

J. H. TAUSSIG.  
VERTICAL RETORT GAS APPARATUS.  
APPLICATION FILED FEB. 1, 1908.

999,349.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.

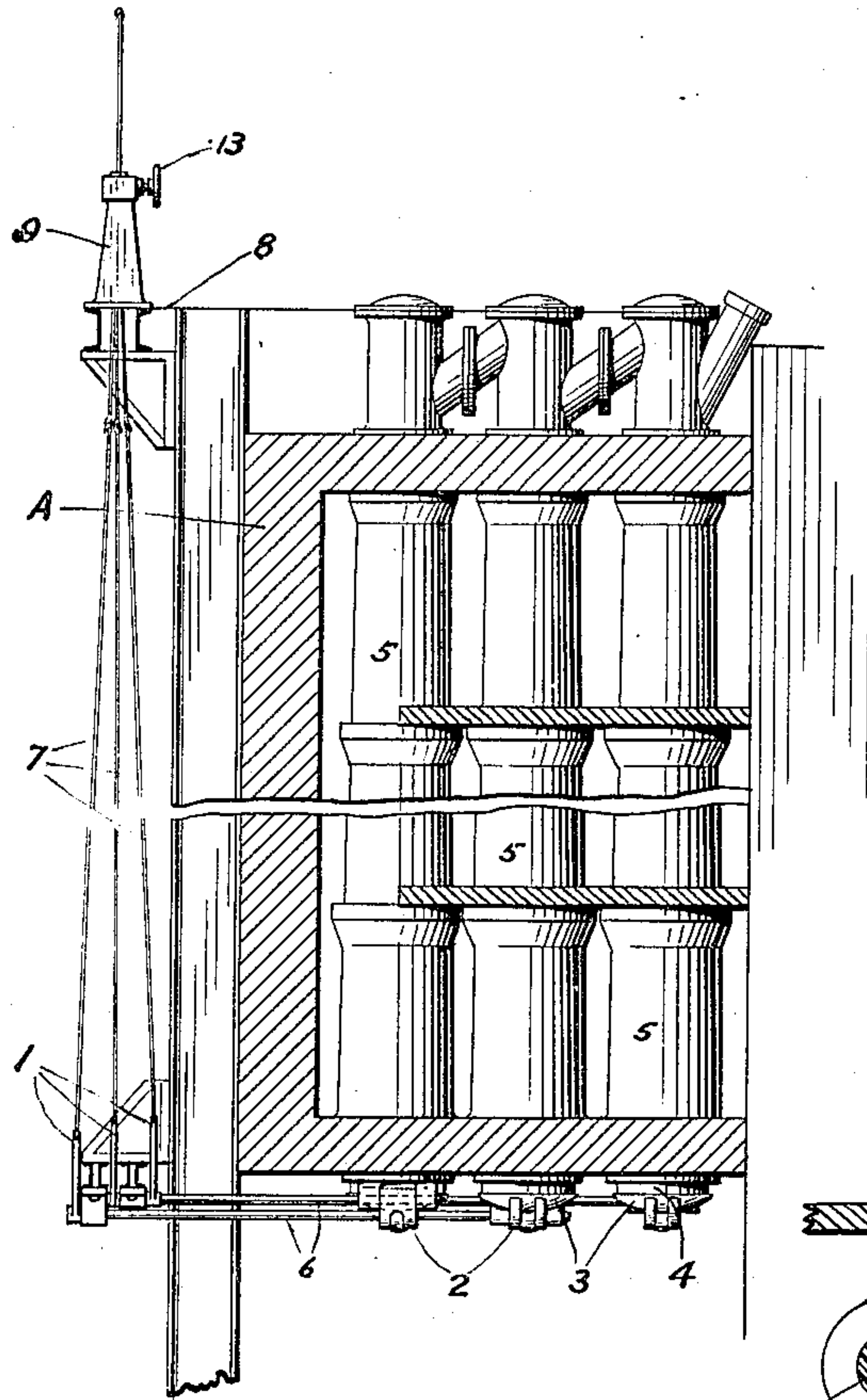


FIG. 1.

