

(No Model.)

2 Sheets—Sheet 1.

O. KING, T. LEACH & J. LARSON.
CORN HARVESTER.

No. 452,104.

Patented May 12, 1891.

FIG. 1—

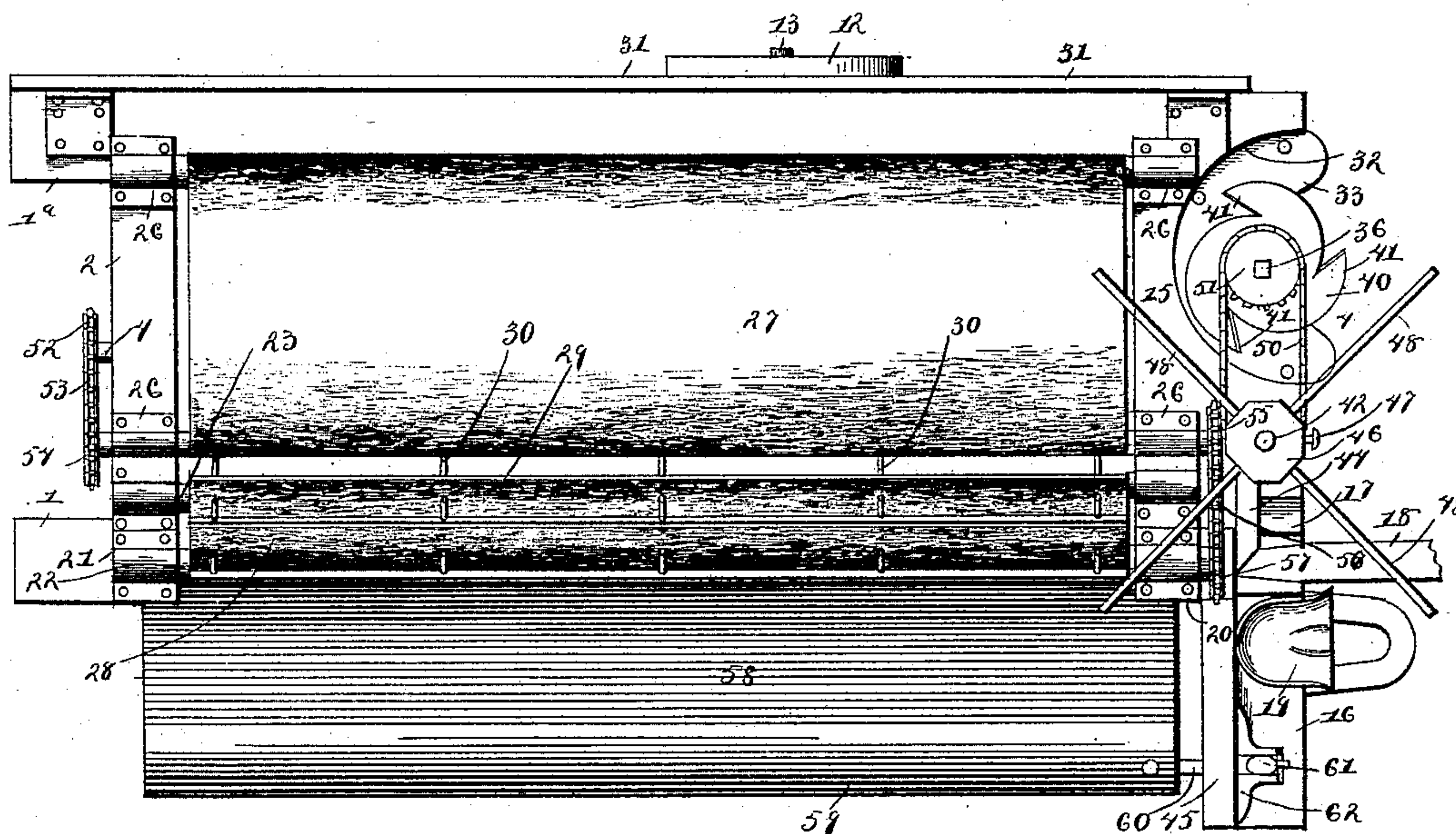
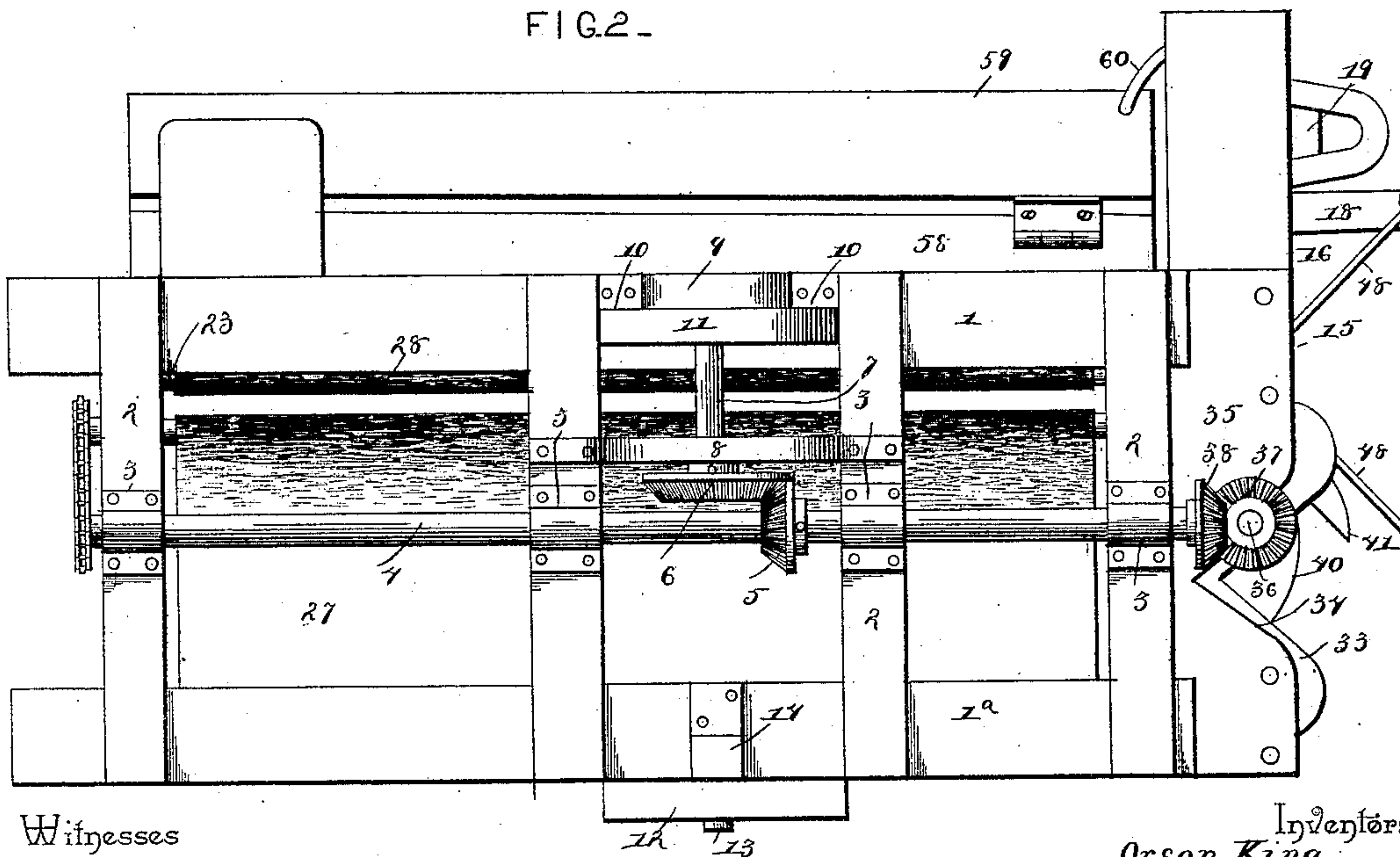


FIG. 2—



Witnesses

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FIG. 3.

