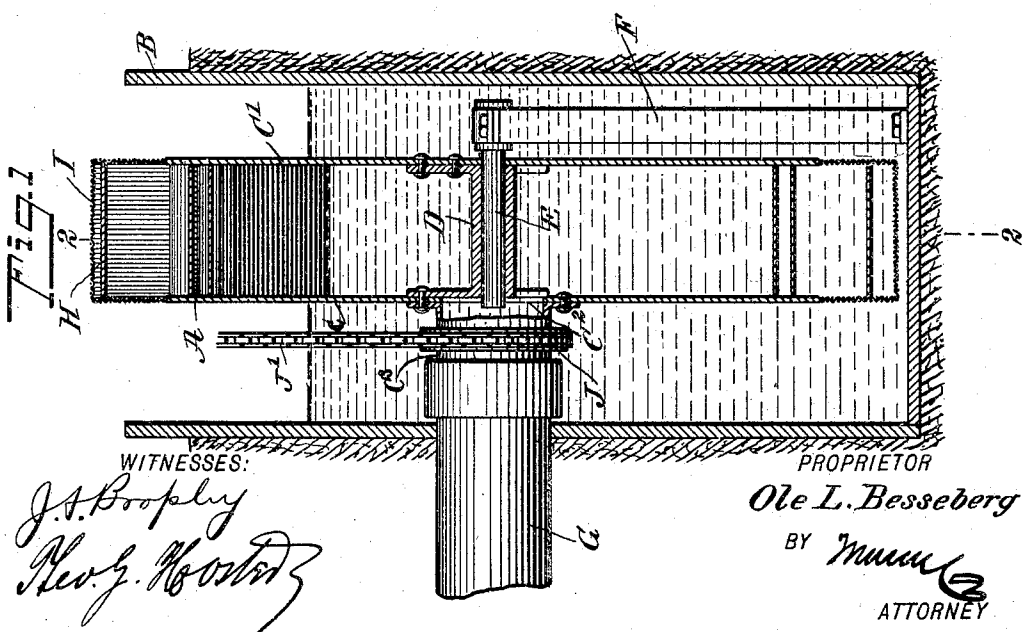
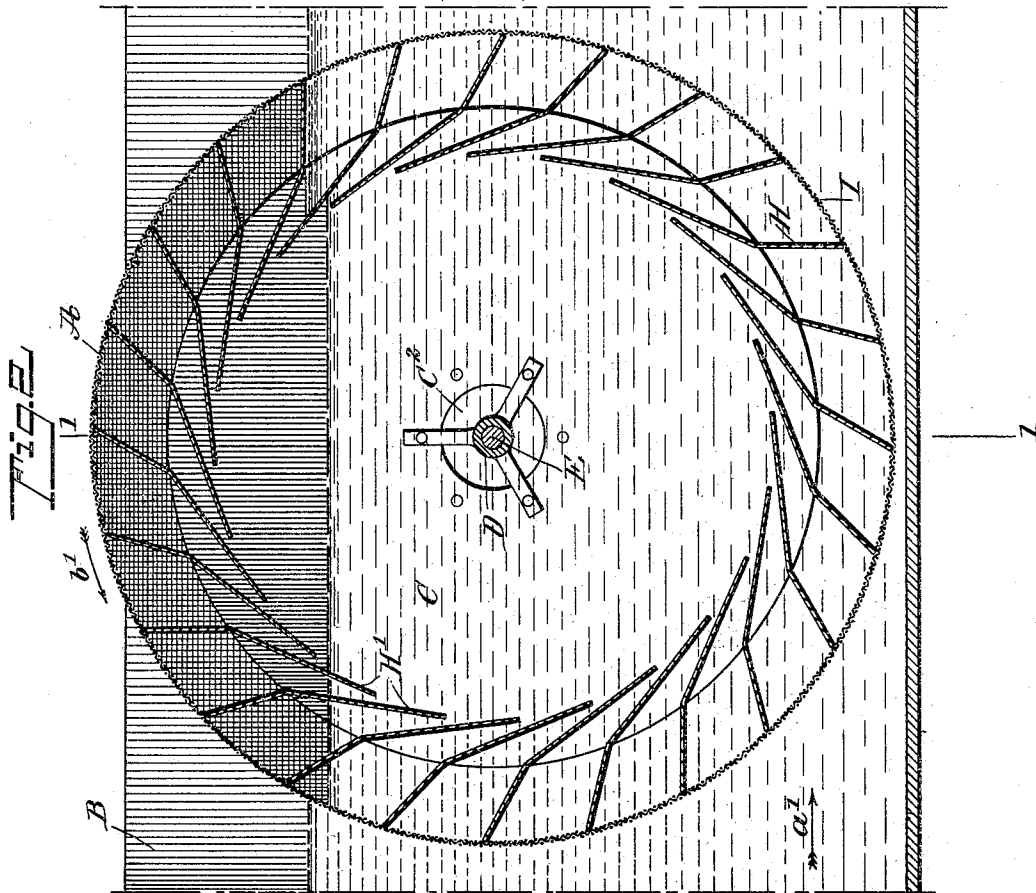


No. 788,511.

