

No. 667,347.

Patented Feb. 5, 1901.

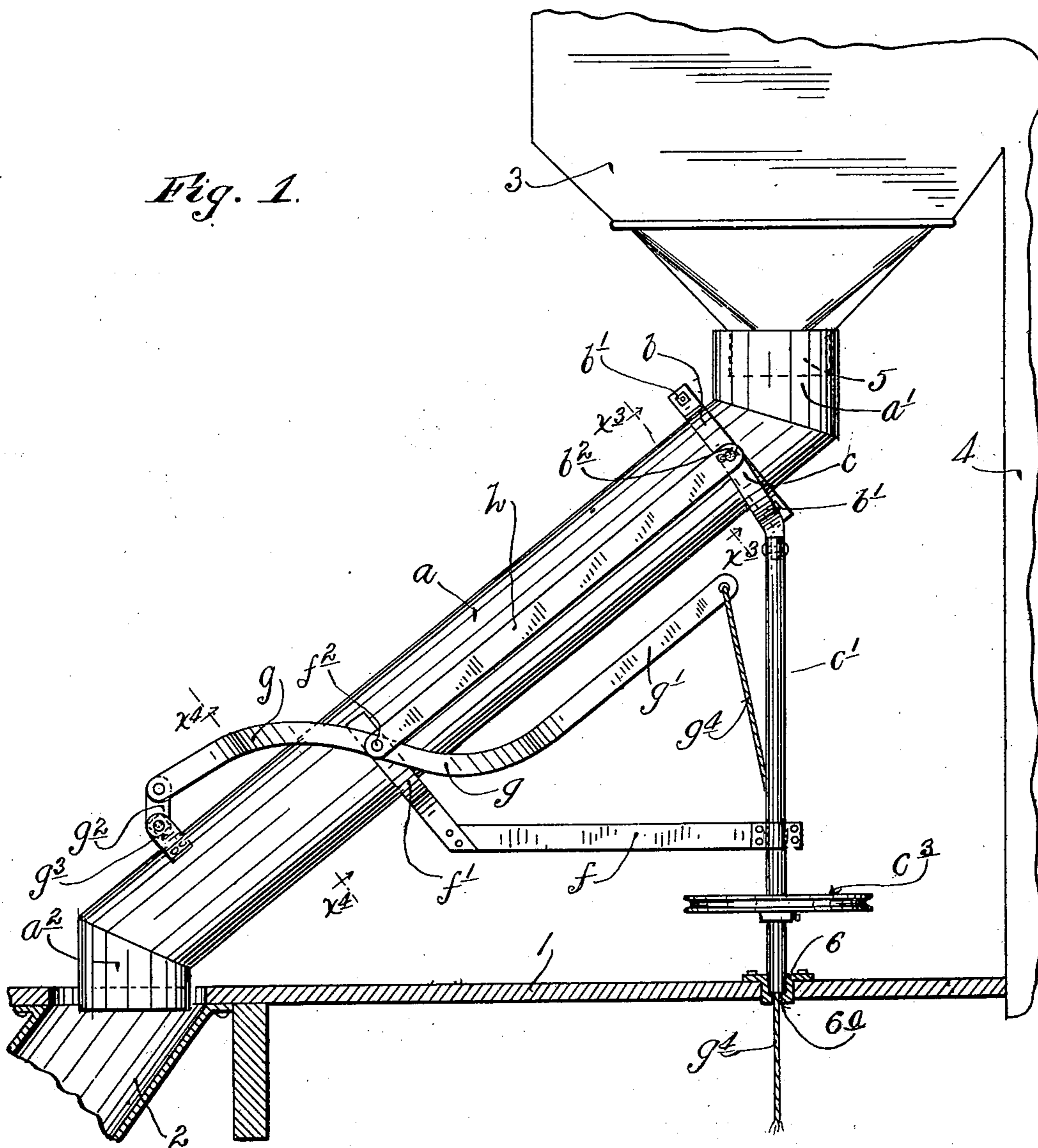
C. P. SMITH.
GRAIN DISTRIBUTING SPOUT.

(Application filed July 30, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses.
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2 Sheets—Sheet 2

Fig. 2.

Fig. 3.

