

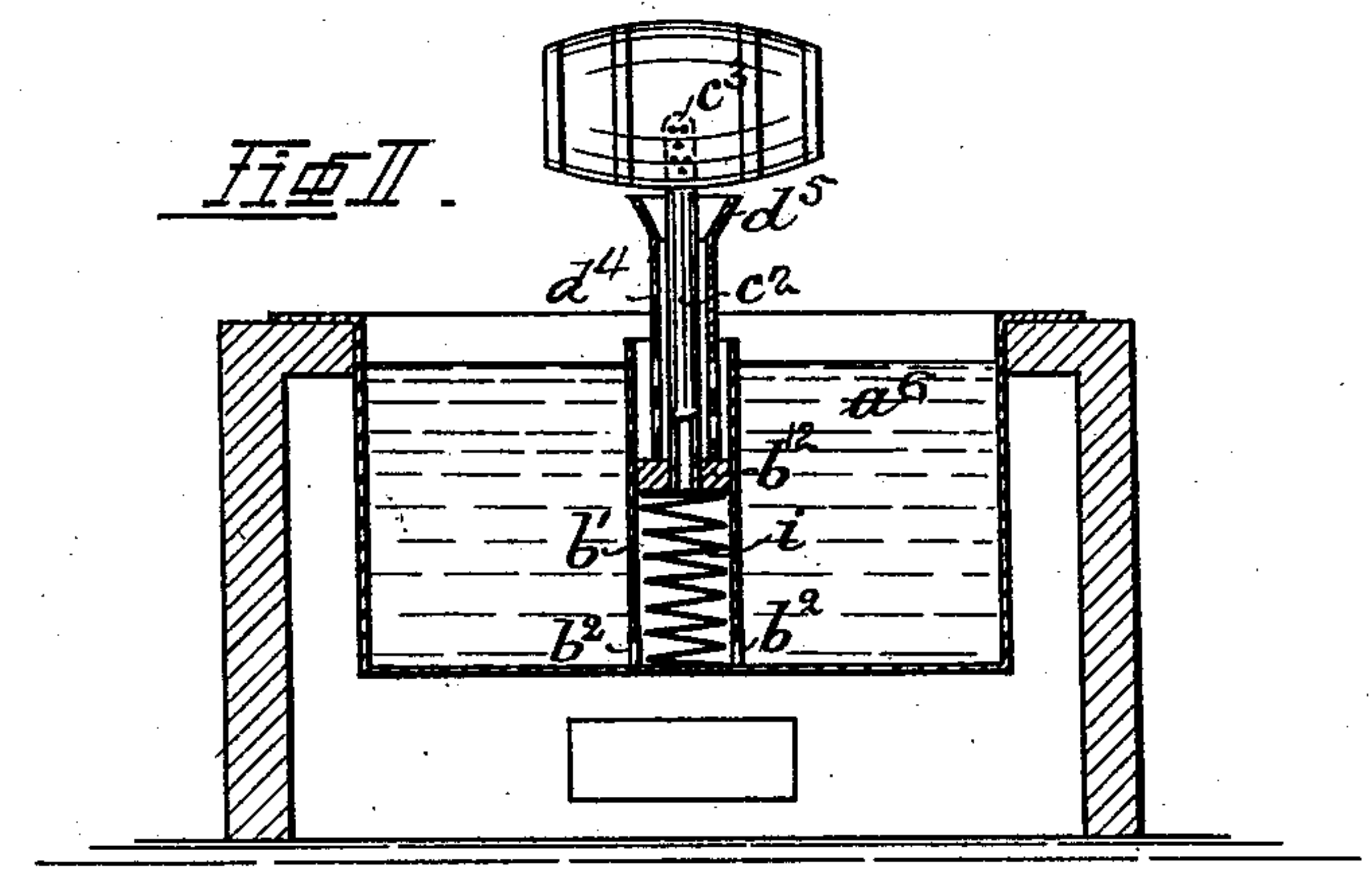
