

(No Model.)

P. SATTELKAU & H. R. WINKELMANN.
STORAGE RESERVOIR FOR STEAM VACUUM WATER ELEVATORS.
No. 521,390. Patented June 12, 1894.

FIG 1

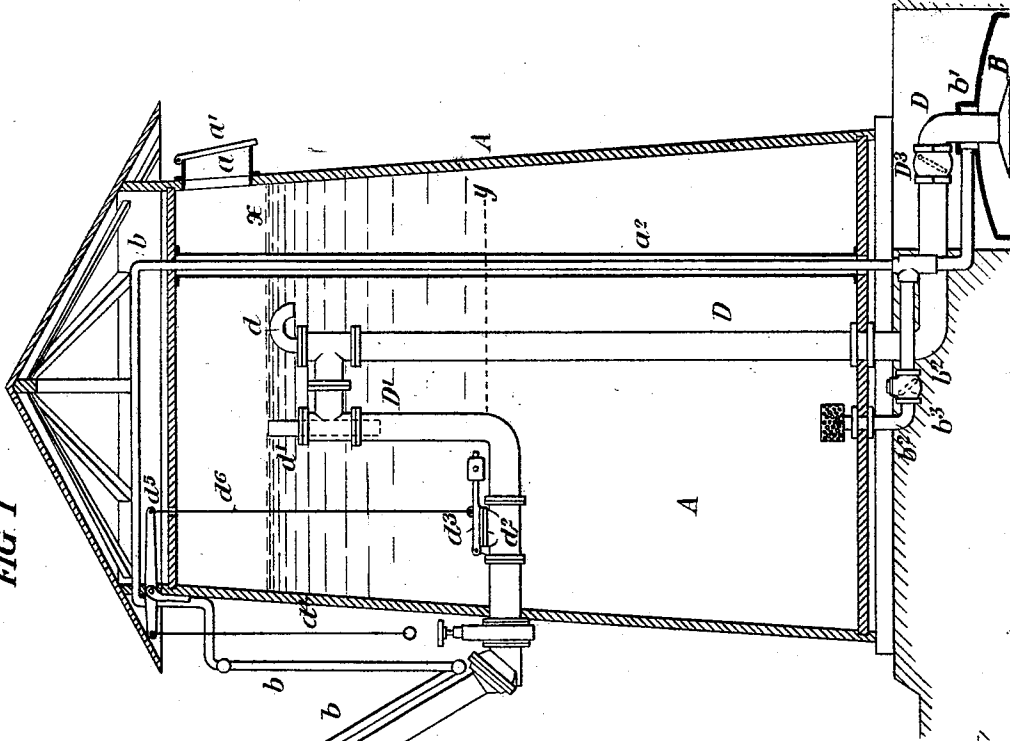
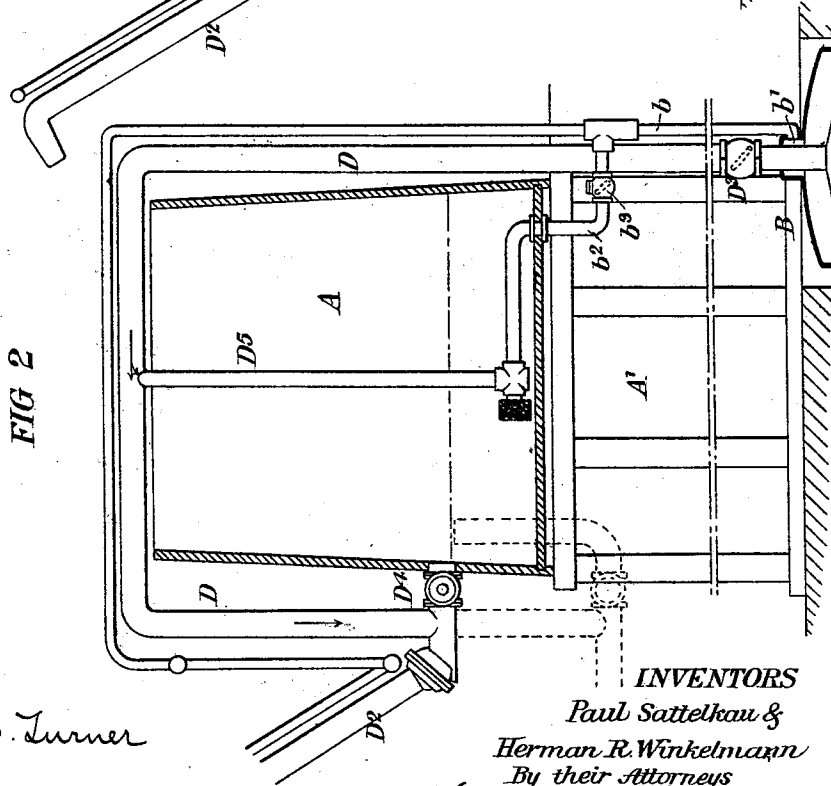


FIG 2



WITNESSES

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UNITED STATES PATENT OFFICE

PAUL SATTELKAU AND HERMAN R. WINKELMANN, OF BROOKLYN,
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STORAGE-RESERVOIR FOR STEAM VACUUM WATER-ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 521,390, dated June 12, 1894.

