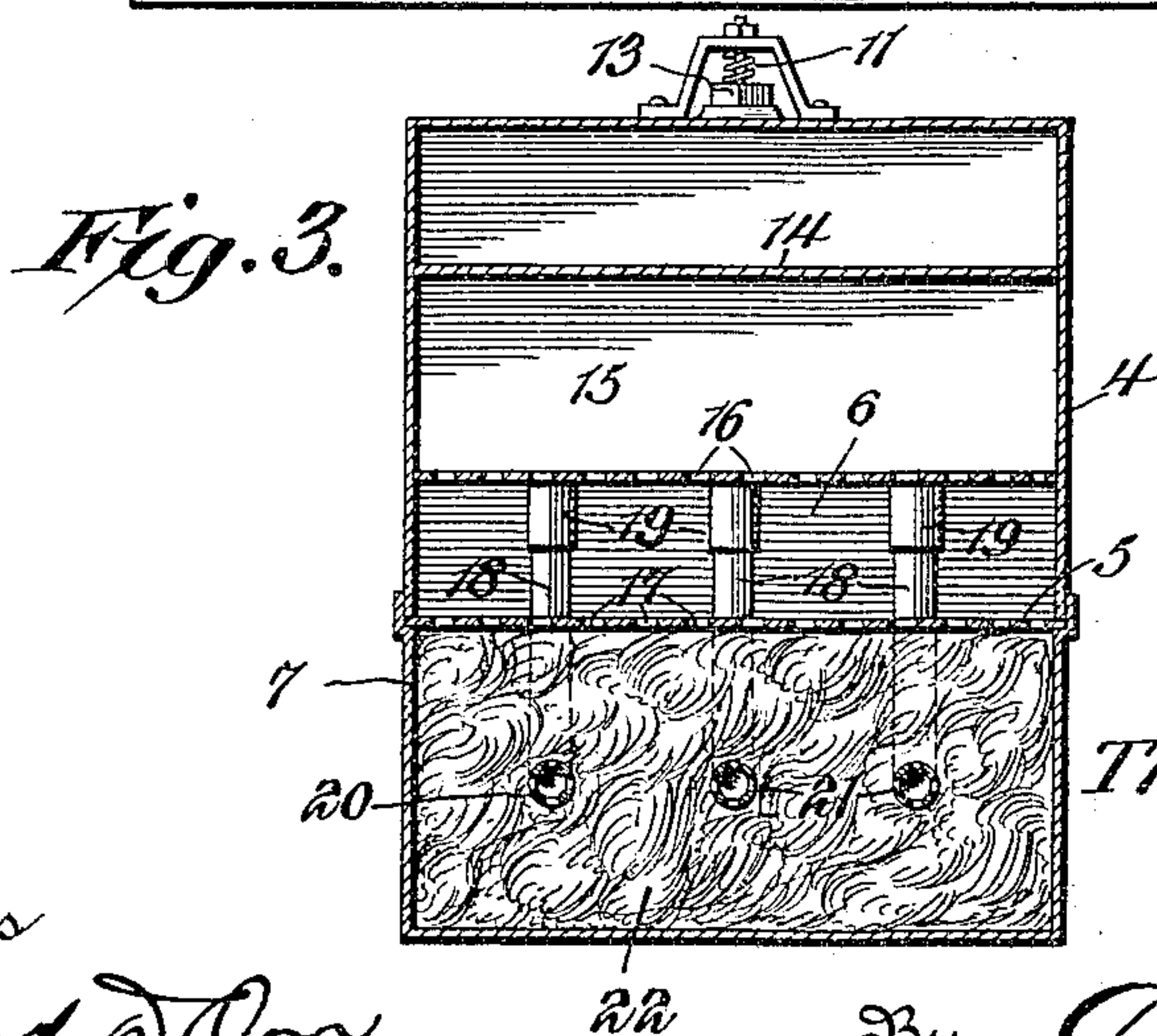
