

Sept. 10, 1929.

J. J. McBRIDE

1,727,659

DISCHARGE OUTLET

Filed July 14, 1927

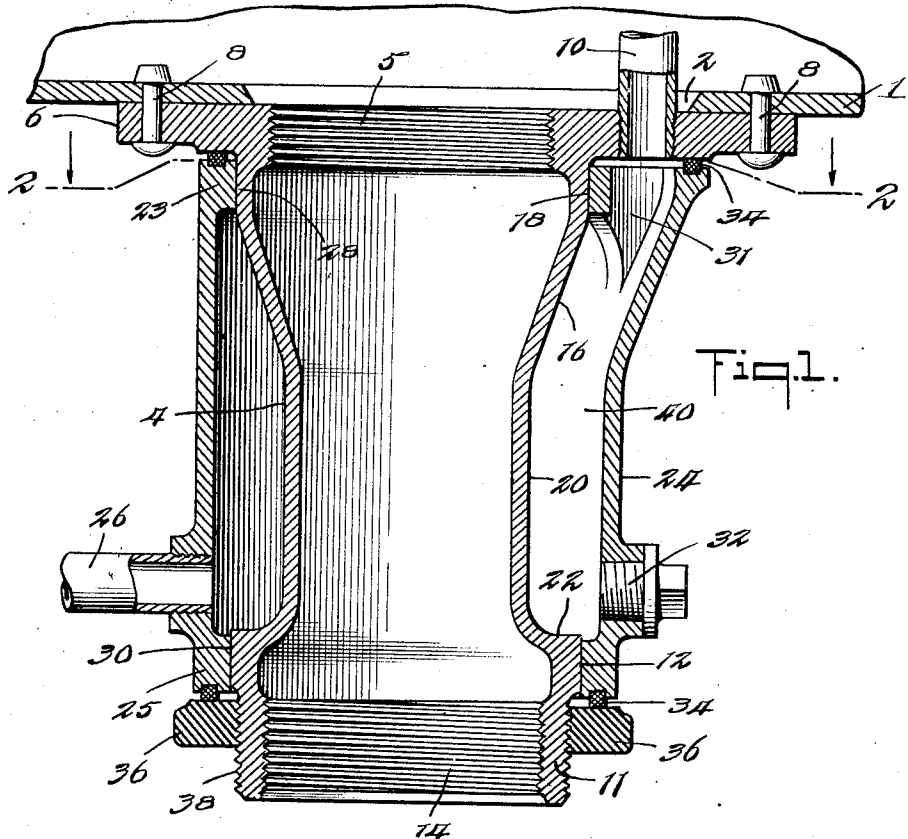


Fig. 1.

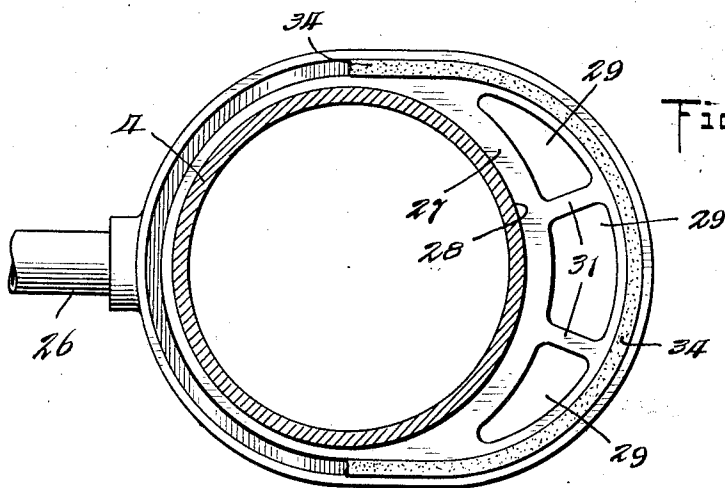


Fig. 2.

