No. 896,271.

PATENTED AUG. 18, 1908.

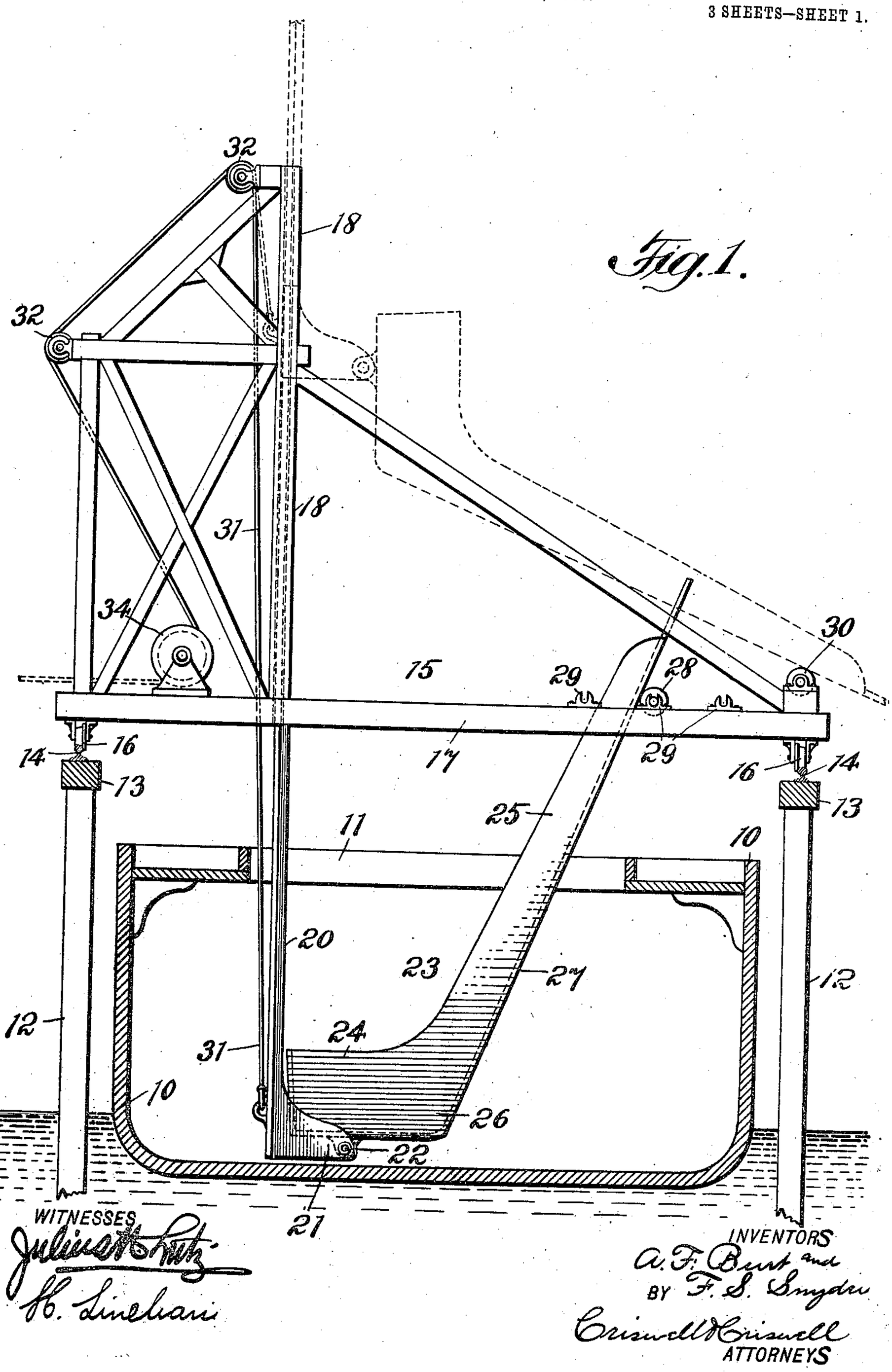
A. F. BURT & F. S. SNYDER.

