

No. 615,862.

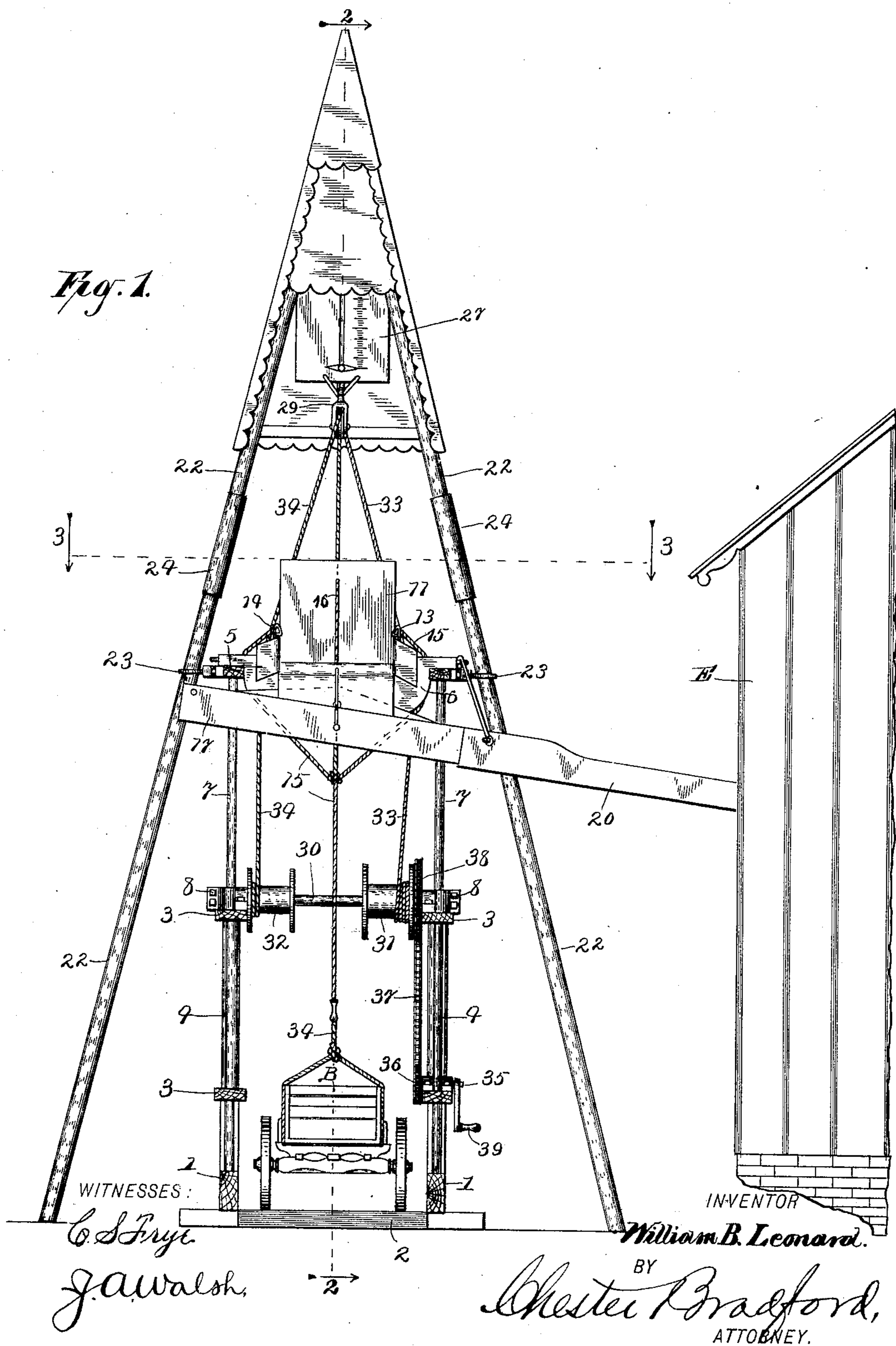
Patented Dec. 13, 1898.

W. B. LEONARD.
PORTABLE GRAIN DUMP.

(Application filed May 16, 1898.)

(No Model.)

3 Sheets—Sheet I.



No. 615,862.

