

No. 750,969.

PATENTED FEB. 2, 1904.

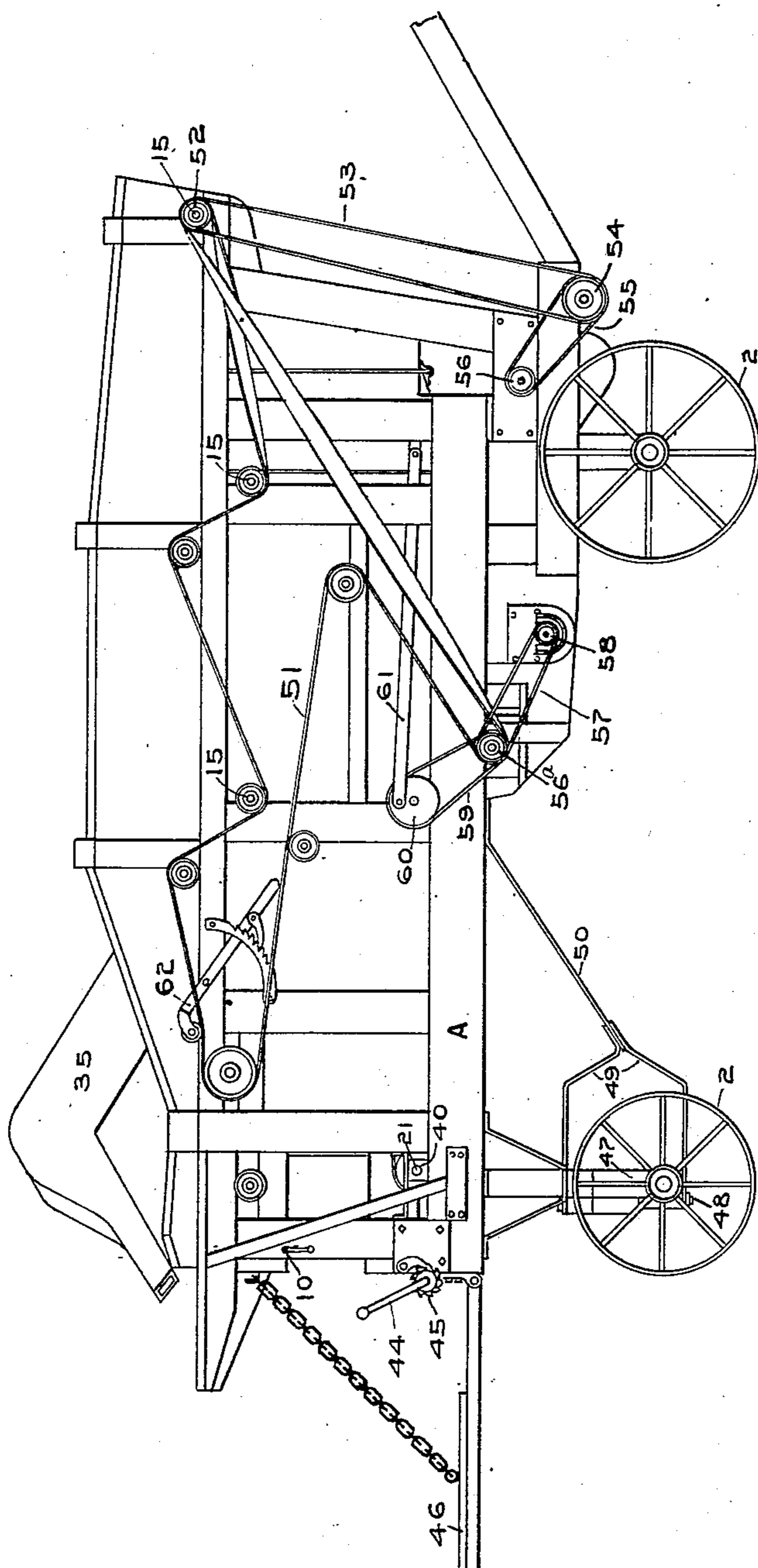
H. HANSON.
THRESHING MACHINE.

APPLICATION FILED JAN. 10, 1902.

NO MODEL.

5 SHEETS—SHEET 1.

1.



Witnesses
W. H. Palmer.
Emily Eastman

Inventor,
Hilmer Hanson.
By Nathrop Johnson
his Attorneys.