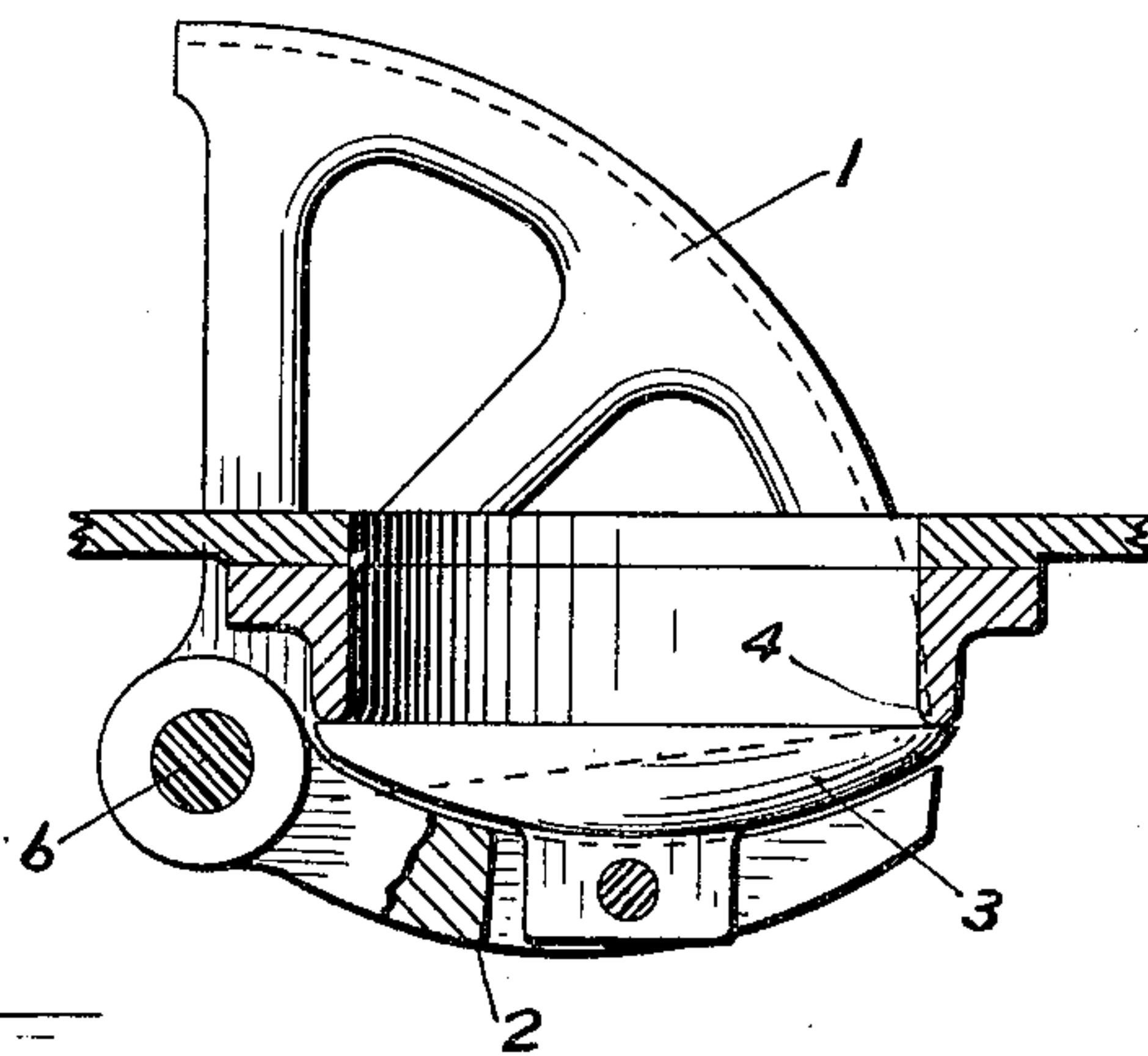


FIG. 3.

