No. 688,312. Patented Dec. 10, 1901.

O. H. JEWELL.

STRAINER.

(Application filed Apr. 16, 1900.)

(No Model.)

Fig. 1.

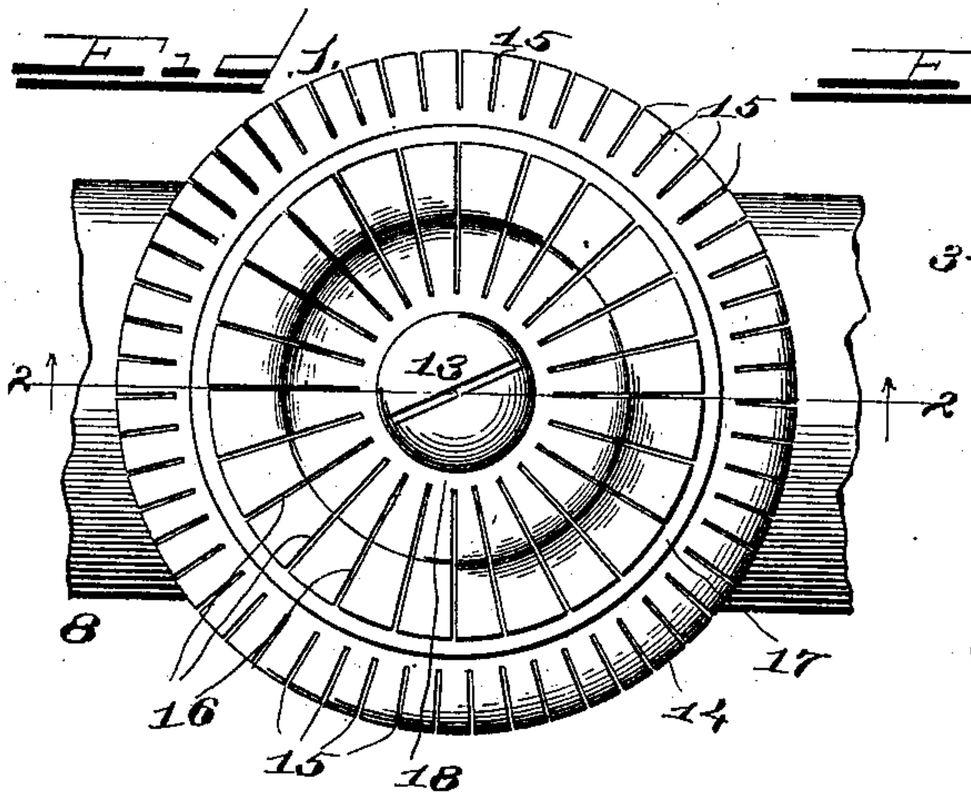


Fig. 2.