Original application filed October 20, 1893, Serial No. 488,687. Divided and this application filed March 9, 1894. Serial No. 502,950. (No model.)

To all whom it may concern:

Be it known that we, PAUL SATTELKAU and HERMAN R. WINKELMANN, both citizens of the United States, and residents of Brooklyn, New York, have invented certain Improvements in Storage-Reservoirs for Steam Vacuum Water-Elevators, of which the following is a specification.

Our invention relates to certain improvements in storage reservoirs used principally in supplying locomotive tenders with water and the device is used particularly in connection with steam vacuum water elevating apparatus.

Our present invention forms a division of the application for patent filed by us on October 20, 1893, Serial No. 488,687.

In the accompanying drawings:—Figure 1, is a sectional elevation of our improved storage reservoir, showing sufficient of a steam vacuum tank to illustrate our invention. Fig. 2, is a sectional view of a modification of the invention.

A is the storage reservoir, in the present instance extending from the ground level to a point sufficiently above the top of a tender tank so that water will flow from the upper portion of the reservoir into the tender tank by gravity.

B is the vacuum tank situated preferably directly above the water in a well so as to receive a supply of water from the well.

D is the discharge pipe from the vacuum tank B, this discharge pipe extends up into the reservoir A, as shown, to a point near the water level of the reservoir and is coupled to a downwardly extending pipe D' which is turned some distance above the bottom of the reservoir and extends through the walls thereof. To the end of this pipe is coupled the pivoted goose neck D².

The fluid supply pipe b, used in the present instance for the passage of steam, extends from the goose neck over the reservoir and down through a tube a² to the chamber b' connected to the upper portion of the vacuum tank B. The steam pipe B is also connected to the lower portion of the reservoir A through a pipe b² having a valve b³, which will allow water to flow from the reservoir to the vacuum

tank, but will check the flow of steam from the steam pipe to the reservoir.

In the pipe D' is a check valve D³ and the pipe D communicates with the reservoir in the present instance through a curved pipe d forming a nozzle less in diameter than the pipe; so that a portion of the water discharged from the vacuum tank will pass out of the goose neck into the tender tank and a portion pass into the reservoir. Thus at each operation of the vacuum tank the reservoir will be charged as well as the tender tank.

d' is an overflow pipe extending into the section D' of the discharge pipe so that when the water in the reservoir rises above the level x it will not flow to waste but will flow into the tender tank through the pipe D' and goose neck.

In the pipe D' is an opening d² closed by a valve d³ operated by hand through the medium of the rods or chains d⁴ and d⁵ and lever d⁶; this valve is used as an emergency valve to draw water direct from the reservoir without using the steam vacuum apparatus.

a is a manhole opening covered by a pivoted door a' and this opening is so situated that it acts as a safety overflow in the event of the pipe d' clogging.

By placing the emergency valve at a point some distance above the bottom of the reservoir we are enabled to retain an abundance of water for use as spray water in the vacuum tank as it will be impossible for a fireman through carelessness to drain the reservoir by leaving the valve open or should the valve leak the level of water will only lower to the line y. Also by making the reservoir of a depth shown we obtain an advantage when the apparatus is used in localities where the water is likely to freeze, as the great depth of water prevents the formation of ice to a great extent.

In Fig. 2, we have shown an apparatus in which the reservoir A is mounted on a framework A' and the discharge pipe D extends above the tank and down to a point where it is connected to the goose neck; the discharge end of this pipe is connected to the reservoir A by a pipe D⁴ provided with a suitable emer-

gency valve; the opening in the reservoir is some distance above its bottom. Depending from the pipe D is a pipe D⁵ somewhat less in diameter than the pipe D and this pipe D⁵ opens into the reservoir near the bottom and extending from this pipe is the pipe b² which communicates with the fluid pressure pipe b so that the spray water for the vacuum tank B can be drawn from the bottom of the reservoir.

In some instances the discharge pipe for the reservoir may extend up through its bottom as shown by dotted lines in Fig. 2, gaining the same result, that is, retaining a sufficient amount of water in the reservoir for spray purposes.

We claim as our invention—

1. The combination of the storage reservoir, the vacuum-tank, a discharge pipe for the water elevator extending to the storage reservoir, a discharge pipe for the storage reservoir, an emergency valve in said pipe, said valve being situated some distance above the bottom of the water reservoir so that a body of water will be retained in the reservoir, with a spray pipe communicating with the reservoir below the valve, substantially as described.

2. The combination with a vacuum tank,

the reservoir, the discharge pipe for the tank, said reservoir being connected to the discharge pipe some distance above the bottom thereof, a valve in said connection and a spray pipe communicating with the reservoir below said connection and extending to the vacuum tank, substantially as described.

3. The combination of the storage reservoir, the discharge pipe, the vacuum tank, an overflow opening for the reservoir in the discharge pipe, so that the overflow water from the reservoir will pass through the discharge pipe to the tender and not be wasted, substantially as described.

4. The combination of the storage reservoir, the vacuum tank, the discharge pipe therefor, an overflow pipe for the reservoir, said overflow pipe entering the discharge pipe of the storage reservoir and through which the overflow water will pass to the tender, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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HERMAN R. WINKELMANN.

Witnesses:

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