No. 619,569. Patented Feb. 14, 1899.

J. J. HEWEL.

FILTER.

(Application filed Oct. 29, 1898.)

(No Model.)

Fig. 2.

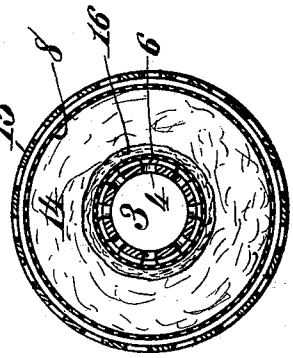
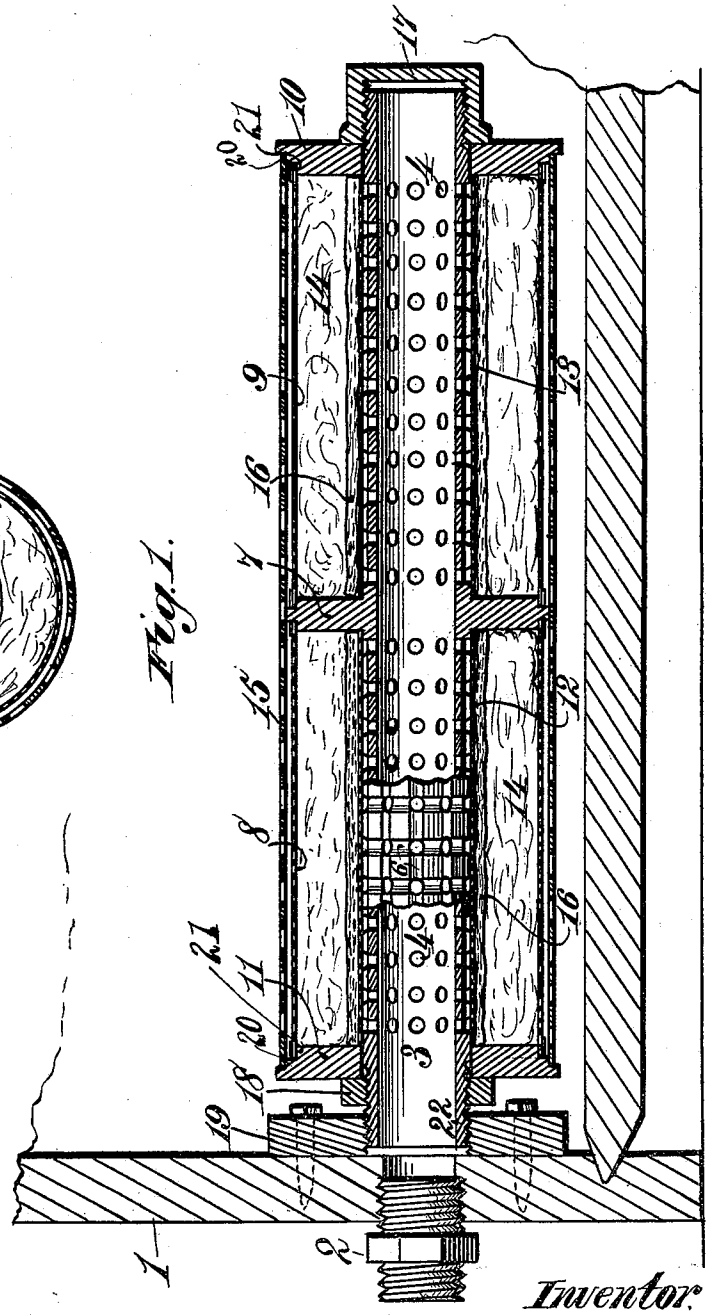


Fig. 1.



Witnesses.
Robt. Everett,
J. B. Keedy

Inventor.
John J. Hewel.
By James L. Norris
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN J. HEWEL, OF TYRONE, PENNSYLVANIA, ASSIGNOR TO ELLEN S. HEWEL, OF SAME PLACE.

FILTER.

SPECIFICATION forming part of Letters Patent No. 619,569, dated February 14, 1899.

Application filed October 29, 1898. Serial No. 694,951. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HEWEL, a citizen of the United States, residing at Tyrone, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Filters, of which the following is a specification.

My invention relates to improvements in filters designed more particularly for use in filtering beer direct from the hogshead, but capable of use for other purposes to which filters of the general character to which my invention relates are usually applied.

It is an object of my invention to provide a filter of improved construction which may be readily supported within a cask and through which the beer may be forced by the gas-pressure to the outlet from the cask.

Other objects of the invention relate to certain details of construction, which will more clearly hereinafter appear.

In the accompanying drawings, illustrating my invention, Figure 1 is a longitudinal sectional view of my improved filter, and Fig. 2 is a cross-sectional view thereof.

The reference-numeral 1 indicates a hogshead of the ordinary construction which is designed to receive the beer before it is drawn off into casks to be shipped to market.

The numeral 2 indicates the ordinary valved bung which is secured in the end of the cask.

