

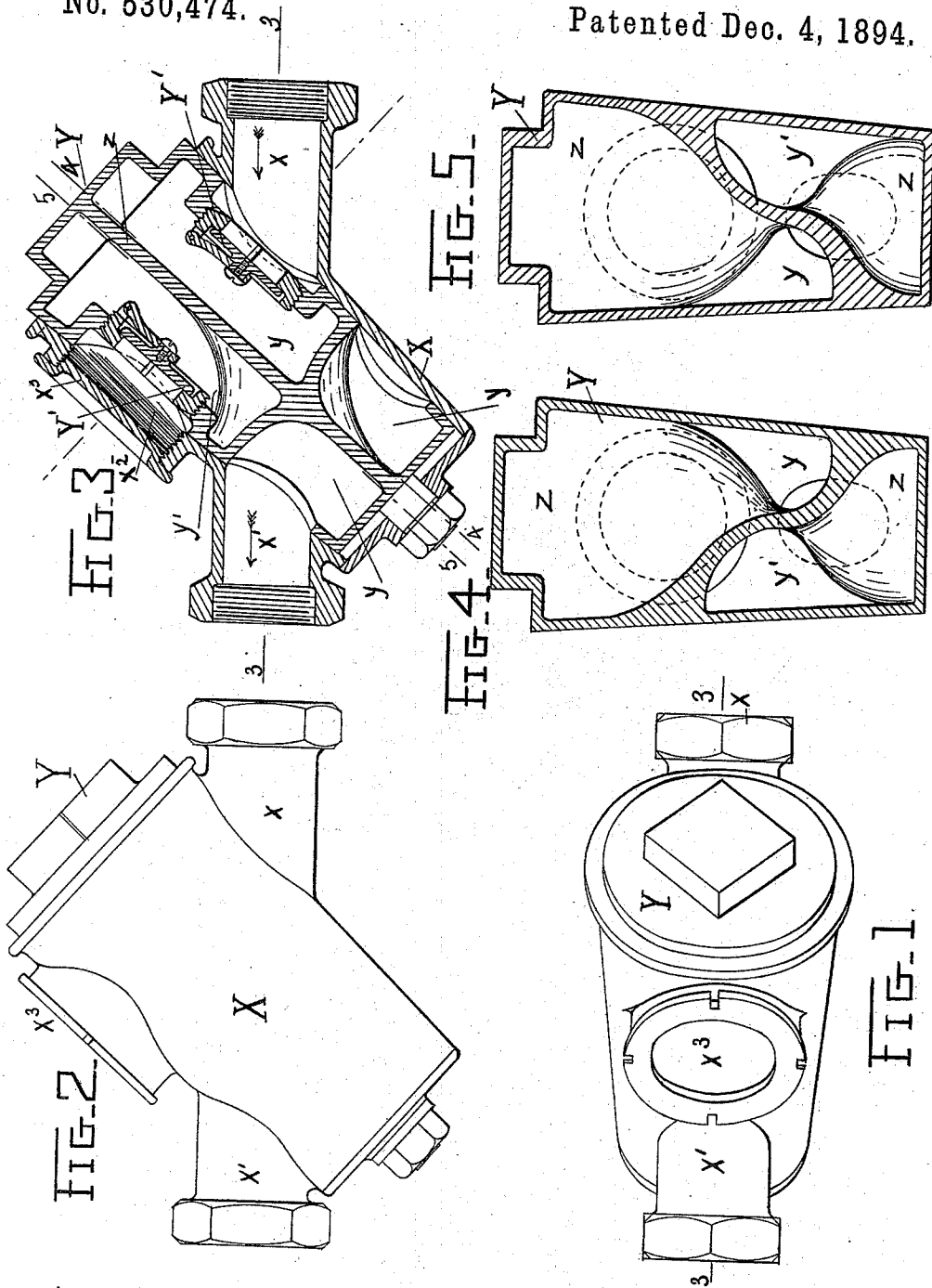
(No Model.)

J. H. CROSBY.

PLUG CHECK FOR MARINE OR OTHER BOILERS.

No. 530,474.

Patented Dec. 4, 1894.



WITNESSES
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JAMES H. CROSBY, OF SOMERVILLE, MASSACHUSETTS.

PLUG-CHECK FOR MARINE OR OTHER BOILERS.

SPECIFICATION forming part of Letters Patent No. 530,474, dated December 4, 1894.

