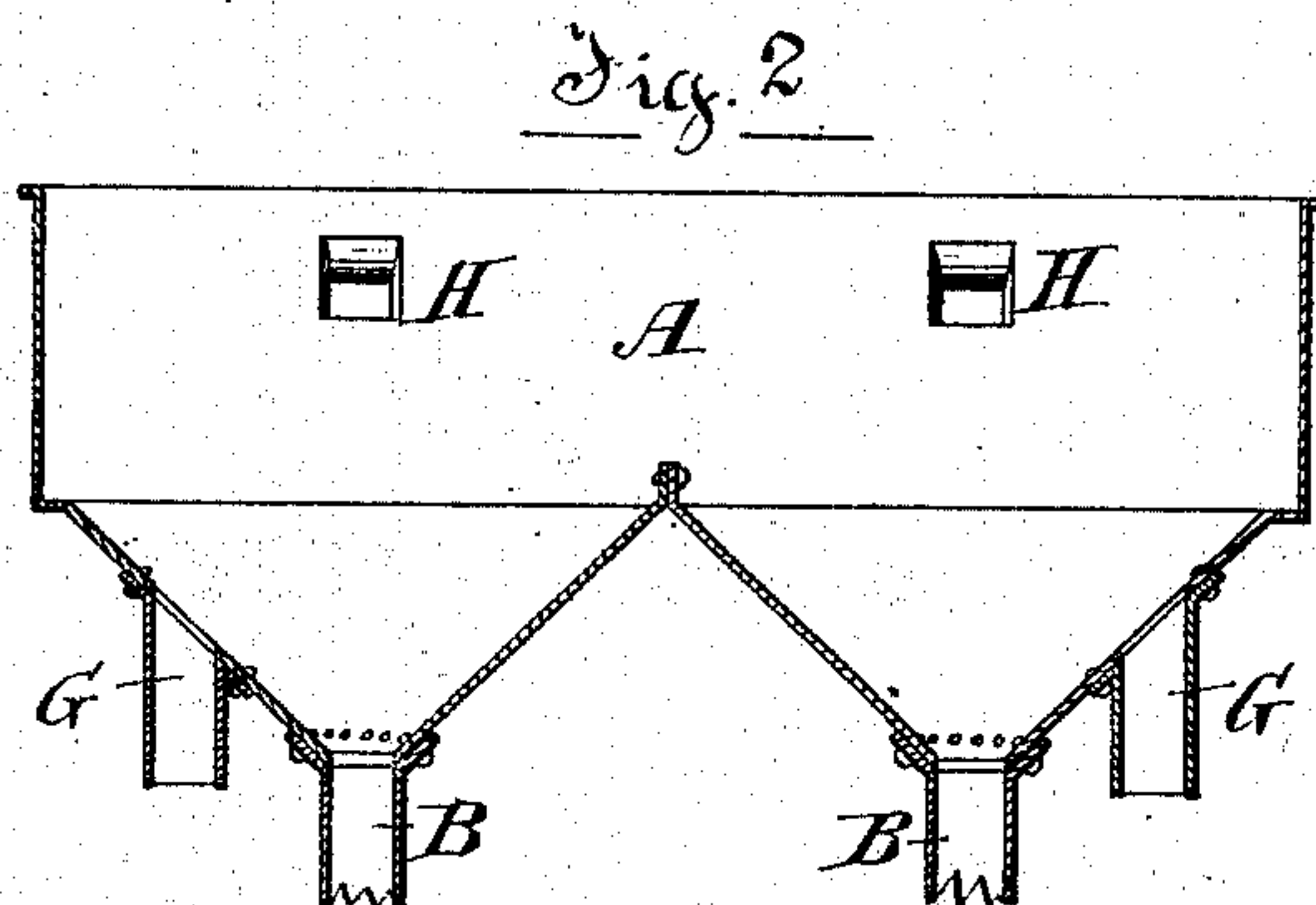
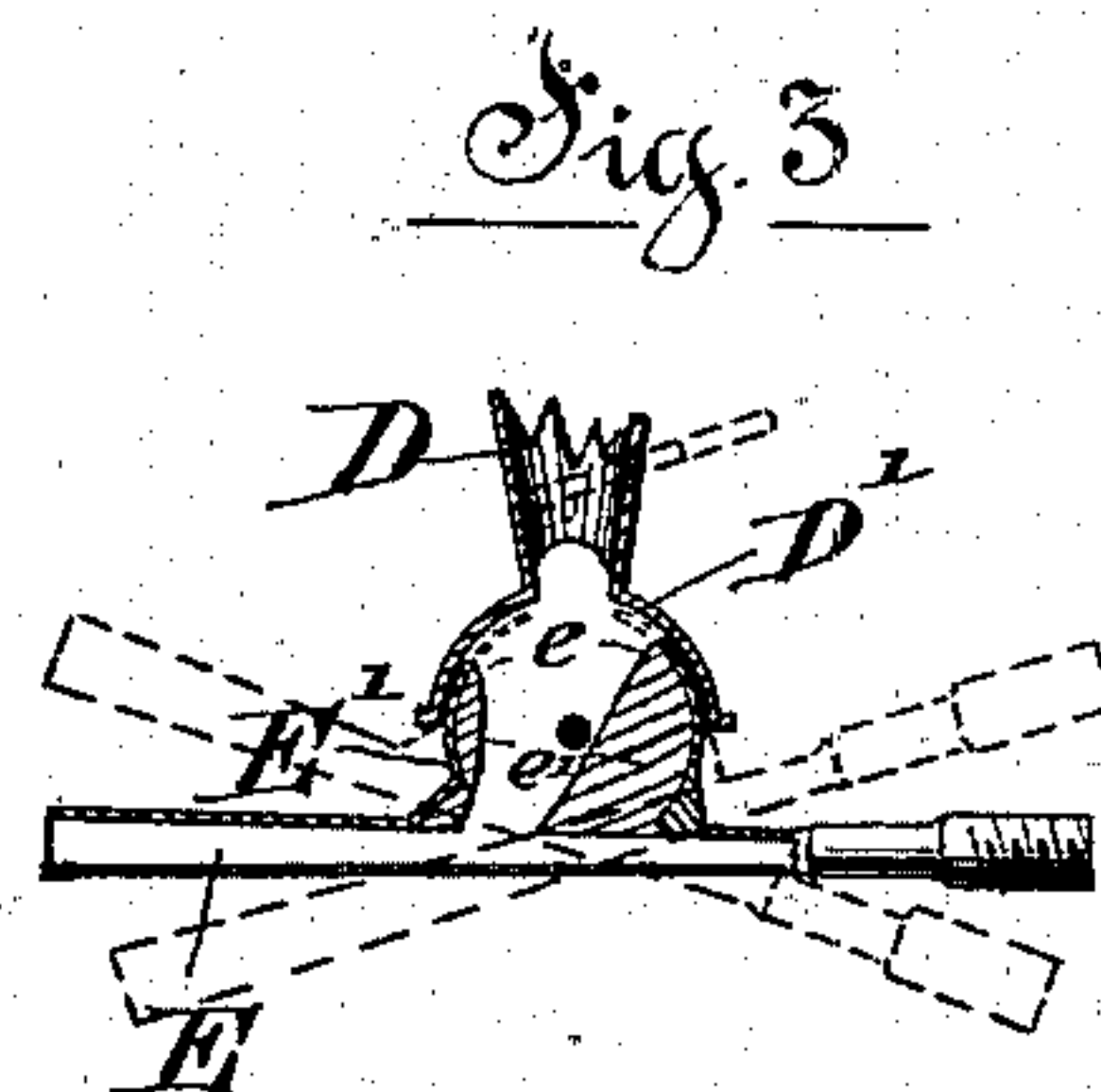