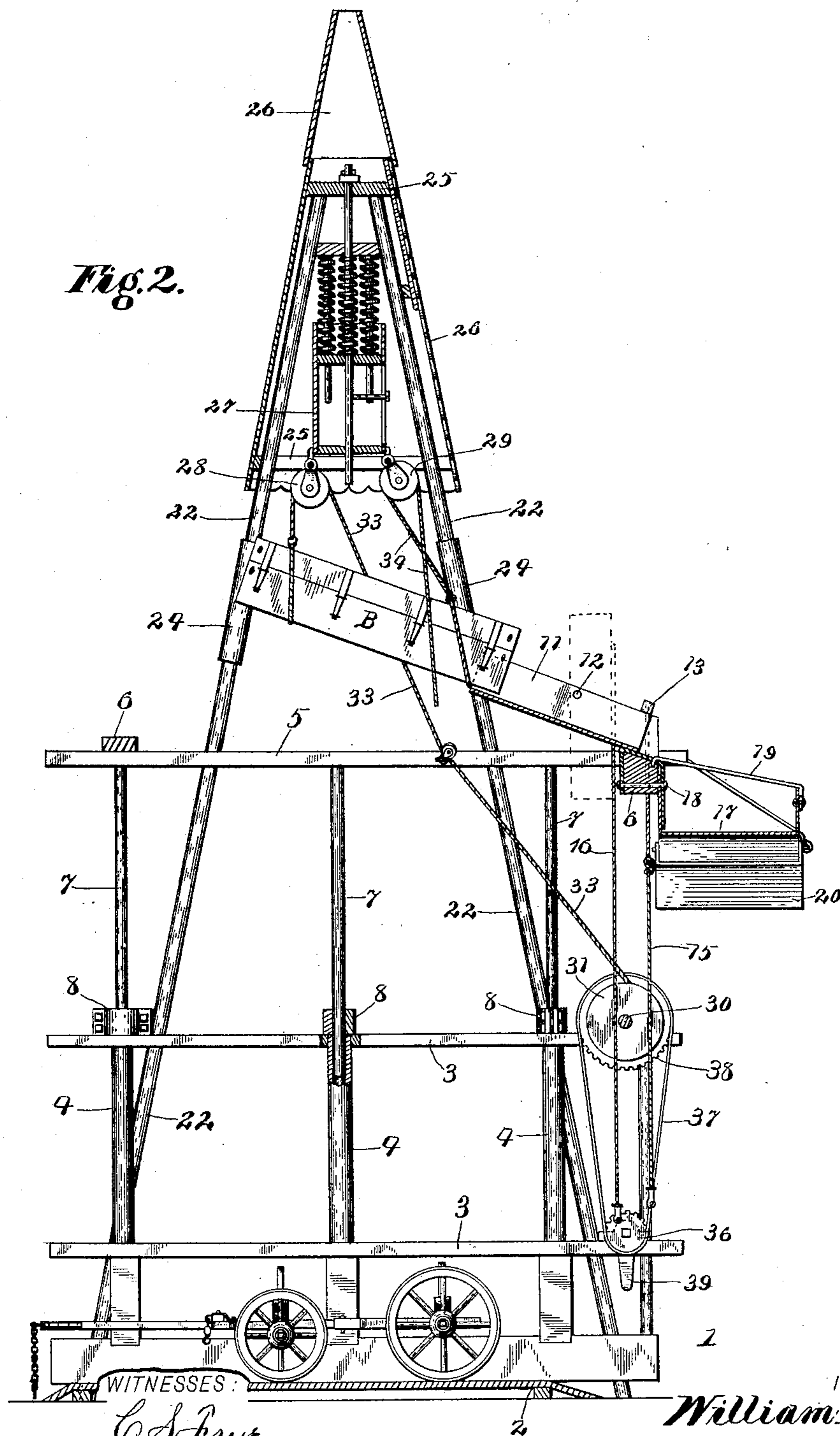
Patented Dec. 13, 1898.

W. B. LEONARD.
PORTABLE GRAIN DUMP.

(Application filed May 16, 1898.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES:

C. S. Frye.
J. A. Walsh.

INVENTOR:

William B. Leonard

BY

Chester Bradford,
ATTORNEY.

No. 615,862.