UNLOADING APPARATUS.

APPLICATION FILED OCT. 31, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



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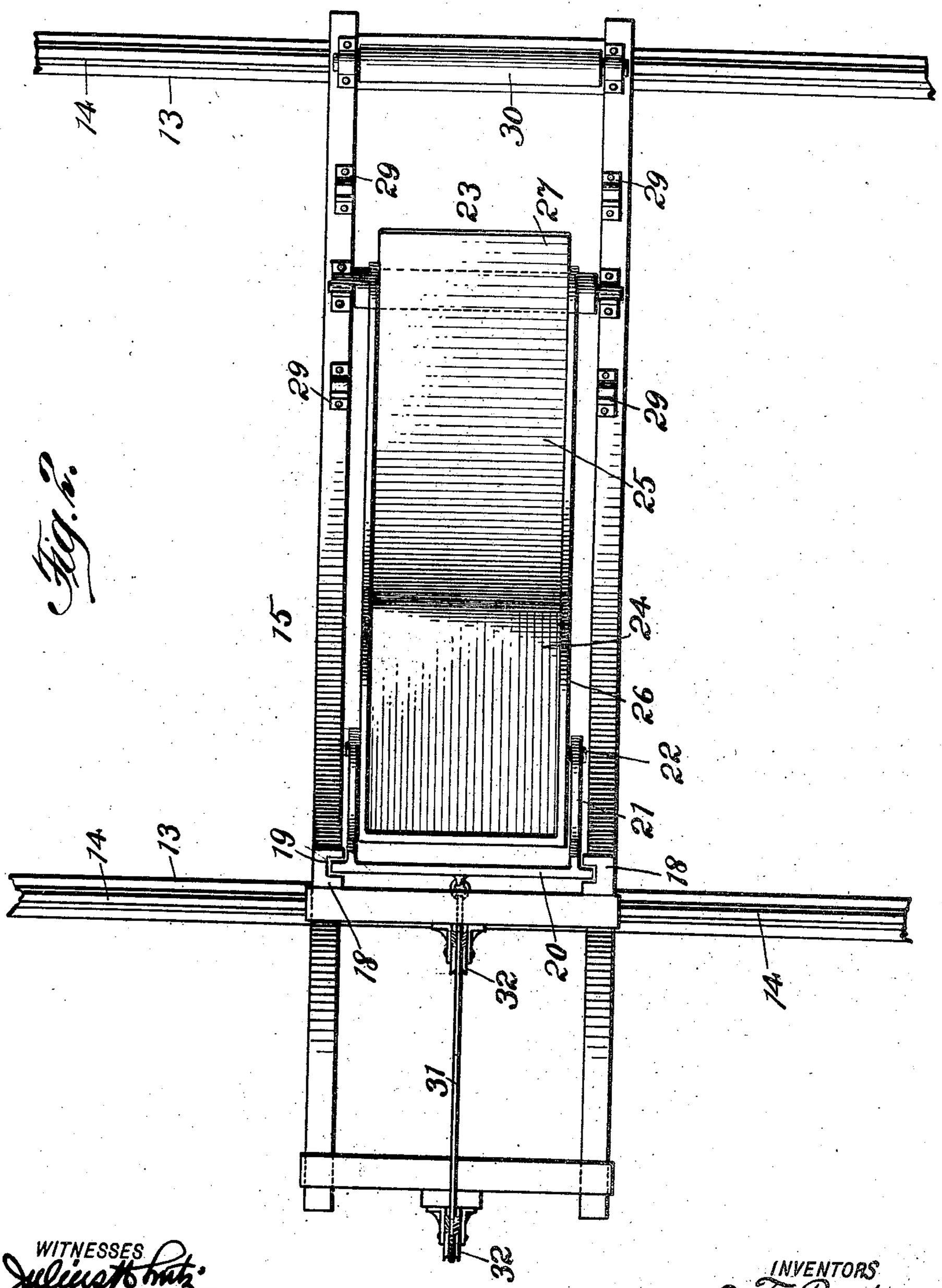
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

