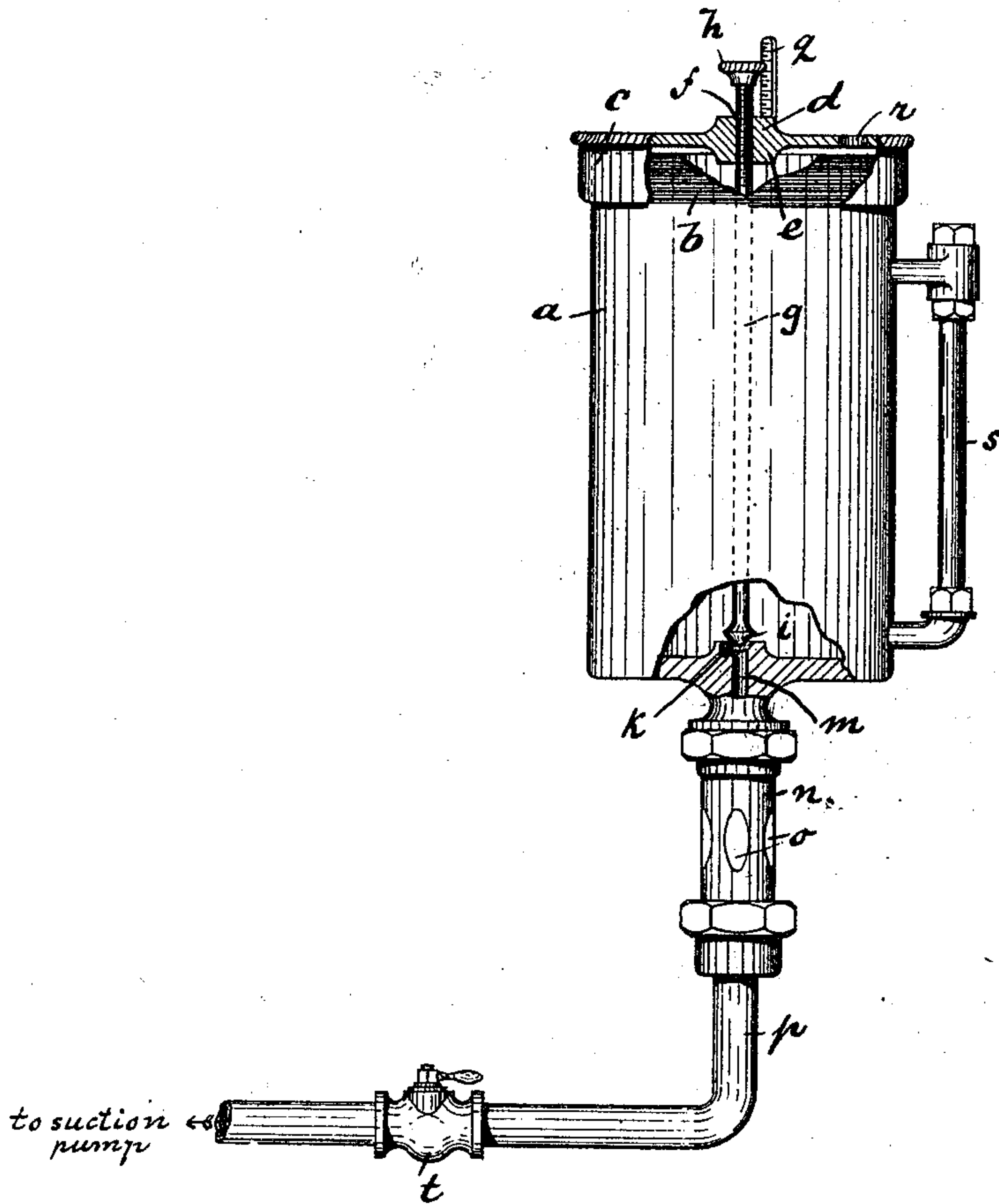


(No Model.)

W. BRAMELD.
PNEUMATIC BOILER COMPOUND FEEDER.

No. 497,298.

