

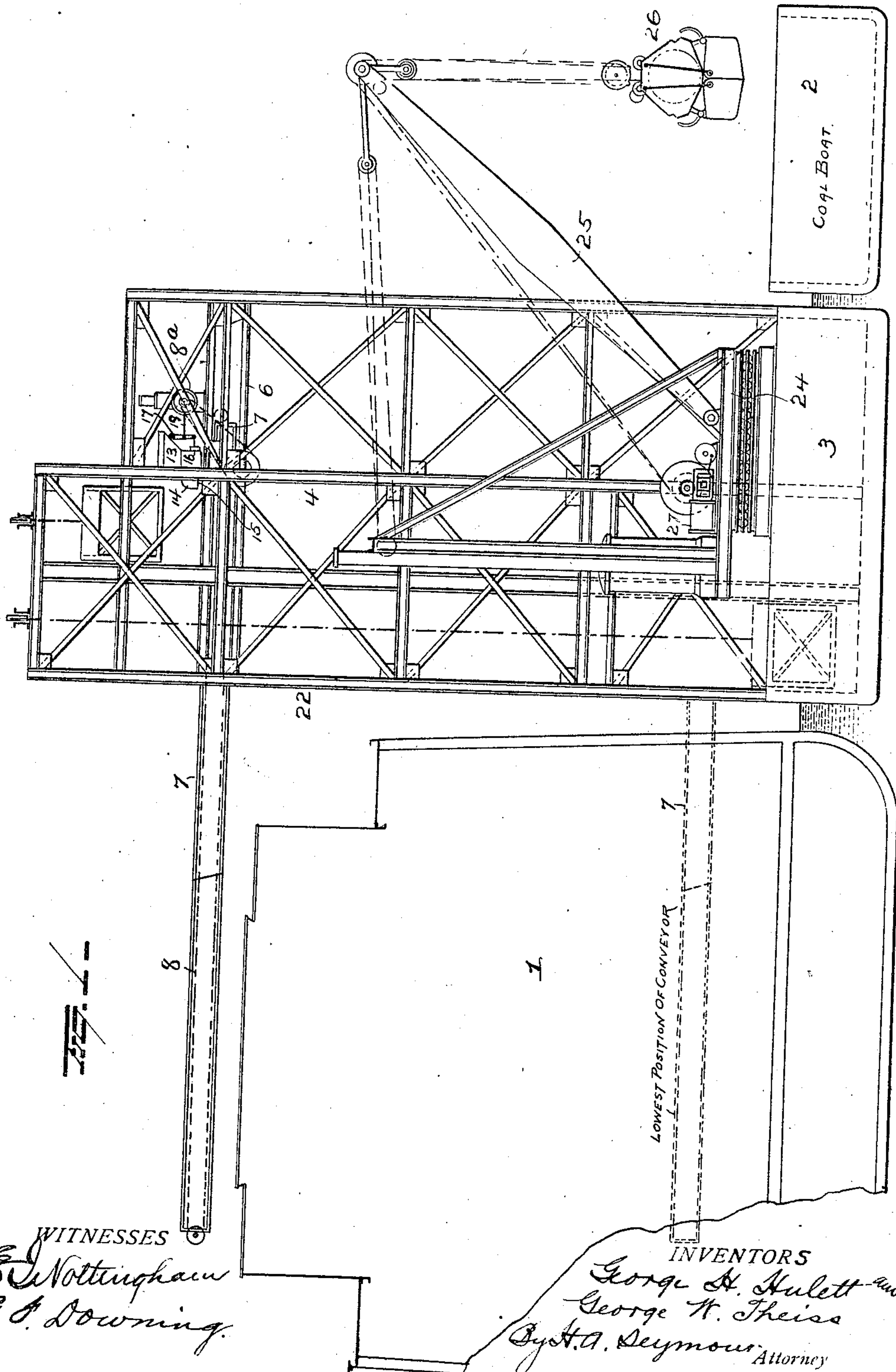
No. 828,317.

PATENTED AUG. 14, 1906.

G. H. HULETT & G. W. THEISS.
SHIP FUELING MACHINERY.

APPLICATION FILED JAN. 13, 1906.

