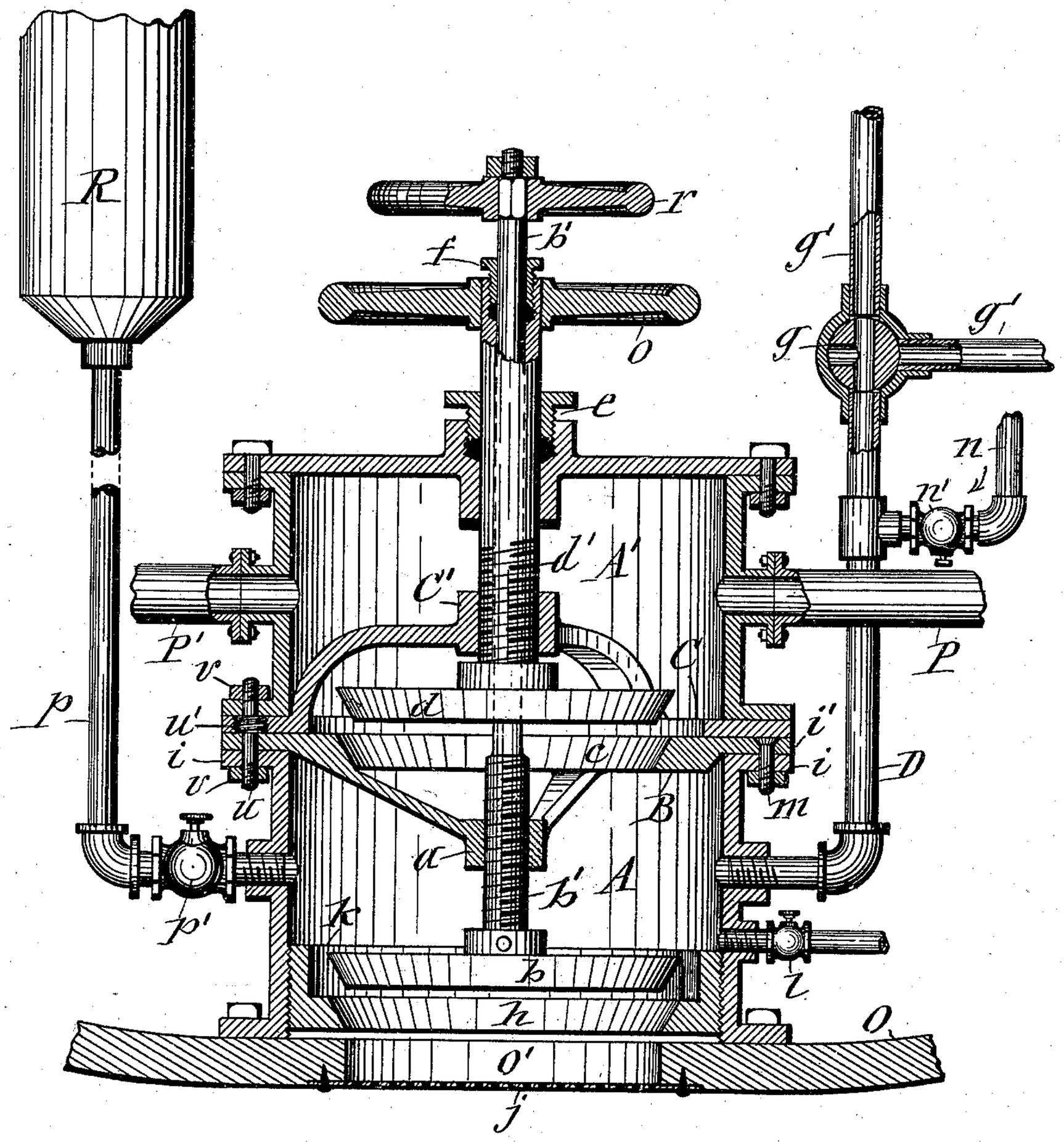
(No Model.)

P. T. PERKINS.

SEA COCK.

No. 558,702. Patented Apr. 21, 1896.



WITNESSES:

C. L. Bendixon

L. C. Goulinson

INVENTOR

Pardon T. Perkins

By E. Laass

his ATTORNEY

UNITED STATES PATENT OFFICE.

PARDON T. PERKINS, OF OSWEGO, NEW YORK, ASSIGNOR OF SEVENTEEN THIRTY-SECONDS TO THOMSON KINGSFORD, OF SAME PLACE.

SEA-COCK.

