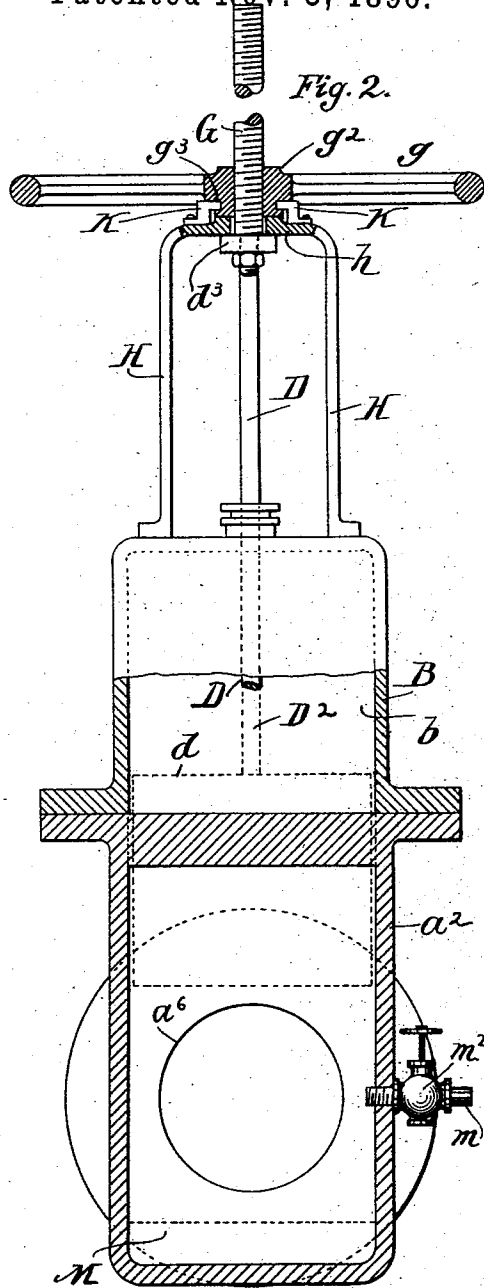
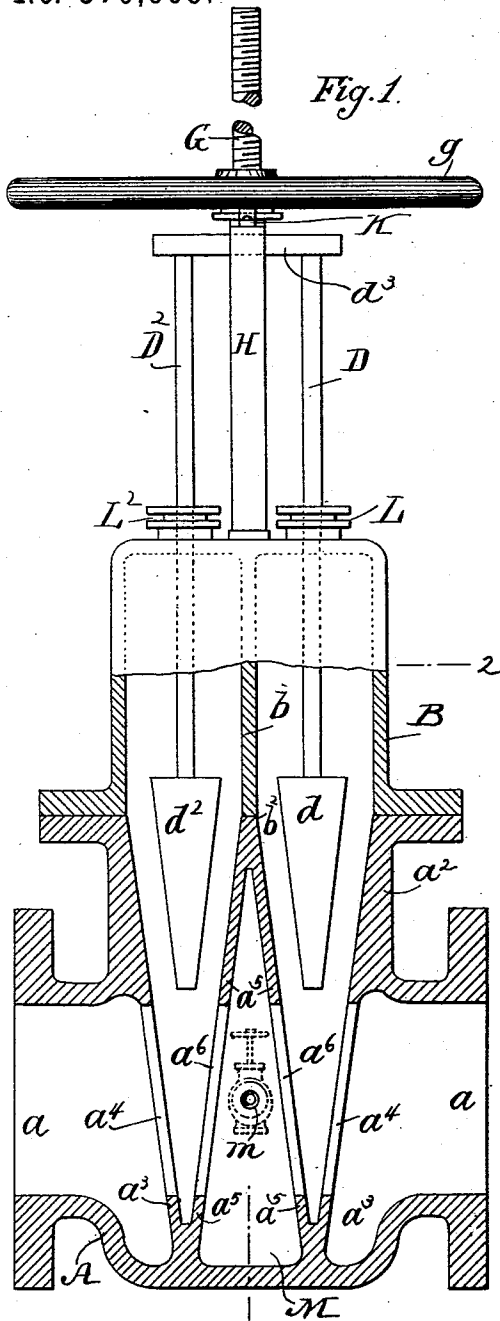


(No Model.)

C. SCHNEIDER.
STEAM VALVE.

No. 570,609.