3 SHEETS—SHEET 1.



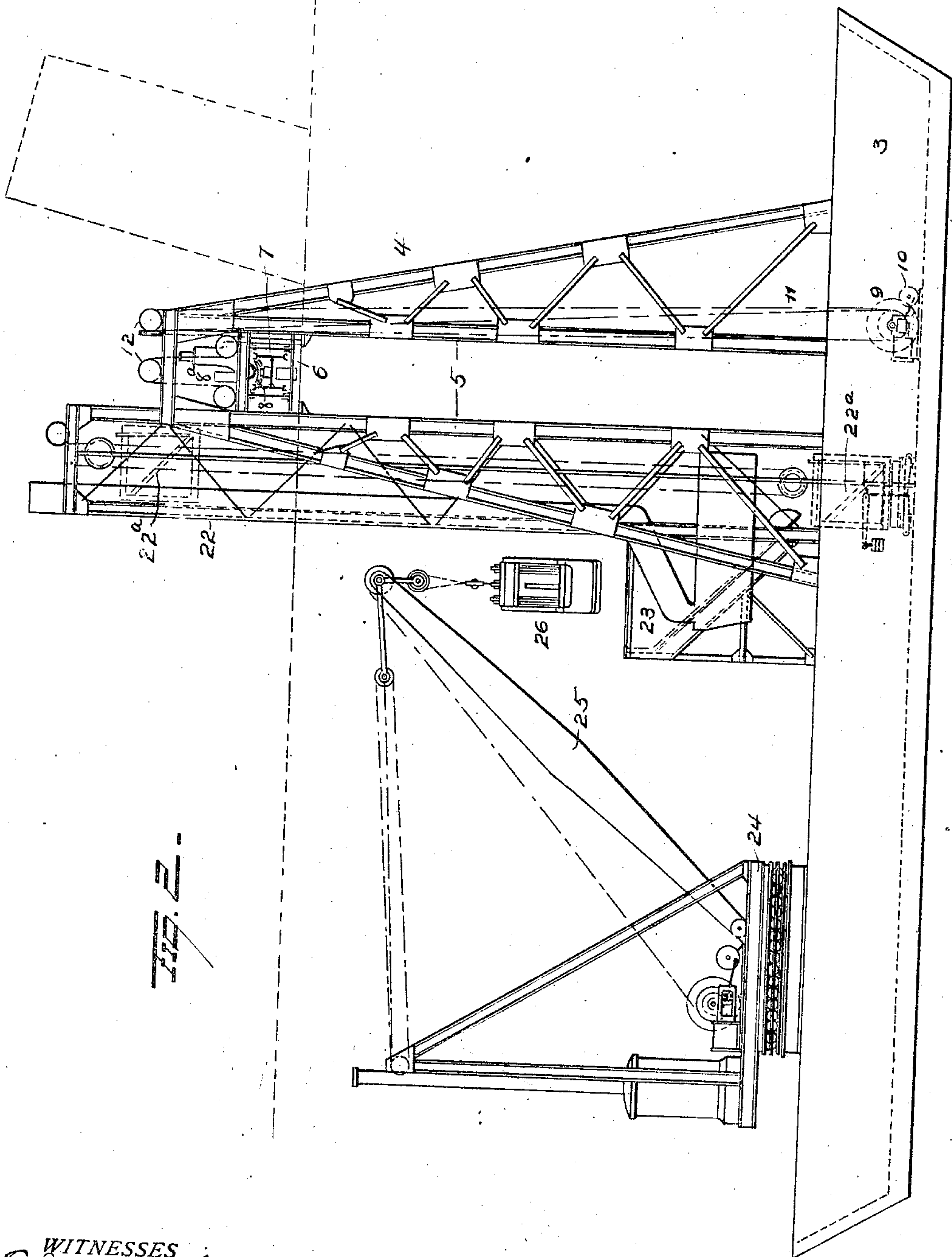
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E. E.