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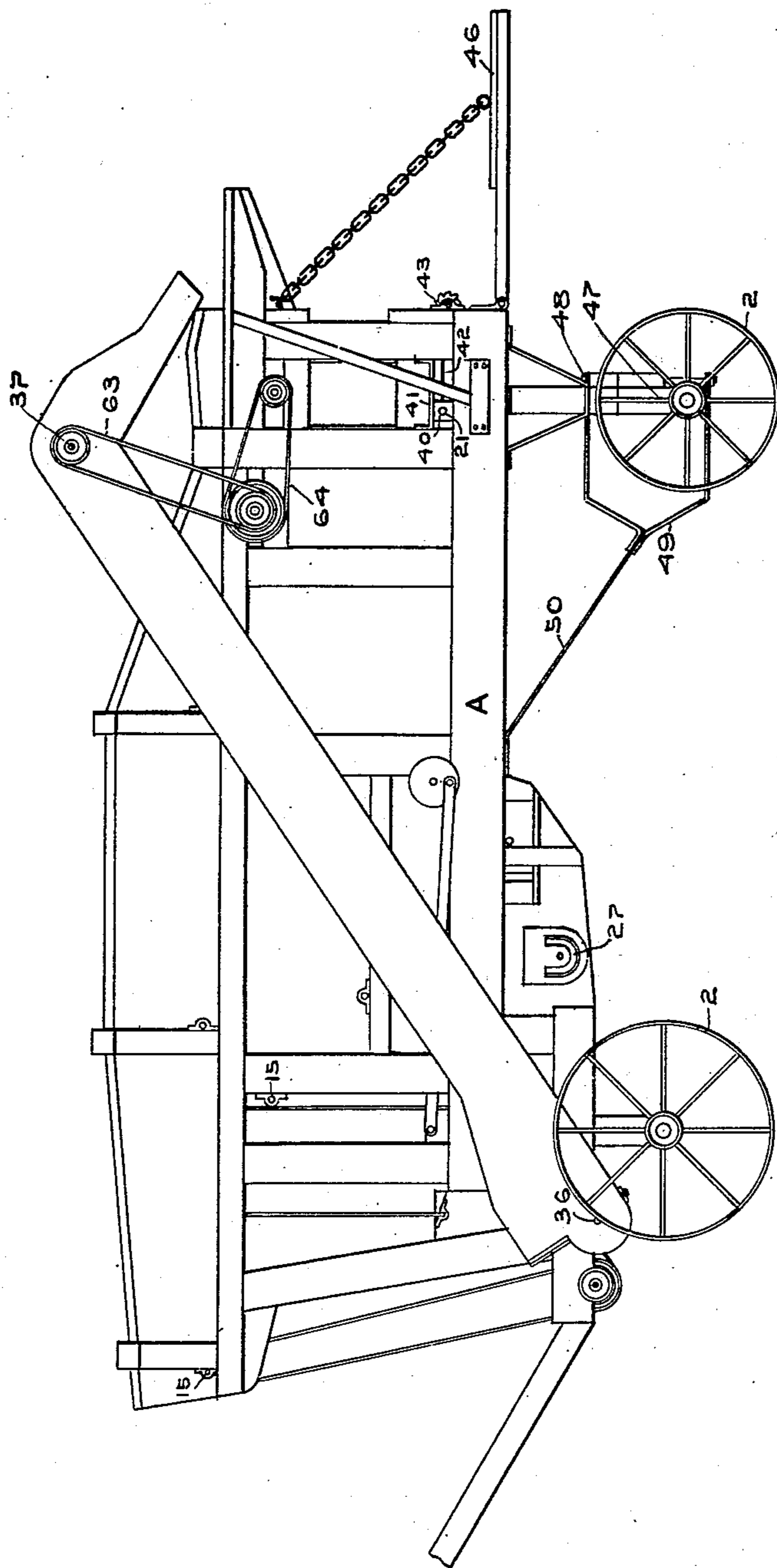
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5 SHEETS—SHEET 2.

Fig. 2.



