

No. 685,684.

Patented Oct. 29, 1901.

F. JESTRAB.
GRAIN UNLOADER AND ELEVATOR.

(Application filed Jan. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 7.

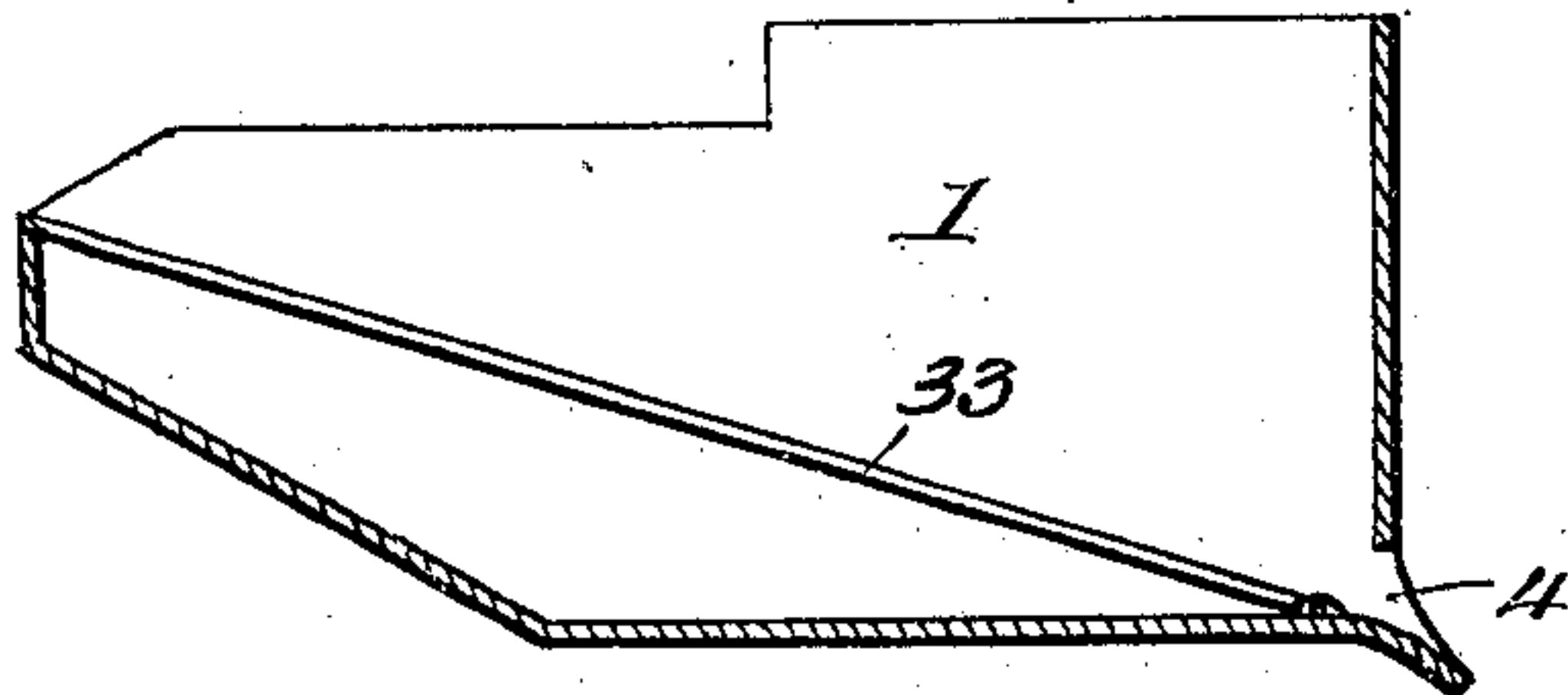


Fig. 1.