WITNESSES

E. J. Nottingham
G. F. Downing

INVENTORS

George H. Hulett and
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By H. A. Seymour, Attorney

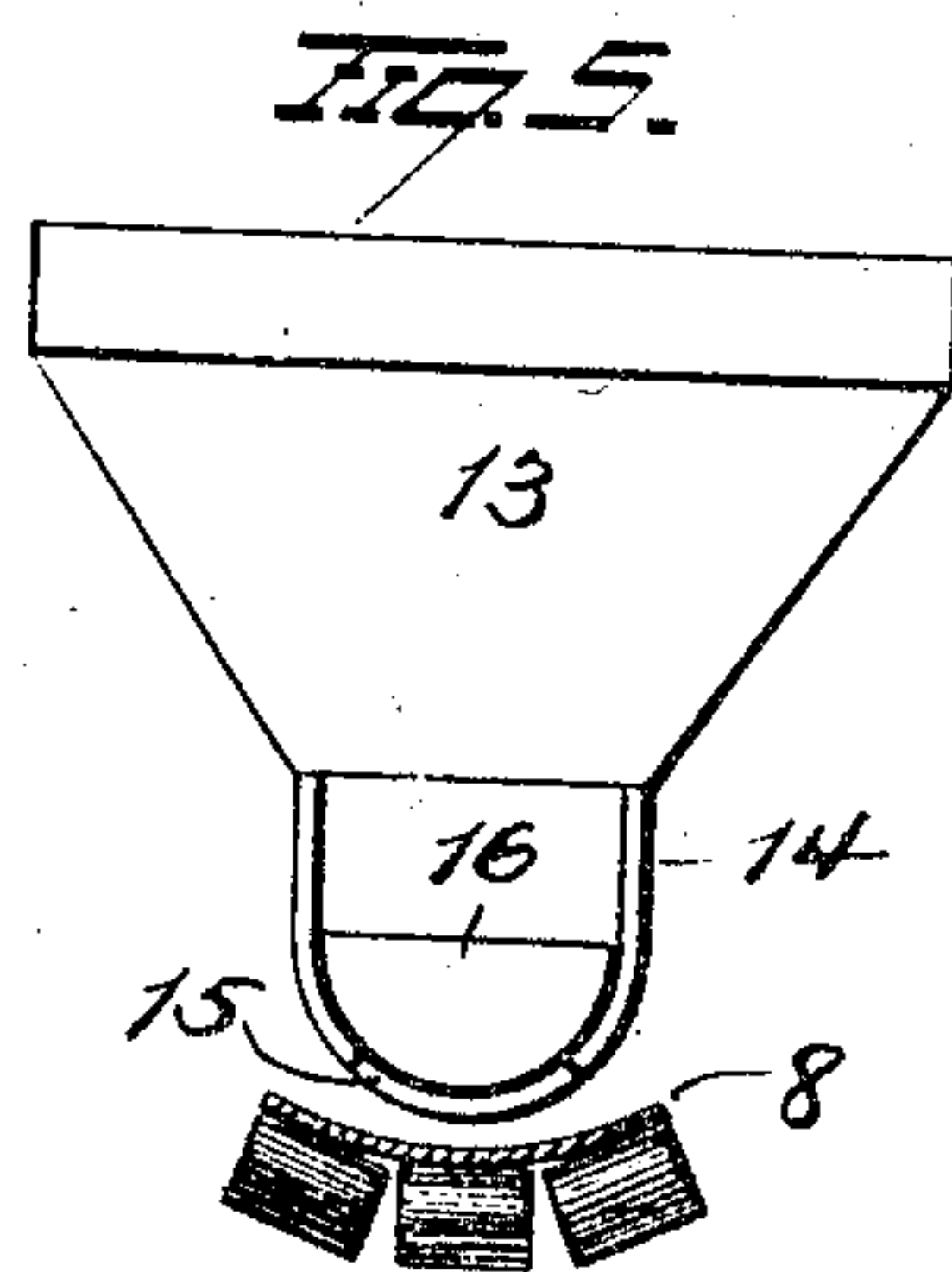