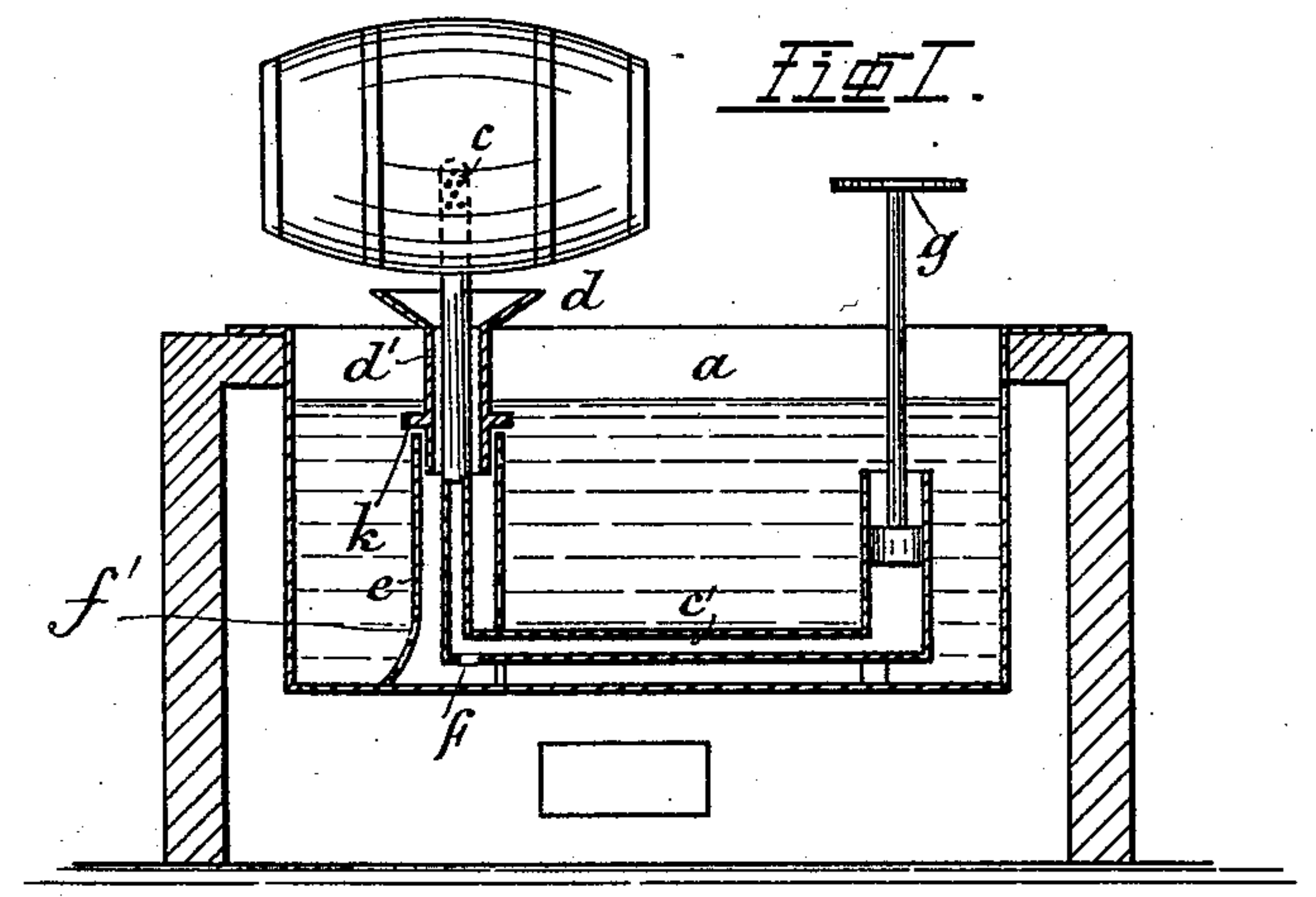
(No Model.)