Patented Nov. 3, 1896.



WITNESSES:
W. H. MacLean
P. M. Lomb

INVENTOR
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BY
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES SCHNEIDER, OF NEW YORK, N. Y.

STEAM-VALVE.

SPECIFICATION forming part of Letters Patent No. 570,609, dated November 3, 1896.

Application filed January 31, 1896. Serial No. 577,554. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SCHNEIDER, a citizen of the United States, and a resident of New York city, county of New York and State of New York, have invented certain new and useful Improvements in Steam-Valves, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

The object of this invention is to provide an improved steam-valve which is adapted for use in connection with high-pressure steam-engines, or high-pressure steam-supply pipes, a further object being to provide a device of this class in which two valves are employed, between which is placed an exhaust-pipe, whereby if the steam-pipe at one side of said valve or its connections should need repair at any time the steam may be entirely cut off therefrom, and with this and other objects in view the invention will be hereinafter fully described, and specifically set forth in the annexed claims.

The invention is fully disclosed in the following specification, in which—

Figure 1 is a central vertical section of a coupling in which the valve-seats are located, showing the valves and operative mechanism in full lines; and Fig. 2, a similar view on the line 2 2 of Fig. 1.

In the practice of my invention I provide a tubular coupling-head A, which is provided with tubular extensions a at each side thereof, with which steam-pipes may be connected in the usual manner, and the coupling-head A is provided on its upper side with a tubular extension a^2 , and extending downwardly from the inner side walls of the tubular extension a^2 are partition-plates a^3 , in which openings or passages a^4 are formed, and arranged centrally of the tubular extension a^2 are two partition-plates a^5 , in which are formed openings or passages a^6 .

The partition-plates a^3 are inclined from the tubular extension a^2 inwardly and downwardly, and the partition-plates a^5 are inclined from the center of the tubular extension a^2 downwardly and outwardly, and thus form two vertical spaces or chambers which are triangular in form in central vertical sections,

as clearly shown in Fig. 1, and secured to the tubular extension a^2 is a hollow cap or head B, which is provided with a central vertical projection b , which extends downwardly to and rests upon the upper end of the partition end a^5 , which are united at b^2 , and passing through the upper closed end of the hollow cap or head B are two vertically-movable rods D and D², to the lower ends of which are secured valves d and d^2 , respectively, which are of the same form in cross-section as the spaces or chamber between the partitions a^3 and a^5 .

The rods D and D² are connected at their upper ends by cross-head D³, through which passes a screw-threaded bolt G, on which is mounted a ring g , provided with a central hub g^2 , through which the screw-threaded bolt G passes, and secured to the hollow cap or head D is a spider or frame consisting of vertical standards H, which are united at their upper ends by a cross-head or plate h , through which the screw-threaded bolt G passes, and said cross head or plate is provided with angular shoulders or projections K, which are adapted to operate in an annular groove formed in the hub g^2 , as shown at g^3 .

The cross-head d^3 , by which the upper ends of the valve-rods D and D² are connected, is permanently or rigidly secured to the lower end of the bolt G, and, as will be understood, the arched frame, consisting of the standards H and the cross head or plate h is stationary and the valves d and d^2 may be raised or lowered by turning the wheel g .

The valve-rods D and D² pass through packing-boxes L and L² of any preferred construction, and it will be apparent that by operating the ring g the valves d and d^2 may be forced downwardly so as to close the passages or openings a^4 and a^6 , or that said valves may be raised to open said passages whenever desired.

By means of the construction herein shown and described it will be seen that a triangular vertical space or chamber M is formed between the partition-plates a^5 , the base of which is directly downwardly, and I also provide a pipe m , which communicates with the space M, and in which is placed a valve m^2 of any preferred construction; and it will be apparent that by means of this device any steam that may en-

ter the central chamber M when the valves are seated may be exhausted through the pipe *m* and will not be allowed to pass from said chamber in either direction.

5 In valves of this class it is almost impossible to secure a connection between the valve and the valve-seats so as to absolutely prevent all passage of steam when said steam is under high pressure, and it also frequently occurs
10 that it is necessary to repair the steam-pipes or connections on one side of said valve, and when this is the case and the valves are both seated by opening the valve in the exhaust-pipe *m* it will be apparent that while steam
15 may enter from the opposite side into the central chamber M it will pass out through the exhaust-pipe *m* and not through valve on the side where the repairs are required, and it is evident that the connections on each side of
20 the coupling-head may thus be repaired whenever desired and without interference or trouble occasioned by the escaping steam.