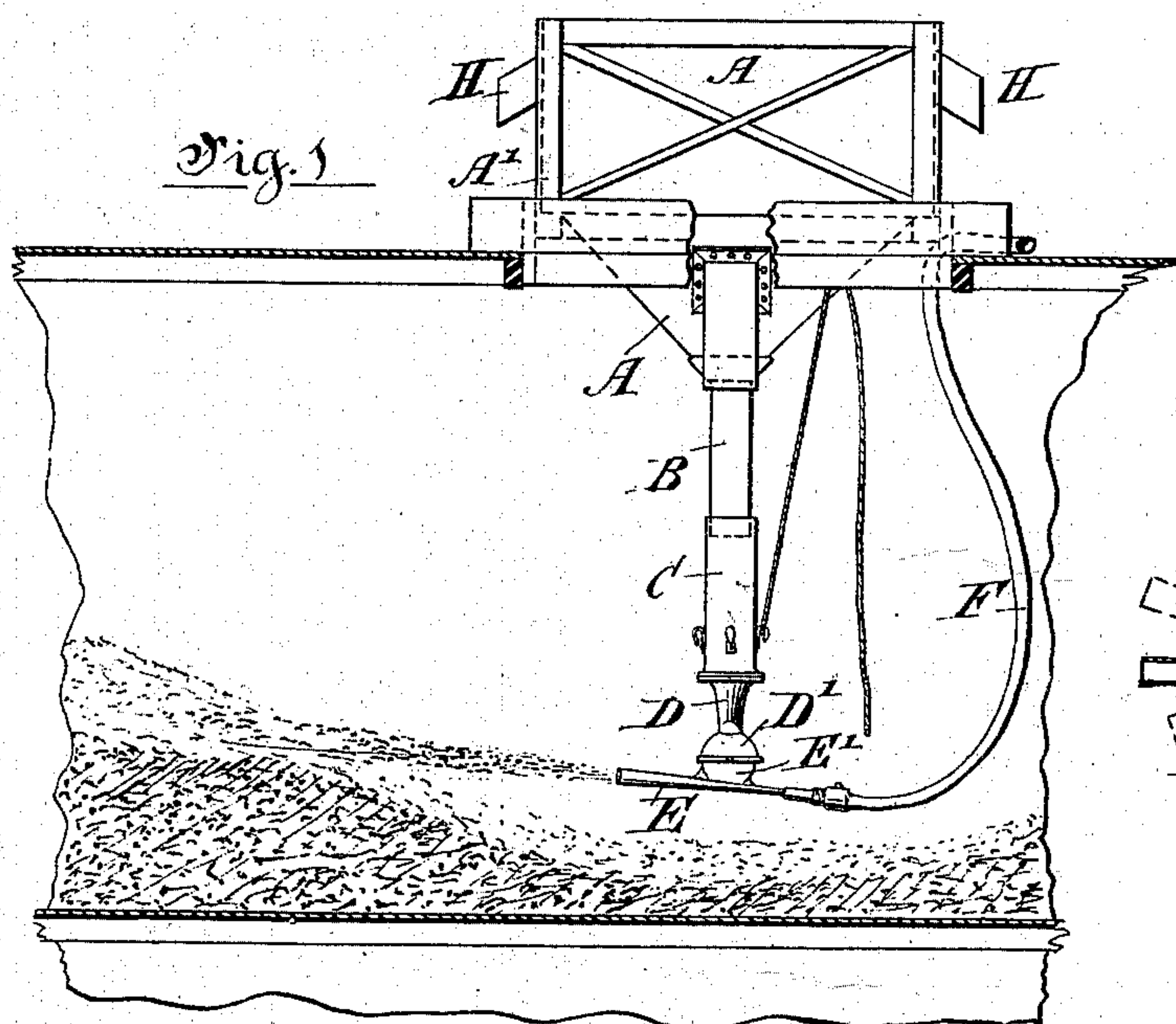