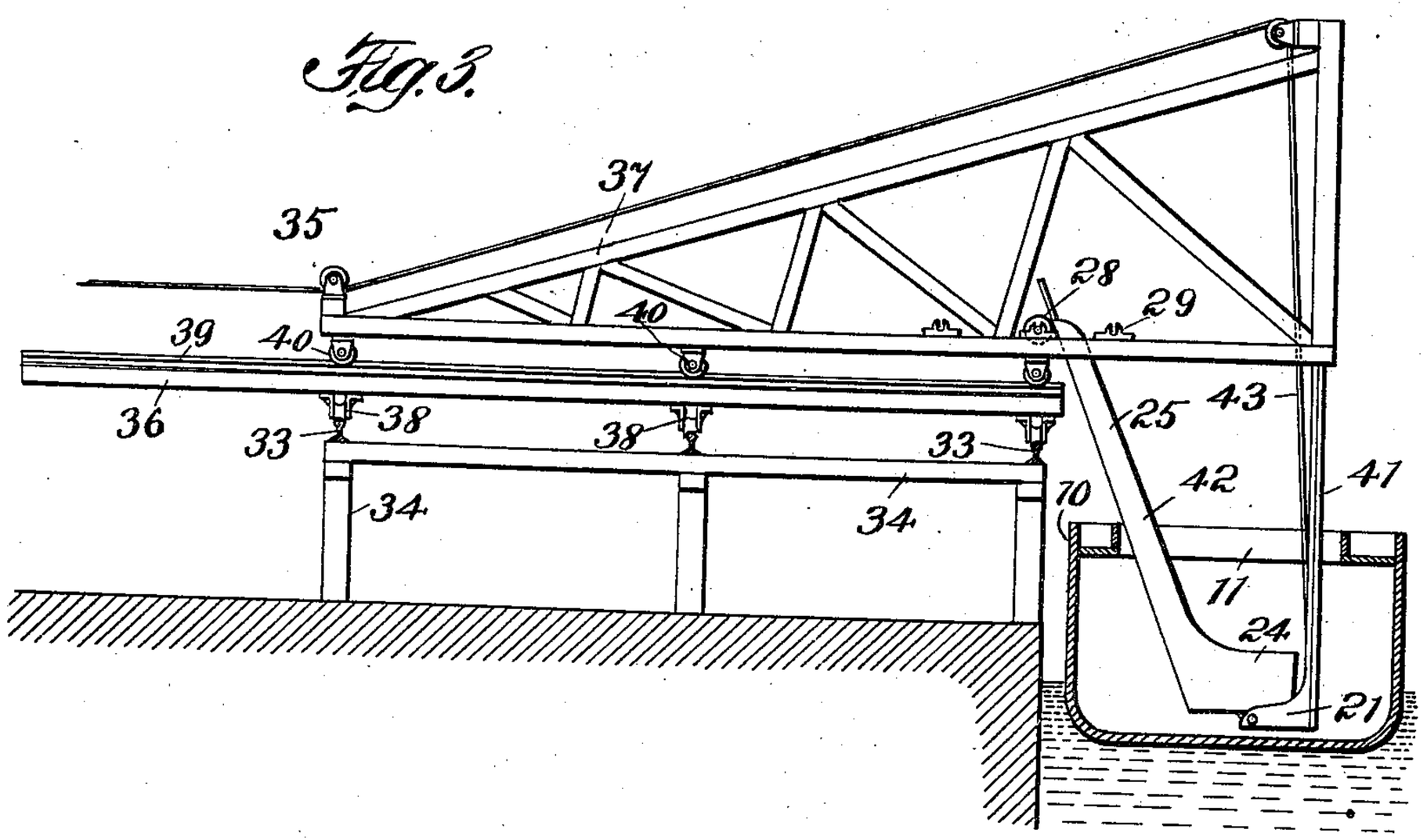