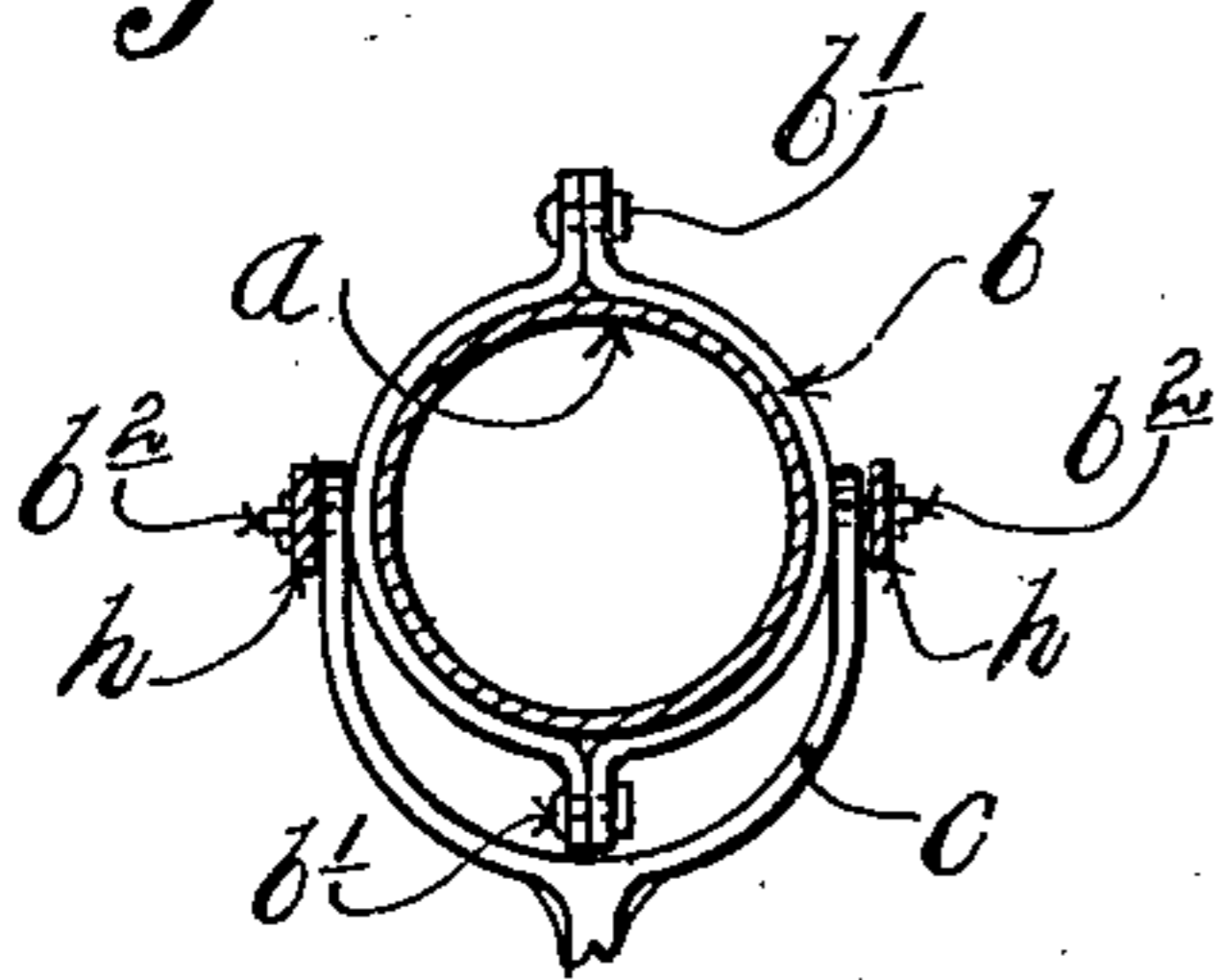
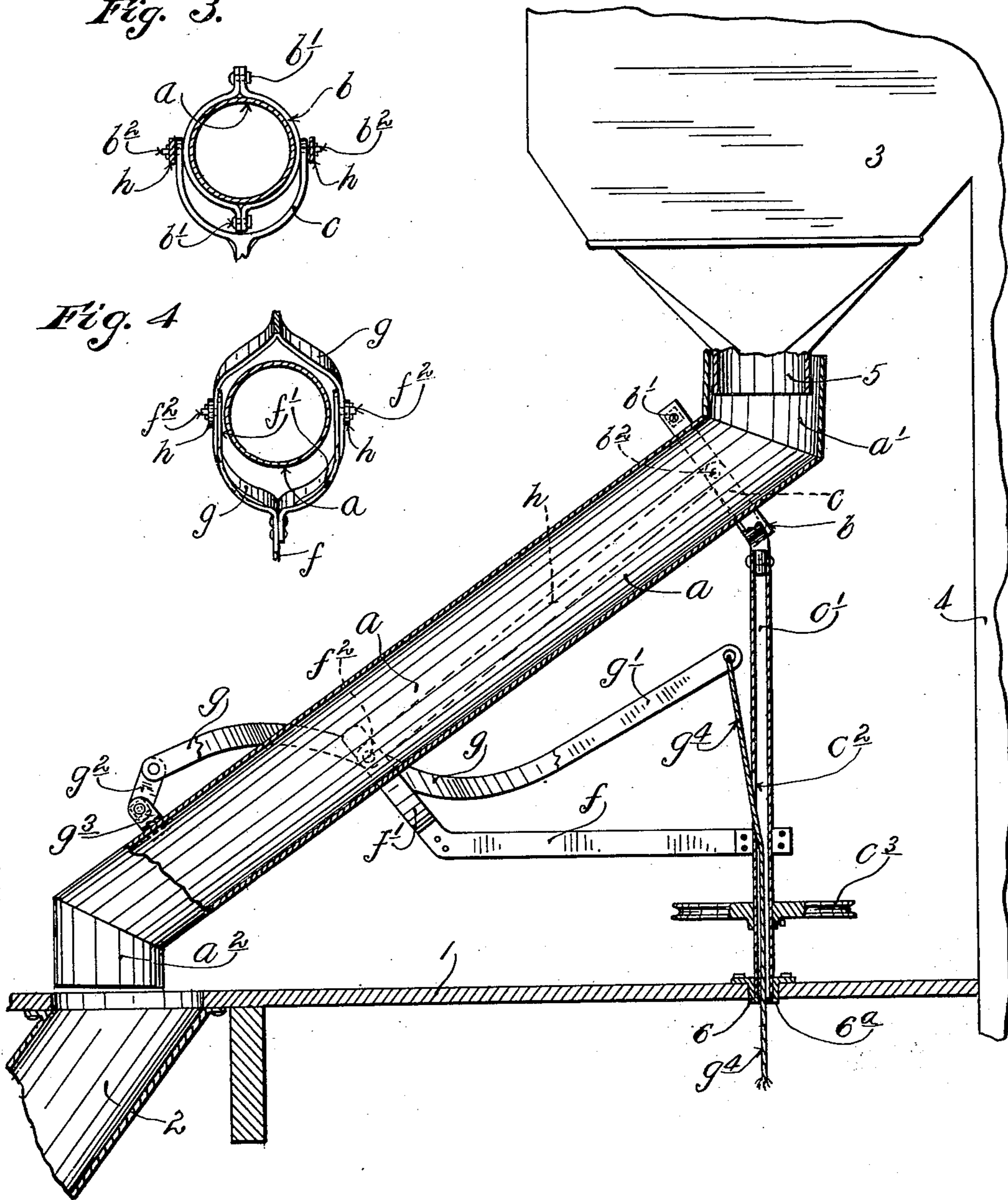
