheels being located at the forward portion and the other at the rearward portion of said frame, the front carrying-wheel being capable of turning or sluing to turn the harvester, a draft-tongue in connection with the front carrying-wheel to impart said turning or sluing movement thereto, a binder-deck supported from the main frame, an elevator-frame supported from the main frame, an elevator, a platform, means for sustaining the same, a platform-apron on the platform, and means for driving the mobile parts from one of said carrying-wheels.

42. In a harvester, the combination of a main frame, two uniform carrying-wheels connected therewith and running on the ground, one of said wheels being located at the forward portion and the other at the rearward portion of the main frame, the forward wheel being capable of turning or sluing to turn the harvester, a draft-tongue in connection with the front carrying-wheel to impart said turning or sluing movement thereto, a binder-deck sustained from the main frame, an elevator-frame sustained from the main frame, an elevator, a platform, means for sustaining the same, a platform-apron on the platform, and means for operating the mobile parts from one of the carrying-wheels, the said binder-deck, elevator-frame and platform being located intermediate the front and rear carrying-wheels.

43. In a grain-harvester, the combination of a main frame and four uniform carrying-wheels mounted thereon, two being located at the rear and two at the forward portion of the frame, and the forward carrying-wheels being capable of turning or sluing to turn the

harvester, a draft-tongue in connection with said carrying-wheels to impart said turning or sluing movement, a superstructure mounted on the main frame intermediate the front and rear carrying-wheels, a binder-deck, an elevator-frame, and a platform mounted adjacent to said superstructure, an elevator on the elevator-frame, an apron on the platform, and means for driving the mobile parts.

44. In a harvester, the combination of a frame, a carrying-wheel, means for mounting said wheel to slue or turn around a vertical axis for the purpose specified, means for sluing or oscillating the wheel, a revoluble shaft having universal connection with the wheel to be driven therefrom, and harvesting devices mounted on the frame and driven from the shaft.

45. A harvester having a wheel and its axle arranged to slue to turn the harvester, and a power-transmitting shaft connected with the harvesting devices and having a joint therein coincident to the axis of the said sluing movement, for the purpose specified.

46. A harvester having two carrying-wheels, one of which is arranged to slue or turn to turn the harvester, and a power-transmitting shaft having a joint coincident to the axis of said turning or sluing movement, said shaft having connection with the said harvesting devices to drive the same.

47. In a harvester, the combination with a frame, of a shaft revolubly mounted thereon, means for driving the shaft, a member arranged to swing around the axis of the shaft, means for adjustably sustaining the member, a platform and cutting apparatus carried by the member, a sprocket-wheel attached to the shaft, a chain engaged with said wheel and adapted to drive the platform apron or canvas, a crank attached to the shaft, and a pitman connecting the crank with the cutting apparatus.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES OSCAR WYMAN.

Witnesses:

J. C. HERMAN ENGEL,

GEORGE H. WYMAN.