SPECIFICATION forming part of Letters Patent No. 558,702, dated April 21, 1896.

Application filed October 25, 1895. Serial No. 566,931. (No model.)

To all whom it may concern:

Be it known that I, PARDON T. PERKINS, of Oswego, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Sea-Cocks, of which the following, taken in connection with the accompanying drawing, is a full, clear, and exact description.

This invention is a specific improvement on the sea-cock shown in my prior application for patent, Serial No. 546,504, filed April 20, 1895.

The objects of my present invention are to permit the upper section of the barrel or case of the sea-cock to be removed from the lower section thereof when required for repairs or other purposes without destroying the utility of the sea-cock while in such dismembered condition.

The object of the invention is also to obviate the necessity of fitting into the opening in the bottom or side of the vessel that portion of the sea-cock which is provided with the primary inlet-valve, and thus greatly facilitate the attachment of the sea-cock to the vessel; and the object of the invention, furthermore, is to provide the sea-cock with convenient and efficient means for clearing the water-inlet strainer in case it becomes clogged by grass or other substances lodged on the exterior thereof; and to that end the invention consists in the improved construction and combination of parts hereinafter described and claimed.

The annexed drawing represents a vertical transverse section of a sea-cock embodying my invention.

A and A′ represent, respectively, the lower and upper sections of the barrel or case of the sea-cock. The lower section A is firmly bolted to either the side or bottom O of the interior of the vessel, which is provided with an opening O′ for the passage of water from the exterior of the vessel to the interior of the aforesaid case through the bottom thereof. In the lower end of the lower section A and above the aforesaid opening in the vessel is secured the metal ring *k*, which is provided with the valve-seat *h* for the primary or inlet valve *b*. By the aforesaid location of the ring *k* in relation to the opening O the necessity of fitting said ring into the opening is obviated, and thus the attachment of the sea-cock to the vessel is materially facilitated. A strainer *j* spans the inlet-opening to strain the water entering the case. To the sides of the lower section A are connected the waste-cock *l* and the pipe *p*, which latter is extended to a reservoir R for oil or other suitable incongealable fluid, and is provided with a stop-cock *p*′, as shown in my prior application for patent hereinbefore mentioned.

B is a skeleton diaphragm, which rests with its rim *i*′ on the outward flange *i*, formed on the top of the lower section A and is fastened thereto by means of bolts *m*, the heads of which are countersunk in the rim *i*′, so as to be flush with the top of said rim. This diaphragm is formed with an annular valve-seat *c*, surrounding a water-passage, and with the vertical screw-threaded central eye *a*, in which works the screw-threaded portion of the stem *b*′ of the primary inlet-valve *b*.

Upon the rim *i*′ of the diaphragm B is seated another skeleton diaphragm C, the central or main portion of which rises some distance from the diaphragm B, and is formed with a vertical screw-threaded central eye C′, in which works the screw-threaded portion of the tubular stem *d*′ of the valve *d*, which is fitted to the seat *c*. Said stem passes through a stuffing-box *e* on top of the case and has extending through it the stem *b*′ of the lower or primary valve *b*. To the upper ends of the valve-stems *d*′ and *b*′ are attached, respectively, the hand-wheels *o* and *r*, by which to turn said stems for setting the valves in either their closed or open positions, as may be required.

A stuffing-box *f* on the upper end of the tubular valve-stem *d*′ prevents the escape of water between the two stems. The upper section A′ is provided with the water-outlet pipes or service-pipes P and P′, which in a steam vessel are connected, respectively, to the force-pump and to the condenser or to the feed-water pipe of the boiler to supply water thereto, according to the style of engine used in the vessel.

In order to allow the sea-cock to be used for the aforesaid purpose while the upper case-section A′ may be removed for repairs or

other purposes, I connect to the lower section A the auxiliary water-outlet pipe D, which is provided with a three-way cock *g* and branch pipes *g' g'*, extending therefrom and leading to the different parts of the engine or boiler requiring the supply of water. In lieu of this single auxiliary pipe D with its three-way cock a plurality of pipes may be connected to the lower case-section A and provided with suitable stop-cocks.

To allow the upper section A' to be removed from the lower section without interfering with the operations of opening and closing either of the valves *b* and *d*, I connect the upper diaphragm C to the lower section A, independently of the upper section A', preferably by means of bolts *u*, each of which is formed at or near the center of its length with a suitable head *u'*, by which the bolt receives a firm hold on the rim of the diaphragm C. Said central head may be made cylindrical and screw-threaded and inserted into a correspondingly screw-threaded eye in the rim of the diaphragm, as shown. The smaller end portions of the bolt are also screw-threaded and pass through the flanges of the upper and lower case-sections A' A and are provided with nuts *v* on their protruding ends.