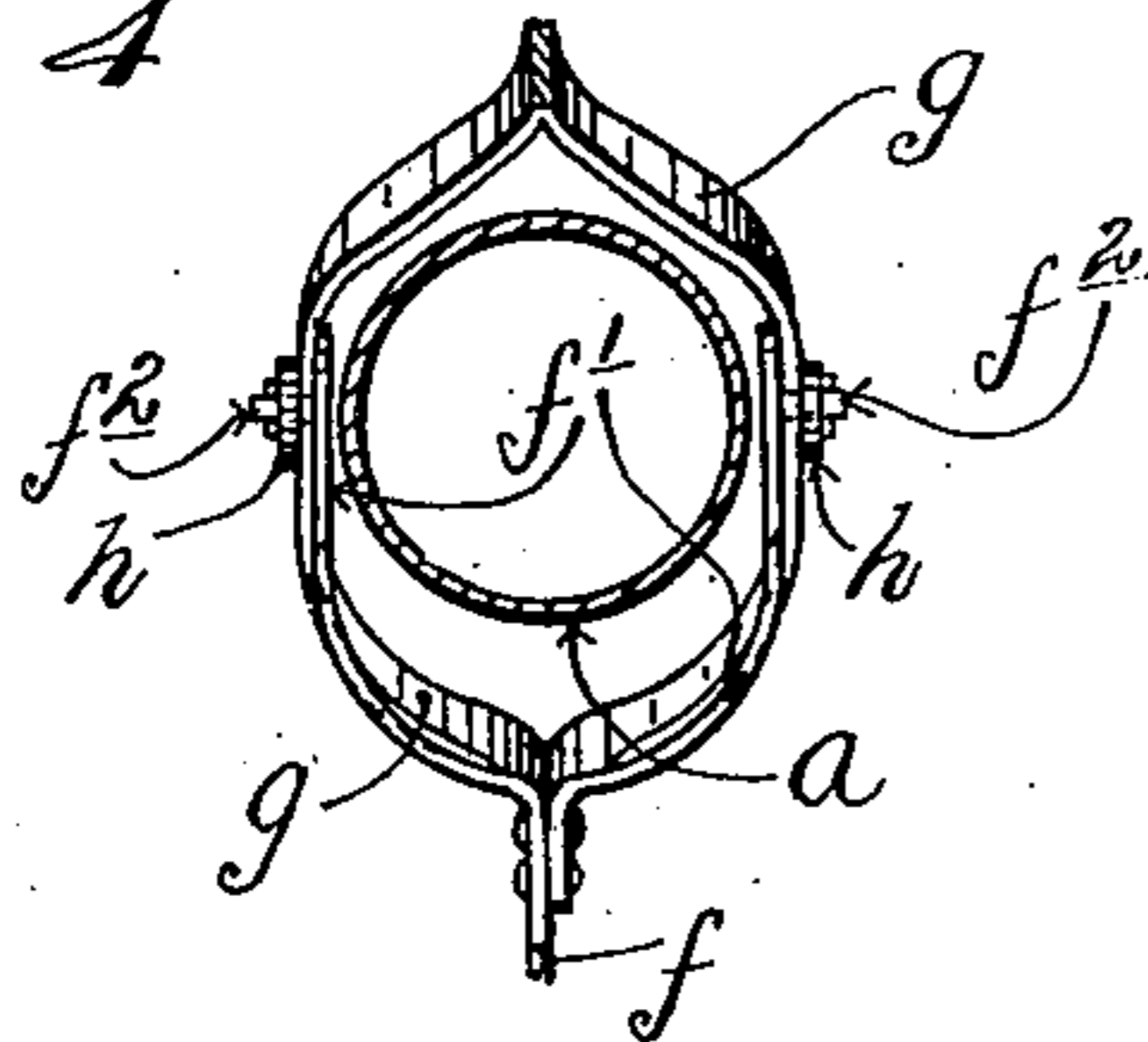


