

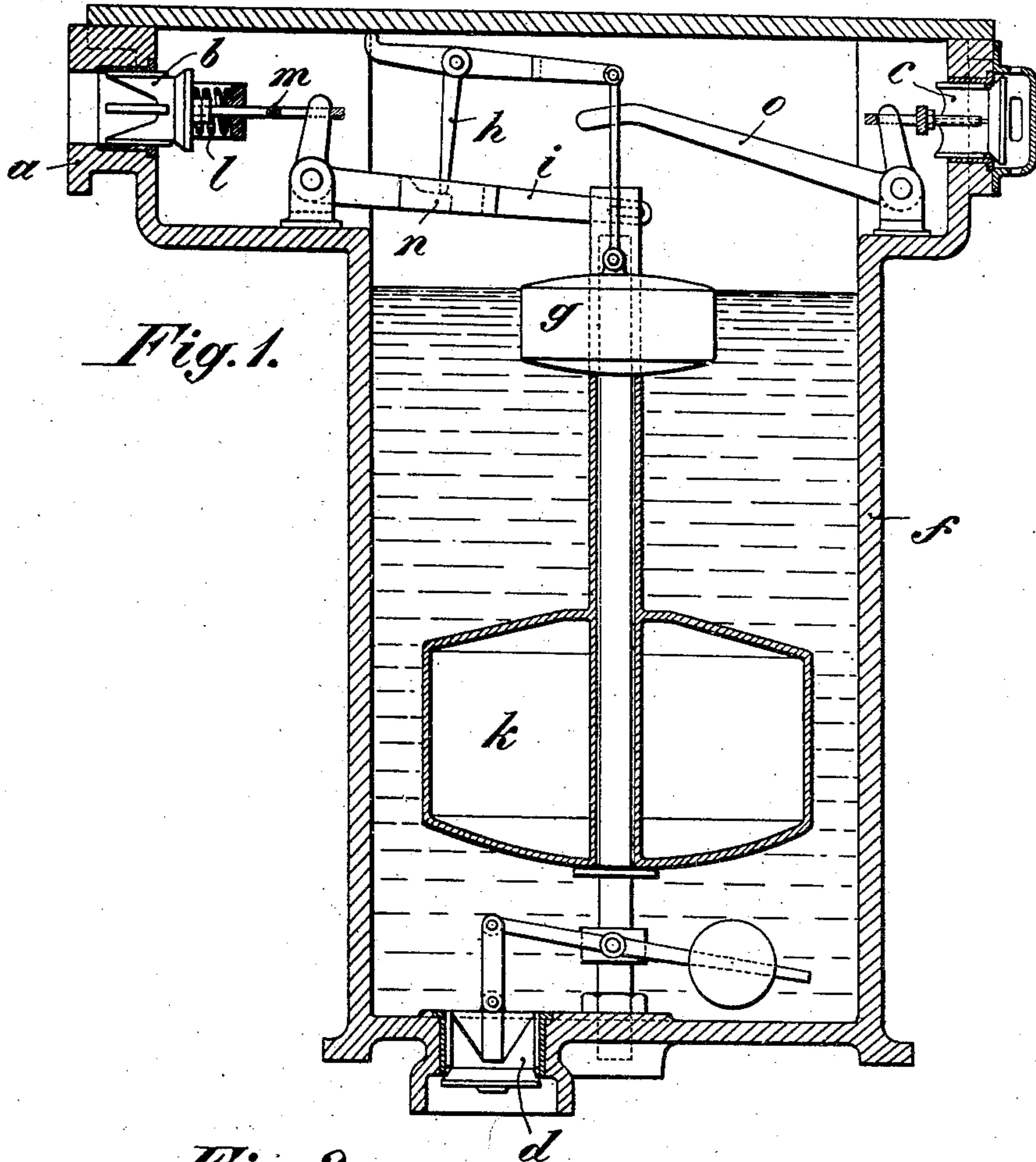
No. 895,989.

PATENTED AUG. 11, 1908.