It will be observed that by removing the nuts on the upper ends of the bolts *u* the upper section A' can be removed from the lower section A, while the heads *u'* of the bolts *u* securely retain the diaphragm C on the lower section A.

When it is desired to use the sea-cock while the upper section is dismounted, the inlet-valve *b* is to be raised from its seat *h* and the three-way cock *g* of the auxiliary outlet-pipe D is to be turned to allow the water to pass from the lower section A to the place where the water is to be utilized. In order to allow the strainer *j* to be cleaned from grass or other substances that may have become lodged on the exterior of said strainer and tend to clog the same, I provide the lower case-section A with a suitable inlet for steam under pressure. This steam-inlet is readily obtained by connecting to the pipe D, between the three-way cock *g* and section A, a steam-pipe *n*, which communicates with the steam-space of a boiler (not shown) and is provided with a stop-cock *n'*, by which to control the flow of steam to the case-section A. The pressure of the steam admitted to said case-section forces the obstructions from the exterior of the strainer *j*. In admitting the steam to the case-section A the three-way cock *g*, stop-cock *p'*, valve *d*, waste-cock *l*, and stop-cock *p'* are to be closed and the lower or primary water-inlet valve *b* is to be opened to allow the steam to be forced through the strainer.

At the closing of navigation, when the vessel is to be laid up and the sea-cock is in its normal condition, the lower or primary valve *b*, three-way cock *g*, and steam-cock *n'* are to be closed and the upper valve *d* and the waste-cock *l* are to be opened and the stuffing-box *f* to be loosened to give air-vent to the interior of the case and allow the entrapped water to escape through the waste-cock *l*. Then the upper valve *d* and the waste-cock are to be closed and the stop-cock *p'* to be opened to allow the oil to enter the case and form an incongealable seal over the primary valve *b*. In the latter operation the air displaced by the oil escapes through the loosened stuffing-box *f*.

What I claim as my invention is—

1. The combination with a sea-cock case provided with a water-inlet valve, a strainer spanning the inlet-opening, and means for opening and closing said valve, a steam-induction pipe connected to said case to admit thereto steam under pressure for clearing the strainer as set forth.

2. A sea-cock composed of a case formed of sections detachably united, a primary water-inlet valve in one section, water-outlet pipes connected to the other section, a valve between the two sections, and an auxiliary water-outlet connected to the case between the two valves to receive water through one section of the case independent of the other section thereof.

3. The improved sea-cock composed of a case formed of an upper and a lower section detachably united and provided with a water-inlet valve at the base of the lower section, water-outlets in the upper section, a valve sustained on the lower section independently of the upper section and controlling the flow of water to the latter section, an auxiliary water-outlet connected to the lower section separate from the outlets in the upper section, and a valve for controlling said auxiliary outlet as set forth.

4. The combination of the case composed of an end section provided with a water-inlet valve at the base, two skeleton diaphragms secured to the top of said section and each provided with a screw-threaded eye in its center and the lower diaphragm provided with a valve-seat, a valve for said seat provided with a screw-threaded tubular stem passing through the eye of the upper diaphragm and through the top of the case, a screw-threaded stem attached to the aforesaid water-inlet valve and passing through the eye of the lower diaphragm and through the aforesaid tubular stem, a case-section over the upper diaphragm and detachably secured to the lower case-section and separate water-outlets connected to the respective sections as set forth.

5. In combination with the lower case-section, A, and diaphragm B, secured to the top thereof, the diaphragm, C mounted on the rim of the diaphragm, B, the case-section A' mounted on the rim of the diaphragm, C, and bolts *u'* secured at the central portions of their lengths to the rim of the latter diaphragm and having their end portions passing through the rim of the diaphragm, B, and flanges of the case-sections and provided with nuts on opposite ends as set forth and shown.

6. The combination with the detachably-united case-sections A A′ provided with the valves *b d*, and having outlets P, P′, connected to the upper section, the auxiliary outlet-pipe D connected to the lower section and provided with a valve for controlling the passage of water through said pipe, and the steam-induction pipe *n* connected to the pipe D between the valve thereof and the case and provided with a stop-cock as and for the purpose set forth.

In testimony whereof I have hereunto signed my name this 14th day of October, 1895.

PARDON T. PERKINS. [L. S.]

Witnesses:
P. C. M. TRIBE,
CHAS. A. BENTLEY.