My invention is not limited to the exact form of construction and arrangement of the
25 various parts herein shown and described, and I therefore reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of my invention.

30 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described coupling-head and valve for steam pipes or fittings which consists of a tubular coupling-head having tubular
35 openings at each side with which steam-pipes may be connected, and being also provided with a tubular extension on the upper side thereof, said tubular extension and said
40 coupling-head being provided with partition-plates which connect with the side walls of the tubular extension and extend downwardly and inwardly to the bottom of the coupling-head, and with two other partition-plates
45 which are located centrally of the tubular extension and which extend downwardly and outwardly and connect at the bottom with the first-named partition-plates whereby two vertical chambers or spaces are formed which are
50 triangular in vertical section, and each of said partition-plates being provided with ports or openings and said chambers or spaces being provided with a vertically-movable valve
55 which is adapted to close said ports or openings and said coupling-head being also provided with a central chamber formed by said central partition-plates and an exhaust-pipe which communicates therewith, substantially as shown and described.

60 2. The herein-described coupling-head and valve for steam pipes or fittings which consists of a tubular coupling-head having tubular openings at each side with which steam-pipes may be connected and being also provided
65 with a tubular extension on the upper side thereof, said tubular extension and said coupling-head being provided with partition-

plates which connect with the side walls of the tubular extension and extend downwardly and inwardly to the bottom of the coupling-head, and with two other partition-plates
70 which are located centrally of the tubular extension and which extend downwardly and outwardly and connect at the bottom with the first-named partition-plates whereby two vertical
75 chambers or spaces are formed which are triangular in vertical section, and each of said partition-plates being provided with ports or openings and said chambers or spaces being provided with a vertically-movable valve
80 which is adapted to close said port or openings and said coupling-head being also provided with a central chamber formed by said central partition-plates and an exhaust-pipe which communicates therewith and the tubular
85 extension of said coupling-head being provided with a cap or cover having a vertical central partition and through the top of which are passed two valve-rods, one of which is connected with each valve, and means for operating the same, substantially as shown and
90 described.

3. The herein-described coupling-head and valve for steam pipes or fittings which consists of a tubular coupling-head having tubular
95 openings at each side with which steam-pipes may be connected and being also provided with a tubular extension on the upper side thereof, said tubular extension and said coupling-head being provided with partition-
100 plates which connect with the side walls of the tubular extension and extend downwardly and inwardly to the bottom of the coupling-head, and with two other partition-plates
105 which are located centrally of the tubular extension and which extend downwardly and outwardly and connect at the bottom with the first-named partition-plates whereby two vertical chambers or spaces are formed which are
110 triangular in vertical section, and each of said partition-plates being provided with ports or openings and said chambers or spaces being provided with a vertically-movable valve which is adapted to close said ports or openings and said coupling-head being also provided with a central chamber formed by said
115 central partition-plates and an exhaust-pipe which communicates therewith and the tubular extension of said coupling-head being provided with a cap or cover having a vertical
120 central partition and through the top of which are passed two valve-rods, one of which is connected with each valve, and means for operating the same, consisting of the vertically-movable screw-threaded bolt which is connected
125 with the upper ends of said valve-rods and on which is mounted a wheel provided with a hub, said wheel and hub being supported by a frame connected with the cap or cover of the tubular extension, substantially
130 as shown and described.

4. The herein-described coupling-head and valve for steam pipes or fittings, which is provided with two transverse valve-chambers,

and a central chamber between the same, said valve-chambers being each provided with a valve, and said central chamber being provided with an exhaust-pipe, substantially as shown and described.

5 5. The herein-described coupling-head and valve for steam pipes or fittings, said coupling-head being provided with two transverse valve-chambers which are formed as herein described, and with a central chamber between said valve-chambers, said central chamber being provided with an exhaust-pipe

and said valve-chambers being each provided with a valve and means for operating said valves, substantially as and for the purpose 15 set forth.

In testimony that I claim the foregoing as my invention, I have signed my name, in presence of two witnesses, this 30th day of January, 1896.

CHARLES SCHNEIDER.

Witnesses:

B. McCOMB,

MARCELLA G. McLEAN.