John J. McBride INVENTOR
BY
T. H. Libbs ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN J. McBRIDE, OF BAYONNE, NEW JERSEY, ASSIGNOR TO AMERICAN CAR AND
FOUNDRY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

DISCHARGE OUTLET.

Application filed July 14, 1927. Serial No. 205,799.

Reference is had to the accompanying drawings which illustrate the preferred form of the invention; though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof within the scope of the claims will occur to persons skilled in the art.

10 In said drawings:

Figure 1 is a sectional view of the discharge outlet of the present invention, showing the same attached to a tank; and

15 Fig. 2 is a sectional view on the line 2—2 of Fig. 1, showing a portion of the gasket removed.

This invention relates to discharge outlets for tanks, and has particular reference to a discharge outlet which may be heated to facilitate the discharge of the tank lading.

20 The primary object of this invention is the provision of a discharge outlet for tanks comprising a jacketed casing formed of separable parts, the parts defining a heating space therebetween.

Another object of the invention is the provision of a discharge outlet for tanks having a nozzle and a removable or replaceable jacket defining between the discharge nozzle and jacket, a space or chamber for receiving a heating medium.

30 A further object of the invention is the provision of a heated discharge outlet for tanks which is easy and inexpensive to manufacture, strong and durable in use, and which consists of few parts.

Other objects and advantages of this invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which 1 indicates the bottom of a tank having a discharge opening 2 formed therein. The discharge outlet of the present invention includes a nozzle indicated generally at 4 which is preferably a hollow casting having a threaded opening 5 in the upper end thereof for receiving a valve seat, not shown, and also having a lateral attaching flange 6 to take the rivets 8 by which the nozzle is secured to the tank.

As clearly shown in the drawings, the flange 6 is wider at one portion to provide a surface through which a steam pipe 10 extends, but this is merely by way of example as the opening formed in the flange may be closed by a suitable plug when it is not desired to pass the steam into the tank, or the flange may be entirely free of such opening, if desired.

The lower portion of the nozzle is provided with a machined surface 12 just above the end 11, and said end is internally threaded as shown at 14 to receive a hose connection, not shown.

The body of the nozzle tapers downwardly for a portion thereof, as illustrated at 16, adjacent the flange 6, and below said tapered portion the body of the nozzle is straight as shown at 20, the lower end of this straight portion merging with the end 11 at the thickened portion 22, the external surface of which is machined as at 12, as heretofore mentioned.

The outlet of the present invention also comprises an independent jacket 24 having an inlet opening in which is secured an inlet pipe 26 leading to the space between said jacket and nozzle. As clearly shown in the drawings, the jacket is provided with upper and lower flanges 23 and 25, the face of each of which is machined as shown at 28 and 30 respectively, which surfaces, when the jacket is positioned on the nozzle, contact with the before-mentioned machined portions or surfaces 18 and 12 respectively.

One portion of the upper flange of the jacket is considerably wider than the remaining portion, defining a web 27 having the openings 29 formed therein, and said flange is preferably reinforced at this portion of the jacket by means of the ribs 31. It will be apparent that the reason for widening the jacket at this point is to provide communication between the space formed by the jacket and nozzle and the steam pipe 10 heretofore described.

Adjacent the lower end of the jacket and substantially opposite the inlet pipe 26 is a discharge opening which, in the instance

shown, is closed by a removable plug 32 but which may have a steam pipe connected there-
to in lieu of the plug, if desired.

The jacket, as before-mentioned, is inde-
pendent of the nozzle 4 and is readily remov-
able therefrom. The upper and lower ends
of the jacket are each provided with a cir-
cumferential groove in which is seated a pack-
ing 34 which may be a lead packing or a suit-
able gasket. The jacket is inserted over the
nozzle with the respective machined portions
in contact with each other, and said jacket is
retained in its position on the nozzle by
means of a nut 36 which threadedly engages
the external threads 38 of the end 11 of the
nozzle. It will be apparent that upon screw-
ing the nut a close fit of the jacket with the
flange 6 is obtained, and a substantially leak
proof connection is established between the
several parts of the invention.

