

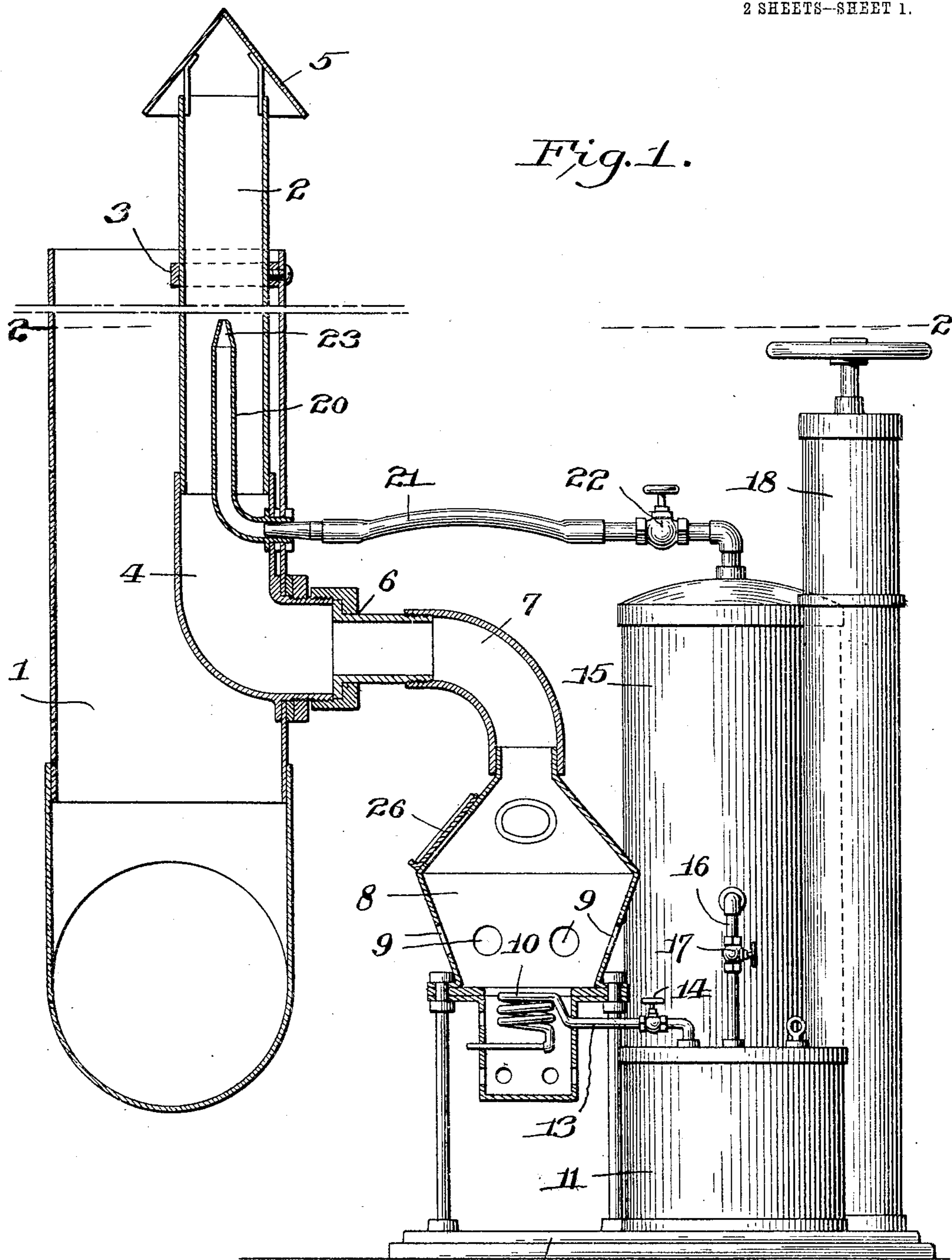
No. 804,042.

PATENTED NOV. 7, 1905.

H. C. REICHARDT.
APPARATUS FOR MELTING ICE.

APPLICATION FILED FEB. 18, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 2.