(No Model.)

T. F. SEERY.
STOWAGE OF GRAIN.

No. 288,500.

Patented Nov. 13, 1883.



Witnesses:
Owen N. Evans
Arthur Harris

Thomas Francis Seery
Inventor.
Per Atty:
Wm. H. L. L. L.

UNITED STATES PATENT OFFICE.

THOMAS F. SEERY, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-THIRD TO HERMANN STUBBENDORFF, OF SAME PLACE.

STOWAGE OF GRAIN.

SPECIFICATION forming part of Letters Patent No. 288,500, dated November 13, 1883.

Application filed April 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FRANCIS SEERY, of the city of Montreal, in the District of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in the Stowage of Grain; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is for the purpose of bringing to a level and even surface grain fed from an elevator into the holds of ships, barges, &c., or into any stationary receptacle. The only means by which this has been effected up to the present time is by shoveling by hand. From the laborious nature of this work it is at all times difficult to procure shovelers, and high wages must be paid, thus adding greatly to the cost of loading the vessel and often delaying dispatch. Besides this, even with a full gang of men, the grain cannot be trimmed as fast as it is fed in by the spout of the elevator, and this latter must therefore be stopped during the operation of loading. To do away with these inconveniences and to substitute for the tedious operation of hand-shoveling a system which shall altogether dispense with manual labor and efficiently trim the grain as fast as it can be fed in by the elevator is the object of my invention, which may be described, broadly, in the delivery of the grain into the ship's hold or other receptacle by means of a blast of air meeting the grain at an angle to its downward course.

For fuller description of the apparatus which I propose to use in carrying this process into effect, reference must be had to the annexed drawings, in which—

Figure 1 is a side view of the apparatus; Fig. 2, a sectional elevation, and Fig. 3 a detail.