Patented May 16, 1893.



WITNESSES:

Wm. D. Bell.
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BY

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UNITED STATES PATENT OFFICE.

WILLIAM BRAMELD, OF PATERSON, NEW JERSEY.

PNEUMATIC BOILER COMPOUND-FEEDER.

SPECIFICATION forming part of Letters Patent No. 497,298, dated May 16, 1893.

Application filed November 5, 1892. Serial No. 451,121. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BRAMELD, a citizen of the United States, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Pneumatic Boiler Compound-Feeders; 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, reference being had to the accompanying drawing, and to letters of reference marked thereon, which forms a part of this specification.

The object of my invention is to provide a pneumatic compound feeder for boilers, of a simple and durable construction, reliable in operation and not liable to get out of order.

The invention consists in the improved feeder, in its connection with the suction pump or injector (instead of directly with the boiler), and in the arrangement and combination of the various parts thereof, substantially as will be hereinafter more fully described and finally embodied in the clauses of the claim.

In the accompanying drawing, which represents in elevation my improved compound feeder, with certain portions broken away, *a* represents a chamber or receptacle, provided at its top with a threaded portion *b*, adapted to receive the top or cover *c* which at its center is provided with inwardly and outwardly extending projections *d* and *e*. In the internally threaded opening *f*, is arranged and adapted to be operated the threaded portion of valve rod *g*, provided at its top with a knob or handle *h*. The lower end of the valve rod is provided with a conical shaped projection *i* arranged opposite the correspondingly shaped valve seat *k* which latter is formed on the inside of the bottom of the receptacle *a* and opposite the outlet *m*. Said outlet connects the said receptacle with chamber *n*, provided with two or more glass covered openings *o*. The lower end of said chamber is connected by a pipe *p* with a valve *t*, and the latter with the suction pump or injector of a boiler. The top or cover *c* is also provided with an upwardly extending graduated rod

q and with an inlet or air hole *r*. To the chamber *a* is connected a gage *s* in the usual manner.

In operation the chamber *a* is filled with the compound and the opening *r* left uncovered. The suction pump is then started, and will at each stroke produce a vacuum in chamber *n*, whereby, by means of the atmospheric pressure (in receptacle *a*) the compound is forced into chamber *n* and from there through pipe *p* and valve *t* into the pump and is discharged with the water into the boiler. The amount of compound allowed to flow or drop into chamber *n* can be regulated by turning the knob *h* to right or left as will be manifest.

By my improved compound feeder and its connection with the suction pump or injector, there is no steam pressure exerted on the compound and the mere atmospheric pressure operates the feeder. Furthermore the compound is passed through the pump and the connecting pipes into the boiler, whereby the whole system is prevented from rusting and corroding—and is thus kept clean.

I do not intend to limit myself to the construction shown and described, as various alterations can be made without changing the scope of my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In a compound feeder, the combination of an upper receptacle containing the compound, a valve controlled outlet or duct leading from the bottom thereof and an enlarged chamber placed below said outlet and adapted to form a reservoir for the compound as it flows from said outlet, with a pipe connected to the bottom of said reservoir and arranged to convey the compound from said reservoir directly to the injector or suction pump of the boiler, when said injector or suction pump is actuated, substantially as described.

2. In a compound feeder the combination of a chamber containing the compound, and having at its bottom an outlet or duct, with a valve rod extending through said chamber and adapted to be adjusted from the top thereof, said valve rod carrying at its lower end a conical valve fitting a conical valve seat formed in the upper end of the outlet or

duct, and with a reservoir arranged below
said outlet or duct and of larger diameter
than the same, adapted to receive the com-
pound as it flows from said outlet and with a
5 pipe leading from said reservoir to the in-
jector or pump, all arranged so that the com-
pound flows from the chamber through the
valve controlled outlet into the reservoir and
is exhausted from said reservoir by the action

of the injector or pump, substantially as de- to
scribed.

In testimony that I claim the foregoing I
have hereunto set my hand this 2d day of
November, 1892.

WILLIAM BRAMELD.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.