PATENTED MAY 2, 1905.

O. L. BESSEBERG.
SELF CLEANING FILTER.
APPLICATION FILED MAR. 17, 1903.



WITNESSES:
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OLE L. BESSEBERG, OF HÖNEFOSS, NORWAY.

SELF-CLEANING FILTER.

SPECIFICATION forming part of Letters Patent No. 788,511, dated May 2, 1905.

Application filed March 17, 1903. Serial No. 148,205.

To all whom it may concern:

Be it known that I, OLE L. BESSEBERG, a subject of the King of Sweden and Norway, and a resident of Hønefoss, Norway, have invented a new and Improved Self-Cleaning Filter, of which the following is a full, clear, and exact description.

The invention relates to filters employed for filtering water from a river or other waterway, the filtered water being intended for use in towns, dwellings, paper-pulp and other factories.

The object of the invention is to provide a new and improved filter which is simple and durable in construction, very effective in operation, self-cleaning, and arranged to furnish a constant supply of filtered water and requiring little, if any, attention.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a transverse section of the improvement on the line 1 1 of Fig. 2, and Fig. 2 is a sectional side elevation of the same on the line 2 2 of Fig. 1.

The improved filter consists, essentially, of a water-wheel A, which is partially immersed in a body of water, which may be stationary or moving. In the drawings the wheel is set in a flume B, in which the water is indicated as flowing in the direction of the arrow *a'*. To turn the water-wheel in the direction indicated by the arrow *b'*, the water-wheel is provided with solid sides C and C', made of sheet metal or other suitable material and centrally connected with each other by means of a hub D, engaging a shaft E, which is journaled at one end in a suitable bearing F, as indicated in Fig. 1. A central opening C² is formed in the side C to permit the escape of water from the interior of the wheel into an outlet-pipe C³, which is connected with a pipe G for carrying the filtered water to the place of use. The outlet-pipe C³ is rigidly connected with

the water-wheel, as shown in Fig. 1, so that the pipe and the wheel must necessarily turn together. The pipe G is stationary, and a suitable connection is provided between the pipe C³ and the pipe G, so that the pipe C³ may be rotatable with reference to the pipe G. The buckets H of the water-wheel A are covered at their outer ends by a netting or screen I of wire, perforated sheet metal, or other suitable material, so that the water can enter the water-wheel. When the water-wheel is placed in water flowing in the direction indicated in Fig. 2, the action of the water upon the buckets of the wheel will cause the wheel to rotate in the direction indicated by the arrow *b'*. When, however, the water-wheel is placed in a body of water which is at rest, it is necessary to impart rotative movement to the wheel by other means in order to cause the satisfactory operation of the filter. To this end the sprocket-wheel J is mounted upon the outlet-pipe C³, and the sprocket-chain J' is provided to impart movement to the sprocket-wheel J from any suitable motor, as shown. The buckets H have their inner angular members H' arranged in such a manner that the water contained in the buckets at the time the buckets reach the level of the water on the outlet side flows outward in the direction of the arrow *a'*, and hence removes any dirt or other impurities which may be on the outside of the netting I, so that the filter is self-cleaning.

By having the filter arranged in the manner described it is evident that the current of the water rotates the wheel, and only filtered water passes to the inside of the wheel and from the latter through the opening C² and outlet C³ to the pipe G for conducting the water to the place of use. It will further be seen that by the arrangement described the level of the water inside the wheel is somewhat lower than that of the water in the flume B, and hence the water in the buckets commences to flow outward on the rear side of the wheel as soon as the upper end of the inner angular member H' passes above the level of the water outside of the wheel, as will be readily understood by reference to the right-hand portion of Fig. 2.

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

1. A self-cleaning filter, comprising a water-wheel having a plurality of screened buckets arranged at the periphery of the wheel and separated by partition-walls disposed at oblique angles to the periphery of the wheel and having their inner ends free.
2. A self-cleaning filter, comprising a water-wheel having a plurality of screened buckets located at its periphery, said buckets having the partition-walls thereof similarly inclined at oblique angles to the periphery of the wheel and having their inner ends spaced from the hub of the wheel.
3. A self-cleaning filter, comprising a water-wheel having a plurality of screened buckets at the periphery of the wheel, all of said buckets having partition-walls each composed

of two sections obliquely inclined to the periphery of the wheel, the inner section of each wall being more obliquely inclined to the periphery of the wheel than the outer section.

4. A self-cleaning filter, comprising a water-wheel having a plurality of buckets formed at the periphery of the wheel, said buckets being screened at their outer ends and open at their inner ends and having the inner ends of the side walls thereof spaced from the hub of the wheel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OLE L. BESSEBERG.

Witnesses:

HENRY BORDEWICH,
MICHAEL ALGER.