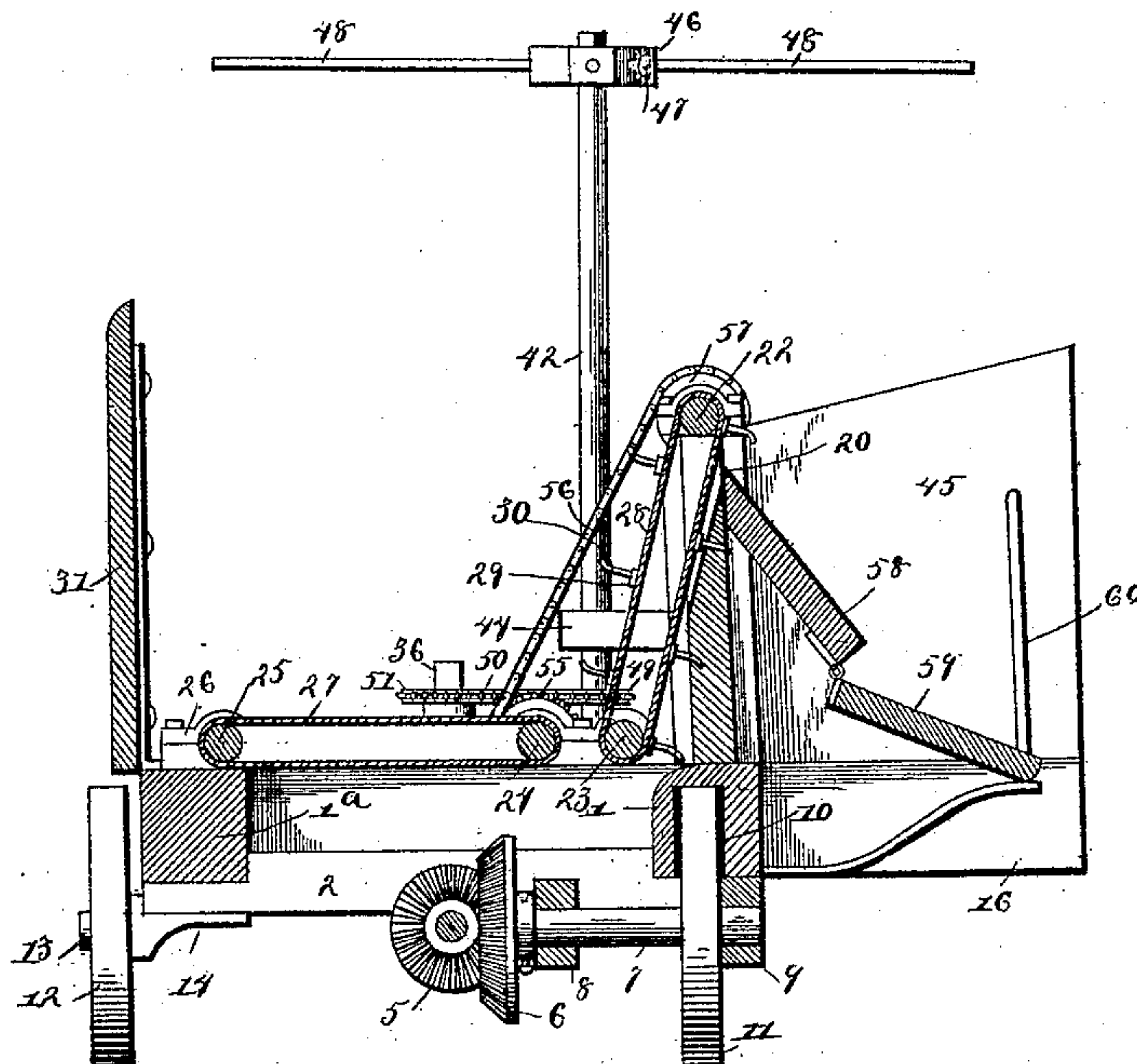