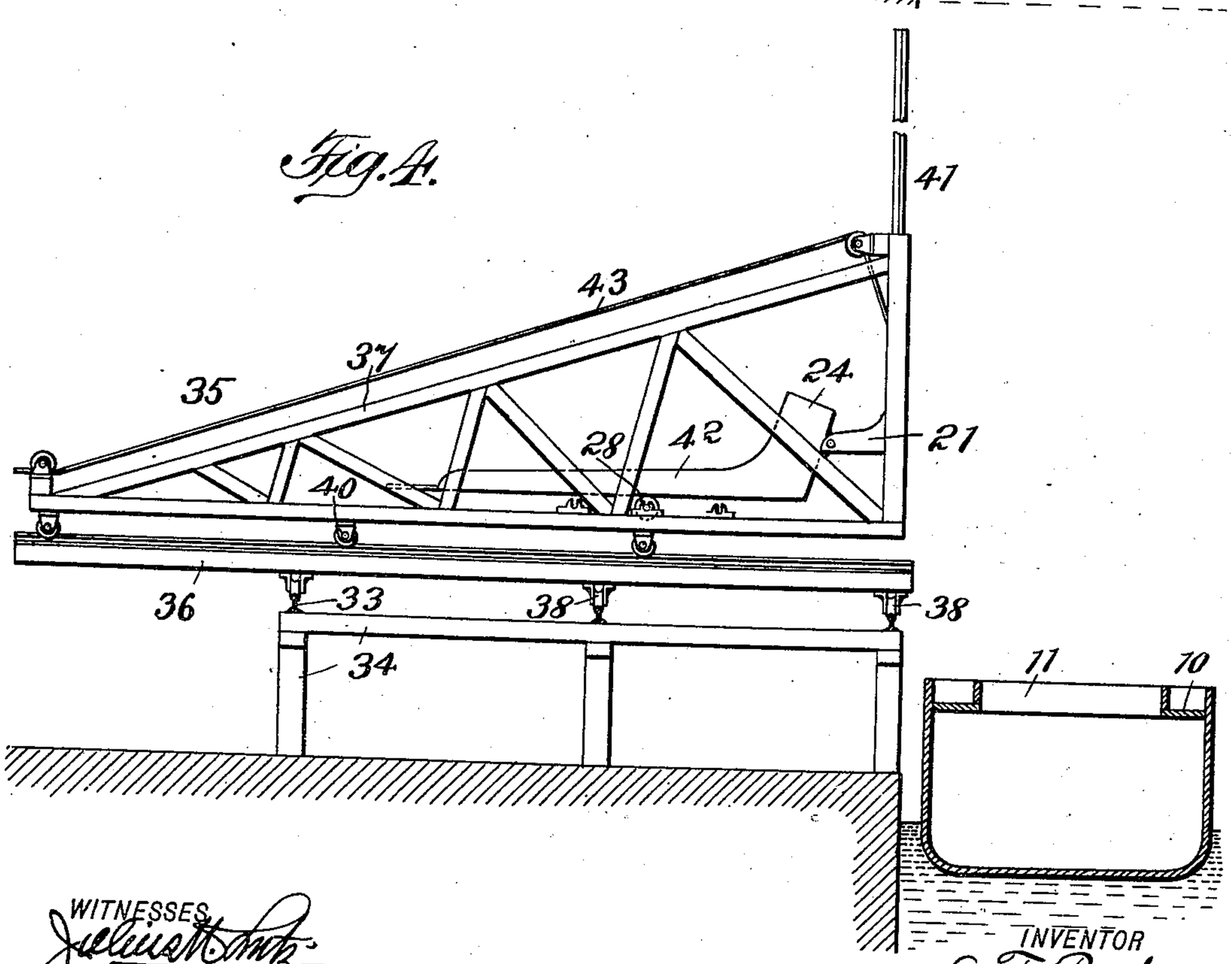