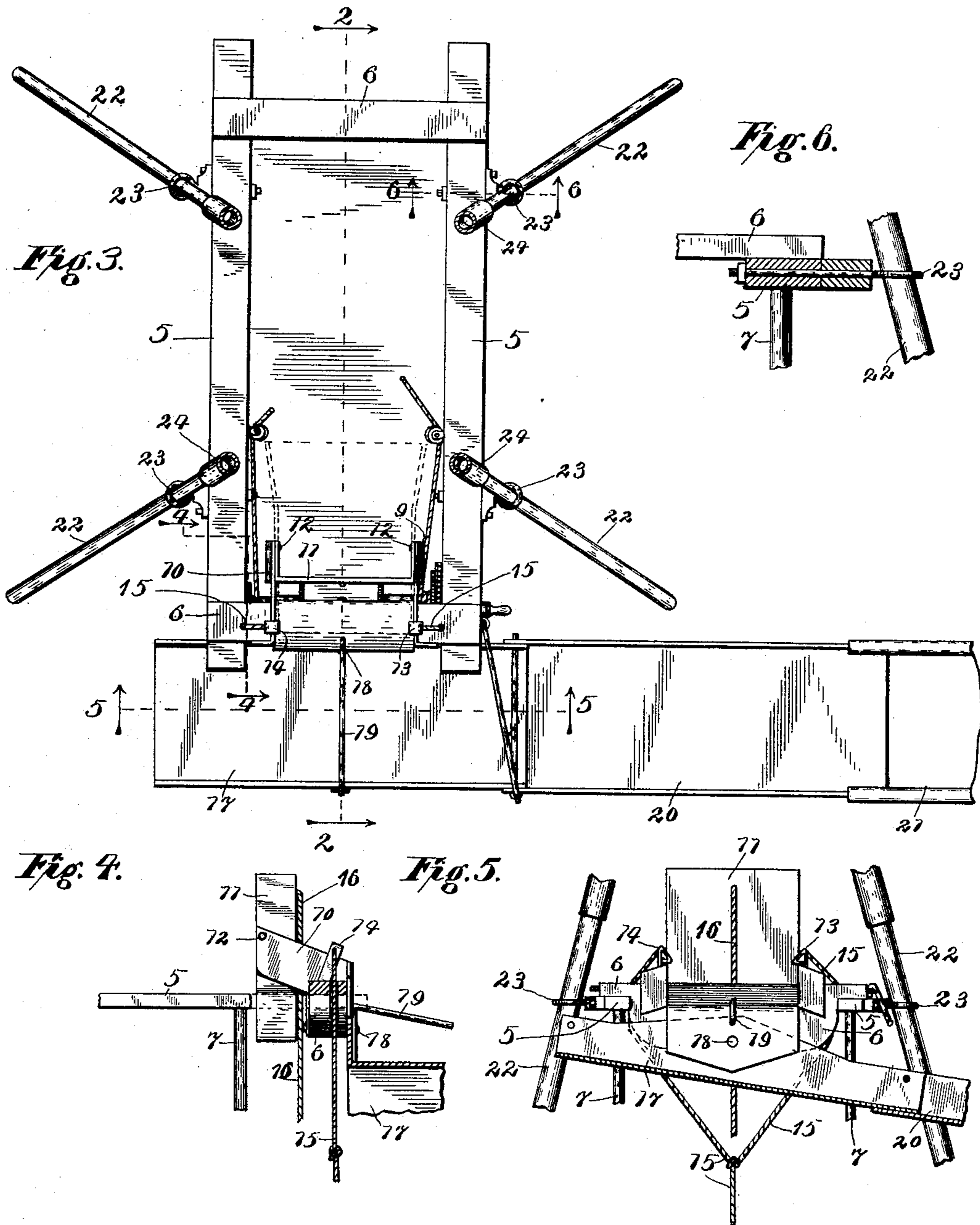
Patented Dec. 13, 1898.

W. B. LEONARD.
PORTABLE GRAIN DUMP.

(Application filed May 16, 1898.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES:

G. S. Frye.
J. A. Walsh.

INVENTOR

William B. Leonard.

BY

Chester Bradford,
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM B. LEONARD, OF WALLACE, INDIANA.

PORTABLE GRAIN-DUMP.

SPECIFICATION forming part of Letters Patent No. 615,862, dated December 13, 1898.