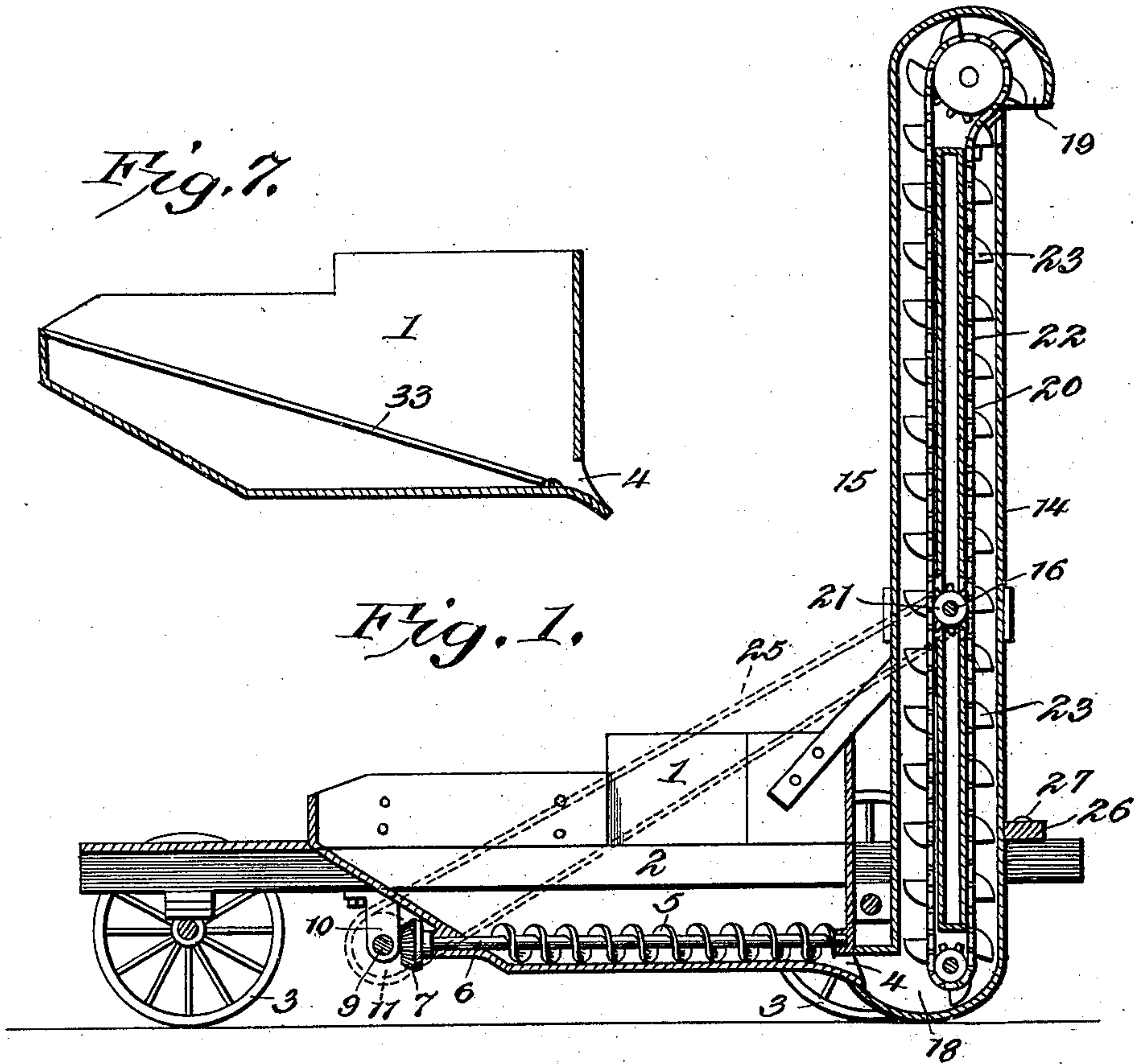