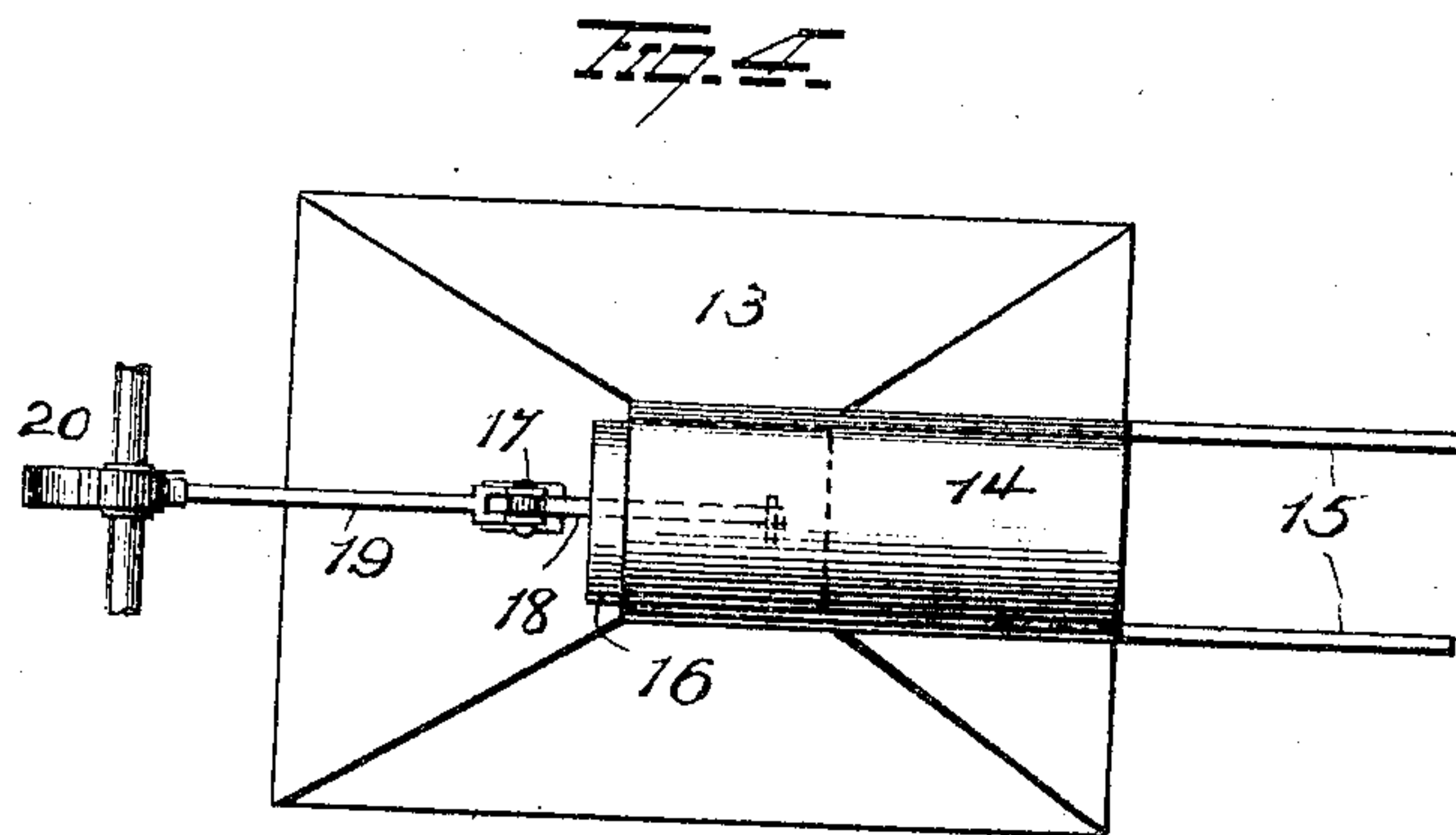
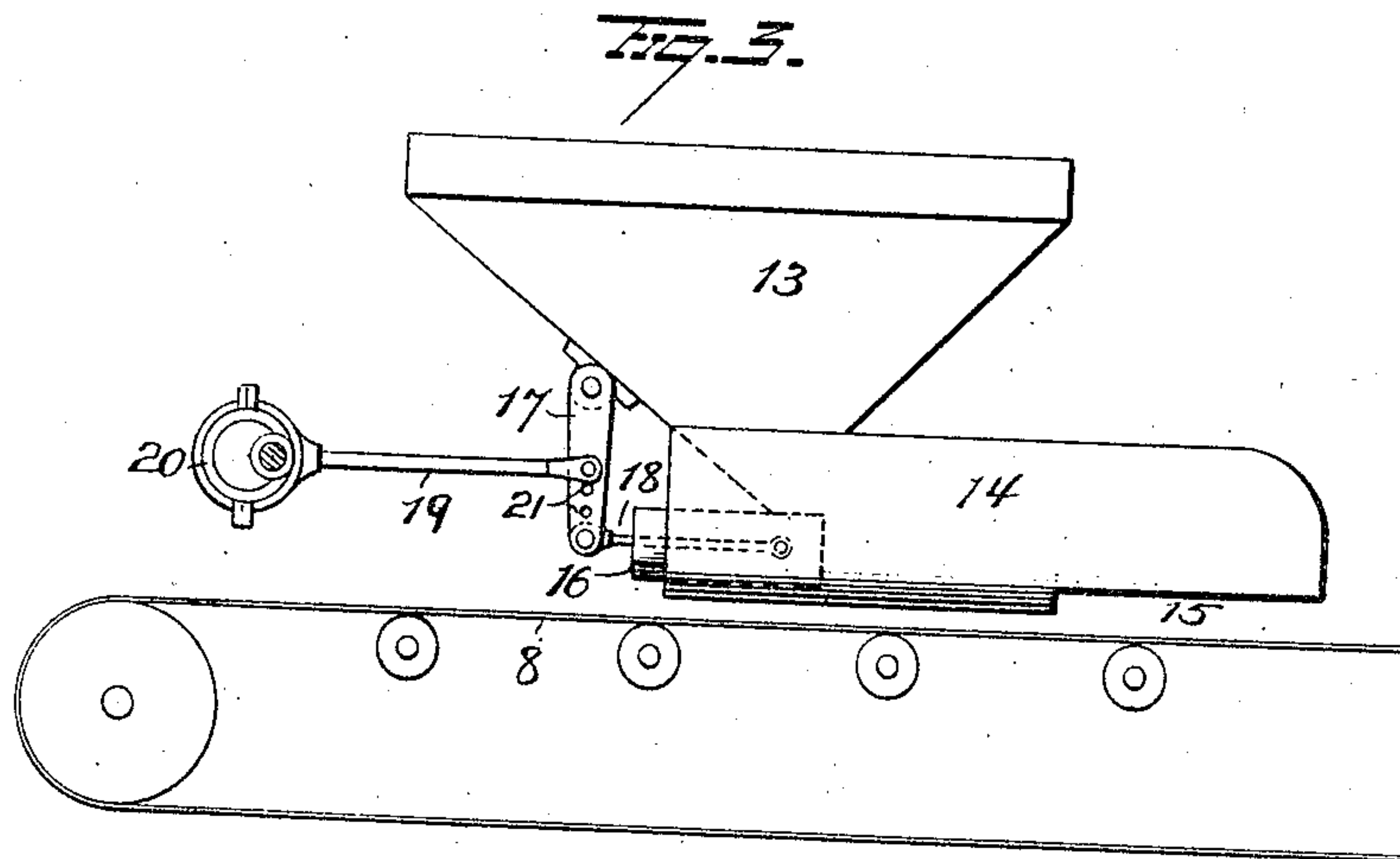
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UNITED STATES PATENT OFFICE