2 Sheets—Sheet 1.


C. BERNREUTHER.
APPARATUS FOR PITCHING CASKS.

No. 517,515.

Patented Apr. 3, 1894.



Witnesses:
 C. R. Bolton
 E. W. Sturtevant.

Inventor:
Carl Bernreuther
By  his Attorneys.

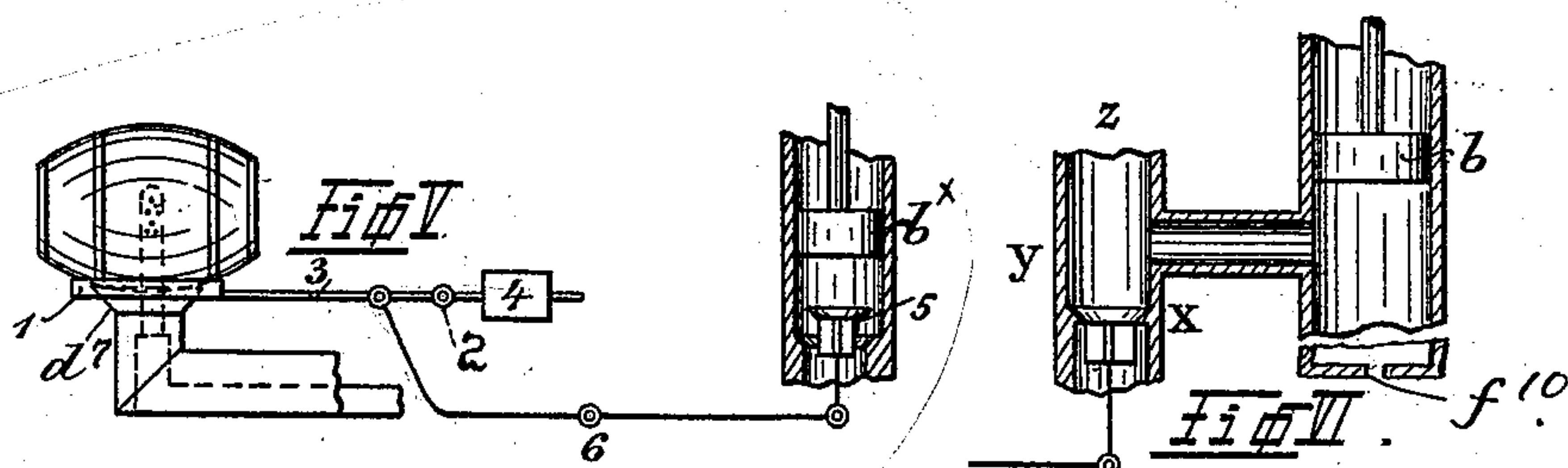
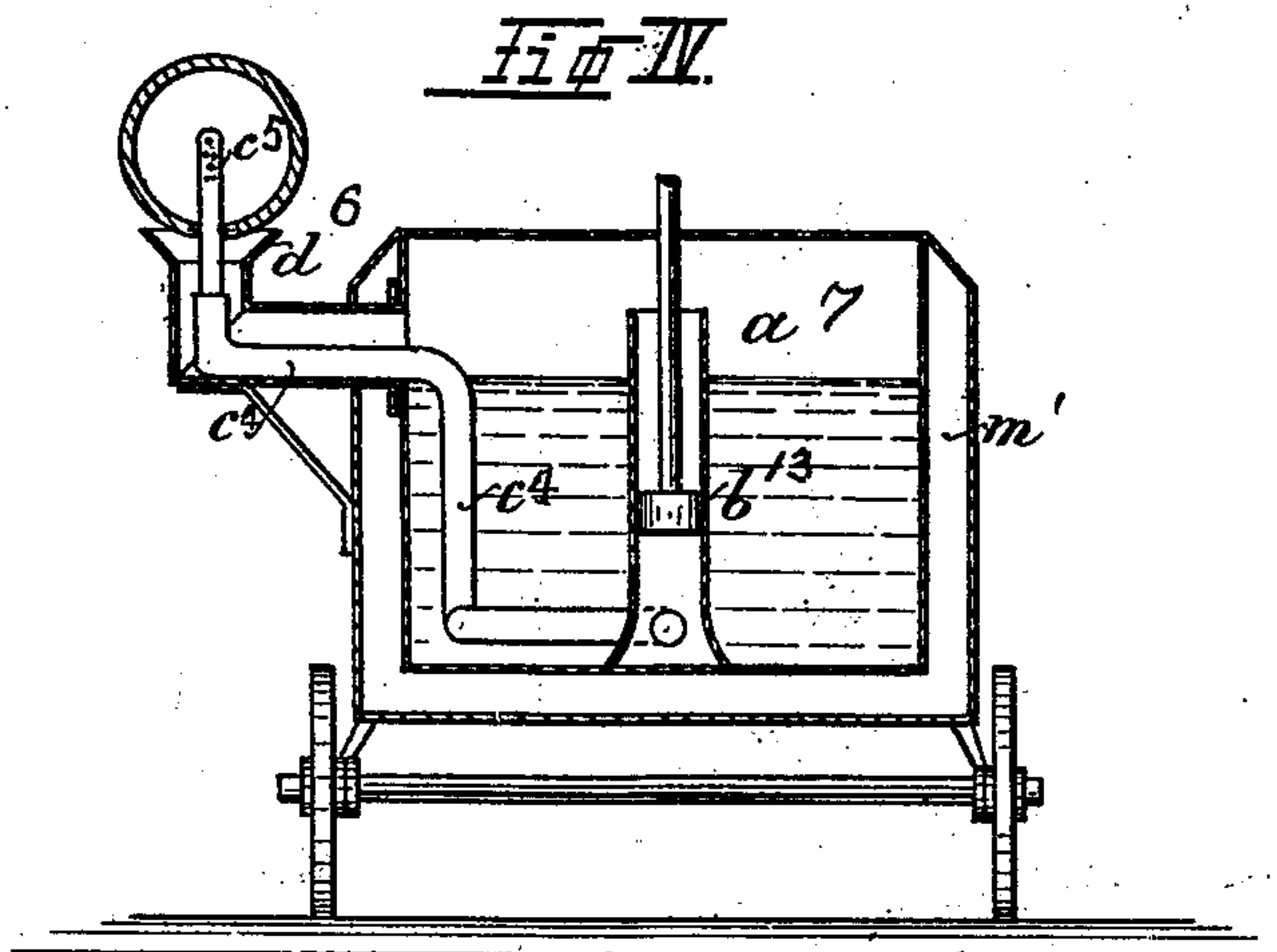
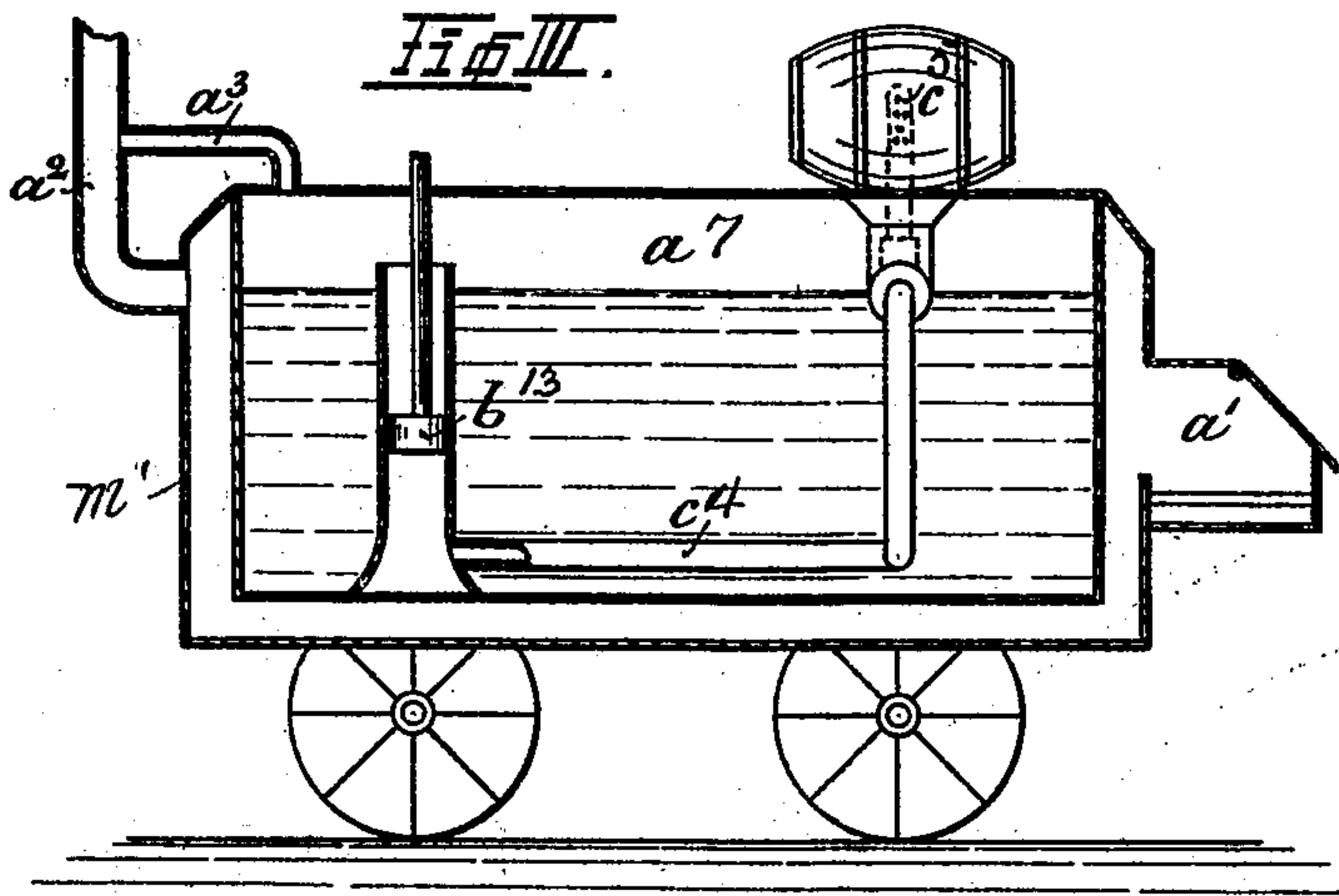
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BY *[Signature]*
his Attorneys.