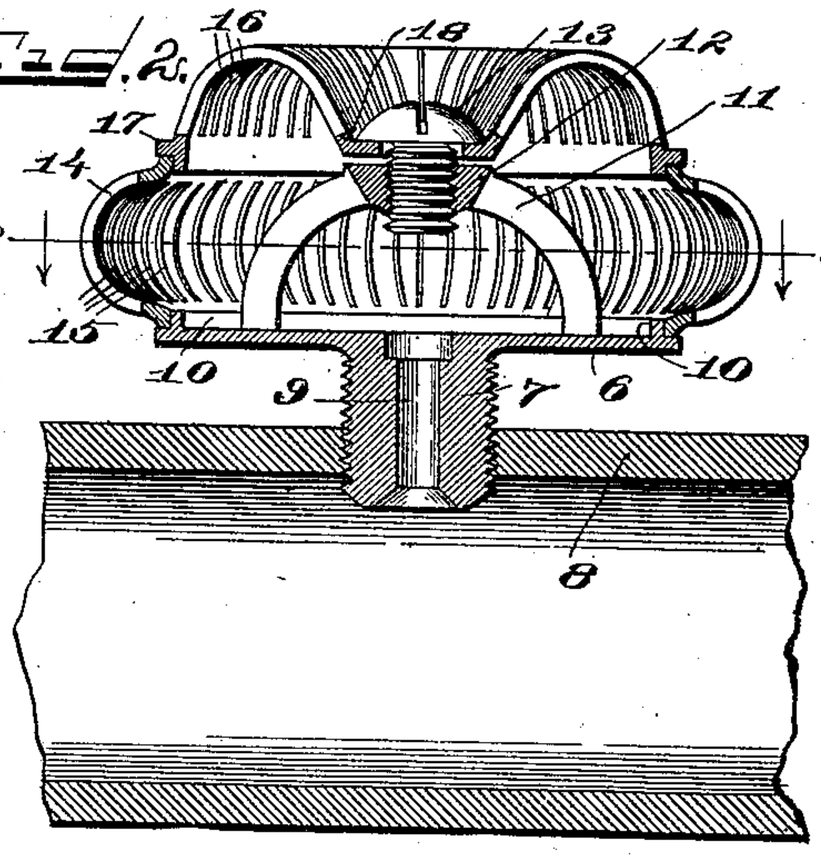


Fig. 3.

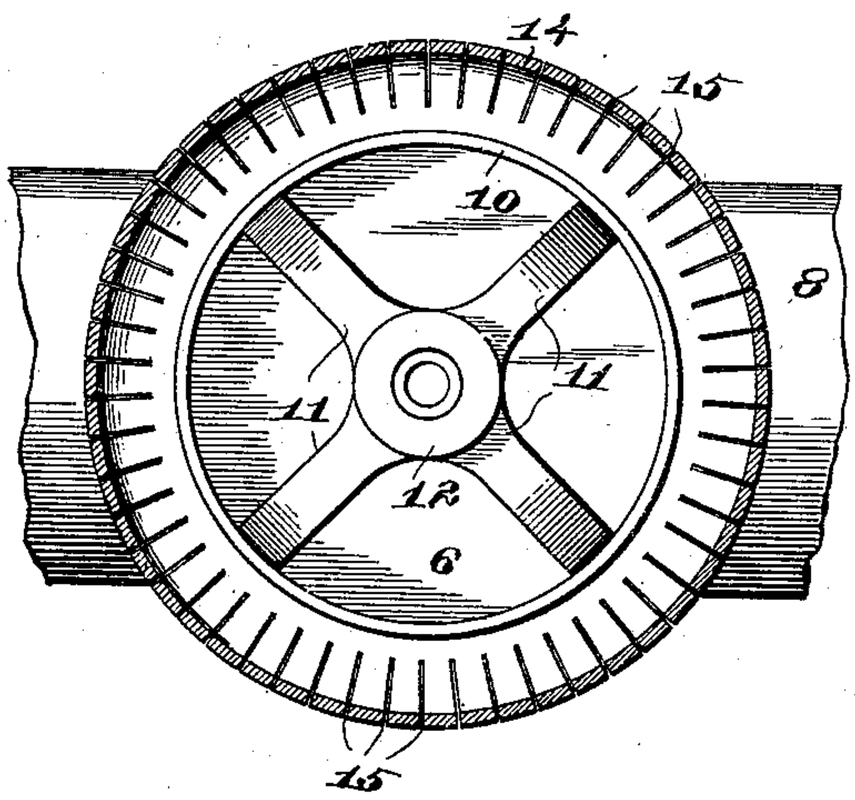


Fig. 4.