GEORGE H. HULETT, OF CLEVELAND, OHIO, AND GEORGE W. THEISS,
OF PITTSBURG, PENNSYLVANIA.

SHIP-FUELING MACHINERY.

No. 828,317.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed January 13, 1906. Serial No. 295,888.

To all whom it may concern:

Be it known that we, GEORGE H. HULETT, of Cleveland, Cuyahoga County, Ohio, and GEORGE W. THEISS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ship-Fueling Machinery; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machinery for fueling ships, and is designed as an improvement upon that for which application for Letters Patent were filed by George H. Hulett on the 23d day of June, 1904, and designated by Serial No. 213,837.

The object of the present invention is to provide simple and effective means for feeding fuel or other material onto an endless horizontal conveyer, by means of which latter the fuel is discharged into the hold of a ship.

A further object is to provide in a ship-fueling apparatus a vertically-adjustable horizontal conveyer for discharging material into a ship, to mount on the vertically-movable frame of said conveyer means for feeding material onto the latter in proper quantity and rate of speed, and to provide simple and efficient means for supplying the material to the feeding means at whatever height the horizontal conveyer might be disposed.

A further object is to so construct the said feeding means that it can be readily adjusted in a manner to vary or control the rate and quantity of feed of material to the moving horizontal conveyer.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an end view of a ship and a coal-boat with our improved apparatus located between them. Fig. 2 is a side elevation of the apparatus; and Figs. 3, 4, and 5 are detail views illustrating the feeding devices for the horizontal conveyer.