R. EISENTRAUT & F. VIELER.

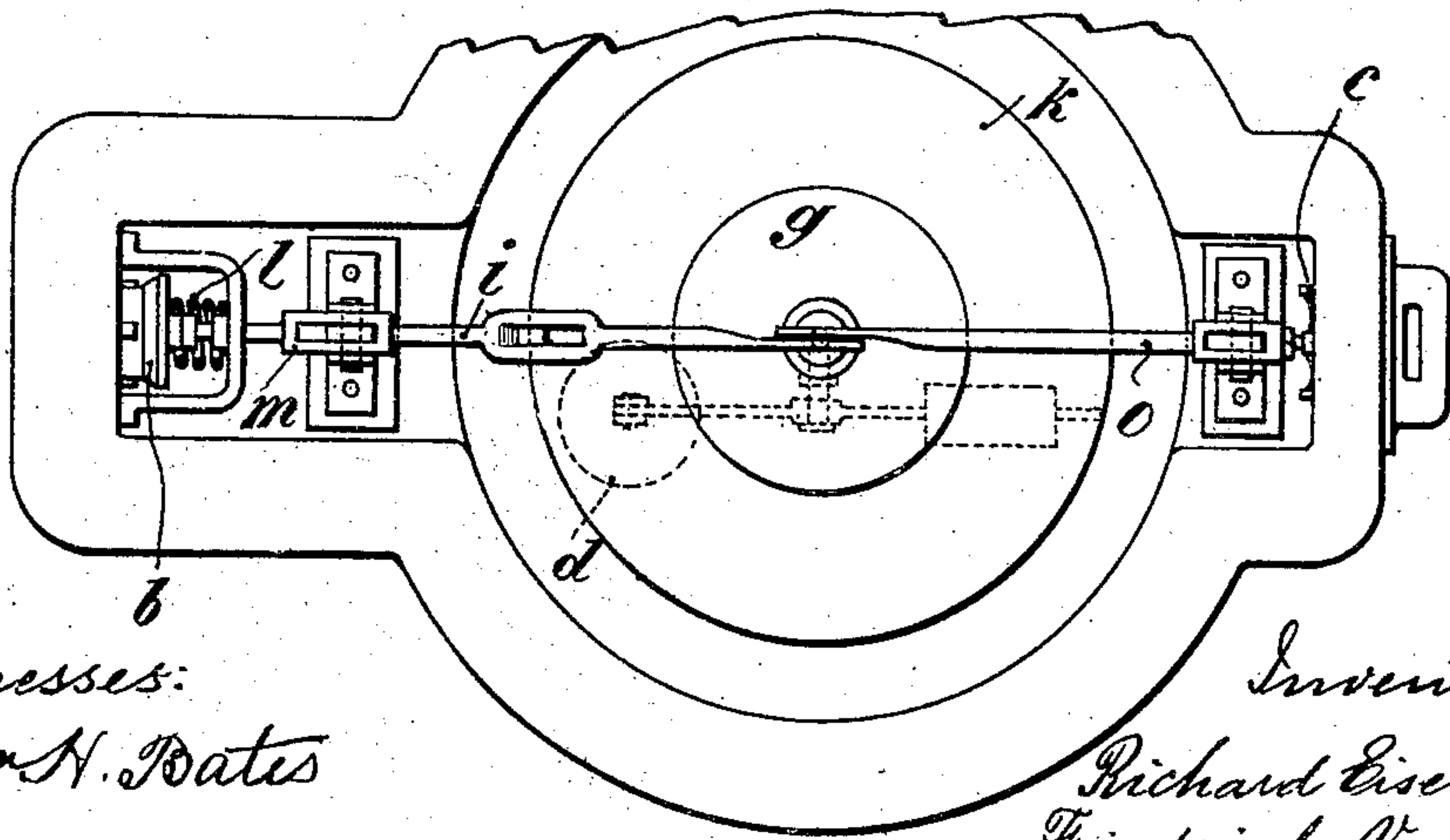
STEAM TRAP.

APPLICATION FILED JAN. 14, 1908.



*Fig. 1.*

*Fig. 2.*



Witnesses:  
Wm N. Bates  
L. B. Middleton

Inventors:  
Richard Eisentraut, &  
Friedrich Vieler.  
by Herbert W. Jenner  
Attorney.



