

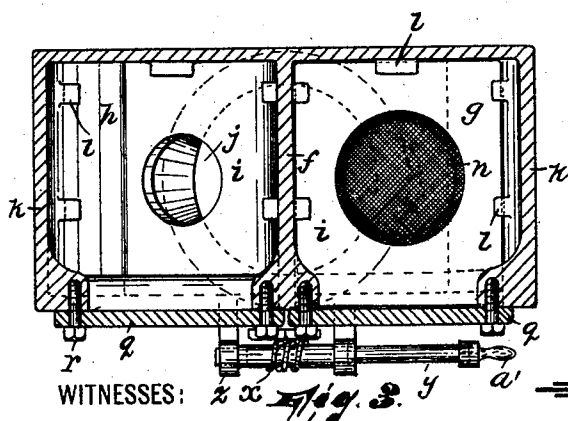
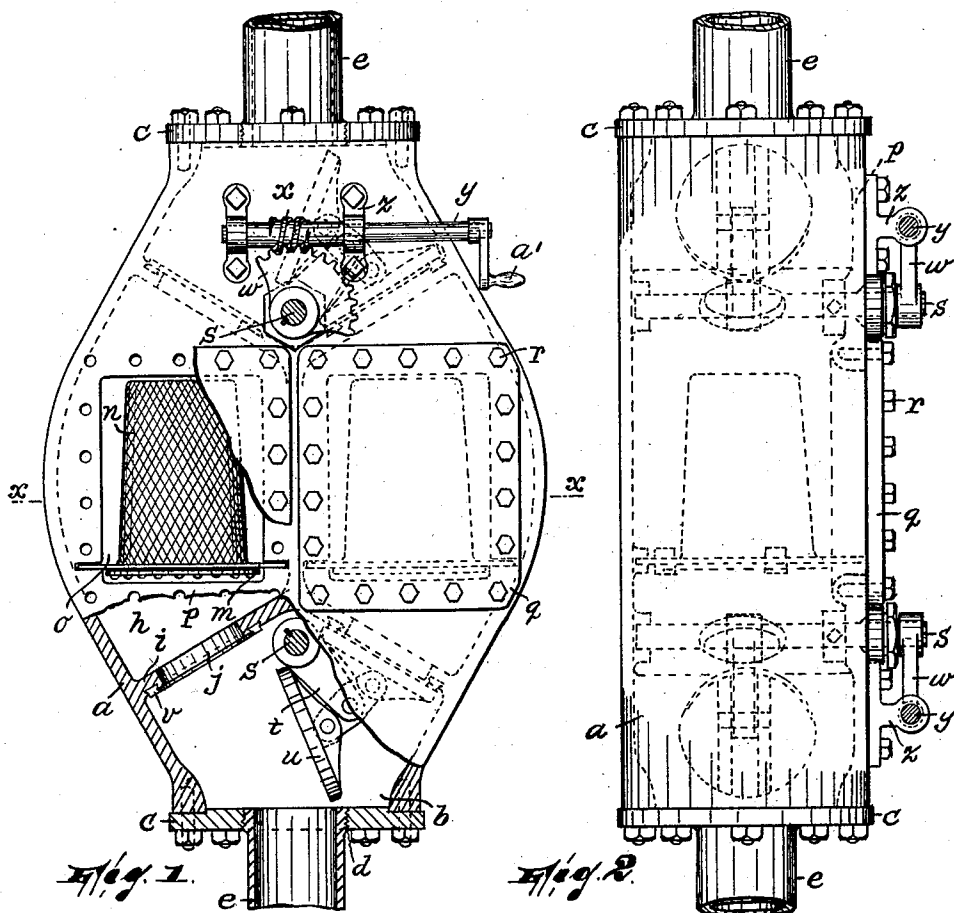
No. 678,001.

Patented July 9, 1901.

G. U. MERRILL.  
COMBINED STRAINER AND VALVE.

(Application filed Mar. 11, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GRANT U. MERRILL, OF PATERSON, NEW JERSEY.

## COMBINED STRAINER AND VALVE.

SPECIFICATION forming part of Letters Patent No. 678,001, dated July 9, 1901.

Application filed March 11, 1901. Serial No. 50,590. (No model.)