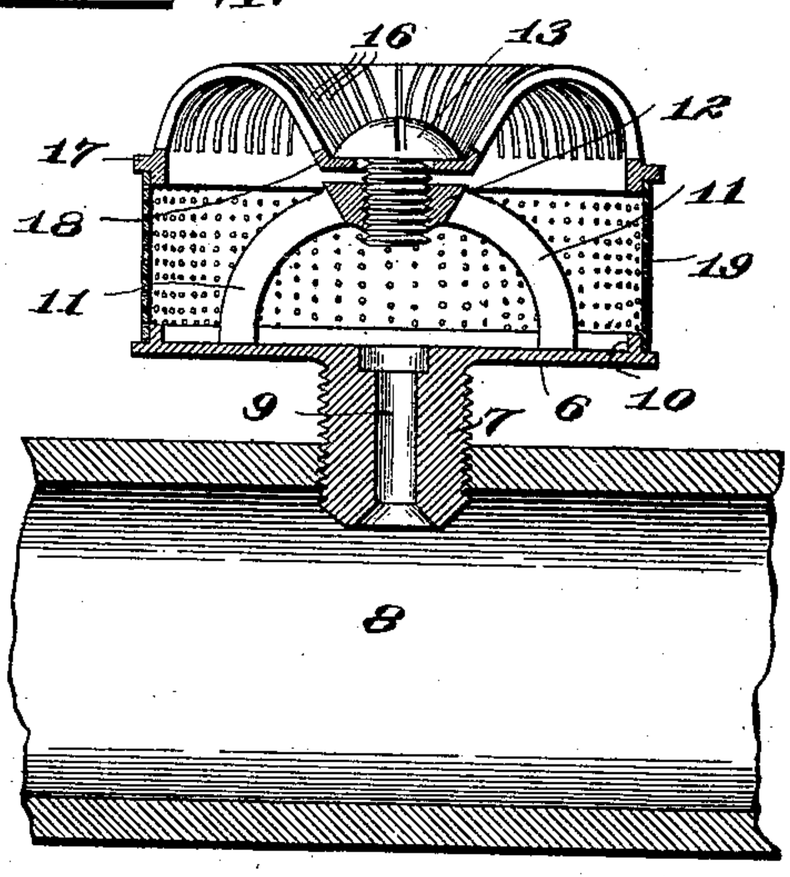
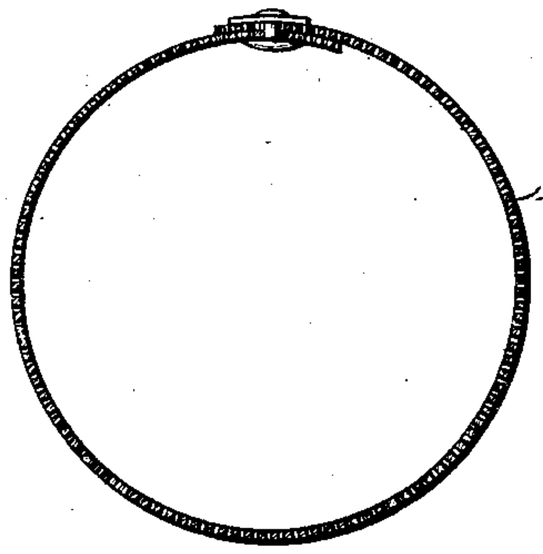


Fig. 5.



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UNITED STATES PATENT OFFICE.

OMAR H. JEWELL, OF CHICAGO, ILLINOIS.

STRAINER.

SPECIFICATION forming part of Letters Patent No. 688,312, dated December 10, 1901.

Application filed April 16, 1900. Serial No. 13,096. (No model.)

To all whom it may concern:

Be it known that I, OMAR H. JEWELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Strainers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to strainers for filters, and more particularly those designed for use in filters of large size, such as are commonly used for filtering water on a large scale. They may, however, be used for such other purposes as they are adapted to.

One of the objects of my invention is to provide a strainer which will be strong and capable of resisting the erosive action of the particles of the filter-bed for a long time.

A further object is to provide a strainer which will present an extensive lateral surface for the admission and discharge of water, as well as the usual more or less horizontal strainer-surface of earlier strainers.

Another object is to provide for adjusting the strainer to suit different conditions.