The reference-numeral 3 indicates a pipe which extends throughout the length of the filter and projects from each end thereof and is provided in the portion within the filter with perforations 4. These perforations are preferably located at regular intervals throughout the said length of the pipe, and the outer surface of the pipe is provided with longitudinally and transversely extending grooves 6, which serve to connect these perforations and to conduct the liquid thereto in the operation of filtering, as presently described. Centrally and exteriorly of the pipe 3 is formed an integral disk 7, the purpose of which is to support the inner ends of two foraminous cylinders 8 and 9, respectively. At their outer ends these cylinders are supported by circular metal heads 10 11, which are provided with central apertures adapted to fit snugly over the pipe 3. Surrounding the pipe 3 on each side of the central disk 7 is a foraminous cylinder, such cylinders being indicated, respectively, by the numerals 12 and 13, and the purpose of which is to support the filtering material 14, which is interposed between the foraminous cylinders 12 and 8 and 13 and 9, respectively. Encircling the two cylinders 8 and 9 and supported on the heads 10 11 and the central disk 7 is an outer foraminous protecting-cylinder 15. I preferably inclose each cylinder 12 13 in a cloth 16 before surrounding the same with the filtering material. At each end, as seen, the pipe 3 projects beyond the respective heads 10 and 11, and said projecting ends are exteriorly screw-threaded. At one end a cap 17 is secured on the projecting end to hold the head 10 in place, as well as to prevent leakage of the beer at this point. At the opposite end (indicated by the numeral 22) a nut 18 is secured on the projecting end of the pipe to hold the head 11 in place and also prevent any leakage of the liquid. At this end the projecting end of the pipe is screwed into a suitable metallic plate or disk 19, which is provided with a screw-threaded aperture coinciding with the bore of the bung 2 to receive it. It will be seen that the central disk 7 divides the portion of the filter outside of the pipe 3 into two portions. This is for convenience in applying the filtering material. In relatively short filters, however, this disk may be dispensed with.

The parts are assembled as follows: The foraminous cylinder 12 is first slipped on one end of the pipe 3. A cloth 16 is then wrapped around it. The cylinder 8 is then applied so that its inner end rests on the central disk 7, and the filtering material is then packed in between said cylinder 8 and the cloth 16. The head 11 is now placed on the pipe 3, and the nut 18 secures the same in place. The opposite end of the filter is now manipulated in the same manner; but before the head 10 is applied the outer foraminous cylinder 15 is placed in position, and the head 10 is then inserted over the pipe 3 and the cap 17 screwed in place. The filter is now inserted in the hogshead through the ordinary manhole provided therein and the end 22 screwed in the plate or disk 2. The valve in the bung 2 being opened in the ordinary manner, the gas-pressure on the beer, which pressure will

be supplemented by air-pressure, forces the beer through the perforations in the cylinders 15, 8, and 9, through the filtering material 14, cloth 16, the perforations in the cylinders 12 13, and the perforations in the pipe 3 to the interior of the latter, whence it flows to the outlet through the bung 2, from which point it is delivered into the casks and is ready for shipment. The cylinders 12 13 in practice fit the pipe 3 rather snugly, and the grooves 6 thus perform a very important function in conducting the liquid readily to the perforations 4 in the pipe 3.

The heads 10 and 11 are preferably of metal and are provided with two interior annular flanges, which are adapted to fit snugly within the ends of the respective cylinders 8, 9, and 15, said annular flanges being designated by the numerals 20 and 21.

It will thus be seen that my filter may be readily secured within the cask 1 and may be readily detached therefrom for the purpose of cleansing, which may be accomplished by the attendant entering the cask through the manhole provided in the end thereof.

In addition to filtering the beer my device tends to prevent all foaming of the beer as it leaves the cask.

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

1. A filter comprising a central perforated pipe, a foraminous cylinder inclosing the said pipe and being itself encircled by a foraminous cylinder, filtering material interposed between said cylinders, an outer foraminous protecting-cylinder encircling said second cylinder, and centrally-apertured heads fitting over opposite ends of said pipe and supporting said last-named cylinders, substantially as described.

2. A filter comprising a central perforated pipe, grooves on the outer surface of said pipe connecting said perforations, a foraminous cylinder encircling said pipe and being itself encircled by a second foraminous cylinder, filtering material interposed between said foraminous cylinders, an outer foraminous protecting-cylinder inclosing said second cylinder, and centrally-apertured heads fitting over opposite ends of said pipe and supporting said last-named cylinders, substantially as described.

3. A filter comprising a perforated pipe having centrally of its length a disk, a foraminous cylinder inclosing said pipe on each side of said disk and being respectively encircled by foraminous cylinders supported on their inner ends on said disk, filtering material interposed between said cylinders, an outer foraminous protecting-cylinder inclosing said second cylinders and being centrally supported on said disk and centrally-apertured heads fitting over opposite ends of said pipe and having flanges fitting within respective ends of the said last-named cylinders, substantially as described.

4. A filter comprising a perforated pipe having centrally of its length an integral disk, and having its ends provided with exterior screw-threads, a foraminous cylinder encircling said pipe on each side of said disk and being themselves encircled, respectively, by foraminous cylinders supported at their inner ends on said disk, filtering material interposed between said cylinders, an outer foraminous protecting-cylinder encircling said second cylinders and being supported centrally of its length on said disk, heads having central apertures adapted to fit over opposite ends of said pipe and provided with annular flanges adapted to fit snugly within said last-named cylinders, the screw-threaded ends of said pipe projecting beyond said heads, a cap screwed on one end of said pipe, and a nut screwed on the opposite end, said cap and nut bearing against the heads and holding them securely in position, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN J. HEWEL.

Witnesses:
HERBERT GIBSON,
JOHN W. GARDNER.