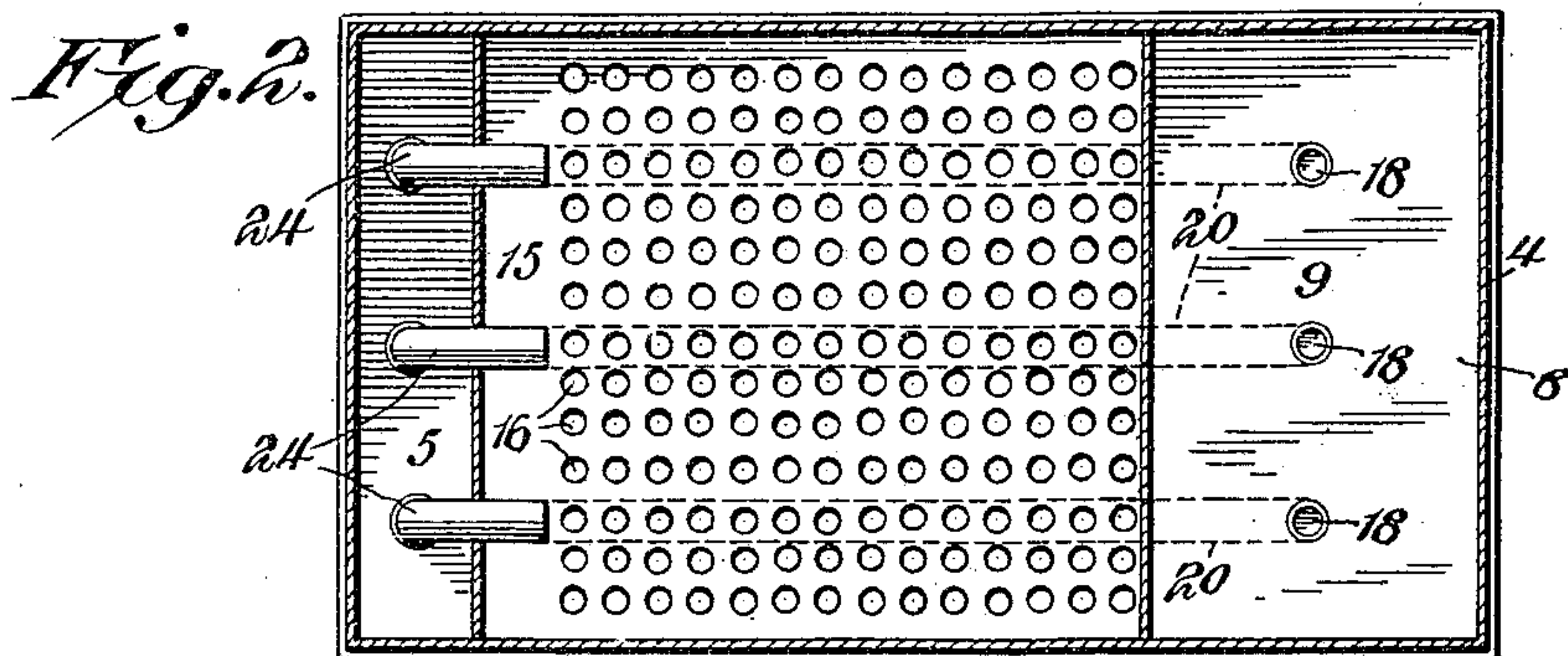