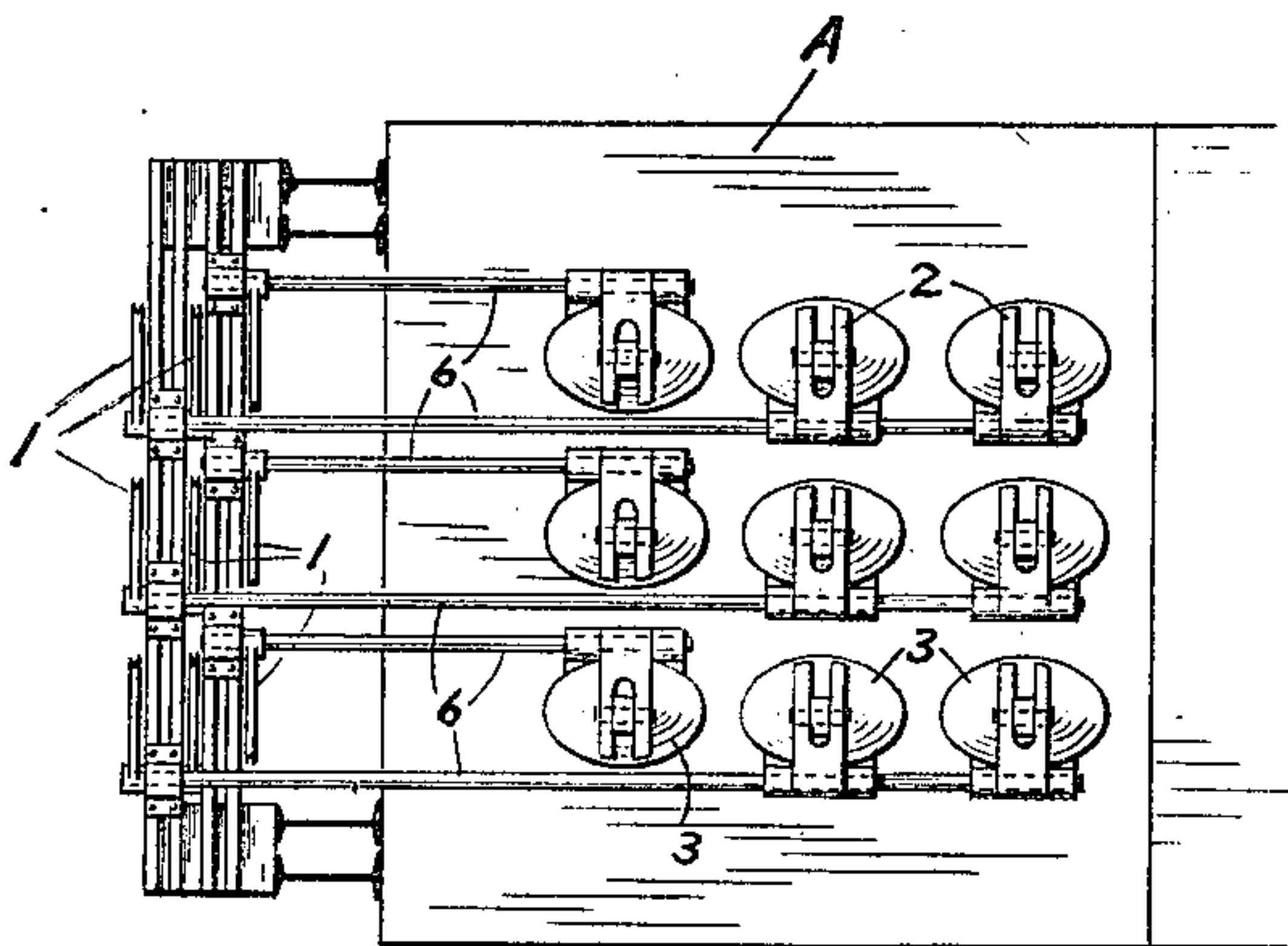


FIG. 2.