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

CARLOS P. SMITH, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF
TO ROBERT GERBER, OF SAME PLACE.

GRAIN-DISTRIBUTING SPOUT.

SPECIFICATION forming part of Letters Patent No. 667,347, dated February 5, 1901.

Application filed July 30, 1900. Serial No. 25,276. (No model.)

To all whom it may concern:

Be it known that I, CARLOS P. SMITH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Grain-Distributing Spouts; and I 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.

My invention has for its object to provide an improvement in grain-distributing spouts of the type used in elevators to distribute the grain from the elevated hopper to the various bin-spouts.

To the above end the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view principally in side elevation, but with some parts sectioned and others broken away, showing a distributing-spout mounted in accordance with my invention. Fig. 2 is a view corresponding to Fig. 1, but with the distributing-spout sectioned and with certain other parts broken away. Fig. 3 is a transverse section on the line $x^3 x^3$ of Fig. 1, and Fig. 4 is a transverse section on the line $x^4 x^4$ of Fig. 1.

The numeral 1 indicates a flooring or platform, which is assumed to be the floor of the grain-tower of an elevator.

The numeral 2 indicates one of a series of bin-spouts, which, as is well known, are located on the line of a circle open through the platform 1 and delivering to the different elevator storage-bins.

The numeral 3 indicates the elevated grain-hopper, into which the grain is delivered by a suitable elevator belt or conveyer, (not shown,) which runs in a leg or spout 4, a portion only of which is shown. The bin 3 and leg 4 are suitably supported in any ordinary way. As shown, the hopper 3 is provided at its bottom with a depending tubular section 5.