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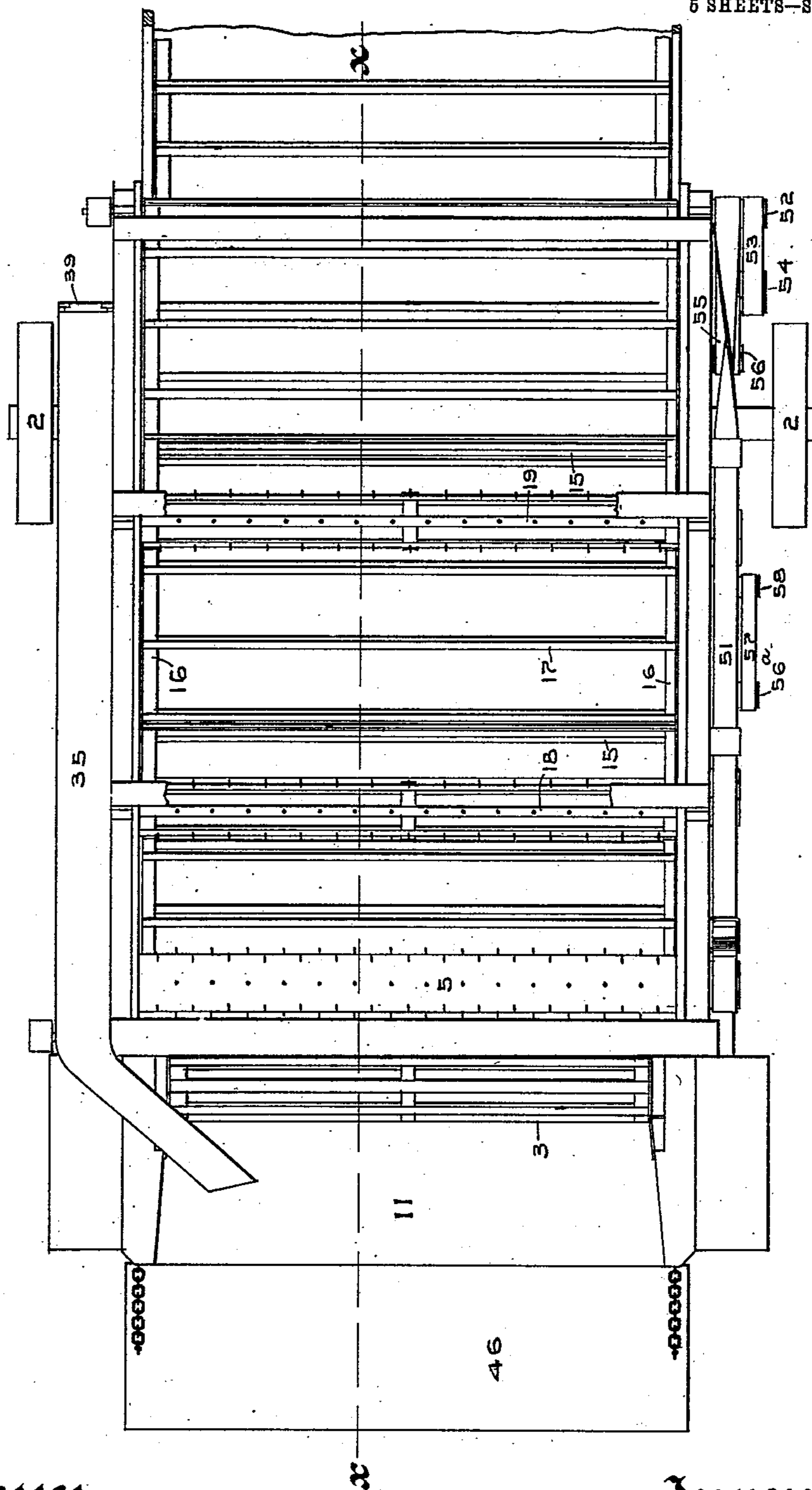
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5 SHEETS—SHEET 3.

Fig. 3.



Witnesses,
W. H. Palmer.
Emily Eastman

Inventor,
Hilmer Hanson.
by J. A. Johnson
his Attorneys.