1 represents a ship to be supplied with fuel, 2 a coal-boat, and 3 a float located between the ship and coal-boat and carrying the ap-

paratus for discharging the fuel into the ship. A suitable tower 4 is located on the float 3 and provided with vertical guides or ways 5 for a vertically-movable carriage 6. This carriage supports the frame 7 of an endless conveyer 8, which frame is adapted to be projected over a ship to discharge material thereinto. Motion may be transmitted to the endless horizontal conveyer by any suitable means. For this purpose we have shown a motor 8^a, mounted on the carriage 6 and connected by a suitable gearing with the endless conveyer.

For the purpose of raising and lowering the carriage 6 and the endless horizontal conveyer carried thereby a hoisting-drum 9 is located on the float and operated by a suitable motor or engine 10, cables 11 being provided which are wound on said drum, passed over pulleys 12 at the top of the tower, and attached to the carriage 6.

A hopper 13 is mounted on the carriage 6 above the rear portion of the horizontal endless conveyer and communicates at its lower discharge end with a trough 14. This trough is located horizontally over the horizontal conveyer 8 in close proximity thereto, and at its end farthest removed from the hopper the bottom of the trough is cut away to form an elongated opening 15, through which material is discharged from said trough onto the endless conveyer. The trough 14 projects a short distance rearwardly of the discharge end of the hopper and has located therein a reciprocating plunger 16, which serves to propel the material forwardly as it enters the trough from the hopper, and thus maintain a constant and regular feed of material onto the horizontal endless conveyer. It will be observed that with this construction and arrangement of parts material cannot pass unassisted from the trough and hopper and that therefore no material will be fed to the conveyer when the plunger is at rest. The plunger is operated from the same motor which operates the conveyer, (in a manner presently explained,) and as the material will not be fed to the conveyer except when the plunger is operating no material will be fed onto the conveyer when the latter is at rest. Thus material will be fed from the hopper to the conveyer as long as the latter is in operation and there is material in the hopper; but

when the conveyer is stopped the feeding of material thereto also stops, although the hopper may yet contain material.

For operating the plunger a link 17 is pivotally attached at its upper end to a suitable support—for instance, to the hopper 13, as shown in Fig. 3—and at its lower end said link is connected through the medium of a pitman 18 with the plunger 16. The link 17 receives motion from a pitman 19, driven by an eccentric 20 on the shaft of the motor 8^a. In order that the stroke of the plunger may be varied for the purpose of regulating the speed at which the material may be fed to the horizontal conveyer, the pitman 19 is adjustably attached to the link 17, so that its connection with the link can be located nearer to or farther from the pivotal support thereof and free end of the link be made to move through a greater or less arc. These adjustments may be effected by providing the link with a series of holes 21, at any one of which the pitman can be connected.

Suitable means will be provided for elevating the fuel or other material and depositing it into the hopper 13. For this purpose we have shown an elevator 22, which may be operated by means of any suitable hoisting mechanism. The car of this elevator may be provided with an inclined bottom 22^a, so that when a suitable gate in the side of the car is raised the contents of the car will discharge themselves into the hopper 13. The car of the elevator (two of which may be provided, as shown in Fig. 1) when in its lowest position receives the fuel or other material from a hopper 23, located on the float. Also located upon the float is a turn-table 24, which supports a derrick 25. This derrick carries a clam-shell bucket 26, the operation of which is controlled by suitable gearing connected with a motor or engine 27 on the turn-table. By means of the clam-shell bucket and its operating mechanism fuel is taken from the coal-boat 2, and after turning the derrick by rotating the turn-table, which supports it, the contents of the clam-shell bucket are discharged into the hopper 23, which latter directs it into a car of the elevator. The car is then hoisted and its contents discharged into the hopper 13, and the fuel is then fed in the manner hereinbefore explained onto the horizontal conveyer 8. The fuel is then carried forward by the endless horizontal conveyer 8 and is discharged over the end of the frame of said conveyer into the ship.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a ship-fueling machine, the combination with a tower, of a vertically-movable carriage therein, a horizontal conveyer supported by said carriage, an elevator for conveying material to the horizontal conveyer, a

revolvable derrick, and a bucket and operating means therefor associated with the derrick for supplying material to the elevator.