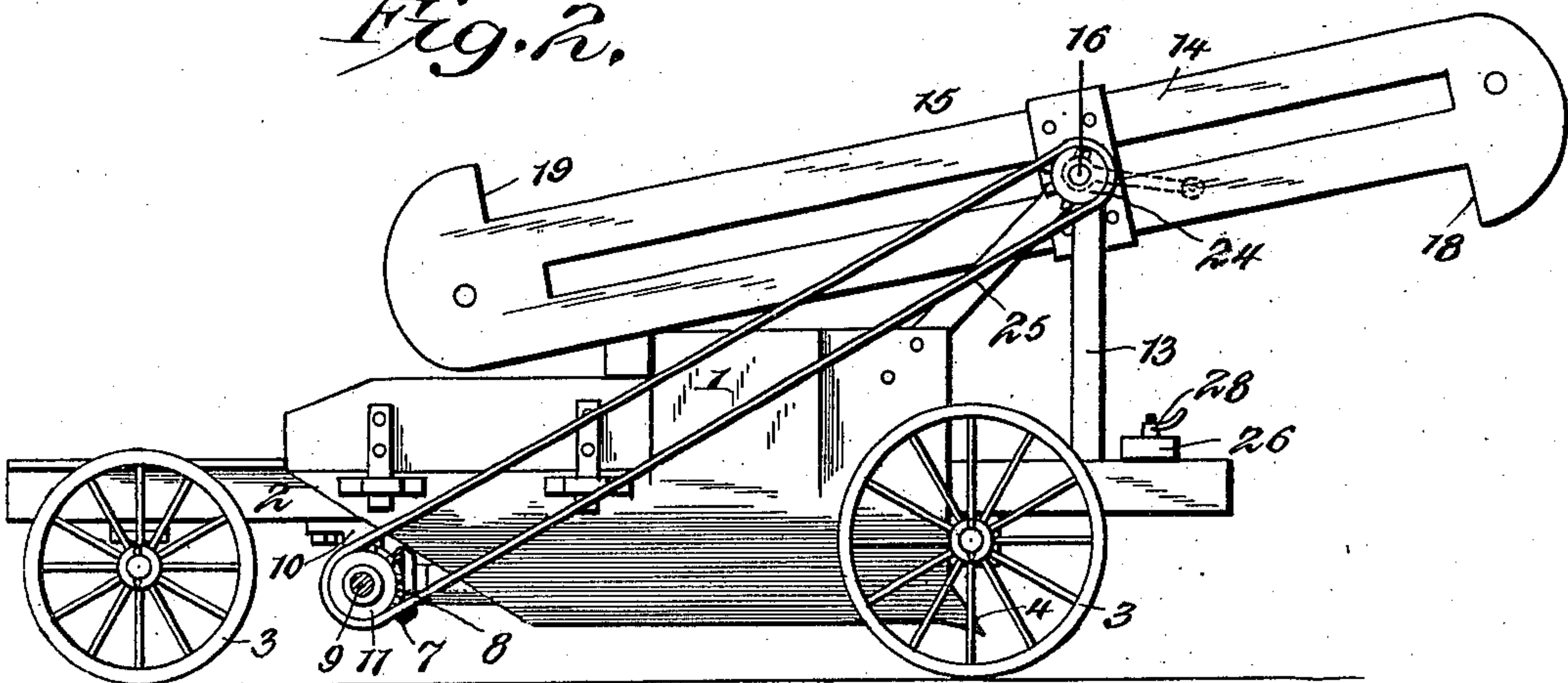