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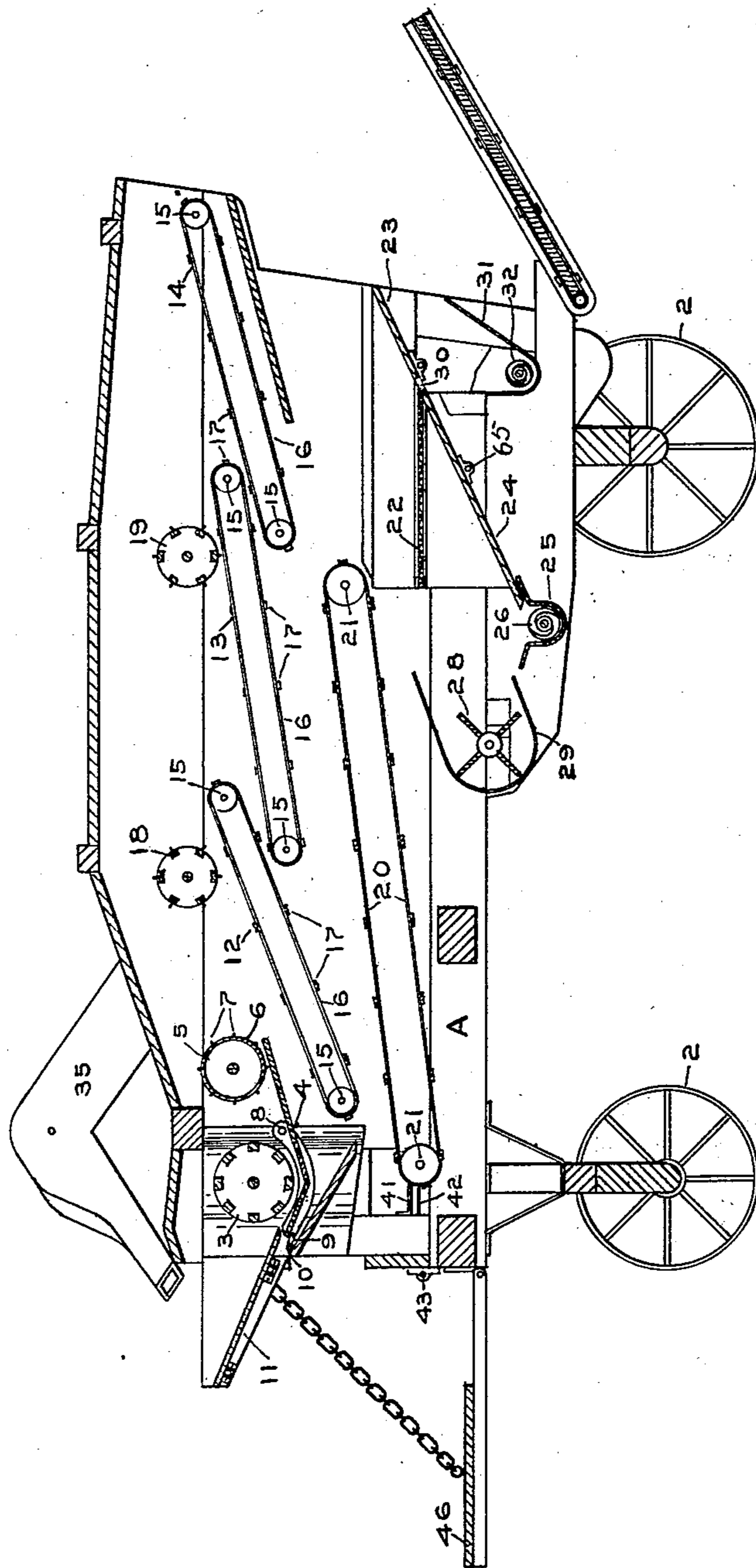
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6 SHEETS—SHEET 4.

Fig. 4.



Witnesses,
W. H. Palmer.
Emily Eastman

Inventor,
Hilmer Hanson.
by Lathrop & Johnson
his Attorneys.

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5 SHEETS—SHEET 5.

Fig. 5.