Application filed May 16, 1898. Serial No. 680,791. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. LEONARD, a citizen of the United States, residing at Wallace, in the county of Fountain and State of Indiana, have invented certain new and useful Improvements in Portable Grain-Dumps, of which the following is a specification.

In those localities where large amounts of grain are produced the grain upon being threshed is usually loaded directly into wagons, which are driven to elevators, where the wagons are unloaded.

The object of my present invention is to produce an apparatus by which such wagon-bodies can be expeditiously unloaded and the quantities contained thereby ascertained, while all shoveling or other hand handling is completely dispensed with.

An apparatus embodying my said invention will be first fully described, and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters and numerals of reference indicate similar parts, Figure 1 is a front elevation of such an apparatus, showing the position of a wagon in relation thereto before the wagon-body has been raised and its contents discharged; Fig. 2, a central sectional view on the dotted lines 2 2 in Figs. 1 and 3, showing the wagon-body raised into the position which it occupies at the time when the contents are being discharged therefrom; Fig. 3, a horizontal sectional view as seen from the dotted line 3 3 in Fig. 1; Fig. 4, a detail sectional view as seen from the dotted line 4 4 in Fig. 3; Fig. 5, a detail view as seen from the dotted line 5 5 in Fig. 3, and Fig. 6 a detail sectional view on the dotted line 6 6 in Fig. 3.

This apparatus consists, generally speaking, of a main framework upon which the elevating mechanism and the chutes to receive the grain are carried, a derrick-like frame supporting the pulley-blocks of the elevating apparatus, and a suitable scale by which the weight or quantity of grain may be ascertained.

The main frame consists of two sections, the lower section being composed of suitable sills 1, cross-bars 2, side beams 3, and tubular uprights 4. The upper section is composed of a rectangular framework 5 6 and down-

wardly-extending rods 7, which latter enter the tubular uprights 4 of the lower section. Clamp-collars 8 are placed upon the rods 7, and these collars are adapted to be adjusted to any position desired, so that the rods 7 may enter the tubular uprights 4 to any desired distance and be strongly supported at the adjusted point. By this means I provide for a greater or less height, as the circumstances may require, so that the grain may be unloaded at varying points of elevation and so that the structure may be easily disassembled for purposes of storage and transportation.

Secured to one end of the upper frame-section are suitable arms 9 and 10, between which is the chute 11, which is mounted on said arms by means of the pivots 12. Alongside the outer end of said pivoted chute are catches 13 and 14, which are adapted to engage with the edge of said chute and hold it to its raised position. These are preferably spring-catches and are operated by a branched cord 15, which runs up through suitable perforations in the framework alongside but somewhat removed from said catches, and thence inwardly to the tops of said catches, to which they are attached. Pulling upon said cord will obviously pull said catches outwardly and permit the chute to escape therefrom, when it will fall down into the position shown in Figs. 1, 3, and 4 and indicated by dotted lines in Fig. 2, that portion thereof beyond the pivots being made somewhat the heaviest for the purpose of causing it to thus operate. The position just described is that which this chute ordinarily occupies while the elevating of the wagon-body containing the grain is going on. After the wagon-body has been elevated then said chute is raised to the position shown by full lines in Fig. 2 by pulling upon the cord 16, which is attached to its outer end and by which it is drawn up to place. As it reaches this position the spring-catches 13 and 14 automatically engage therewith and securely hold it while the grain is being unloaded and until they are disengaged. Below the mouth of the chute 11 is a receiving-chute 17, which is carried by a centrally-positioned pivot 18 and a hanger-rod 19, as shown. This chute-section is adapted to be tipped to discharge in either direction, so that the grain may be

caused to flow to a receptacle upon either side of my apparatus. Additional sections 20 21, &c., may be added to said chute to give any desired length. I have shown two such sections; but obviously as many may be added as desired.

The derrick is composed of four poles 22, which are connected to the frame members 5 by pivoted clamps 23. Said poles are thus enabled to be swung out to such angle as may be desired and after being located secured firmly in place by said clamps. Each rod is preferably composed of two or more sections, and these sections are adapted to be united by sleeves 24, connected to the ends of some of the rod-sections and adapted to receive the ends of others. At the upper end these derrick-poles are connected together by a suitable frame structure 25, which may or may not be covered with a roof 26.

