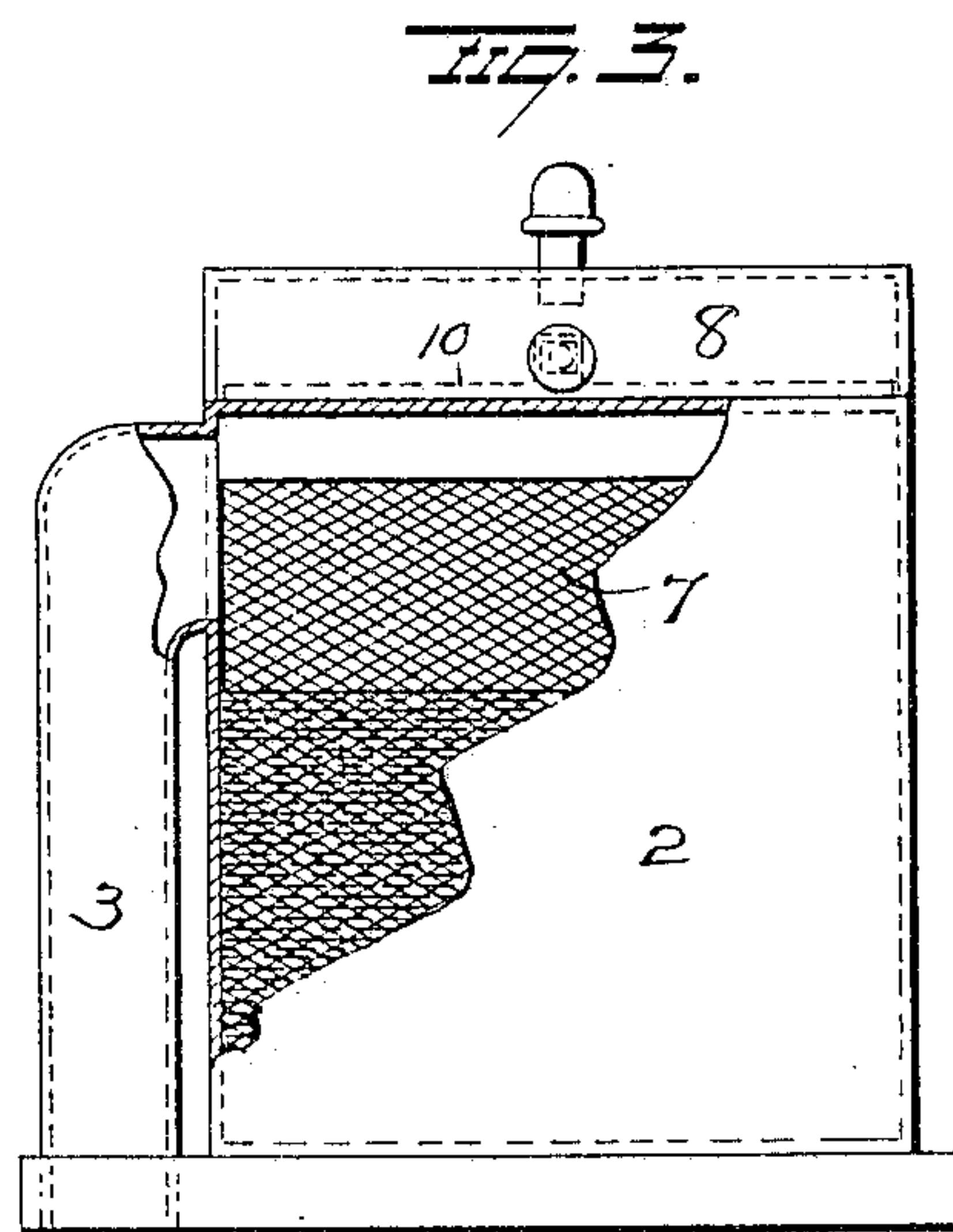