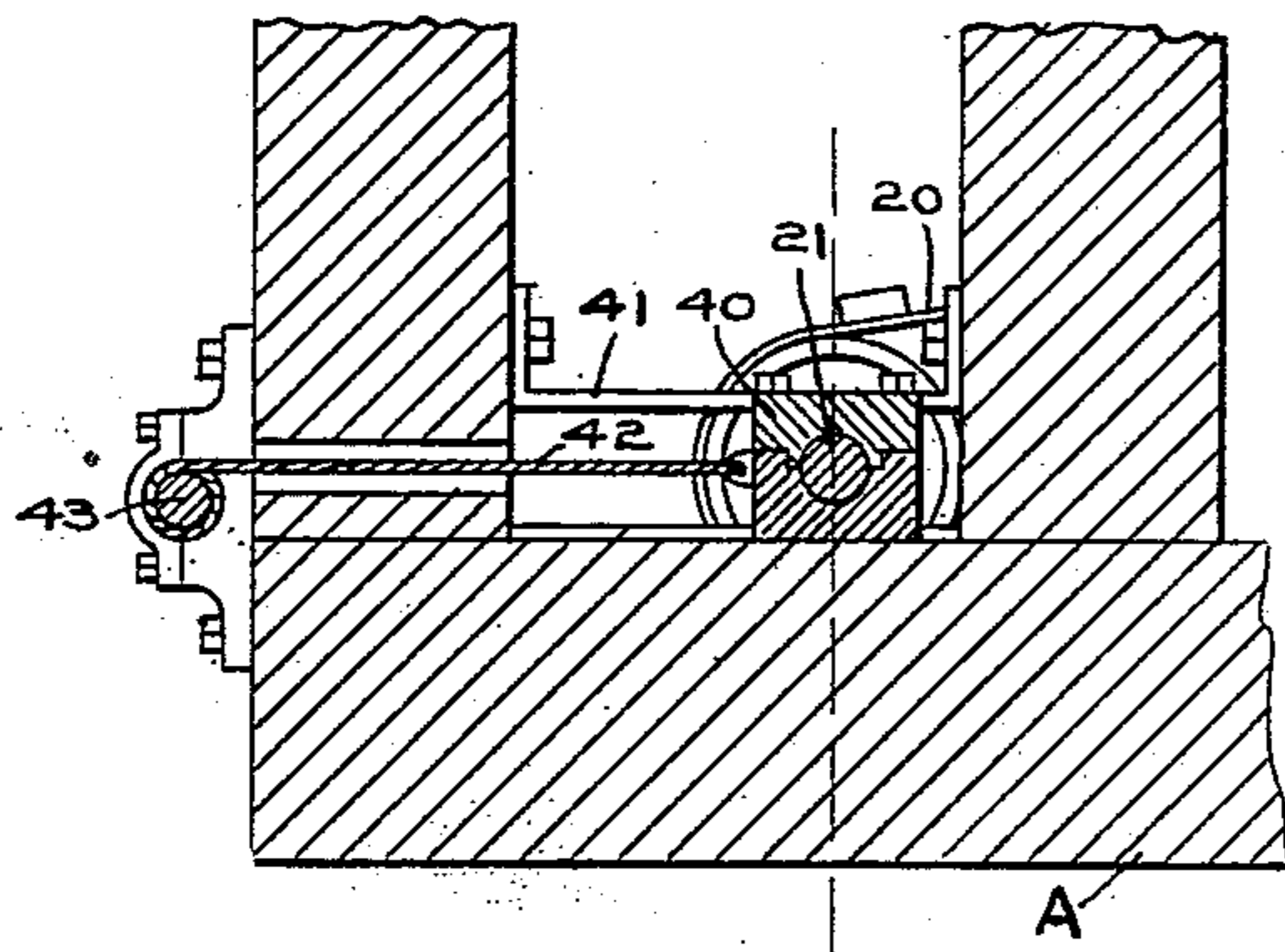


Fig. 6.