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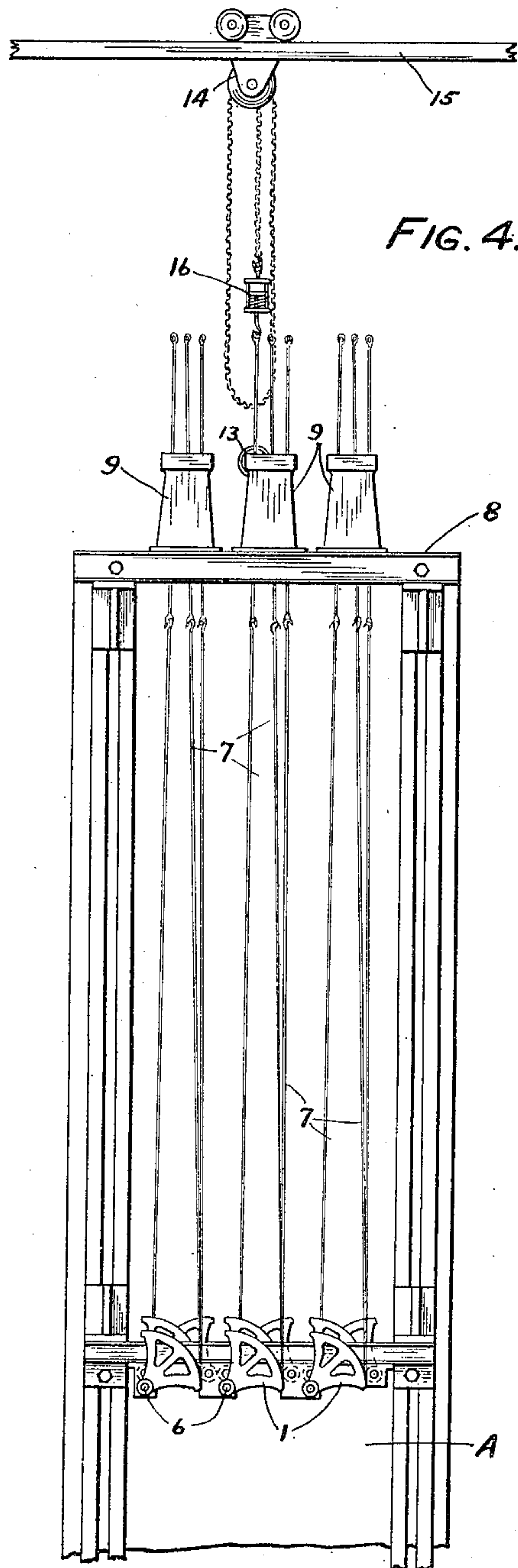


FIG. 4.