Fig. 2.



Witnesses

Howard D. Orr.
J. C. Garner

by Frank Jestrab, Inventor,
C. A. Snow & Co.
Attorneys

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2 Sheets—Sheet 2.

Fig. 3.

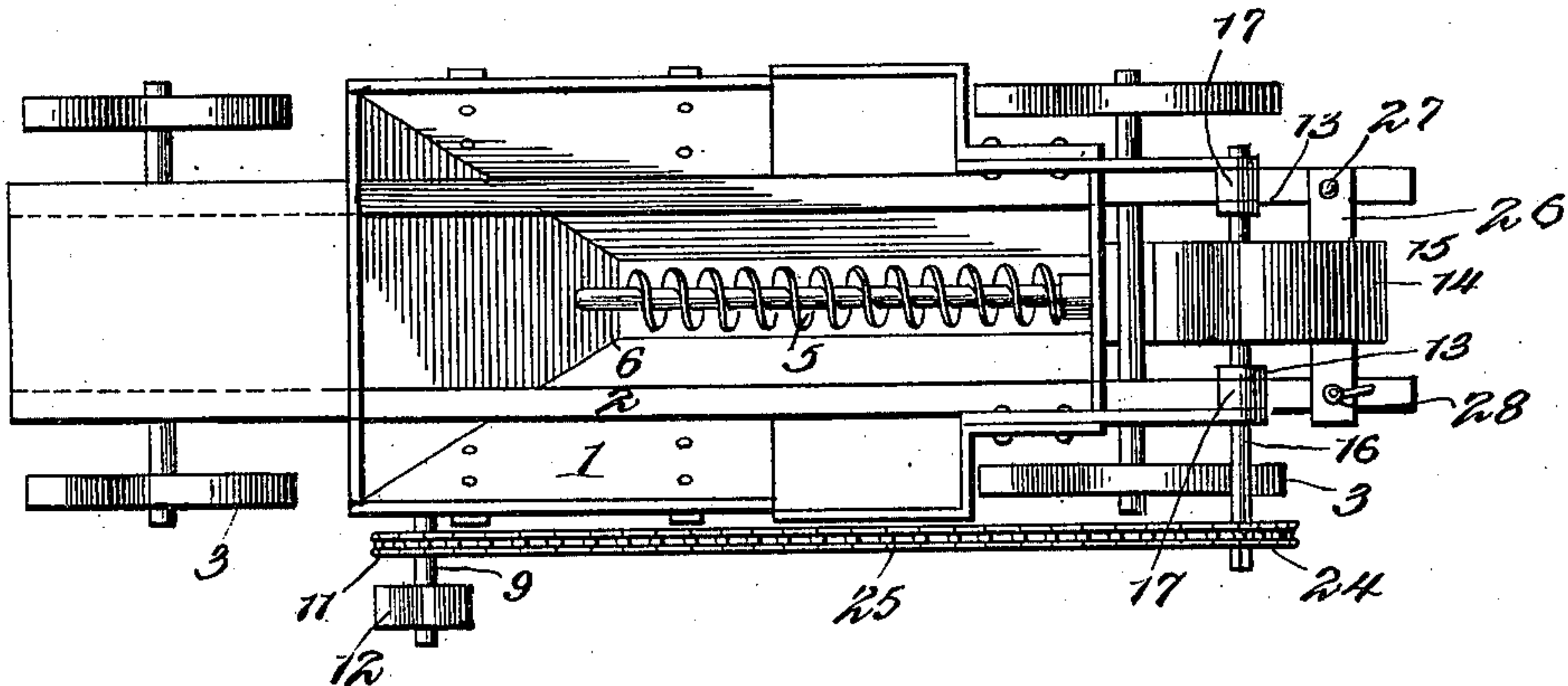


Fig. 5.