UNITED STATES PATENT OFFICE.

CARL BERNREUTHER, OF BERLIN, GERMANY, ASSIGNOR TO PAUL ESSELBACH,
OF SAME PLACE.

APPARATUS FOR PITCHING CASKS.

SPECIFICATION forming part of Letters Patent No. 517,515, dated April 3, 1894.

Application filed April 11, 1893. Serial No. 469,873. (No model.)

To all whom it may concern:

Be it known that I, CARL BERNREUTHER, a subject of the Emperor of Germany, residing at Berlin, Germany, have invented certain new and useful Improvements in Apparatus for Providing Casks or Barrels with Pitch and Removing Old Pitch, of which the following is a specification.

In carrying out my invention hot pitch is used for pitching the cask or barrel anew, as well as for removing the old pitch, and is injected into the cask or barrel by means of an injector, a pump, or other suitable pressure apparatus through a pipe terminated by a nozzle and inserted in the bung hole of the said cask or barrel. For the purpose of removing the old pitch, the injected hot pitch acts as a solvent for the old dirty pitch still adhering to the inner walls of the vessel. Both kinds of pitch thus associated are transferred to a boiler to be reheated, and again injected, this mode of proceeding being repeated as often as necessary.

The apparatus used to carry this process into practice is represented in the accompanying drawings, under various forms.

Figure 1, is a cross section; Fig. 2 another cross section of a modification of the apparatus. Figs. 3 and 4 show in longitudinal and cross section the arrangement of my transportable boiler. Fig. 5 shows a modification in which a valve is arranged to be operated by the weight of the cask or barrel when it is placed over the nozzle. Fig. 6 shows a modified arrangement of the valve of Fig. 5.

a, (Fig. 1) is a stationary boiler heated from below. In this boiler is placed the pitch requiring to be heated, as well as a pump, or other pressure apparatus, from which issues a pipe *c'*, extending along the bottom of the boiler and bent upwardly at right angles terminating with a nozzle *c*. The upright part of the tube *c'* is surrounded by a casing *e*, perforated at its lower part, and carrying at a movable pipe *d'* adapted to be turned by reason of its swivel connection with the casing *e*, and terminating with a funnel shaped end *d*, for supporting the cask or barrel.