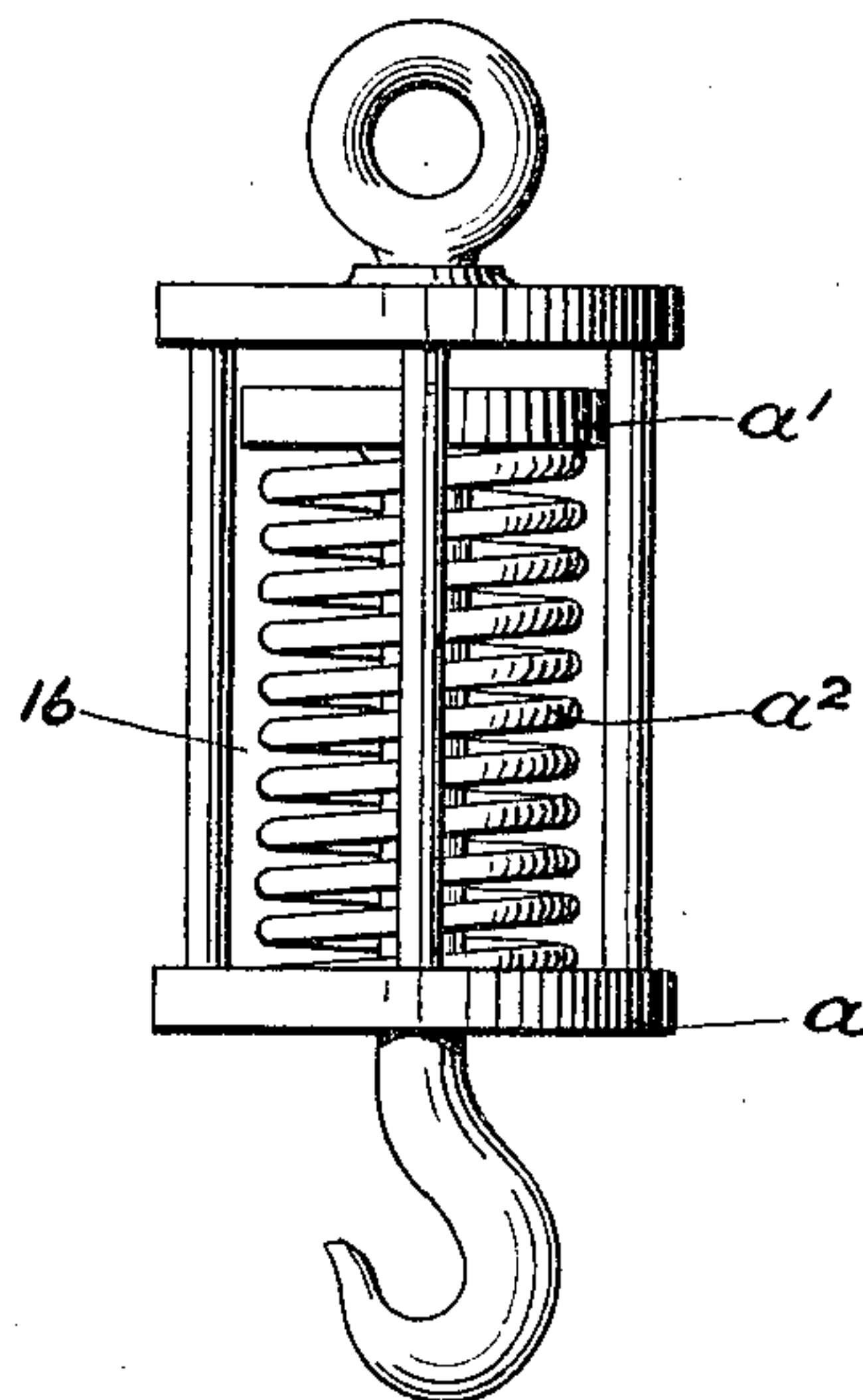


FIG. 5.