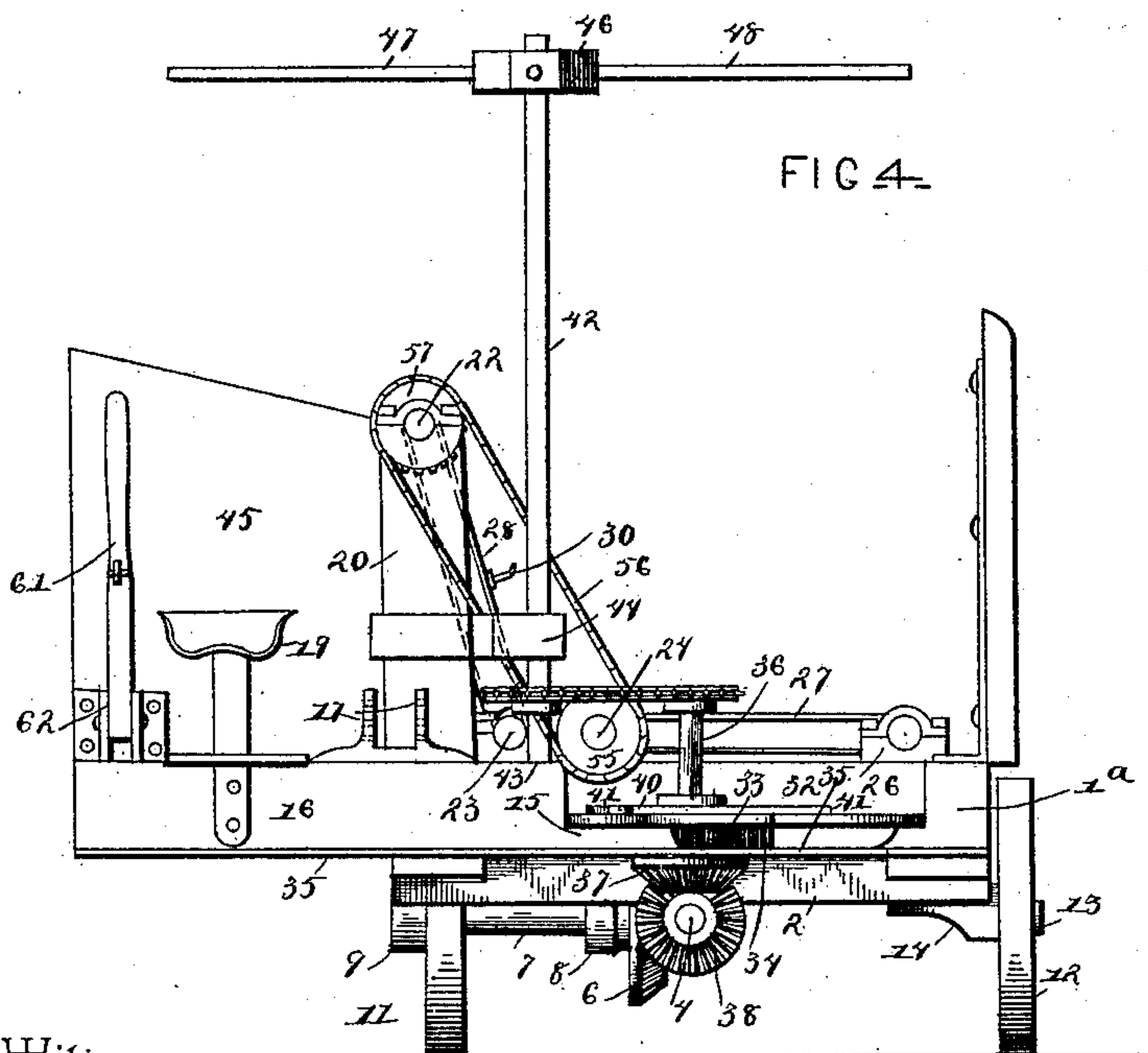