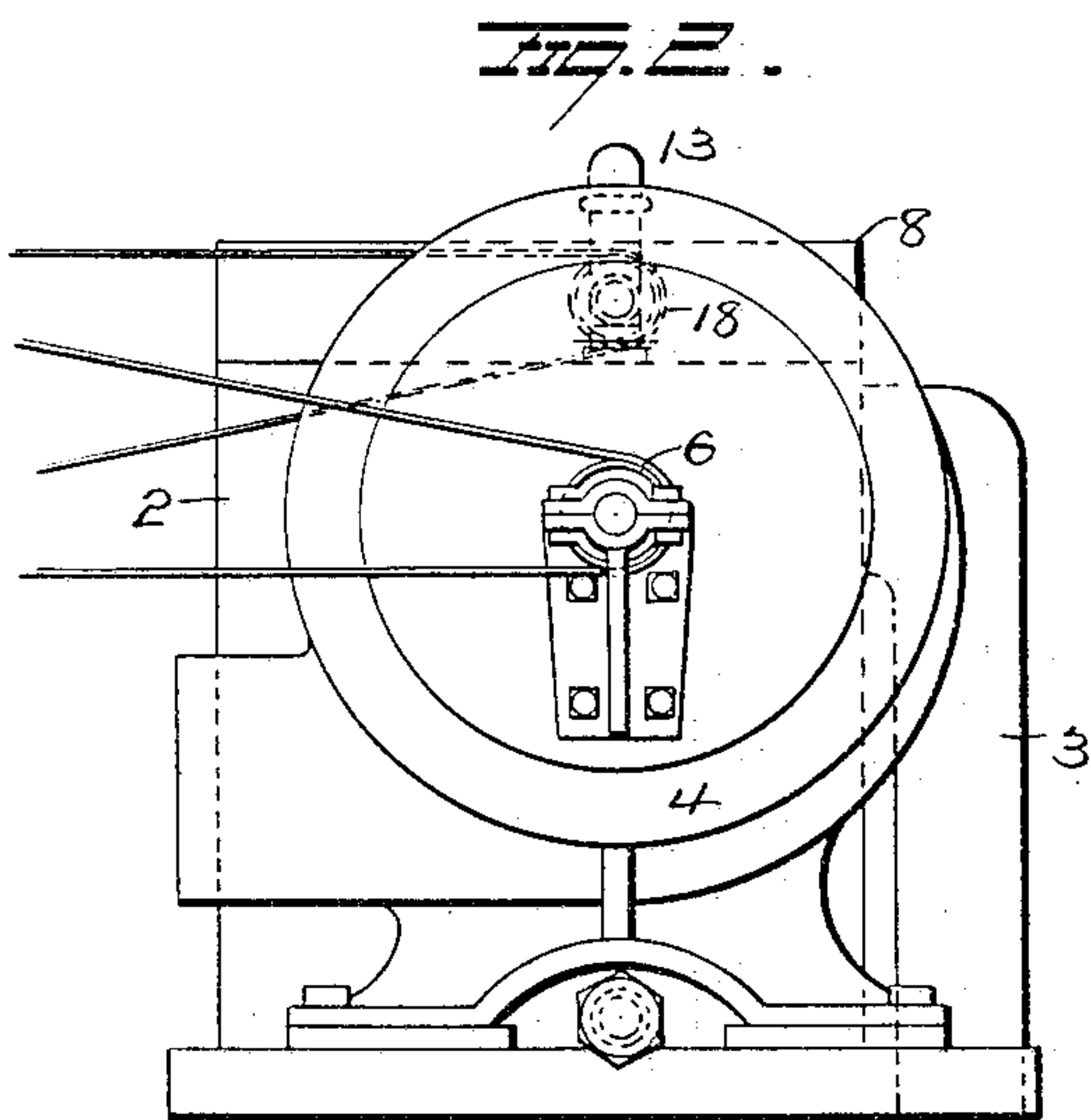