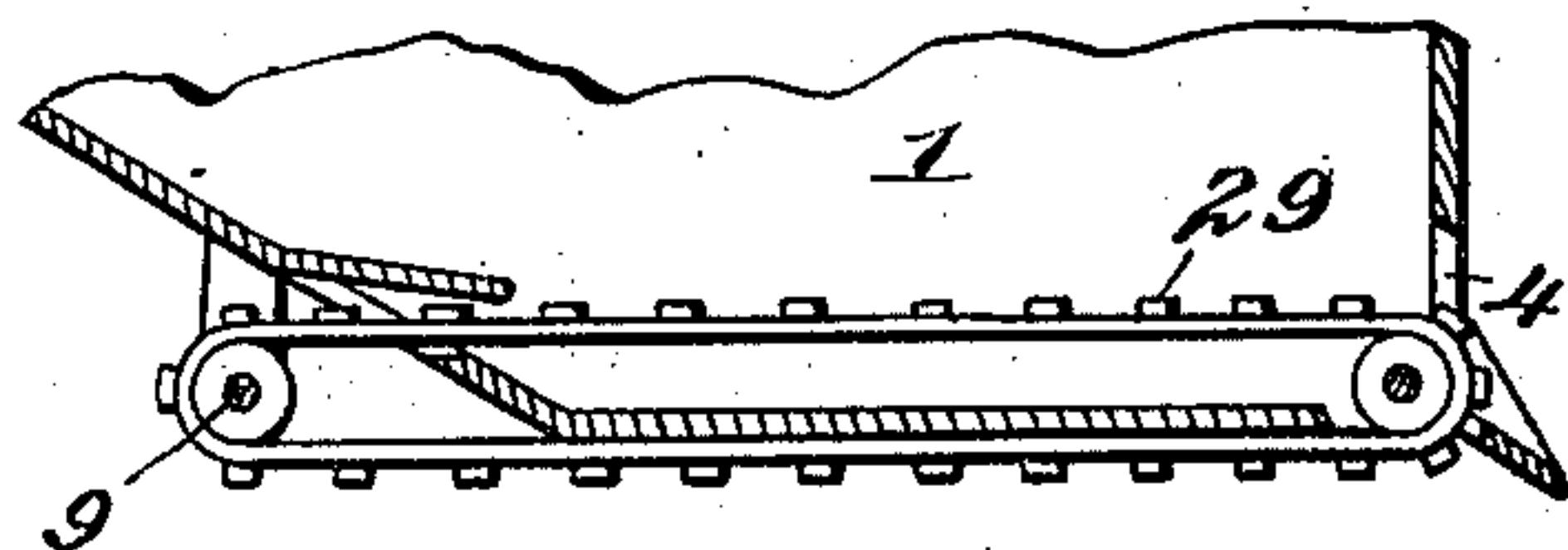


Fig. 4.