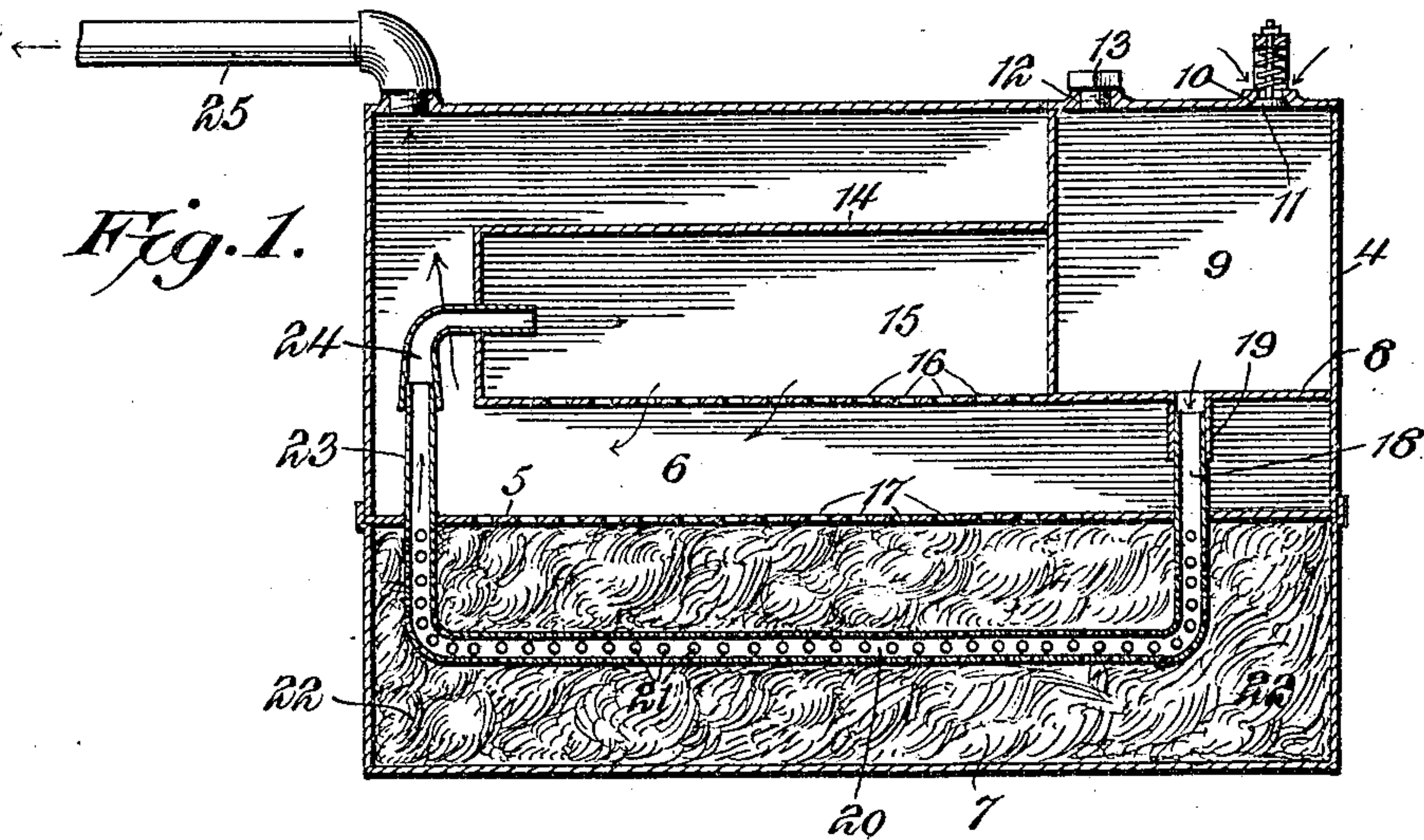