2. In a ship-fueling machine, the combination with a float, a tower on said float, a revoluble derrick on the float, and a bucket and operating means therefor, associated with the derrick, of a vertically-movable carriage in the tower, a horizontal conveyer supported by the carriage, and an elevator in the tower to receive material from the bucket on the derrick and convey it to the horizontal conveyer.

3. In a machine of the character described, the combination with framework, of a vertically-adjustable horizontal conveyer mounted therein, a hopper over said conveyer and movable vertically with it and means for controlling the feed of material from said hopper to the conveyer.

4. In a machine of the character described, the combination with framework, of a vertically-movable carriage supported thereby, a horizontal conveyer supported by the carriage, and feeding means carried by the carriage over the conveyer.

5. In a machine of the character described, the combination with framework, of a vertically-movable carriage supported thereby, a hopper mounted on said carriage above the conveyer, and means between the hopper and conveyer for controlling the feed of material to the latter.

6. In a machine of the character described, the combination with framework, of a horizontal conveyer mounted therein, means for moving the horizontal conveyer vertically a hopper above the conveyer, a trough disposed over the conveyer and communicating with the hopper, a plunger in the trough and means for reciprocating the plunger.

7. In a machine of the character described, the combination with framework, of a horizontal conveyer mounted therein, means for moving the horizontal conveyer vertically a hopper above the conveyer and movable vertically with it, a trough disposed over the conveyer and parallel therewith, one end of said trough communicating with the hopper, a plunger in the trough to force material forwardly in the trough and feed it upon the conveyer at a point beyond the outlet end of the hopper and means for reciprocating the plunger.

8. In a machine of the character described, the combination with framework, of a vertically-movable horizontal conveyer mounted therein, a hopper above the conveyer, feeding means for controlling the passage of material from the hopper to the conveyer, and a single motor controlling the operation of the feeding means and the conveyer, said hopper, feeding means and motor movable vertically with the horizontal conveyer.

9. In a machine of the character described,

the combination with framework, of a vertically-movable horizontal conveyer mounted therein, a hopper above the conveyer, a trough under the hopper and over the conveyer, said trough having an elongated opening in the forward portion of its bottom and communicating at its rear end with the outlet of the hopper, a plunger operating in the trough to propel material therefrom and means for reciprocating the plunger, said hopper and trough movable vertically with the horizontal conveyer.

10. In apparatus of the character described, the combination with framework, of a vertically-movable carriage mounted therein, a horizontal conveyer supported by said carriage, a motor on the carriage for driving the conveyer, a hopper supported by the carriage above the conveyer, a trough supported under the hopper and over the conveyer and communicating with the hopper, a plunger in the trough and means connecting said plunger with the motor which drives the conveyer.

11. In a machine of the character described, the combination with framework, of a vertically-movable horizontal conveyer supported thereby, a trough mounted over the conveyer, a hopper communicating with the trough, a plunger in the trough, operating means for the plunger and means for adjusting the stroke of the plunger, said hopper, trough, plunger and operating means movable vertically with the horizontal conveyer.

12. In apparatus of the character described, the combination with framework, of a vertically-movable horizontal conveyer supported thereby, a trough over the con-

veyer, a hopper communicating with the trough, a plunger in the trough, a driving-shaft, a pivoted link, means for connecting said link with the plunger, a pitman operated by the driving-shaft and means for adjustably connecting said pitman with the pivoted link, said trough, hopper and operating means movable with the conveyer.

13. In a machine of the character described, the combination with a tower, of a vertically-movable carriage mounted therein, a horizontal conveyer supported by said carriage, feeding means supported by the carriage over said conveyer, and means for elevating material and discharging it through said feeding means to the conveyer.

14. In a machine of the character described, the combination with a tower, of a vertically-movable carriage mounted in the tower, a horizontal conveyer supported by the carriage, feeding means supported by the carriage over the conveyer, elevating means operating in the tower for supplying material to said feeding means at any elevation of the carriage and horizontal conveyer, and means for supplying material to said elevating means.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

GEORGE H. HULETT.
GEORGE W. THEISS.

Witnesses for George H. Hulett:
C. W. COMSTOCK,
A. F. CASE.

Witnesses for George W. Theiss:
J. FRANK TILLEY,
J. M. RUMBERGER.