# UNITED STATES PATENT OFFICE.

RICHARD EISENTRAUT AND FRIEDRICH VIELER, OF DILLINGEN-SAAR, GERMANY, ASSIGN-  
ORS TO ACTIEN-GESELLSCHAFT DER DILLINGER HÜTTENWERKE, OF DILLINGEN-ON-  
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## STEAM-TRAP.

No. 895,989.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed January 14, 1908. Serial No. 410,784.

*To all whom it may concern:*

Be it known that we, RICHARD EISEN-  
TRAUT and FRIEDRICH VIELER, residing at  
Dillingen-Saar, Germany, have invented cer-  
tain new and useful Improvements in Steam-  
Traps; and we do hereby declare the follow-  
ing 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.

This invention relates to improvements in  
automatic discharging devices for the well  
known kind of vacuum liquid collecting appa-  
ratus in which the collecting chamber is  
placed in communication during the filling  
period with the vacuum, and during the dis-  
charge period with the outside atmosphere,  
by means of suitable valves controlled by  
floats.

The invention consists in the special con-  
struction of the device and in the method of  
working due to the same, as set forth in the  
claims.

The device according to this invention is  
illustrated in the accompanying drawing in  
Figure 1 in a longitudinal section and in Fig.  
2 in plan with the cover removed.

The discharging device is connected to the  
means producing the vacuum by the branch  
a provided with a check valve b which opens  
inwards the said device being first exhausted.  
Owing to the pressure of the atmospheric air  
the air-valve c and the liquid discharge valve  
d are closed. The liquid can then enter from  
the vacuum conduit through the valve b into  
the collector vessel f which is provided with  
two floats g k. As soon as the vessel f is  
filled to such an extent that the small float g  
is raised, the locking lever h which held fast  
the lever i, is displaced and thus the float k  
is disengaged. The bottom float, therefore  
quickly rises and operates the bell crank le-  
ver i causing it to take up a position in  
which the inlet valve b which was hitherto  
locked, is released and closed by the action  
of the spring l. The spring l is arranged  
around the valve-stem, between the valve b  
and a stationary abutment, and the valve-  
stem has a yoke m for engaging with the  
short arm of the bell-crank lever i. During  
further upward movement, the spindle of the

float k which passes freely through the float  
g strikes against a second bell crank lever o  
by the movement of which the valve c is  
opened. Owing to the admission of air into  
the vessel f, the vacuum is destroyed and the  
liquid discharge valve d is opened, so that  
the vessel can be emptied. The upper float  
g is held by the locking lever h and the stop n  
in the highest position. When the liquid  
sinks, the sinking float k releases the lever o  
and the valve c after which it brings the lever  
i back into the original position and opens  
the inlet valve b. At the same time the le-  
ver h fixes or locks the lever i so that the op-  
eration begins afresh.

What we claim is:

1. In a steam-trap, the combination, with  
a vessel for steam and water provided with  
an inlet-valve, an air-valve, and an auto-  
matic outlet-valve; of a main float, a pivoted  
lever operatively connecting the said float  
with the said inlet-valve, a pivoted catch en-  
gaging with the said lever and normally  
holding open the said inlet-valve, a pivoted  
trip-lever connected with the said air-valve  
and operated by the said main-float, and an  
auxiliary-float arranged above the said main-  
float and operatively connected with the said  
catch.

2. In a steam-trap, the combination, with  
a vessel for steam and water provided with  
an inlet-valve, an air-valve, and an auto-  
matic outlet-valve; of a main-float provided  
with a stem, a pivoted bell-crank lever oper-  
atively connecting the said stem and inlet-  
valve, a pivoted trip-lever connected with  
the said air-valve, and arranged in the path  
of the said stem, a pivoted catch engaging  
with one arm of the said bell-crank lever and  
normally holding open the said inlet-valve,  
and an auxiliary-float slidable on the said  
stem above the said main float and oper-  
atively connected with the said catch.

In testimony whereof we affix our signa-  
tures, in presence of two witnesses.

RICHARD EISENTRAUT.  
FRIEDRICH VIELER.

Witnesses:

WANDA LECKER,  
CARL W. SCHMITT.