No. 825,336.

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T. MoCORMICK.
CARBURETER.

APPLICATION FILED SEPT. 11, 1905.



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CARBURETER.

No. 825,336.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed September 11, 1905. Serial No. 278,053.

To all whom it may concern:

Be it known that I, THOMAS McCORMICK, a citizen of the United States, residing at Mount Pleasant, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Carbureter, of which the following is a specification.

This invention relates more particularly to carbureters for vaporizing fuel employed as motive fluid in explosive-engines, though not necessarily limited to this specific use.

The principal object is to provide simple and novel means whereby the fuel is properly vaporized, said means including a reservoir capable of holding a comparatively great quantity of fuel and maintaining it in harmless condition, vaporizing mechanism being also provided, which automatically returns all surplus or unvaporized fuel taken from the reservoir back to the same.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a vertical longitudinal sectional view through the carbureter. Fig. 2 is a horizontal sectional view therethrough, and Fig. 3 is a vertical cross-sectional view.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated an oblong casing 4 is employed, preferably, though not necessarily, constructed of sheet metal and having a substantially horizontal partition 5 therein, which partition divides the interior of the casing into an upper separating-chamber 6 and a lower reservoir 7. In one of the upper corners of the casing is located a boxing 8, forming an air-compartment 9, having an inlet-opening 10, controlled by an inwardly-opening check-valve 11. A filling-opening 12, also communicating with the compartment 9, is normally closed by a suitable plug 13.

Another boxing 14, located within the separating-chamber 6 at one side of the boxing 8, forms a mixing-chamber 15, the bottom of said chamber being perforated, as shown at 16, and being spaced from the partition 5, the portion of the partition beneath the perforated bottom 16 also being perforated, as shown at 17. A plurality of air conduits or pipes are provided with upright inlet-terminals 18, that pass through the partition 5 and telescope with nipples 19, carried by the bot-

tom of the boxing 8. The pipes are thus in communication with the air-compartment 9. The main portions 20 of the pipes or conduits extend in a substantially horizontal direction within the reservoir and are perforated, as shown at 21. The said reservoir is completely filled with suitable absorbent packing material, such as waste or asbestos, (shown at 22,) the material completely surrounding the perforated portions of the pipes. Said pipes also terminate in upstanding discharge ends 23, that project above the partition 5, and include discharge-nozzle elbows 24, that project into the mixing-chamber 15, being thus located above the perforated partition 5. A suction-pipe 25 is connected to the casing and has its inlet end in communication with the separating-chamber 6. This suction-pipe is adapted to be connected to an explosive-engine or other device for creating a current of air through the pipes. To supply the carbureter with fuel, it is only necessary to remove the plug 13 and pour fuel into the air-compartment 9, whereupon said fuel will flow into the air conduits or pipes and, escaping through the perforations thereof, will be thoroughly absorbed by the packing.

In operation a current of air is created through the mechanism by the means attached to the suction-pipe 25. This will cause a partial vacuum within the casing, which will be relieved by the opening of the check-valve 11. The air thus passing through the compartment 9 will enter and traverse the air conduits or pipes, taking up and vaporizing the fluid therein and finally escaping into the mixing-chamber 15. From thence it will pass through the perforated bottom into the separating-chamber 6 and to the suction-pipe 25. If an abnormal amount of fuel is collected in the pipes, the surplus or unvaporized portion will be drawn therefrom and delivered into the mixing-chamber, from whence it will gravitate through the perforated bottom onto the perforated partition 5, constituting a top for the reservoir. Through this top or partition it will find its way back into the reservoir, where it will be absorbed by the packing.

It will be apparent that this structure is an exceedingly-simple one, and experience has demonstrated that it will properly and thoroughly vaporize fuel in the reservoir. While said reservoir will contain a considerable quantity of fuel, it will be evident that the

same will be maintained in a comparatively harmless condition, as it is absorbed by the packing. Furthermore, any portion of the fuel that collects in the pipes will be immediately withdrawn therefrom when the engine is operated and returned to the packing, so that no body of fluid of any great amount will collect in the apparatus.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a carbureter, the combination with a casing, of a perforated partition located therein, said partition subdividing the interior of the casing into a lower reservoir and an upper separating-chamber, an air-pipe having a perforated portion extending through the reservoir, said pipe extending into the separating-chamber and terminating therein above the partition, and a delivery-pipe communicating with the separating-chamber.