Similar letters of reference indicate like parts.

A is a hopper, made of sheet-iron or other suitable material, having its lower part usually divided, as shown. This hopper is of any desired size, and is carried in suitable framing, as shown at A', which may be varied to suit different places.

B B are pipes leading downward from the bottom of each division of the hopper, these

pipes being of such section as will pass freely a greater amount of grain than can be fed through the elevator-spout, and also of any length desired.

C C are pipes corresponding to B B, sliding up and down same, and provided with any suitable means of securing them in position, so as to give by the combined pipes the length desired. In the lower ends of these pipes C C are formed bearings for the circular ends of the pipes D D, which are so constructed as to turn freely therein, and of some such shape as that shown in the drawings, terminating, preferably at their lower ends, in caps D', into which fit caps E', formed on the pipe E, to be presently alluded to, these being shown in detail in Fig. 3. The cap E' can be moved in the cap D', so as to bring the pipe E at any angle, within a given arc, to the pipe D, the chamber formed by them being air-tight.

e is an opening in the top of the cap E', of such size that whatever may be the relative position of the pipes D and E it will always give a sectional area to correspond with that of the bottom of the pipe D.

The pipes E are of any desired length, one end being screwed for the attachment thereto of hose F, connected with any suitable air-blowing apparatus, by which a blast is forced through them. This blast is prevented from being diverted upward into the pipe D by shields or blocks e', so arranged in the cap E' as to give the full area of discharge required.

The operation of my invention will be so clearly understood from the foregoing and the drawings that it is only necessary to say that the hopper A is usually placed with its framing resting on the combings of the hatch in either of the decks above the hold, the pipes C and D being of such length that the pipe E can be placed in the compartment to be filled at the height desired. The elevator-spout is then turned into the hopper and the grain passes therefrom down through the pipes from both divisions on both sides of the central shifting board, the hopper being so set that the diaphragm coincides in place therewith. As the grain descends, a blast of the requisite power is forced through the pipe E from any suitable blowing apparatus, which may be placed

at any desired point on the ship or wharf, and worked by either of the auxiliary engines on the ship, or a donkey-engine. This blast meeting the grain in its downward course forces it through the nozzle of the pipe E with sufficient force to deliver it at the extreme end of the compartment, and as the pipe may be canted up or down the grain may be thrown to a height as the compartment or bin becomes full. To fill the part immediately under the hopper itself, the grain may be either carried through the pipes B, the pipes C and D being temporarily removed, or through chutes G, arranged, as shown, at the sides of the hopper, suitable slides being provided for closing or regulating the size of the openings of the several pipes or chutes, and specially, as shown by dotted lines in Fig. 3, in the pipe D. When the apparatus is, as shown in the drawings, mounted on either of the decks above the hold, the operation of "bagging" may be carried on while the bulk-stowage is being performed, the grain passing through the side chutes, H H, into the bags. Should the compartment be of extra length, (as in the after-hold of a ship,) the apparatus, which should then be mounted on legs, is placed in the center, and the operation can be carried on as before described, the discharge or blast pipes E being turned in their bearings, so as to throw at any angle to the longitudinal axis of the ship, or even fore and aft at the same time. The force of the blast will of course be regulated according to the size and weight of the grains of the cereals to be stowed, and the pipe D will be always

of such a greater proportion than the pipe E as to insure a superincumbent weight of grain.

Although specially adapted for the loading of ocean-going vessels, my invention may be employed with great advantage for barges, &c., and in the bins of elevating-warehouses. It will also be obvious that by the use of my invention the grain in its passage through the apparatus is cooled, and this will be found very useful in all cases in which a tendency to heat has shown itself.

Besides the uses above mentioned, the apparatus may be used for discharging grain from cars into the warehouse.

Having thus described my invention, I beg to state that what I claim is as follows:

An apparatus for stowing and trimming grain, placed at any point intermediate between the elevator discharge-spout and the point at which the grain is to be delivered, composed of a hopper into which the grain is fed, discharge-pipes through which it gravitates, and nozzles through which a blast is forced at an angle to the course of the grain, said discharge-pipes and nozzles being so constructed as to throw the grain at any angle to the floor and longitudinal axis of the compartment, all as herein set forth.

Montreal, March 28, A. D. 1883.

THOMAS FRANCIS ^{his} X SEERY.
mark.

Witnesses:

FRAS. HY. REYNOLDS,
OWEN N. EVANS.