In use, a heating medium is passed from
the inlet pipe 26 into the space 40 formed be-
tween the nozzle and the jacket and, in the
instance shown, the steam is directed through
the pipe 10 into suitable heating coils, not
shown, arranged within the tank, and from
such heating coils the steam is directed from
the tank in any suitable manner. As hereto-
fore specified, a discharge pipe may be se-
cured in lieu of the plug 32 in which event a
portion of the steam in the space 40 will be
led through the pipe 10 into the tank and the
remaining portion may be led from the space
40 through an outlet pipe employed in lieu
of the plug 32.

The invention shown and just described is
extremely simple, and it will be obvious that
should the jacket 24 become broken or dist-
orted, the discharge outlet may be readily
repaired by merely backing off the nut 36,
removing the distorted jacket and replacing
the same with a new jacket, securely held by
the nut 36.

What is claimed is:

1. In combination with a discharge nozzle
having a threaded lower end, a casing sur-
rounding the nozzle and removable therefrom
and defining a chamber for receiving a heat-
ing medium, and means secured to the thread-
ed lower end of the nozzle for securing the
casing in position.

2. A discharge outlet for tanks comprising
a nozzle, a casing surrounding said nozzle in
spaced relation thereto to define a chamber
for receiving a heating medium, and means
secured to the lower end of the nozzle for se-
curing the casing in close fitting engagement
with the nozzle.

3. A discharge outlet for tanks comprising
a nozzle having a lateral attaching flange at
its upper end, a casing surrounding the nozzle
in spaced relation thereto and defining a
chamber for receiving a heating medium, and
means engaging the lower end of the nozzle
for maintaining the casing in close engage-

ment with the nozzle and the attaching flange.

4. In combination with a discharge nozzle,
a casing surrounding the nozzle intermediate
the ends thereof and removable therefrom,
means formed on the casing for retaining the
same in spaced relation to the nozzle to define
a heating space therebetween, and means re-
movably secured to the lower end of the noz-
zle for retaining the casing on the nozzle.

5. In combination with a discharge nozzle
having a threaded lower end, a casing sur-
rounding the nozzle and freely removable
therefrom, inwardly extending portions at
each end of the casing for positioning said cas-
ing in spaced relation to the nozzle, a part of
one of said inwardly extending portions defin-
ing an apertured web, and means secured
to the lower end of the nozzle for retaining
the casing in position on the nozzle.

6. A discharge outlet for tanks comprising
a nozzle having an attaching flange at its up-
per end and spaced circumferential machined
portions intermediate its ends, a removable
casing surrounding said nozzle and provided
with machined portions adapted to contact
with the before mentioned machined portions
to position the casing in spaced relation to the
nozzle, and means engaging the lower end of
the nozzle for retaining the casing in position
on the nozzle.

7. A discharge outlet for tanks comprising
a discharge nozzle having an attaching flange
at its upper end and spaced circumferential
machined portions intermediate its ends, a
casing surrounding the nozzle and provided
with inwardly extending annular flanges the
faces of each of which are machined to engage
the before-mentioned machined portions, a
nut threadedly secured to the lower end of the
nozzle for retaining the casing in position on
the nozzle, and sealing means between the
upper end of the casing and the attaching
flange, and between the nut and the lower end
of the casing.

8. A discharge outlet for tanks comprising
a discharge nozzle having an attaching flange
at its upper end, circumferential machined
portions formed on said nozzle adjacent the
upper and lower ends respectively, a casing
removably positioned around the nozzle and
having inwardly directed machined flanges at
its ends respectively contacting with the be-
fore mentioned machined portions, inlet and
outlet openings leading into the space between
the nozzle and casing, and means secured to
the lower end of the nozzle for retaining the
casing in position on the nozzle.

In witness whereof I have hereunto set my
hand.

JOHN J. McBRIDE.

125