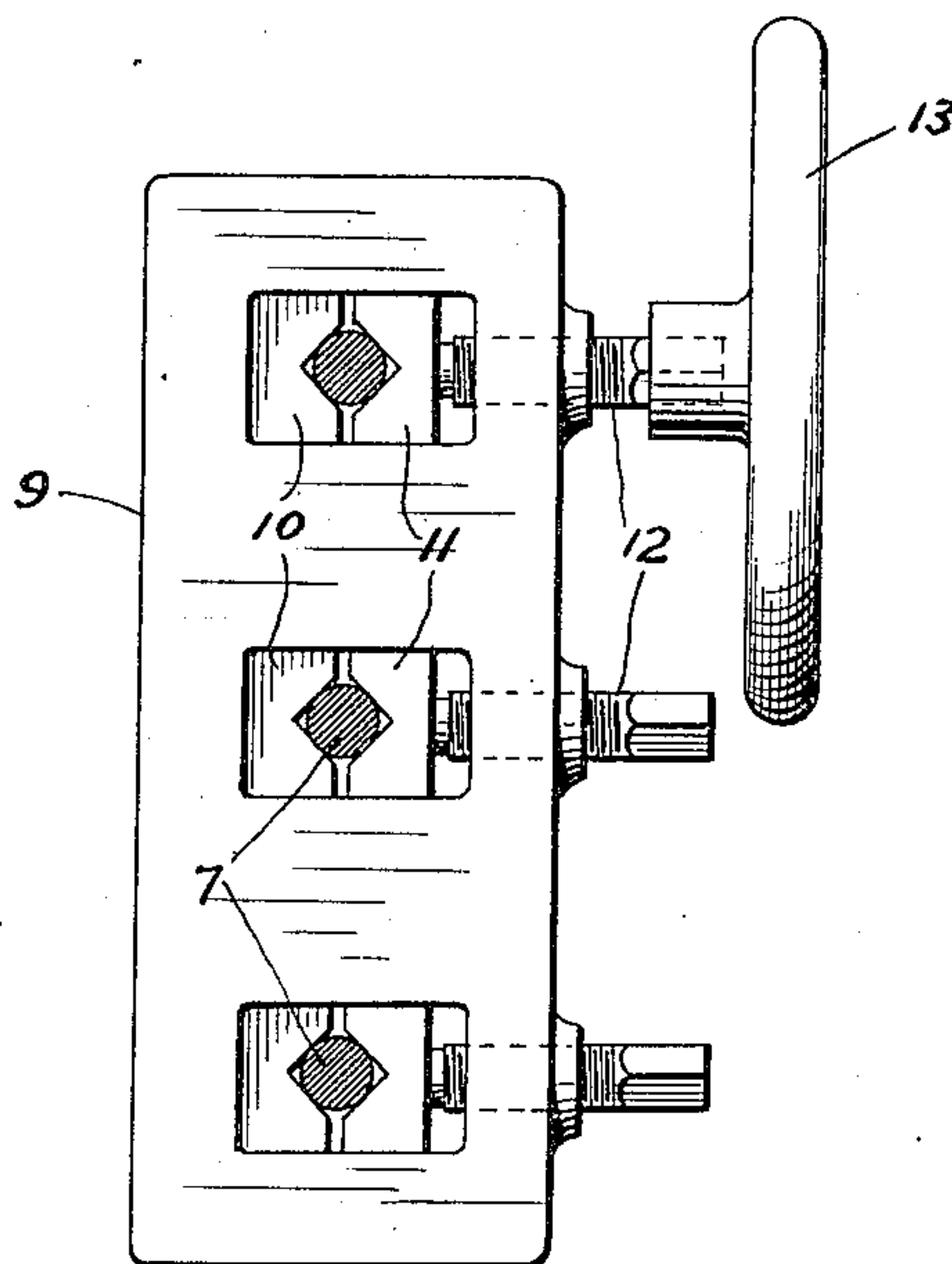


FIG. 6.  
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# UNITED STATES PATENT OFFICE.

JOHN HAWLEY TAUSSIG, OF PHILADELPHIA, PENNSYLVANIA.

## VERTICAL-RETORT GAS APPARATUS.

999,349.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed February 1, 1908. Serial No. 413,785.

*To all whom it may concern:*

Be it known that I, JOHN HAWLEY TAUSIG, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vertical-Retort Gas Apparatus, of which the following is a specification.

My invention relates more particularly to the operation of the lids which are arranged at the bases of the retorts and which have to be closed gas tight, and the principal object of the invention is to provide mechanism or means whereby these lids may be conveniently opened and closed with the necessary degree of tightness from the operating floor or other convenient part of the plant, without requiring the presence of an attendant beneath the retorts.