In the construction shown I have shown a scale 27, to which the pulley-blocks 28 and 29 are attached. It is obvious, however, that the position of said scale and the exact arrangement of connecting parts may be varied without departing from my invention.

Mounted on the lower frame-section is a shaft 30, and upon this are two spools or winding-drums 31 and 32, one being somewhat larger in diameter than the other. A rope 33 runs from the drum 31 to the pulley-block 28, and a rope 34 runs from the drum 32 to the pulley-block 29. These ropes run from the pulley-blocks down and are adapted to engage the two ends of the wagon-bed. Obviously when they are turned the larger drum winds its rope somewhat more rapidly than the smaller, so that as the wagon-body reaches its extreme elevation its front end is raised considerably higher than its rear end, and this obviously facilitates the discharge of the contents of said wagon-body.

As a means of driving the shaft I have shown a crank-shaft 35, upon which is a sprocket-wheel 36, and a sprocket-chain 37 runs to a corresponding but larger sprocket-wheel 38 on said shaft 30, thus providing for a suitable multiplication of power and enabling a single operative to easily elevate the wagon-body by turning said crank-shaft through the crank 39.

The operation of my invention may be stated as follows: The apparatus having been erected a wagon is driven into the position indicated in the drawings and the ropes 33 and 34 are made fast to the ends of the wagon-body B, the spout 11 being at the time in the position shown by the full lines in Figs. 1 and 3 and by the dotted lines in Fig. 2, where it remains by its own gravity, the pivots 12 being somewhat to one side of the center. The wagon-body is then elevated to the position shown in Fig. 2 and the chute 11 is pulled up to the position shown by full lines in Fig. 2 by means of the cord 16. The end-gate of the wagon-body is then removed, when the contents thereof will readily discharge them-

selves into the chute 11, and thence into the chute or chute part 17, whence they run down into the chute extension 20, or such other extension as may be connected thereto, and into an elevator or other building E, as indicated in Fig. 1.

The height of the structure may be adjusted as desired by simply loosening the clamp-collars 8 and raising or lowering the rods 7 in the tubular uprights 4 until the desired height is attained, when the clamp-collars are again tightened. It is necessary to have an operative on the framework for the purpose of removing and replacing the end-gates of the wagon-bodies as they are raised, which is done with considerable rapidity, and this same operative can easily note and make a record of the weights as indicated on the scale 27.

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

1. The combination, in a wagon-unloader, of the main frame carrying chutes to receive the contents of the wagon-body, a separate derrick structure extending up alongside and over said frame carrying the elevating mechanism, clamps for securing said derrick structure and said main frame together, and the weighing device mounted on said derrick and having said elevating mechanism connected thereto, substantially as set forth.

2. The combination, in a wagon-unloader, of a derrick-like structure carrying pulley-blocks, ropes running over said pulley-blocks and adapted to be attached to the wagon-body, means for operating said ropes, a frame situated below said derrick-like structure and carrying chutes to receive the contents of the wagon-bodies, said frames being composed of two sections, the uprights of one section entering the uprights of the other section telescopically, and means for adjustably securing said uprights in relation to each other, whereby the height of said frame as a whole is adapted to be adjustably secured to any desired height, substantially as set forth.

3. The combination, in a wagon-unloader, of a derrick-like structure whereby the wagon-body is elevated, a framework situated below said structure and carrying chutes to receive the contents of the wagon-bodies as discharged, said chutes, the one which is arranged to receive the immediate discharge being pivoted midway its length and adapted to extend when in operative position from the discharge end of said wagon-body across to the main chute, catches for automatically securing said chute at the proper elevation when turned on its pivots, ropes connected with said chute for operating it, and ropes connected to said catches for releasing them and permitting said chute to drop into vertical position, when desired, substantially as set forth.

4. The combination, in a wagon-unloader, of a derrick carrying means to raise the wagon-bodies, a framework below said der-

rick, arms 9 and 10 on said framework, a pivoted chute 11 carried by said arms, catches 13 and 14 for holding said chute in its operative position, a rope 16 for manipulating the chute, and a branched rope 15 for manipulating the catches, substantially as set forth.
In witness whereof I have hereunto set my

hand and seal, at Indianapolis, Indiana, this 11th day of May, A. D. 1898.

WILLIAM B. LEONARD. [L. S.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.