I accomplish these objects as illustrated in the drawings and as described in the specification.

What I regard as new will be set forth in the claims.

In the drawings, Figure 1 is a plan view. Fig. 2 is a vertical section on line 2 2 of Fig. 1. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a vertical section showing a modified arrangement of the strainer; and Fig. 5 is a horizontal section of the intermediate portion of the latter strainer, shown in Fig. 4.

Referring to the drawings, 6 indicates the base of the strainer, which is provided with a boss 7, which is suitably screw-threaded to adapt it to be secured to the water-pipe 8. As best shown in Fig. 2, the boss 7 is provided with a water-passage 9. The base 6 is provided on its upper surface with an annular flange 10, placed a short distance from its edge. The base-plate 6 also carries a supporting-frame 11, which, as herein shown, consists of a tripod supported on and secured to said base-plate 6. Said frame 11 is provided with a hub 12 at its center, which is screw-threaded to receive a screw 13.

14 indicates a strainer-cylinder, the outer surface of which is concave, the inner surface being convex, as shown in Fig. 2. Said cylinder 14 is provided with a plurality of narrow slits 15 for the passage of water, said slits being so narrow as to prevent the passage of the filtering material. The lower edge of the cylinder 14 is adapted to rest on the base-plate 6 outside of the flange 10, as shown in Fig. 2. The upper edge of said cylinder supports a strainer-cap 16, consisting of a circular plate, the upper surface of which is concave, its inner surface being convex, the center of the plate being depressed, so that the plate is somewhat **M** shape in cross-section, as shown in Fig. 2. The cap 16 is provided with a peripheral flange 17 and with a central plate 18, adapted to lie over the hub 12, as shown in Fig. 2. The plate 18 is perforated for the passage of the shank of the screw 13, the head of said screw resting on said plate. When the strainer-cap is in position, the flange 17 rests on the upper edge of the cylinder 14, the screw 13 serving to bind the parts tightly together through the medium of the frame 11. By this construction I provide a strainer in which an extensive lateral surface is provided for the passage of the liquid to be filtered, as well as an extensive top surface, thus giving the strainer much greater capacity than any prior construction known to me. This construction is advantageous also in that it provides for a more general lateral distribution of the wash-water when the filter is washed, thereby more effectually agitating the filter-bed, and consequently increasing the efficiency of the filter.

Under certain circumstances it is desirable to vary the style of the strainer either to reduce the flow of the water or for other purposes, and by the construction above described I provide for such variation. For example, in Fig. 4 I have illustrated a strainer modified by the substitution of a perforated metal cylinder 19 for the cylinder 14, said cylinder 19 being placed in position by simply removing the screw 13, after which the strainer-cap 16 and the cylinder 14 are removed and the cylinder 19 placed upon the base 6, the cap and screw being then again placed in position. Various other forms of cylinders may be substituted where it is not deemed neces-

sary to secure the extensive lateral strainer-surface provided by the cylinder 14.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A strainer for filters, consisting of a base, a strainer-cap, a removable intermediate section, and means securing the cap and base together to hold the intermediate section in position, substantially as described.

2. A strainer for filters, consisting of a base, a frame secured thereto, a strainer-cap, a screw connecting said cap with said frame, and an intermediate frame between said cap and said base, said intermediate frame being clamped in position by said cap and base, substantially as described.

3. A strainer for filters, consisting of a base having a water-passage therethrough, a cap, and a cylindrical frame between said cap and base, said frame having its outer surface convex and its inner surface concave and having a plurality of passages for the flow of the liquid, substantially as described.

4. A strainer for filters, consisting of a base having a water-passage therethrough, a strainer-cylinder resting thereon, said cylinder having a convex outer surface and a concave inner surface and a plurality of water-passages, a strainer-cap resting on said cylinder, said cap being substantially **M** shape in cross-section, and means connecting said cap and base, substantially as described.

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