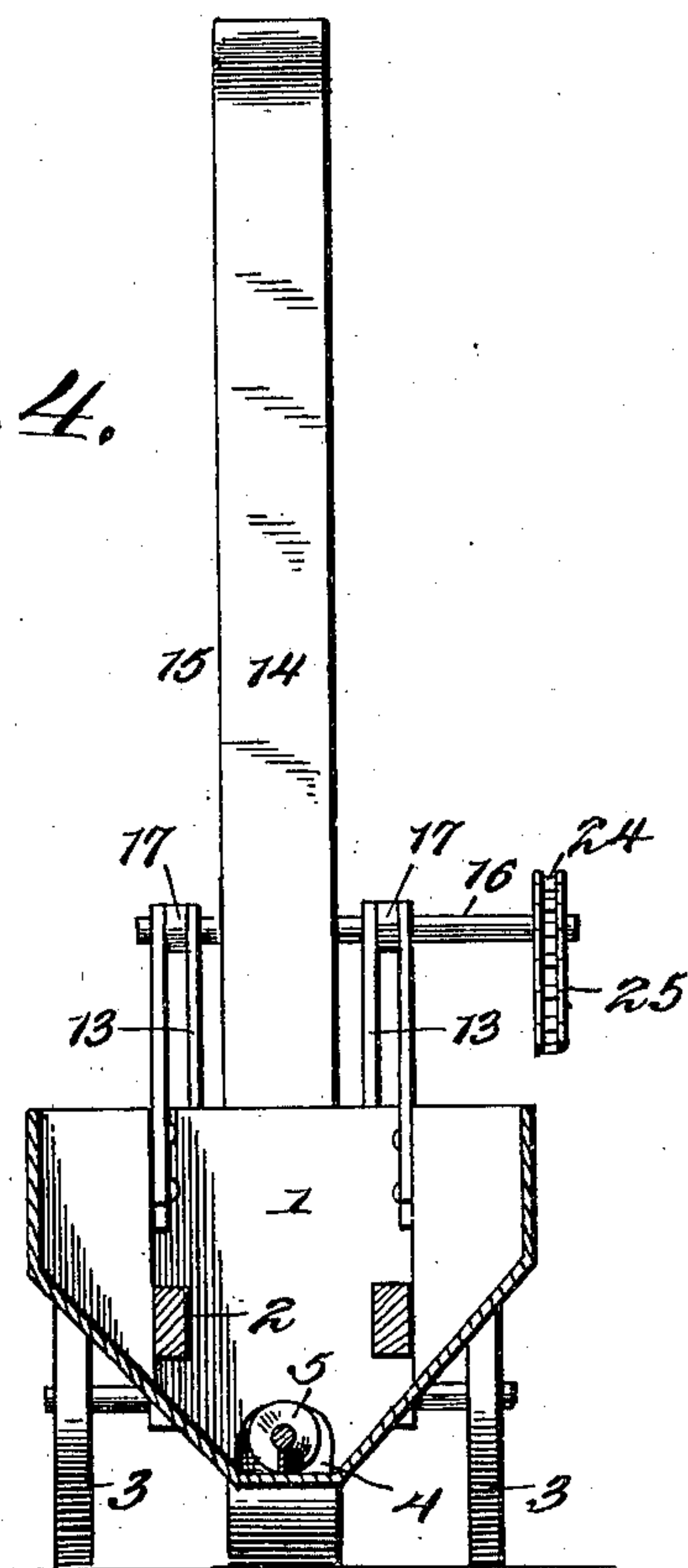
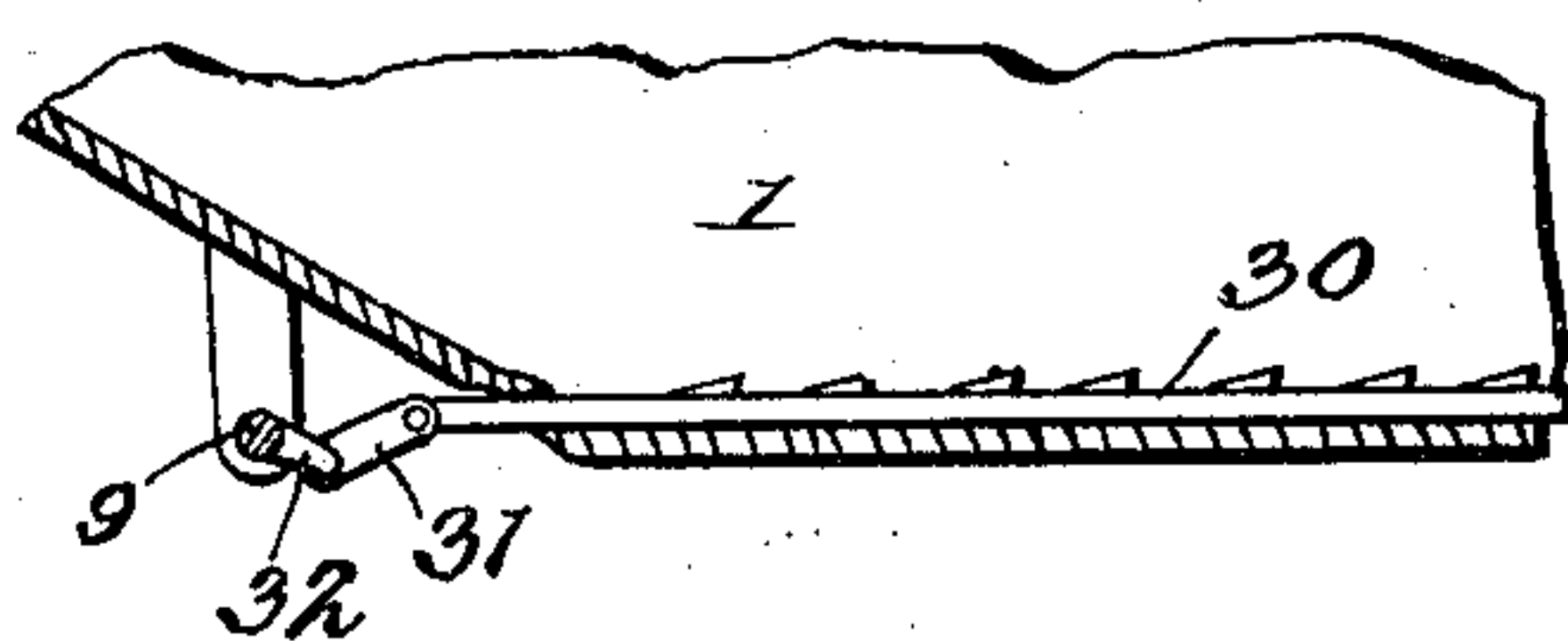


Fig. 6.