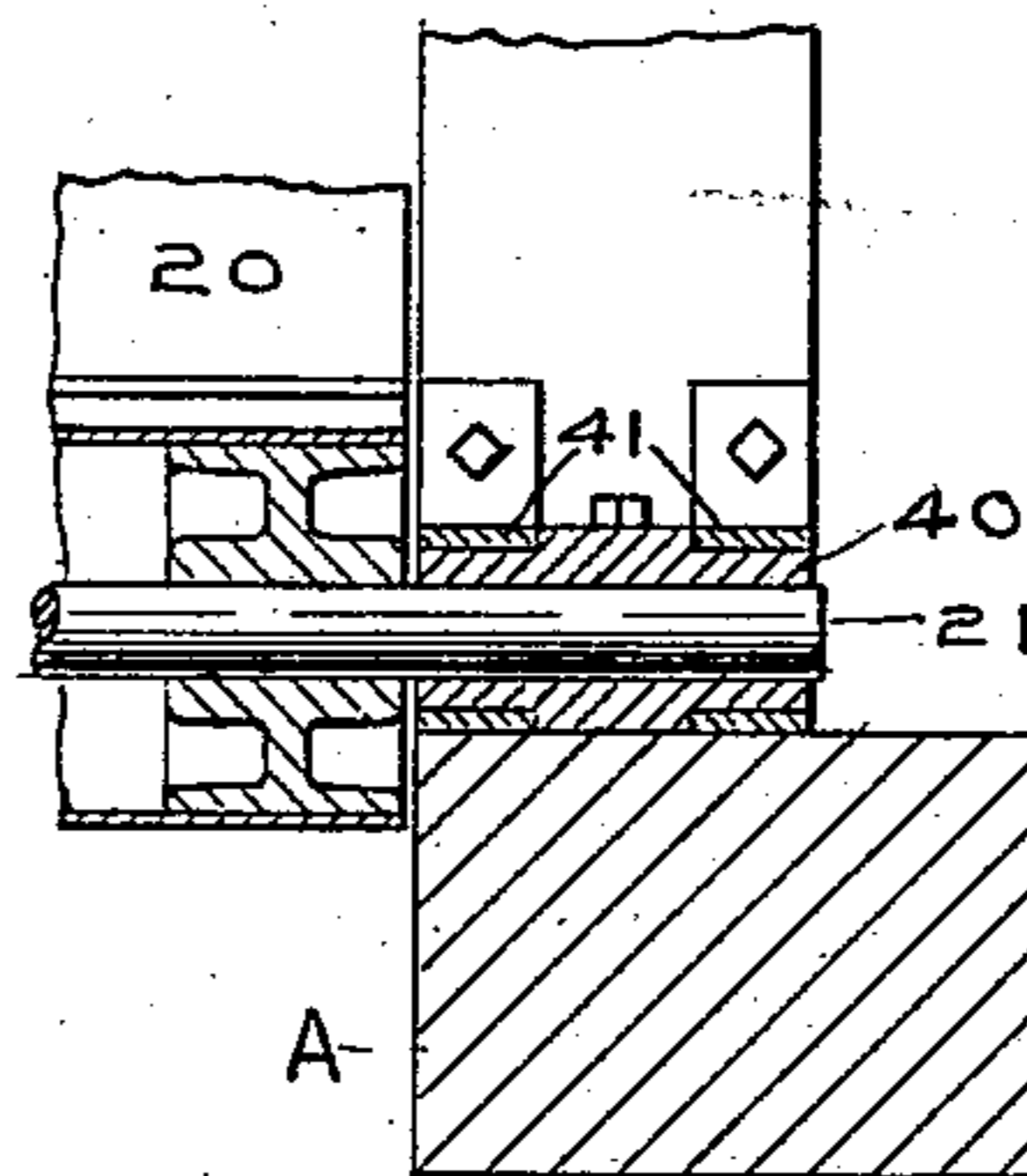
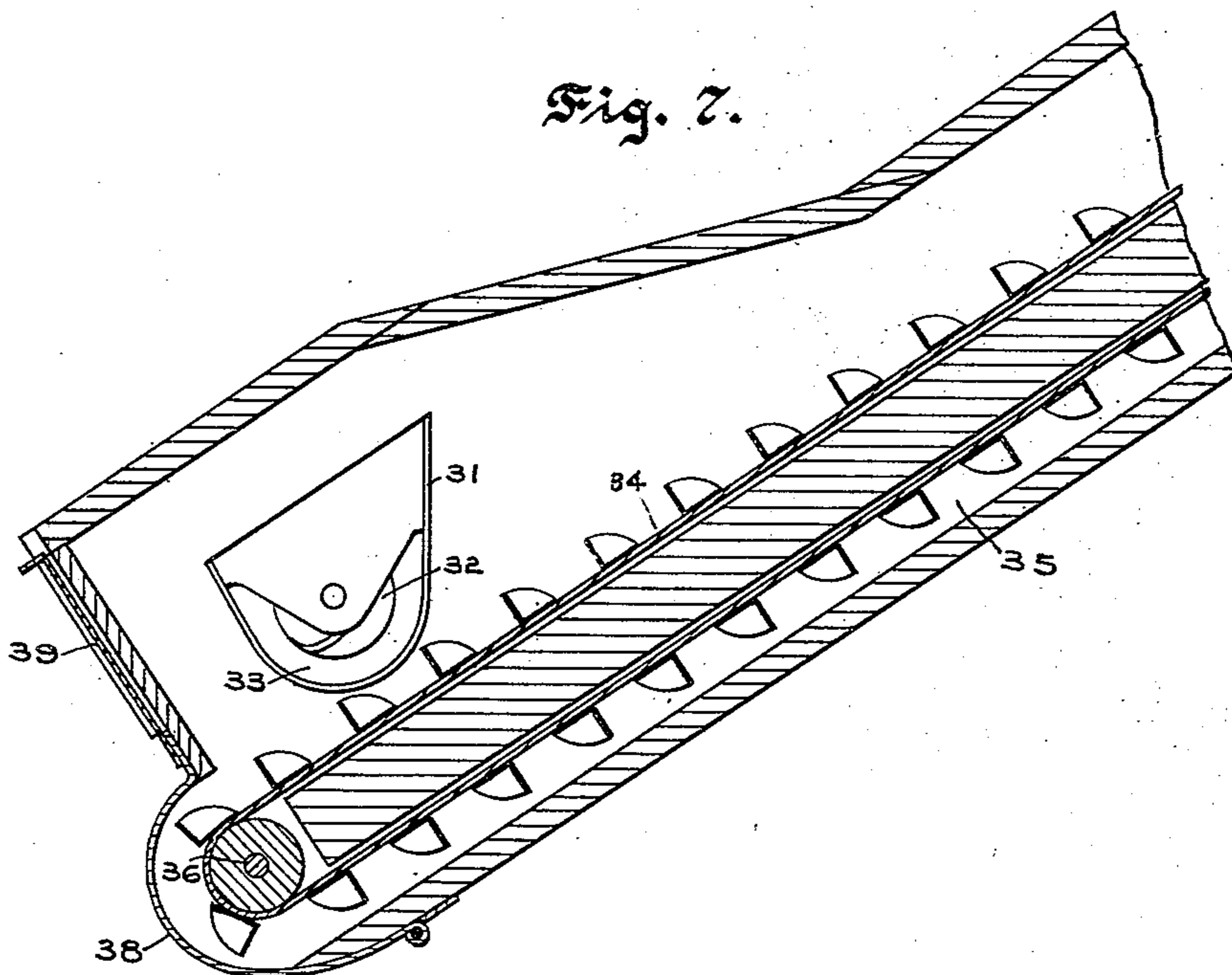