At the close of this specification the invention will be claimed, but it will first be described in connection with the embodiment of it chosen for illustration in the accompanying drawings, in which—

Figure 1, is a side view partly in section of portions of a vertical retort setting fitted with lid operating mechanism or means embodying features of the invention. Fig. 2, is a bottom view of the same. Fig. 3, is a sectional view drawn to a much enlarged scale and illustrating one of the retort lids together with the arm by which it is carried. Fig. 4, is a front view of the apparatus shown in Figs. 1 and 2. Fig. 5, is a view illustrating upon an enlarged scale one of the parts shown in Fig. 4, and Fig. 6, is a top or plan view, enlarged, of another of the parts shown in Fig. 4.

In the drawings 1, is a quadrant provided with a bifurcated arm 2, to which is pivoted or otherwise movably connected the retort lid 3, so that when the quadrant is turned (in the case of Fig. 3, in a counter-clock-wise direction), the lid is drawn up and firmly held to its seat 4, at the bottom of the vertical retort 5. The shafts 6, which are connected with the respective arms 2, extend to the outside of the setting A, and the quadrants are located on the outside of the apparatus and are connected with the shafts 6. As shown the shafts are journaled or supported near the retort outlets and in a framework or bracket on the outside of the setting. Connected with each quadrant is a cable 7, having at its end a rod, and these are led to

the operating floor 8, which may be located either above or below the retorts as desired. The rods, wire ropes or connections 7, which appertain to a group of lids are led through a stand 9. The stand is fitted with a series of clamping jaws 10 and 11, between which the rods on the upper ends of the cables 7, pass and which by means of the screws 12, may be made to tightly clamp or unclamp the rods.

13, is a hand wheel shown as the means for turning the screws 12.

14, is a hoist movably mounted as on a rail or trolley 15, so that it can be brought into line with any of the cables or connections 7.

16, is a spring scale or device connected with the hoist and adapted to be interposed between it and the cable or wire rope 7, to which it may be connected. As shown this scale comprises two members  $a$ , and  $a^1$ , slidably fitted together with a spring  $a^2$ , interposed between them and adapted to be compressed when the members are pulled away from each other.

To open a lid it is only necessary to loosen the screw 12 and thus release the clamping jaws 10 and 11, so as to free the rod connected with its cable. To close a lid, the hoist is brought into position over its cable 7, and the spring scale or device 16, is connected to this cable and the hoist is then operated until the spring scale shows a certain amount of compression corresponding to the tension required for tightly closing the lid. The jaws 10 and 11, are then caused to grip and firmly hold the cable or rod connected therewith and in this way the lid is kept tightly closed. Obviously by the described means a single attendant can operate all of the lids, and it is only necessary to provide a single hoist or equivalent for tightly closing the lids, and furthermore the spring scale when present provides means by which the attendant is safely guided in the degree of pressure brought to bear on the lids. Since the lids are pivotally or otherwise movably connected with the arms 2, it follows that they can be operated in all necessary ways by simply turning the shafts 6, and since these extend outside of the setting, the attendant is not required to go under the retorts in order to open or close and apply pressure to the lids.

What I claim is:

1. The combination of a series of vertical retort lids, a stand located at the operating



floor and provided with a series of clamps, means for closing the lids including connecting devices operatively arranged in respect to the clamps, and a traveling hoist adapted  
5 for coöperation with the various cables, substantially as described.

2. The combination of a vertical retort lid, a bell-crank-lever having one of its arms connected with the lid, a device connected  
10 with the other arm of the bell-crank-lever, a clamp for holding said device, and a movable hoist provided with a scale and adapted for attachment to said device, substantially as described.

15 3. The combination of a series of verti-

cal retort lids, a stand located at the operating floor and provided with a series of clamps, means for closing the lids including connecting devices operatively arranged in respect to the clamps, and a traveling hoist  
20 provided with a scale and adapted for coöperation with the various cables, substantially as described.

In testimony whereof I have hereunto signed my name.

JOHN HAWLEY TAUSSIG.

Witnesses:

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K. M. GILLIGAN.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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