Witnesses
Howard D. Orr
J. W. Garner

Frank Jestrab, Inventor,
by C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

FRANK JESTRAB, OF PISEK, NORTH DAKOTA.

GRAIN UNLOADER AND ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 685,684, dated October 29, 1901.

Application filed January 4, 1901. Serial No. 42,125. (No model.)

To all whom it may concern:

Be it known that I, FRANK JESTRAB, a citizen of the United States, residing at Pisek, in the county of Walsh and State of North Dakota, have invented a new and useful Grain Unloader and Elevator, of which the following is a specification.

My invention is an improved portable grain elevator and unloader for transferring grain from a wagon to a car, granary, or the like.

My invention consists in the peculiar construction and combination of devices hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a grain unloader and elevator constructed in accordance with my invention, showing the elevator raised to its operative position and with its lower end in communication with the discharge end of the grain-receiving hopper. Fig. 2 is a side elevation of the same, showing the elevator folded over the truck. Fig. 3 is a top plan view of the same. Fig. 4 is a vertical transverse sectional view of the same. Figs. 5, 6, and 7 are detail views of the hopper and the means for discharging the grain therefrom to the elevator, the said figures illustrating modified forms of my invention.

In the embodiment of my invention I provide a receiving-hopper 1, which is supported on a truck-frame 2, that is provided with supporting-wheels 3, whereby it may be readily moved from point to point and whereby the receiving-hopper may be readily run under a wagon-body or the wagon backed over the hopper. It will be understood that the size and proportion of the parts of the hopper and truck must be such as to enable the same to be used as hereinbefore stated. The hopper is provided with a discharge-opening 4 at its rear end, to which a suitable discharge mechanism, located in the bottom of the hopper, conducts. In the form of my invention shown in Figs. 1, 2, 3, and 4 a conveying-worm 5 is located in the bottom of the hopper and is adapted to force the grain from the hopper to the discharge-opening 4. The front end of the worm is provided with an extended shaft 6, to the front end of which is keyed a beveled gear-wheel 7. The same

is engaged by a similar gear-wheel 8 on a shaft 9, which is transversely disposed with relation to the worm and is journaled in suitable bearings 10 under the truck-frame. A sprocket-wheel 11 is keyed to the said shaft 9, and the same is further provided with a power-pulley 12 or other suitable means for transmitting power thereto from a suitable engine or other source of power.

Standards 13 rise from the sides of the truck-frame, at the rear end thereof, and between the said standards the trunk 14 of the elevator (generically indicated at 15) is pivotally supported on a shaft 16, which extends transversely through the trunk and is journaled in bearings 17, with which said standards 13 are provided. The said trunk at its lower end is provided with an intake 18, which communicates with the discharge-opening 4 of the hopper when the trunk is turned on its pivotal support to the position indicated in Fig. 1 of the drawings, and the said trunk is provided at its upper end with the usual discharge-spout 19. Any suitable form of endless movable elevating apparatus (indicated at 20) may be employed in the trunk, and the same is driven by the coaction thereof with of the pivotal shaft 16, which hence becomes the power-shaft of the elevator. For the purposes of illustration I have herein shown the shaft 16 as provided with sprocket-wheels 21, which engage and operate endless sprocket-chains 22, that carry the elevating-buckets 23. The said shaft 16 is provided at one end with a sprocket-wheel 24, and the same is connected to the sprocket-wheel 11 on the shaft 9 by an endless sprocket-chain 25, whereby power is communicated from the shaft 9 not only to the feed-worm, but also to the elevator, so that the worm and elevator operate in unison. It will be further understood that by this construction and combination of devices, whereby power is communicated from the power-shaft 9 to both the feed-worm and the elevator, the elevator does not become disconnected from the power-shaft when it is disposed over the truck-frame in the position shown in Fig. 2. When the elevator is disposed in its operative vertical position, (shown in Fig. 1,) the same is locked in such position by a lock-bar 26, which is