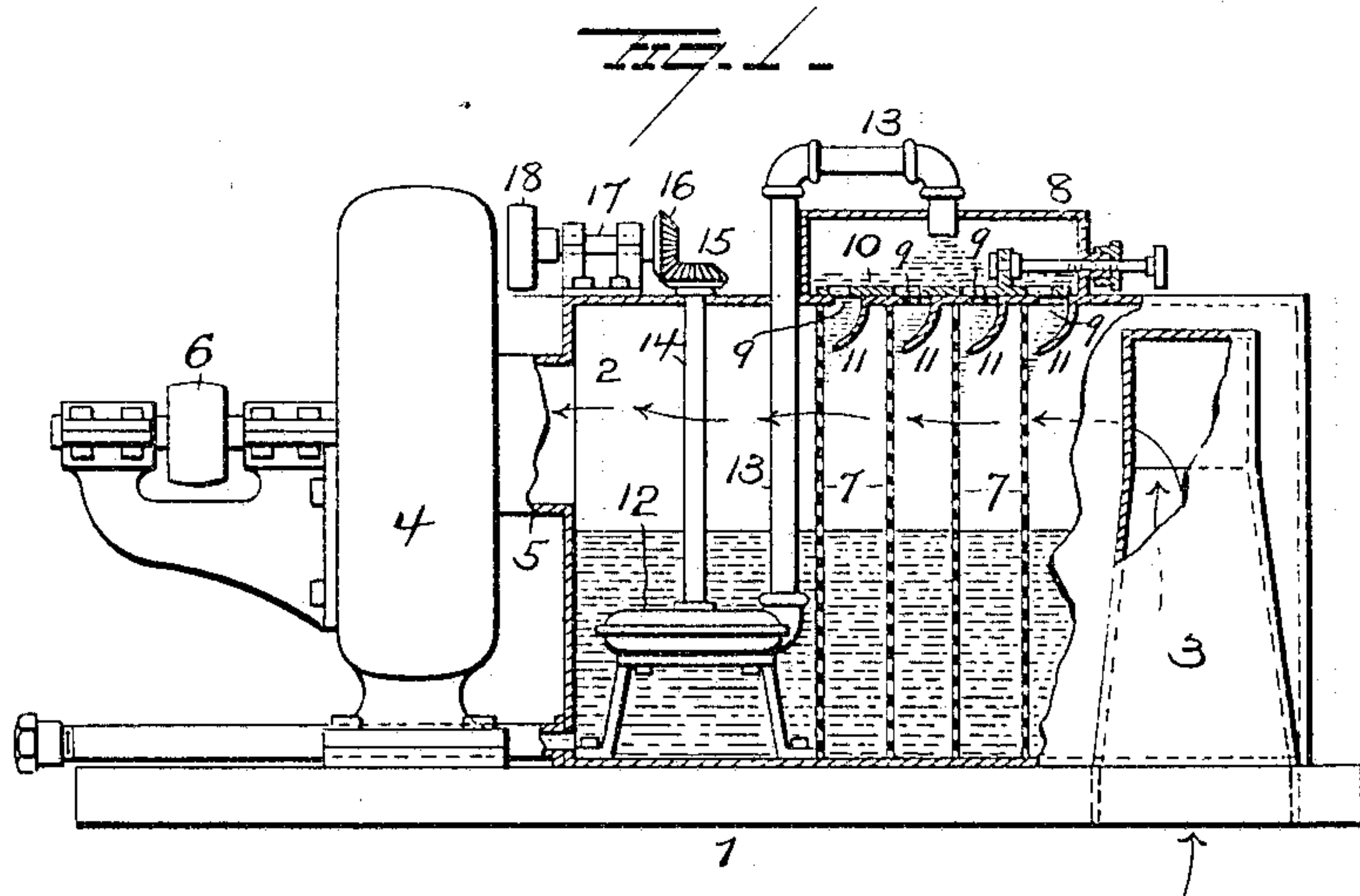