Fig. 4.



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UNITED STATES PATENT OFFICE.

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UNLOADING APPARATUS.

No. 896,271. Specification of Letters Patent. Patented Aug. 18, 1908.

Application filed October 31, 1907. Serial No. 400,019.

To all whom it may concern:

Be it known that we, ALONZO F. BURT and FREDERIC S. SNYDER, citizens of the United States, and residents of Whitehall, county of Washington, and State of New York, have invented certain new and useful Improvements in Unloading Apparatus, of which the following is a full, clear, and exact description.

This invention relates more particularly to an apparatus for unloading and transferring pulpwood from a boat to an elevator or to cars.

The primary object of the invention is to provide simple and efficient means whereby pulpwood, coal, ashes, sand or other material may be quickly elevated and transferred from a boat, car or other container, and discharged directly into an elevator or car without handling, and by the same means which elevates the material.

A further object of the invention is to provide a combined elevator and chute which is so made that it may be adjusted to different sizes of openings in a vessel or other container, and which may be readily moved so as to adapt the apparatus to be readily placed in various locations in order that all the material may be transferred.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings Figure 1, is a vertical section through a boat showing the apparatus in full lines in position to receive the material, and in dotted lines in position to discharge the material. Fig. 2 is a detail plan of the apparatus; and Figs. 3 and 4 show the apparatus adapted to be moved out of the way of the boat to be unloaded when not in use.

While we have shown the apparatus as applied to unloading a boat or vessel, and as if the frame and certain parts of the apparatus were constructed of wood, it will be understood that the apparatus may be employed for various purposes and in various connections, and that the frame work and other parts may be made of structural steel or other material, and arranged in various ways without departing from the character of the invention.

The vessel 10 may represent a canal boat having the usual hatchway or opening 11 through which material may be elevated, and on each side of the vessel may be arranged suitable supports or standards 12, along the upper part of which are the stringers or beams 13, on which may be arranged suitable tracks 14. Adapted to move along the tracks 14 is a frame 15, which may be of any suitable construction, and of any suitable material. The frame may have wheels 16 supported under the base 17 of the same, which are adapted to move along the tracks 14, and this frame may be moved along the track by means of a worm and gear or a rack and pinion with ratchet to adapt the frame to be moved along the track so that it may be placed in various positions in order that all the material in the boat may be removed. The means for moving the frame is not shown, as this may be of any suitable construction, and may be operated by hand or power, and located in various ways according to the use to which the apparatus is put.

To elevate the material and transfer the same from the boat, we provide vertically disposed guides 18 forming a part of the main frame 15, and in these guides are grooves 19, in which the ends of a cross-head or elevator 20 is adapted to move. This elevator is of sufficient length to reach into the boat or vessel from which the material is to be discharged, and at the lower end thereof is provided with projecting brackets 21 to which is pivoted at 22 the device or bucket and chute 23. This bucket and chute may be of any suitable material, and if of wood it may be lined with sheet steel or other metal to more readily discharge the material, and said device has a bucket portion 24, and a discharge portion or chute 25. The bucket portion 24 is of sufficient size to hold the proper quantity of material, and is arranged at an angle with respect to the chute portion, and has its side walls 26 forming a continuation of the side walls of the chute. The bottom 27 of the chute forms a continuation of the bottom end of the bucket 24, and the upper end of the chute 25 normally rests against a roll 28, which is supported upon the frame 15. This roll is preferably mounted in boxes 29 or otherwise, and a series of these boxes are provided so that the roll may be readily adjusted to adapt the device to enter openings of different sizes in the boat containing

the material, and on the outer portion of the frame is mounted a fixed roll 30, which is adapted to support the combined bucket and chute when the latter has been raised or elevated in position to discharge the material as shown in dotted lines in Fig. 1. Instead of the rolls being arranged as shown the roll 28 may be placed on the combing and the roll 30 on the wale of the boat.

The elevator and bucket may be raised in any suitable manner. As shown a rope or cable 31 is fastened at one end to the elevator or cross-head near the lower portion thereof, and this cable is passed over one or more pulleys or wheels 32, which are supported on the frame 15, and said rope or cable is passed around a wheel or drum 34 of an engine, or to any convenient means whereby the cable may be operated to raise the elevator or cross-head, and through it the bucket device 23.