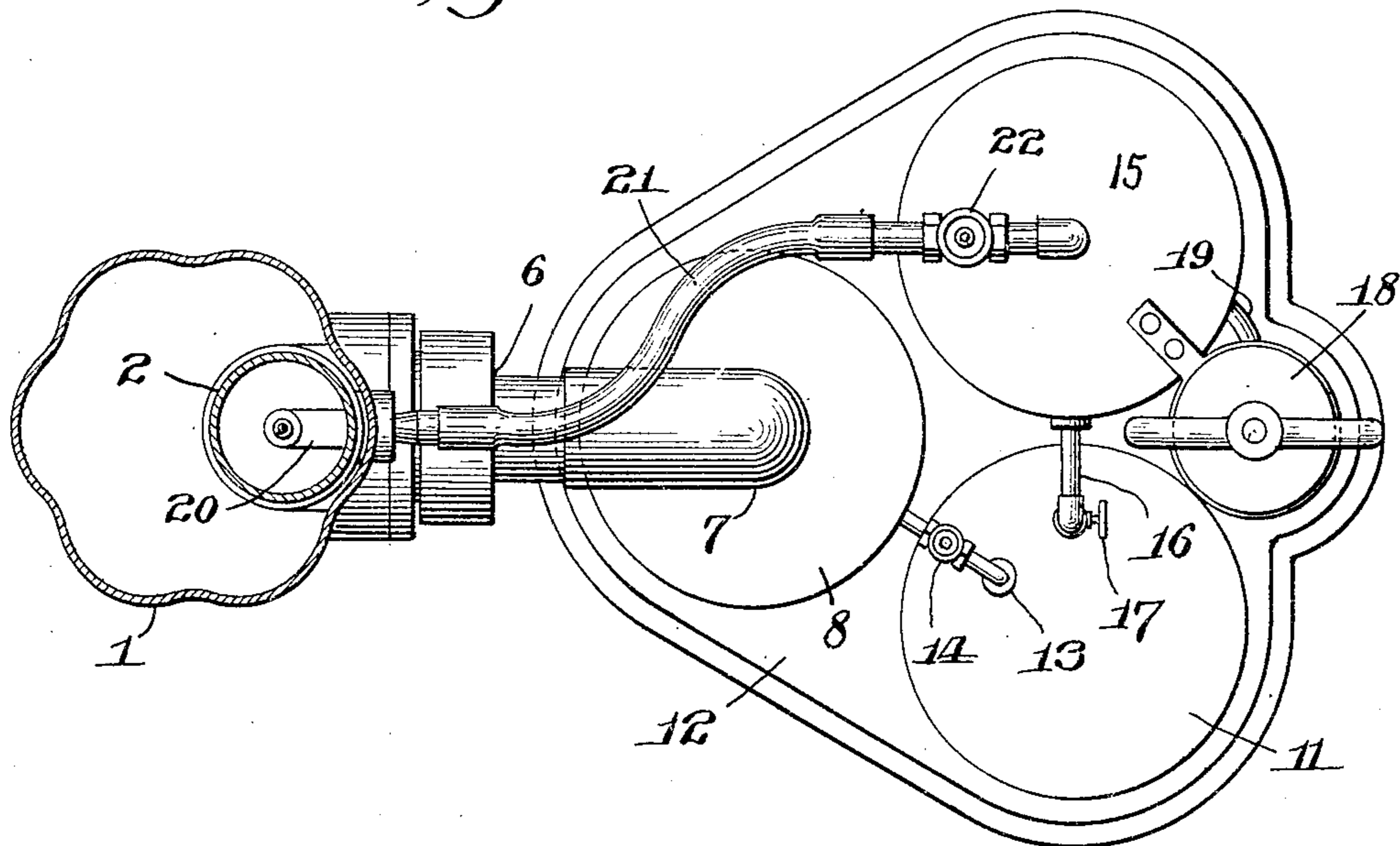
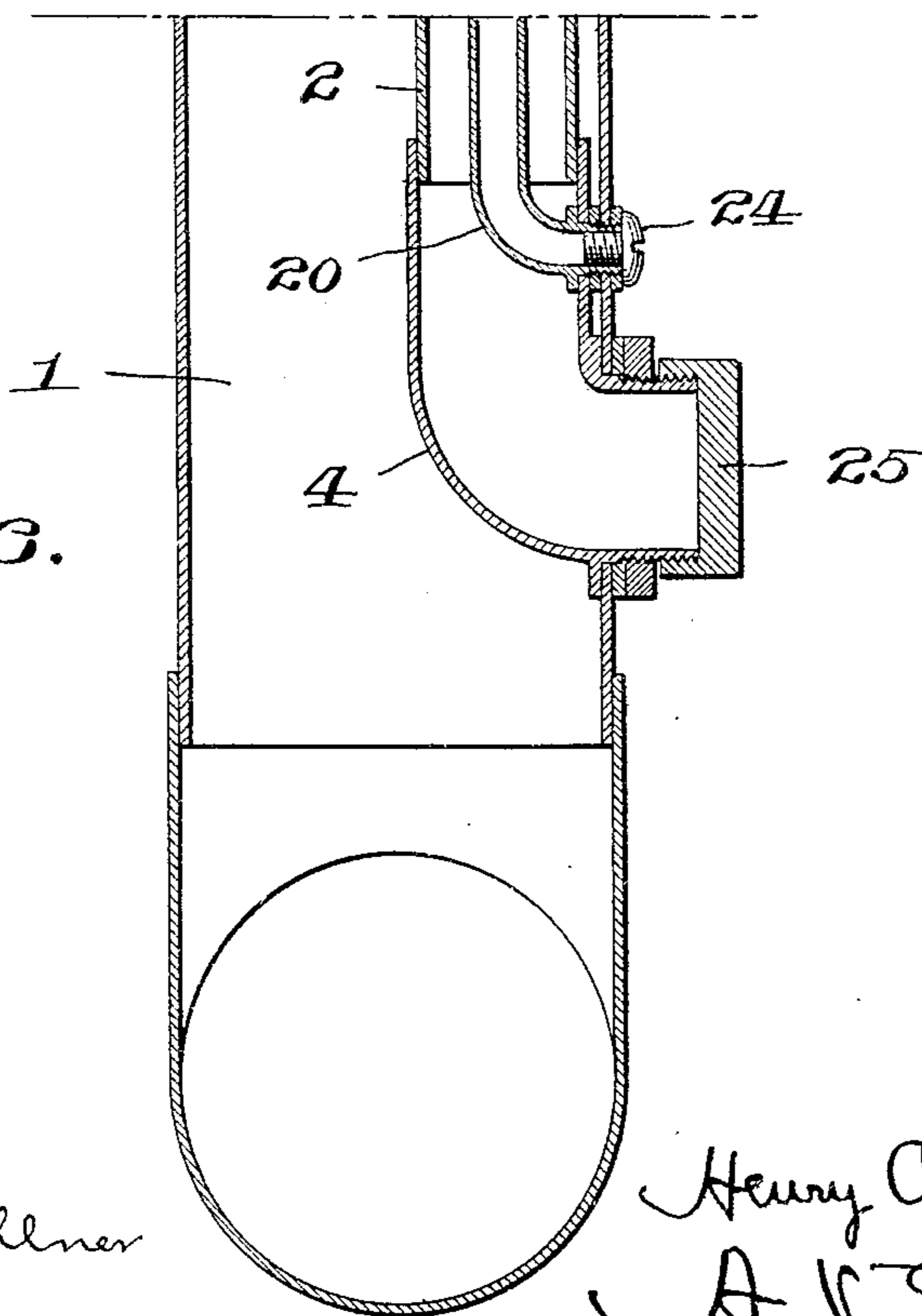