pivoted to one side of the truck-frame at the rear end thereof, as at 27, and is secured to the opposite side of the truck-frame by a screw or other suitable device, as at 28. It will be understood that the said lock-bar must be unshipped and turned out of the way of the elevator-trunk before the elevator can be turned on its pivots and disposed over the truck, as shown in Fig. 2.

10 In the modified form of my invention shown in Fig. 5 I discard the feed-worm 5 and employ in lieu thereof an endless conveyer 29 in the bottom of the hopper to move the grain to the discharge-opening 4 thereof, the said
15 endless conveyer being directly operated by the power-shaft 9.

In the modified form of my invention shown in Fig. 6 I employ a reciprocating feeder 30 in the bottom of the hopper in lieu of either
20 of the devices hereinbefore described and connect the said reciprocating feeder, by means of a link 31, with a crank 32, with which I provide the power-shaft 9.

In the modified form of my invention shown in Fig. 7 I provide the hopper with a bottom-board 33, which is pivoted at its end proximate to the discharge-opening 4 of the hopper and extends in an inclined direction lengthwise in the hopper, and said bottom-
30 board may be inclined to any requisite angle in order to discharge the grain in the hopper by gravity through the opening 4 to the elevator.

Other modifications may be made without departing from the spirit of my invention.

Having thus described my invention, I claim—

1. In combination with a truck having a receiving-hopper, and standards which rise from the sides of said truck, beyond and above the discharge end of the hopper, an elevator-trunk having a pivotal shaft at a point intermediate of the ends of said elevator-trunk and journaled in bearings on said standards,
45 one end of said trunk when lowered communicating with the discharge end of said hopper, and an endless traveling elevating mechanism in said trunk, said elevating mechanism being driven by said pivotal shaft, the
50 latter having a pulley, a feed-worm in the bottom of said hopper, to convey material to the lower end of said elevator-trunk, a power-shaft geared to said feed-worm, a pulley on said power-shaft, and an endless belt connect-

ing said pulley and the pulley on said pivotal shaft, substantially as described. 55

2. In combination with a truck having a receiving-hopper, and standards which rise from the sides of said truck, beyond and above the discharge end of the hopper, an elevator-trunk having a pivotal shaft at a point intermediate of the ends of said elevator-trunk and journaled in bearings on said standards, one end of said trunk when lowered communicating with the discharge end of said hopper, and an endless traveling elevating mechanism in said trunk, said elevating mechanism being driven by said pivotal shaft, a feed-worm in said hopper to convey material therefrom to the lower end of said elevator-trunk, a power-shaft, and connections between the same and said feed-worm and pivotal driving-shaft, substantially as described. 65 70

3. In combination with a truck having side bars, a receiving-hopper thereon, and standards which rise from said side bars above and beyond the discharge end of the hopper, an elevator-trunk pivotally mounted at a point intermediate of its ends, between said standards, one end of said trunk, when lowered, being adapted to communicate with the discharge end of the hopper and to swing between said side bars of said truck, and a locking-bar, to secure said trunk in operative position, substantially as described. 75 80 85

4. In combination with a truck having a receiving-hopper, and standards which rise from the sides of said truck, beyond and above the discharge end of the hopper, an elevator-trunk having a pivotal shaft at a point intermediate of the ends of said elevator-trunk and journaled in bearings on said standards, one end of said trunk when lowered communicating with the discharge end of said hopper, and an endless traveling elevating mechanism in said trunk, said elevating mechanism being driven by said pivotal shaft, a feed mechanism in said hopper, and connections between said feed mechanism and the pivotal power-shaft of said elevator, substantially as described. 90 95 100

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

FRANK JESTRAB.

Witnesses:

W. R. DE PUY,
G. A. BODMER.