The heated pitch placed in the boiler passes through the perforations *f'* of the casing *e*, and through a small hole *f*, formed in the pipe

c', in order to arrive below the piston whence it is ejected by a sharp down stroke of the head, *g*, of the piston, through the nozzle, *c*, into the cask or barrel. The pitch running back out of the cask is caught by the funnel *d*, and is returned to the boiler. Any pitch remaining in the pipe *c'* runs off through the small hole *f*.

In the arrangement shown in Fig. 2, the injection of the pitch results from the depression of the cask or barrel. For this purpose, the pipe *d'* carrying the barrel, and provided with the funnel *d*, is firmly connected with a piston *b*¹², and acts thus as a pressure apparatus. The piston *b*¹² slides in the pipe *b'* provided at the bottom with openings *b*² for the admission of the pitch from the receptacle *a*⁶. A spring *i*, constantly presses against the piston *b*¹², and tends to move it up. The injection pipe *c*² having the nozzle *c*³, passes through the piston, and is tightly fixed thereto. The pitch from the receptacle *a*⁶, enters the pipe *b'*, and ascends along the latter through the injection pipe *c*², until it reaches the level of the pitch placed in the receptacle *a*⁶. When the cask is now suddenly pressed down, the pitch is forced from the pipe *b'*, and injected through the nozzle *c*³, into the barrel. The superfluous pitch passes through perforations in the pipe *d'*, above the piston *b*¹², and may be conveyed to the receptacle *a*⁶, when the piston is raised.

Figs. 3 and 4 show a modification of the above described invention having the form of a transportable boiler *a*⁷, provided with an outer casing *m'*. In the front of the latter is placed the furnace *a'*, and at the rear end, the chimney flue *a*², into which leads a branch pipe *a*³, leading the steam from the boiler to the said flue. The hot gases pass below and along the sides of the boiler and heat the pitch which is conveyed from the pump *b*¹³, along the conduit pipe *c*⁴ and injected into the barrel through the nozzle *c*⁵, the pipe *c*⁴ being fixed to or cast integrally with the funnel *d*⁶, while the nozzle *c*⁵ is screwed in the pipe *c*⁴.

Fig. 5 indicates a valve device which does not allow the pitch to enter the barrel until the latter is tilted over the nozzle. For this purpose, the barrel rests upon a ring 1 forming one end of a double armed lever 3, ful-

crumed at 2, the other end of which carries a counter weight 4. In the outlet of the piston cylinder b^x , is arranged a valve 5, connected by a lever arrangement 6, with the lever 3.

5 When the cask or barrel is tilted over the nozzle, and rested upon the funnel d , the ring 1, is pressed down, the counter weight is raised, and the valve 5, also from its seat. In this manner, the outlet opening of the pump

10 is released, and the pitch can be injected in the cask or barrel. As soon however as the cask or barrel is removed the counter-weight 4, sinks and closes by the aid of the valve 5, the outlet or opening.

15 Fig. 6, shows an intermediate piece inserted in the conduit pipe and provided with a valve, this arrangement having for its object to allow, when the apparatus is not in use (and hence when the valve is closed) the pitch still

20 remaining in the pump to run off through a small opening f^{10} in the bottom of the pump cylinder and back into the receptacle.

It will be understood that the valve of Figs. 5 and 6 may be used with all the forms of apparatus shown in the other figures including 25 Fig. 2.

I claim—

1. In combination, the pitch tank, the injection pipe having a nozzle, the pressure forcing device and the funnel d surrounding 30 the injection pipe, substantially as described.

2. In combination, the pitch tank, the injection pipe and nozzle, the pressure forcing device the valve the ring 1 arranged to be operated by the barrel when placed over the injection pipe, and the connection therefrom to the 35 valve substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CARL BERNREUTHER.

Witnesses:

EDUARD FRANKE,
W. HAUPT.