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY C. REICHARDT, OF POTTSVILLE, PENNSYLVANIA.

APPARATUS FOR MELTING ICE.

No. 804,042.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed February 18, 1905. Serial No. 246,257.

To all whom it may concern:

Be it known that I, HENRY C. REICHARDT, a citizen of the United States, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Melting Ice, of which the following is a specification.

This invention relates to apparatus for thawing or melting ice formed within water-pipes, my object being to provide a simple and efficient apparatus whereby the accumulation of ice within water-pipes may be thawed or melted to open the pipe to permit water to flow therethrough.

The invention, as generally stated, comprises an air-pipe arranged longitudinally of the water-pipe, in combination with means whereby a current of hot air may be caused to pass through the air-pipe, and thus effect the melting of the ice formed within the water-pipe.

Having this object in view, the invention consists in the novel construction and combinations of parts, which will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional elevation of my improved apparatus as applied to a water-pipe, the central portion of the water-pipe and air-pipe being cut out or omitted. Fig. 2 is a sectional plan view as on the line 2 2 of Fig. 1. Fig. 3 is a sectional detail of the lower end of the water-pipe and adjuncts after the removal therefrom of a part of the apparatus.

1 designates a water-pipe which in the present embodiment of my invention is designed to be attached to the side of a building for the purpose of draining water from the roof thereof to the ground. Extending longitudinally of this water-pipe 1 is an air-pipe 2. In the present instance the air-pipe 2 is located within the water-pipe 1, the upper end of the air-pipe 2 being held in place by a collar 3, surrounding the air-pipe and secured to the water-pipe 1, and the lower end of the air-pipe 2 being held in place by an elbow 4, secured to the water-pipe 1 and extending outwardly therethrough. The upper end of the air-pipe 2 extends slightly above the top of the pipe 1 and is provided with a suitable hood 5 to prevent water from entering the pipe 2.

Screwed onto the outwardly-extending end of the elbow 4 is a union 6 on the horizontal

end of a curved pipe 7, extending from the upper end of a combustion-chamber 8, the curved pipe 7 and union 6 forming, in effect, a continuation of the air-pipe 2. The combustion-chamber 8 may be of any shape and size for its intended purpose, and it is provided with inlet-openings 9 for the admission of air. The combustion-chamber 8 is supported upon a suitable portable base 12.