No. 782,190.

PATENTED FEB. 7, 1905.

A. A. CLOUGH.
DUST COLLECTOR.

APPLICATION FILED JAN. 19, 1904.



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AUGUSTUS A. CLOUGH, OF DENVER, COLORADO.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 782,190, dated February 7, 1905.

Original application filed December 1, 1903, Serial No. 183,357. Divided and this application filed January 19, 1904. Serial No. 189,707.

To all whom it may concern:

Be it known that I, AUGUSTUS A. CLOUGH, of Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Dust-Collectors; 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 relates to improvements in dust-collectors, this application being a division of application filed by me on the 1st day of December, 1903, and designated by Serial No. 183,357, the object of the present invention being to provide simple and efficient means for quickly and thoroughly removing dust from air laden with the same.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation, partly broken away, illustrating my invention. Fig. 2 is an end view. Fig. 3 is a view of the other end of the apparatus, partly broken away.

1 represents a suitable base or platform, on which a tank 2 is located. A pipe 3 is also located on the platform and communicates at its upper end with one end of the tank, the other end of said pipe being adapted to receive air laden with dust or other impurity. A fan 4 is located on the platform, and the casing of this fan communicates, by means of a short pipe 5, with the end of the tank 2, opposite to that with which the pipe 3 communicates. The shaft of the fan is provided with a pulley 6, over which a strap from any convenient source of power passes. The fan is operated in a manner to cause the air entering the tank from the pipe 2 to pass through said tank and find an exit through the fan-casing and finally through the mouth of said casing. In other words, the fan acts by suction to cause a flow of air from the pipe 2 through the tank.

The tank is provided with several vertically-disposed screens 7, extending from top to bot-

tom thereof and suitably spaced apart. A receptacle 8 for water or other fluid is located upon the tank and communicates therewith at points between the screens through openings 9, and the flow of fluid through these openings is controlled by means of a slide-valve 10.

Depending from the roof of the tank adjacent to the several openings 9 are curved deflectors 11, which terminate at their free edges in close proximity to the screens, so as to direct fluid against the latter at their upper ends. The screens are thus kept constantly wet with flowing fluid and the latter may be permitted to accumulate in the tank until (when the apparatus is first started) said tank becomes about half full. The air, laden with dust or other impurities, will be drawn through the tank by the suction-fan, as before explained, and as it passes through the wet screens the dust or other impurities will be caught by the fluid and carried thereby into the fluid in the tank, where it will finally be precipitated to the bottom. The accumulated dirt can be removed from time to time through a suitable opening.

In order to permit the use of the same fluid continuously for a considerable period, I locate in the tank (preferably elevated somewhat from its bottom) a water-elevator 12, provided with a pipe 13, discharging into the receptacle 8. The driving-shaft 14 of the water-elevator is extended through the top of the tank and provided at its upper end with a pinion 15, which receives motion from a similar pinion 16 on a short shaft 17. A pulley 18 is secured to this short shaft, and over said pulley a strap from any convenient source of power is passed.

My improvements are simple in construction and have been found in practice to effectually arrest dust from air laden with the same, permitting the air to leave the apparatus free from impurities.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details shown and described.

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

1. A dust-collector comprising a tank having an air-inlet at one end and an air-outlet at the other end, a screen in said tank intermediate of the ends thereof, a water-receptacle over the tank, means for directing water from said receptacle onto the screen, and a water-elevator in said tank and discharging into the receptacle over the tank.

2. A dust-collector comprising a tank provided at one end with an inlet for dust-laden air, and with an air-outlet at the other end, a series of screens in said tank dividing the same into a series of compartments, a water-

receptacle over the tank and having openings communicating with the compartments between the screens for supplying water to said screens, and a water-elevator in one of the compartments of the tank and communicating with the water-receptacle over the tank, whereby water will continuously pass over the screens and remove dust contained in the air passing through the screens.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

AUGUSTUS A. CLOUGH.

Witnesses:

R. S. FERGUSON,
G. F. DOWNING.