The distributing-spout a is supported in an

inclined position, as presently noted, and is provided with an upturned end a' and a downturned end a^2 , the former of which telescopes over the depending tubular portion 5 of the hopper 3 and the latter of which is adapted to telescope into and out of the open upper ends of the bin-spouts 2. Near its upper end the spout a is provided with a clamping-band b , preferably formed in sections united by bolts b' . At its sides the band b is provided with trunnions b^2 , journaled in the upper ends of a pronged head c , which is secured to the upper end of a tubular shaft or pipe c' . The shaft or pipe c' is vertically disposed in line with the axis of the tubular hopper-section 5, and at its lower end it is shown as journaled in a socket 6, secured on the platform or floor 1. f indicates a bracket or arm which projects radially from the intermediate portion of the shaft c' and is pronged or bifurcated at its outer end, as shown at f' . The prongs f' are provided with outturned trunnions f^2 , on which the intermediate bifurcated or split portion g of a lifting-lever g' is pivoted, as best shown in Fig. 4. A link h on each side of the spout a connects the trunnions b^2 and f^2 of the pronged heads c and f' , respectively. The outer end of the lifting-lever g is connected to the outer end of the spout a , as shown, by a short link g^2 , which connects directly to a lug g^3 on the said spout. The split or bifurcated portion g of said lever g' embraces and clears the spout a , as best shown in Fig. 4. The lever g' is actuated by a cord or rope g^4 , which is extended through a perforation c^2 in the shaft c , and then downward through the same and out through a perforation 6^a in the bottom of the socket 6. The rope g^4 may be extended to any point from which it is convenient or desirable to operate the spout.

The shaft c' may be oscillated to carry the delivery end of the spout a into registration with any one of the several bin-spouts by any suitable device; but, as shown, said shaft is provided with a sheave c^3 , over which a rope (not shown) would be run from a point within reach of the operator.

The distributing-spout a is pivotally supported at its upper end on the trunnions b^2 , and at its lower end it is supported from the

trunnions f^2 through the lever g' . Hence by drawing on the rope g^4 the outer or delivery end of the spout a may be raised above the platform 1 and out of telescoping engagement with the bin-spout. It may of course then be readily moved from one position to another. When the spout is properly positioned and the rope g^4 being then released, it will fall by gravity, and its lower end a^2 will then fall into the aligned spout 2, as shown in Fig. 1. When positioned as shown in Fig. 1, the depending spout end a^2 by telescoping into the bin-spout serves as a lock to prevent the spout from being accidentally turned or swung out of alinement with the bin-spout, and, furthermore, it forms an overlapped joint which will not permit of spilling or leakage of grain. If desired, the spout may be lifted high enough to clear the platform 1, slightly turned, and then allowed to rest with its lower end a^2 bearing on the platform, in which case under subsequent or continued movement of the spout a on the axis of the shaft c' the said depending end of said spout will fall into the upper end of the next adjacent bin-spout. In this way an indicator for indicating the position of the spout might be dispensed with, or even if an indicator were to be used such an action would prove the accuracy of the indicator.

It will of course be understood that the invention above described is capable of considerable modification.

It should be noted that the distributing-spout a is supported from its upper surface or from that portion of the tube which is not subject to the wear from the running grain. This is important for the reason that in time the grain will wear the bottom of the tube thin, and if a device such as the lug g^3 were to be applied to the under rather than the upper portion of the tube it would sooner or later bulge the tube inward and produce an indentation, which would be subject to still greater wear. By loosening the bolts b' of the upper end clamp b and by removing one

of the pivot-bolts of the link g^2 the tube a may be released and may then be drawn upward and removed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with an inclined delivery-spout suitably supported at its upper end, of a bifurcated lever embracing the said spout, with one end extending above and the other below the same, and a connection suspending the lower end of said spout from the overlying end of said lever, substantially as described.

2. The combination with an elevated hopper, of a shaft disposed vertically below said hopper and provided with a pronged head, a laterally-projecting lower arm or bracket from said shaft having a bifurcated head, a lifting-lever bifurcated at its intermediate portion and pivoted to the prongs of said lower bracket, and a distributing-spout pivoted at its upper end to said upper end bracket or head and connected at its lower end to the outer end of said lifting-lever, said parts operating substantially as described.

3. The combination with the elevated hopper, of the shaft c' with bifurcated head c , the laterally-projecting arm or bracket f from said shaft c' having the bifurcated head f' , the lifting-lever g' , bifurcated at g and pivoted to the prongs of said head f' , the spacing-links h connecting the bifurcated heads c and f' , the distributing-spout a pivoted at its upper end to said head c and connected at its lower end to the outer end of said lifting-lever g' , and the rope or flexible connection g^4 connected to the inner end of said lever g' and passed downward through said shaft c' , substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CARLOS P. SMITH.

Witnesses:

M. M. McGRORY,
F. D. MERCHANT.