2. In a carbureter, the combination with a casing, of a perforated partition located therein and subdividing the casing into a lower reservoir, and an upper separating-chamber, an air-pipe having a substantially horizontal perforated portion extending through the reservoir above the bottom thereof, said pipe having an upturned end portion that extends through the partition and terminates over the same in the separating-chamber, and a delivery-pipe communicating with the separating-chamber.

3. In a carbureter, the combination with a casing, of a perforated partition located therein and subdividing the same into a lower reservoir, and an upper separating-chamber, an air-pipe having a downwardly-extending inlet from the top of the casing, a substantially horizontal perforated portion extending through the reservoir, and an upturned end portion that extends through the partition and terminates over the same in the separating-chamber, said upturned end portion above the partition being imperforate, and a delivery-pipe communicating with the separating-chamber.

4. In a carbureter, the combination with a casing, of a partition located therein and subdividing the same into a lower reservoir and an upper separating-chamber, an air-pipe having a perforate portion extending through the reservoir, said pipe extending into the separating-chamber, a mixing-chamber located in the separating-chamber and having

an open bottom spaced from and above the partition, said air-pipe communicating with the mixing-chamber, and an outlet-pipe communicating with the separating-chamber exteriorly of the mixing-chamber and causing a draft through the open bottom of the mixing-chamber.

5. In a carbureter, a reservoir for fuel having a perforated top, an absorbent packing in the reservoir below the top, an air-conduit extending through the reservoir, through the top and terminating over said top, said conduit having a portion located in the reservoir, surrounded by the packing and perforated, and means communicating with the space between the top and terminal of the conduit to cause a downward draft from the latter and to effect a downward discharge of unvaporized fuel onto the top.

6. In a carbureter, the combination with a reservoir having an open top, of a mixing-chamber located above the reservoir and having an open bottom, a perforated air-conduit extending through the reservoir and discharging into the mixing-chamber, and a suction-pipe having communication with the space between the open top and bottom of the reservoir and chamber to cause a down-draft through the open bottom of the mixing-chamber.

7. In a carbureter, the combination with a reservoir having a perforated top, of a mixing-chamber located above the same and having a perforated bottom disposed over and in spaced relation to the top of the reservoir, and an air-conduit having a perforated portion extending through the reservoir, said conduit extending across the mixing-chamber and having an outlet communicating with said mixing-chamber.

8. In a carbureter, the combination with a casing, of a substantially horizontal perforated partition located therein and dividing the interior of said partition into a lower reservoir and an upper separating-chamber, an air-conduit having a downwardly-extending inlet portion passing through the partition, an offset perforate portion located in the reservoir, and an outstanding discharge that extends through the partition and terminates above the same, and a suction-pipe connected to the separating-chamber.

9. In a carbureter, the combination with a casing, of a substantially horizontal perforated partition located therein and dividing the same into a lower reservoir and an upper separating-chamber, a boxing disposed in the separating-chamber and having a perforate bottom arranged over the partition, said boxing constituting a mixing-chamber, an air-conduit extending downwardly through the partition and having perforate portions located in the reservoir, said conduit having a discharge communicating with the boxing, packing located in the reservoir and sur-

rounding the conduit, and a suction-pipe having a communication with the separating-chamber.

10. In a carbureter, the combination with
5 a casing, of a substantially horizontal perforated partition located therein and dividing the same into a lower reservoir and an upper separating-chamber, a pair of boxings located
10 in the separating-chamber, one of said boxings having a perforated bottom and constituting a mixing-chamber, the other having a valved air-inlet forming an air-compartment, a plurality of pipes having their inlets communicating with the air-compartment and

having perforated portions disposed within 15 the reservoir, said pipes having discharge ends communicating with the mixing-chamber, packing filling the reservoir and surrounding the pipes, and a suction-pipe connected to the casing and communicating with 20 the separating-chamber.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS McCORMICK.

Witnesses:

W. LAWRENCE KALP,
J. LLOYD KALP.