Located within the combustion-chamber 8 is a burner 10, which may be of any approved type. Leading to the burner 10 from an oil-tank 11, which is mounted on the base 12, is a pipe 13, by means of which oil may be supplied to the burner 10 from the tank 11. The pipe 13 is provided with a valve 14 to regulate the flow of oil to the burner 10.

Mounted on the base 12 is a tank 15, adapted to hold compressed air, and leading from the air-tank 15 to the oil-tank 11 is a pipe 16, through which compressed air may be introduced to the oil-tank for the purpose of feeding oil from the tank 11 to the burner 10, as is common and well known. The pipe 16 is provided with a valve 17 as a means whereby the passage of compressed air to the oil-tank 11 may be regulated. Also mounted on the base 12 is a suitable hand-operated air-pump 18, which is connected to the tank by a pipe 19 and by means of which compressed air may be supplied to the tank 15.

Arranged within the air-pipe 2 is a small vertical pipe 20, the upper end of which terminates in a discharge-nozzle 23. The lower end of the pipe 20 extends horizontally out through the pipes 2 and 1, and it is secured thereto in a manner to be supported thereby. Inserted into the outwardly-extending end of the pipe 20 and held therein by friction is the tapering end of a flexible pipe 21, leading from the air-tank 15 and forming, in effect, a continuation of the pipe 20. The pipe 21 is provided with a suitable valve 22 to permit compressed air to pass from the tank 15 through the pipes 21 and 20 to the nozzle 23 and to regulate the discharge of air at said nozzle.

The operation of the apparatus may be briefly described as follows: Under ordinary conditions when the pipe 1 is open to permit the water to pass freely therethrough the tapering end of the pipe 21 is removed from the pipe 20 and a plug 24 is screwed into the open end of the pipe 20 to close the same (see Fig. 3) and the union 6 is unscrewed from the projecting end of the air-pipe 2 and a cap

25 is screwed onto said end to close the same. In this condition of the apparatus the portable base 12, with the combustion-chamber 8, the oil-tank 11, the air-tank 15, and the pump 18 mounted thereon, may be moved to any convenient place. When, however, ice forms within the water-pipe 1, the plug 24 and cap 25 may be removed from the pipes 1 and 2 and the tapering end of the pipe 21 may be inserted into the pipe 20 and the union 6 may be screwed onto the projecting end of the elbow 4. This being done, the valves 14 and 17 are opened to supply oil to the burner 10, which is then lighted, a suitable slide-door 26 being provided on the combustion-chamber for that purpose, and the valve 22 is opened to permit the discharge of compressed air from the nozzle 23. The compressed air rushing up through the pipe 2 causes a current of air to enter the openings 9 in the combustion-chamber 8 and pass up through the pipe 2, the current of air being heated by the burner 10, and the heat radiated from the hot air passing through the pipe 2 melts or thaws the ice within the water-pipe 1. After the ice within the water-pipe has been melted the parts carried by the base 12 may be detached from the pipes 1 and 2 and removed, as previously explained.

I claim—

1. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, and means for discharging compressed air into the air-pipe to cause a current of air to pass through the air-pipe, whereby the current of air may be heated by the burner to melt ice within the water-pipe.

2. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, and a valve to control the discharge of compressed air into said air-pipe, whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

3. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, an oil-tank, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, and a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, whereby the introduction of compressed air to said

air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

4. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, and an air-pump connected to said tank to supply air thereto whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

5. The combination with a water-pipe of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, an oil-tank, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, and an air-pump connected to said tank to supply air thereto, whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

6. The combination with a water-pipe of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-inlet opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold compressed air, a discharge-nozzle within said air-pipe, means for detachably connecting said nozzle with said tank, and a valve to control the discharge of compressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

7. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-inlet opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold compressed air, an oil-tank on said base, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, a discharge-nozzle within said air-pipe, means for detachably connecting said

nozzle with said tank, and a valve to control the discharge of compressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot
5 air to pass through said air-pipe to melt ice within the water-pipe.

8. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-in-
10 let opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold com-
15 pressed air, a pump on said base and connected to said tank to supply air thereto, an oil-tank on said base, a pipe leading from the oil-tank

to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate
20 the feed of oil to said burner, a discharge-nozzle within said air-pipe, means for detachably connecting said nozzle with said tank, and a valve to control the discharge of com-
25 pressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

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

HENRY C. REICHARDT.

Witnesses:

WM. SMITH,

HORACE B. MCCOOL.