It will be readily seen from the drawings that the position of the apparatus as shown in Fig. 1 is such that it may receive the material to be discharged, and that as soon as the cable raises the elevator 20, it will also carry the device 23 to the position shown in dotted lines in Fig. 1, and that in this position the material may be discharged into a car or other receptacle provided therefor.

In some instances it is desirable that the supporting means for the frame be so arranged that the frame and elevating means may be moved entirely clear and out of the path of the boat or other means which contains the material to be unloaded. As shown in Figs. 3 and 4 the apparatus is represented as being arranged along a dock, and the frame supporting the elevating means is adapted to move both longitudinally and laterally, so that a vessel with masts may be placed adjacent to the unloading apparatus by moving the latter to one side as shown in Fig. 4 preparatory to unloading the material, which could not be done conveniently where the frame is supported upon oppositely arranged standards, and having only a lengthwise movement as shown in the other figures. In Figs. 3 and 4 a plurality of rails 33 are suitably arranged upon a support 34, and on the rails is adapted to move the frame 35. This frame comprises a longitudinally movable member 36 and a transversely movable member 37, which is supported on and is adapted to be moved in any suitable way transversely of the member 36. The member 36 is provided with wheels 38, which are adapted to move along the rails 33, and along the upper surface of the member 36 are the rails 39 extending transversely of the same, along which the wheels 40 of the member 37 are adapted to move. The frame members may be constructed in any suitable way, and any suitable means may be employed for moving the members lengthwise of the boat or other holding means, or one member relatively with respect to the other, and to positively hold these members when once placed in their proper position to unload the material.

The transversely movable member 37 carries the elevator 41, and the combined bucket and chute 42 of substantially the same construction as shown in the other figures, the position of the elevator and bucket with respect to the frame being slightly changed, the chute and elevator being positioned to discharge the material to be unloaded into a car or other means which may be run along the dock under the support 34. As in the other figures, the elevator 41 may be raised by a cable or rope 43, which may be operated by an engine or other suitable means.

From the foregoing it will be seen that simple and efficient means is provided whereby various kinds of material may be unloaded from vessels or other holding means, and while being elevated the same means which is moved for raising the same, will discharge the material into cars or other receptacles without any handling whatever.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. The combination with a track, of a frame movable along the track, guides supported on the frame, a cross-head or elevator slidingly held in the guides, said elevator having outward projecting brackets at the lower end thereof, a device pivotally held to the elevator and having a bucket and a chute portion forming a continuation of each other and angularly disposed with respect to each other, an adjustable roll for supporting the outer end of the chute, and means raising the bucket and chute.

2. The combination with a track, of a frame movable lengthwise of the track, guides supported on the frame, an elevator slidingly held in the guides, means for raising the elevator, said elevator having outward projecting brackets at the lower end thereof, and a combined bucket and chute forming a continuation of each other and angularly disposed with respect to each other and movable with the elevator.

3. The combination with a track, of a laterally movable frame supported on the track, guides supported on the frame, an elevator slidingly held in the guides, means for raising the elevator, said elevator having outward projecting brackets at the lower end thereof, a combined bucket and chute pivotally held to the elevator, and rolls for supporting the outer end of the chute.

4. The combination with a movable frame and means for supporting the same, of guides supported on the frame, an elevator slidingly held in the guides, means for raising the elevator, said elevator having outward projecting brackets at the lower end thereof, a combined bucket and chute pivoted to the eleva-

tor at one end and angularly disposed with respect to each other, and means for supporting the outer end of the chute.

5. The combination with a movable frame and means for supporting the same, of a vertically movable elevator slidingly held in the frame, means for raising the elevator, a combined bucket and chute forming a continuation of each other and angularly disposed with respect to each other, and adjustable and fixed rolls for supporting the outer end of the chute.

6. The combination with a movable frame, of guides supported on the frame, an elevator slidingly held in the guides, means for raising the elevator, a combined bucket and chute forming a continuation of each other, and rolls for supporting the outer end of the chute.

This specification signed and witnessed this 26th day of October A. D. 1907.

ALONZO F. BURT.
FREDERIC S. SNYDER.

Witnesses:
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JOHN J. KELLEY.