Fig. 7.



Witnesses,
W. H. Palmer.
Emily Eastman

Inventor,
Hilmer Hanson.
by Jethro Johnson
his Attorneys.

UNITED STATES PATENT OFFICE.

HILMER HANSON, OF ARTICHOKE LAKE, MINNESOTA.

THRESHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 750,969, dated February 2, 1904.

Application filed January 10, 1902. Serial No. 89,100. (No model.)

To all whom it may concern:

Be it known that I, HILMER HANSON, a citizen of the United States, residing at Artichoke Lake, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Threshing-Machines, of which the following is a specification.

My invention relates to improvements in threshing-machines, its object being particularly to provide improvements in the construction and arrangement to cause more perfect separation of the grain and prevent clogging.

To this end my invention consists in the features of construction and combination hereinafter particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a threshing-machine embodying my improvements. Fig. 2 is a similar view of the opposite side of the machine. Fig. 3 is a top plan. Fig. 4 is a section on line *xx* of Fig. 3. Figs. 5 and 6 are sectional details of adjustable supports for the carrier, and Fig. 7 is a longitudinal sectional view of the lower end of the elevator.

In the drawings, A represents the framework of the machine, provided with carrying-wheels 2. Journaled in the forward end of the machine is the threshing-cylinder 3, arranged above the forward end of the concave 4, the main beater-cylinder 5 being arranged above the rear end of the concave. The cylinder 5 is preferably formed with a sheet-metal wall 6, provided with teeth 7. The concave has pivotal support 8 and is adapted to be raised by the offset 9 on the shaft 10, whereby the concave by single motion is adjusted toward the cylinders 3 and from the cylinder 5. In front of the cylinder 3 is arranged a suitable feed-board 11. Between the cylinder 5 and the rear end of the machine are arranged the inclined open-work carriers 12, 13, and 14, mounted upon suitable shafts 15 and each consisting of endless straps 16, connected by cross-bars 17. As shown, the lower end of the first carrier 12 stands underneath the concave 4 and the upper ends of the carriers 12 and 13 extend above the lower ends of the succeeding carriers. Arranged above the upper ends of

the carriers 12 and 13 are the toothed beaters 18 and 19, respectively.