FIG. 4.



Witnesses

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By their Attorneys,

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UNITED STATES PATENT OFFICE.

ORSON KING, THOMAS LEACH, AND JOHN LARSON, OF RANDOLPH, KANSAS.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 452,104, dated May 12, 1891.

Application filed October 17, 1890. Serial No. 368,398. (No model.)

To all whom it may concern:

Be it known that we, ORSON KING, THOMAS LEACH, and JOHN LARSON, citizens of the United States, residing at Randolph, in the county of Riley and State of Kansas, have invented a new and useful Corn-Harvester, of which the following is a specification.

This invention relates to corn-harvesters; and it has for its object to construct a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a top plan view of a corn-harvester embodying our improvements. Fig. 2 is a bottom plan view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a front elevation.

Like numerals of reference indicate like parts in all the figures.

The frame of our improved corn-harvester is composed of the sills or side beams 1 1^a, which are connected at suitable intervals by the cross-pieces 2 2, of which there may be three or more. The under sides of the cross-beams 2 2 have boxes or bearings 3 for a longitudinal shaft 4, which extends the entire length of the frame and is provided with a pinion 5, meshing with a bevel-gear 6, which is mounted upon the inner end of a shaft or axle 7, having its bearings in a brace 8, which connects two of the cross-pieces 2, and in a box 9 upon the under side of one of the frame-beams 1. The latter has a recess 10 in its under side to accommodate the supporting-wheel 11, which is secured upon the outer end of the shaft or axle 7. The other supporting-wheel 12 is journaled upon a spindle 13, forming part of a stub-axle 14, which is secured upon the under side of the frame-beam 1^a.

The front end of the frame has a platform 15, provided with a lateral extension 16, upon which is mounted a casting 17, in which the tongue 18 is adjustably secured in such a manner that its front end may be raised or lowered, thereby vertically adjusting the front

end of the frame of the machine. The extension 16 also supports the driver's seat 19. 20 and 21 are uprights mounted, respectively, at the front and rear ends of the frame-beam 1. Said uprights are provided at their upper ends with bearings for a longitudinal shaft 22. A similar shaft 23 is journaled in suitable bearings at the front and rear ends of the frame adjacent to the lower ends of the uprights 20 and 21. Additional longitudinal shafts 24 and 25 are journaled in suitable bearings or boxes 26 at the front and rear ends of the frame near the frame-beams 1 and 1^a, respectively.

Over the shafts 24 and 25 is stretched an endless apron 27, and another apron 28, which occupies an approximately vertical position, is stretched over the shafts 22 and 23. The apron 28 is provided with longitudinal slats 29, having outwardly-extending arms or prongs 30, constituting an elevator for the purpose of elevating the cut corn from the bed of a machine and depositing it in the dumping-trough, which will be presently more fully described. A guard-plate 31 is mounted vertically at the outer edge of the longitudinal frame-beam 1.

The upper side of the platform 15 at the front end of the machine has a recess 32, in which is mounted a knife or cutter 33, having a V-shaped recess 34, provided with sharp cutting-edges. A metallic bracing-plate 35 is secured to the under side of the platform.

36 is a vertical shaft extending through suitable bearings in the plate 35 and cutter 33, and having at its lower end a pinion 37, meshing with a pinion 38 upon the front end of the longitudinal shaft 4. The shaft 36 carries the rotary knife or cutter 40, which is provided with a series of arms 41, having sharp cutting-edges that co-operate with the edges of the knife or cutter 33 to sever the corn.