*To all whom it may concern:*

Be it known that I, GRANT U. MERRILL, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in a Combined Strainer and Valve; 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 drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to filtering or straining apparatus; and it has reference particularly to apparatus of this nature adapted for clearing water flowing from raceways, reservoirs, and other similar sources of water-supply, of leaves, sticks, and other such refuse.

The objects of the invention are to provide an apparatus of the character indicated with a plurality of strainers proper and to so arrange and construct the apparatus that said strainers may be removable and the flow of water through them shut off, so that while one or more strainers is removed for the purpose of cleaning the flow of the water may go on through the other strainer or strainers uninterrupted.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of the apparatus, certain parts being broken away to show the internal structure. Fig. 2 is a view in side elevation of said apparatus, and Fig. 3 is a horizontal sectional view on the line  $x-x$  in Fig. 1.

In said drawings,  $a$  designates a casing of preferably oval form, the same being cast with an opening  $b$  at each end, which is normally covered by a head  $c$ , bolted to the casing. Each of said heads has an opening  $d$ , into which the end of the piping  $e$ , in which the apparatus is located, is by preference screwed. This opening may be of various sizes, of course, according to the size of the pipe. Said casing is also cast with a longitudinal central partition  $f$ , which divides its interior into two passages  $g$   $h$ , and with other partitions  $i$ ,

which are disposed at each end of each passage and each of which has an opening or port  $j$ .

On the faces of the partition  $f$  and the opposite walls  $k$  of the casing are formed parallel pairs of lugs  $l$ , which serve as guides, between which slide the edge portions of plates  $m$ . These plates carry inverted basket-like wire-mesh or other perforated form of strainers  $n$ , the same being adapted to be removed with the plates from the casing through openings  $o$ , formed in one of the walls of the casing, as the wall  $p$ , which is at right angles to the partition  $f$ . Each of these openings  $o$  is normally covered by a plate  $q$ , which is removably secured over the same by bolts  $r$ .

$s$  designates rock-shafts, which are arranged in the spaces between the partitions  $i$  and the adjoining heads  $c$ , preferably in the plane of the partition  $f$ . These shafts carry cranks  $t$ , to which are secured compound valves  $u$ , adapted to seat, respectively, against the adjacent partition  $i$ , so as to close the port thereof. A rubber or other flexible washer  $v$  may be set in the face of the partition adjoining the corresponding valve, against which said valve may directly impinge.

On one end of each of the shafts  $u$  is carried a toothed segment  $w$ , with which engages a worm  $x$  on a shaft  $y$ , which is journaled in suitable bearings  $z$  and which is provided with a crank  $a'$ , whereby it may be rotated.

By rotating the shafts  $y$  the shafts  $s$  may be rocked so as to seat one or the other of the corresponding valves and close the adjoining port. Thus it is rendered possible to close off the flow of the water through one of the passage-ways, while that through the other is left uninterrupted. Upon removal of the cover  $q$  of the opening to that passage-way which has been closed off the strainer  $n$  may be removed for cleaning, repairs, &c.

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

1. The combination of a casing having a plurality of passage-ways each having a port at each end, strainers arranged in said passage-ways, valves controlling the ports of said passage-ways, and removable heads at the

ends of said casing, said heads having openings affording communication with the interior of said casing, substantially as described.

2. The combination of a casing having substantially parallel passage-ways, each passage-way having a port at each end, a strainer removably arranged in each passage-way, said casing having openings in the side thereof affording access to the strainers, closures for said openings, valves fulcrumed in said casing, the one at one end and the other at the other end of said passage-ways and adapted to close the one or the other of the adjacent ports, and means for operating said valves, said casing having inlet and outlet openings, substantially as described.

3. The combination of a casing having substantially parallel passage-ways, guides ar-

ranged in each passage-way, each passage-way having a port at each end, a strainer movable in the guides of each passage-way, said casing having closed openings in the sides thereof opposite said strainers, valves fulcrumed in said casing, the one at one end and the other at the other end of said passage-ways and adapted to close the one or the other of the adjacent ports, and means for operating said valves, said casing having inlet and outlet openings, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of February, 1901.

GRANT U. MERRILL.

Witnesses:

JOHN W. STEWARD,  
ROBERT J. POLLITT.