Underneath the carriers 12 and 13 is the endless grain-belt 20, mounted upon the shafts 21. Underneath the rear end of the belt 20 is arranged an ordinary screen 22. Above the screen 22 is arranged the inclined plate 23, and below the screen is a similar inclined plate 24, said plate having swinging support 65. At the lower end of the plate 24 is a trough 25, within which is arranged a screw 26 to deliver the grain through the opposite opening 27. A fan 28 is arranged in front of the screen and provided with a casing 29 to direct the air against the screen. The tailings from the screen are adapted to pass from the end of the screen through the opening 30 between the plates 23 and 24 to the trough 31. A screw conveyer 32 in the trough carries the tailings through the opening 33 to the conveyer 34 in the discharge-spout 35. The conveyer 34 is mounted upon shafts 36 and 37 at the lower and upper ends, respectively, of the discharge-spout. It will be noted that the lower conveyer-shaft 36 is journaled some distance below the opening 33, so as to cause the tailings to be deposited upon the conveyer above the shaft 36, thus preventing the tailings from passing over the lower end of the conveyer. The lower end of the discharge-spout 35 is closed by a hinged flap 38, normally held closed by a slide 39.

Referring to Figs. 5 and 6 of the drawings, it will be noted that the forward shaft 21 of the belt 20 is journaled in boxes 40, slidable in a guideway 41. Cables 42 connect the boxes 40 with a transverse shaft 43, provided with an actuating-handle 44, and a controlling ratchet arranged above the platform 46 at the forward end of the machine. As shown best in Fig. 2, the forward axle 47 is mounted upon a vertical bolt 48, supported in the yoke 49, connected by arms 50 with the framework of the machine.

The driving mechanism is as follows: A belt 51, as shown in Fig. 1, connects together the main cylinder, the carriers 12, 13, and 14, the cylinders 18 and 19, the carrier 20, and the fan. From the actuating-pulley 52 of the car-

rier 14 a belt 53 runs to the pulley 54, which actuates the ordinary straw-carrier. (Not shown.) From the pulley 54 a belt 55 leads to a pulley 56 of the screw 32. From the pulley 56^a of the fan-shaft a belt 57 connects with a pulley 58, actuating the grain-discharge screw 26. A single belt 59 runs to a pulley 60, connected by a pitman 61 with the screen 22. Upon the opposite side of the machine belts 63 and 64 lead from the cylinder-shaft to pulleys carried by the elevator-shaft and by the feeding-cylinder shaft.

62 represents an ordinary belt-tightener.

Among the important features of my invention are the arrangement of the cylinders 3 and 5 in connection with the concave, the arrangement and number of the open-work carriers and beaters, the adjustable support for the grain-carrier, the arrangement of parts in connection with the vibratory screen, and the arrangement by which the tailings are fed into the discharge-elevator some distance above the lower end. These different features coöperate to prevent clogging as the straw and grain pass through the machine.

In operation the straw and grain are fed into the machine over the feed-board 11 in the ordinary manner, passing under the cylinders 3 and 5 to the inclined carrier 12, the straw passing over the succeeding carriers 13 and 14 in the ordinary manner. As the straw passes over the carriers 12 and 13 it will be acted upon by the beaters 18 and 19. The grain

will drop from the carriers to the grain-belt 20, from which it will pass to the screen 22. In connection with the screen 22 works the grain-delivery screw 26, the tailings passing from the screen to a trough 31, where they are conveyed by the screw conveyer 32 to the conveyer 34 in the discharge-spout.

I claim—

1. In a threshing-machine of the class described, the combination with the framework, of a concave supported therein, a threshing-cylinder arranged above one end of the concave, a beater-cylinder arranged above the opposite end of the concave, and means for adjusting the concave by a single motion toward one cylinder and from the other.

2. In a threshing-machine of the class described, the combination with the framework, of a concave having pivotal support therein, a threshing-cylinder arranged above the front end of the concave, a beater-cylinder arranged above the opposite end of the concave, and a shaft arranged below the front end of the concave and provided with offsets for engaging and turning the front end of the concave upon its pivot toward the threshing-cylinder.

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

HILMER HANSON.

Witnesses:

H. H. GABRIEL,
H. O. TOLDNESS.