Application filed June 12, 1894. Serial No. 514,315. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CROSBY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Plug-Checks for Marine or other Boilers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top-plan view of my improved device. Fig. 2 is a side elevation of the same. Fig. 3 is a central section of the device on line 3—3 of Fig. 1. Fig. 4 is a view partly in section at line 4—4 of Fig. 3 and Fig. 5 a similar view at line 5—5 of Fig. 3 of the plug detached from the valve-casing, the check valves being removed for greater clearness. These views are complementary and in each the view is through the central twisted partition.

My invention is an improvement on the device shown in my application, Serial No. 501,534, filed February 26, 1894, and allowed June 6, 1894, and consists broadly in the combination with a valve-casing formed with an inlet; an outlet and a covered orifice, of a rotatable plug formed with a plurality of passages and a check-valve for each passage, all so arranged that when one passage and its check-valve are in line with the inlet and outlet, another passage and its check valve are out of line with the inlet and outlet and in line with the covered orifice in the casing, the plug being so formed that it may be turned in the casing to prevent flow through the casing—that is, in my present invention, the plug has the added function of a plug-cock, thus enabling me to not only replace or repair a check-valve without interruption of the boiler feed but also to shut off all flow through the device if desired, without the use of an ordinary plug-cock now generally interposed between the boiler-feed device and the plug-check; or, in case the device described in my said application be used, interposed between the boiler-feed device and my plug-check.

My invention also consists in constructional details, hereinafter set forth, the object of my invention being to reduce my device in size

and weight and, therefore in cost and to adapt it for more convenient use in comparatively restricted situations.

In the drawings, illustrating my invention in the best form now known to me, X is the valve-casing which is formed with an inlet x , outlet x' and covered orifice x^2 , the cover x^3 of which is removable.

Y is a plug mounted rotatably in casing X and formed with passages $y y'$ separated by a twisted partition z , which are preferably made intertwining spiralwise as shown. Each passage $y y'$ is provided with a check-valve Y' , the passages $y y'$ being so arranged that when one of the passages (for example y as in Fig. 3) is in line with the inlet x and outlet x' , the other passage y' is out of line with the inlet x and outlet x' and in line with the covered orifice x^2 . By removing cover x^3 , either of the check valves y' is readily reached for repairs or replacement, the casing and plug being so formed and arranged that the check-valves are brought alternately into line with the single covered orifice x^2 with which the casing is provided in the particular embodiment of my invention herein illustrated.

The main body of the valve-casing X is at an angle to the inlet x and outlet x' of the casing, this being a convenient arrangement in order that the check-valves Y' which are best diametrically opposite each other in the plug may be brought into proper relation with the inlet of the casing and its covered orifice which is preferably located opposite the inlet and above the outlet in order that the flow may not be interrupted while repairing or replacing a valve; but the essential point representing the location of the check-valves, inlet and outlet and covered orifice in respect one of the other is that they be so located that a check-valve may be reached through the orifice without interruption of the boiler-feed. The plug, on the opposite sides of which the spiral passages $y y'$ open to the inlet and outlet of the casing, is made of sufficient extent between the passages $y y'$ to completely cover the inlet and outlet, either or both, in this case both, so that by giving the plug a quarter-turn from the position in which it is

shown in the casing, all flow through the device is stopped, and the use of the ordinary auxiliary plug-cock is rendered unnecessary.

The marked advantages of this construction are that the device is not only a plug-check of the character described but is also a plug-cock; and moreover is compact, simple and durable, and completely fills the want long felt for a single device possessed of the two functions of plug-check and plug-cock adapted for use as a plug-check while repairing or replacing a check-valve.

I do not claim herein the inclination of the valve-casing to its inlet and outlet as that forms the subject-matter of my application for a Design Patent, Serial No. 527,841, filed November 3, 1894.

What I claim is—

1. The combination with a valve-casing formed with an inlet; an outlet and a covered orifice of a plug mounted rotatably in said casing and formed with a plurality of passages; and a check-valve for each passage, all arranged and operating so that when one passage and its check-valve are in line with the outlet, another passage and its check-valve are in line with the covered orifice, the

plug stopping flow through the valve-casing when so turned that neither check-valve is in line with the inlet and outlet, substantially as and for the purpose set forth.

2. The combination with a valve-casing having an inlet, an outlet and a covered orifice, of a plug formed with spiral passages, each passage opening at points on the surface of the plug; and a check-valve for each passage, the plug being mounted rotatably in the casing, all substantially as and for the purpose set forth.

3. The combination of a valve-casing formed with an inlet; an outlet and a single covered orifice with a plug having a plurality of passages and a check-valve for each passage, said plug being mounted rotatably in said casing, and the passages and their check-valves being so arranged that the check-valves are brought successively to one and the same covered opening by rotation of the check-valve, substantially as set forth.

JAMES H. CROSBY.

Witnesses:

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