42 designates a vertical reel-shaft, the lower end of which is stepped in a suitable bearing 43 in the platform 15. An additional bearing for said shaft is provided in a bracket 44, which is suitably secured to an end board 45, which latter is bolted or otherwise suitably secured to the front side of the upright 20. The upper end of the reel-shaft carries a vertically-adjustable hub 46, having a set-screw

47, by means of which it may be secured at any desired adjustment. The hub 46 is provided with radially-extending arms 48. The lower end of the shaft 42 has a sprocket-wheel 49, connected by a chain 50 with a sprocket-wheel 51 upon the cutter-shaft 36, from which latter motion is thus transmitted to the reel.

The rear end of the longitudinal shaft 4 has a sprocket-wheel 52, which is connected by a chain 53 with a sprocket-wheel 54 upon the rear end of the shaft 24. The latter is provided with an additional sprocket-wheel 55, connected by a chain 56 with a sprocket-wheel 57 upon the shaft 22. Motion is in this manner transmitted to the endless aprons 27 and 28, which constitute the carrying mechanism of the machine.

Suitably secured to the outer sides of the uprights 20 and 21 is an inclined shelf 58, to the lower edge of which is hinged a drop-leaf 59, the front end of which has its outer edge connected by a cord or chain 60 with an operating-lever 61, which is pivoted in a suitable bracket or bearing 62, mounted upon the front side of the partition-wall 45 adjacent to the driver's seat.

The operation of our invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. As the machine progresses over the field, a rotary motion is transmitted from the axle 7, carrying the wheel 11, to the longitudinal shaft 4, and from thence to the cutting mechanism and to the carrying mechanism composed of the endless aprons 27 and 28. From the cutter-shaft 36 motion is transmitted to the shaft of the reel, which latter is vertically adjustable to suit the height of the corn which is to be operated upon. The corn as it is being severed drops upon the endless apron 27, which carries it to the elevating mechanism composed of the endless apron 28, having the slats 29, provided with the prongs 30. The cut corn is thus elevated and deposited in the trough composed of the shelf 58 and drop-leaf 59, where it is retained until a sufficient quantity has accumulated, which may then be tied and dumped by manipulating the lever 61.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a corn-harvester, the combination of the frame, the platform at the front end of

the same, having a recess in its upper side, the fixed cutter mounted in said recess and having a V-shaped notch with sharpened edges, a metallic bracing-plate mounted upon the under side of the platform, the rotary cutter-shaft extending vertically through said plate and through the cutter-plate and having arms provided with sharpened edges, and a pinion upon the lower end of said cutter-shaft meshing with the pinion at the front end of a shaft extending longitudinally under the frame and receiving motion from one of the drive-wheels, substantially as set forth.

2. In a corn-harvester, the combination of the frame provided at its front end with a platform having a lateral extension, the casting mounted upon said extension and having the adjustable tongue, the driver's seat mounted upon said extension, the uprights at the front and rear ends of the frame, the end board secured upon the front upright, the inclined shelf secured upon the outer sides of the uprights and having a hinged leaf, a cord or chain connecting the latter with a lever mounted upon the front side of the end board, the cutter mounted in a recess formed in the platform at the front end of the frame, the vertical cutter-shaft carrying a rotary cutter, the vertical reel-shaft having the vertically-adjustable reel, said shaft being stepped in the platform at the front end of the machine and provided with an additional bearing attached to the vertical end board, means for transmitting motion from the cutter-shaft to the reel-shaft, the endless carriers arranged approximately in a horizontal and a vertical position, the latter being provided with slats having outwardly-extending prongs, the vertically-arranged guard-plate, a shaft arranged longitudinally under the frame and receiving motion direct from the axle of the machine, and means for transmitting motion from the ends of the shaft to the cutter-shaft and to the endless carriers, substantially as herein set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

ORSON KING.
THOMAS LEACH.
JOHN LARSON.

Witnesses:

M. E. IRWIN,
E. O. KING.