

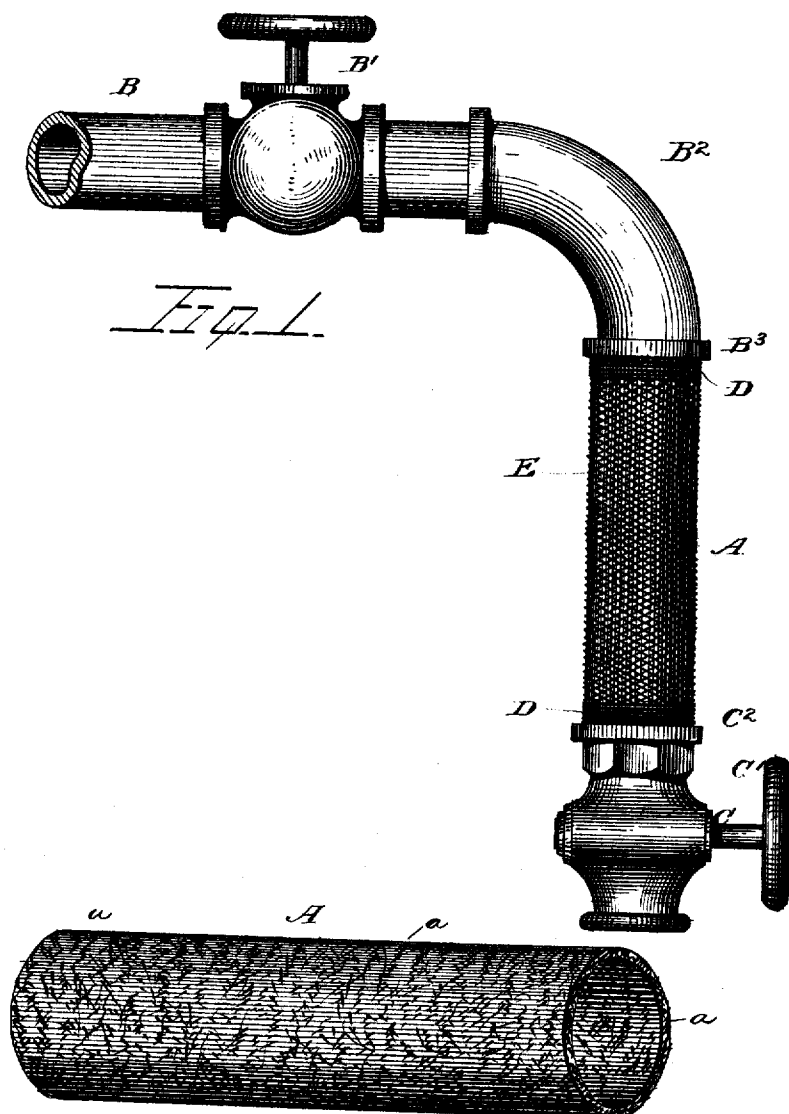
(No Model.)

T. S. WILES.

SEAMLESS FELTED FABRIC FOR FILTERS.

No. 339,722.

Patented Apr. 13, 1886.



WITNESSES:
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SEAMLESS FELTED FABRIC FOR FILTERS.

SPECIFICATION forming part of Letters Patent No. 339,722, dated April 13, 1886.

Application filed July 11, 1885. Serial No. 171,408. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. WILES, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Seamless Felted Fabrics for Filters, of which the following is a specification, reference being had to the accompanying drawings.

The object of this invention is to provide a seamless felt fabric of tubular form. The purposes to which said seamless felted fabric is applicable include all devices or apparatuses employed in all arts where it is desired to filter liquids for the purpose of rendering the same free from animal or earthy matters and insoluble sediment, and thus render them potable and suitable for culinary as well as mechanical uses in the dyeing, paper-making, and other arts.

The invention consists in an article of a specific form and made of a specific material, with or without strengthening or re-enforcing adjuncts, as hereinafter described, and particularly set forth in the claim.

Referring to the drawings, Figure 1 illustrates one use of the tubular seamless fabric, and Fig. 2 is a perspective of said fabric.

Like letters refer to like parts in both figures.

A represents a tube or hose constructed of felted fabric and without seam, as hereinafter described.

Fig. 1 represents one of the simplest forms of a filter, the principal element of which consists of a suitable length of hose or tubing constructed in accordance with my invention, and said figure is herein shown and described merely for the purpose of illustrating one use of my present invention. The said filter is not herein claimed, as it forms the subject-matter of a companion application pending herewith.

B represents an induction-pipe, provided with a cut-off valve or stop-cock, B', and in this instance with an elbow or quarter-turn, B'.

C is an eduction-pipe, provided with a cut-off valve or stop-cock, C'. The eduction-pipe and elbow are each provided with a projecting portion beyond the flanges C² B³, respectively, over which the felted seamless tube or hose

A is placed, and to which the same is secured, in this instance by being wound with a cord or wire, D.

In Fig. 1 the felted seamless tube or hose is covered and externally re-enforced by any open-meshed fabric, E, which may, if desired, be duplicated within the tube; or the fiber may be felted thereon or therein, so that said re-enforcing means shall be embedded within the substance of the tube or hose, in order that the same may be strengthened for use in apparatuses where the pressure is excessive.

A tube or hose constructed without the re-enforcing fabric and of felted fabric in the manner hereinafter described is sufficiently strong to answer the purposes in view when subjected to ordinary pressure.

It is well-known that in making a web, continuous sheet, or sliver of feltable fiber said fiber has been disposed uniformly in parallel lines, indiscriminately, and also in uniform, diagonal or zigzag lines, and subsequently felted by devices which act to compress the same.

In constructing a seamless tube or hose for the purpose specified, I may present the fiber in bulk upon an endless apron, to deliver the same to a carding-cylinder, from which it is delivered upon an endless moving belt, and from which it is taken in the form of a web or continuous sheet, as in the patent of J. B. Hyde, of May 29, 1860; or the fiber may be thrown by a blast upon a suitable hollow perforated form from which the air is exhausted, as in the patent of Boyden, January 10, 1860; and I may dispose of the fibers in a zigzag relation to each other by the means shown in the Butler patent, July 21, 1857, so that a sliver or continuous sheet or web is produced which may subsequently be rolled in tubular form and afterward thoroughly felted.

I would state that the novelty of the article which I claim as of my invention is not dependent to any extent upon the manner in which it is made, and I therefore do not limit my invention in this regard, but simply disclose processes by which the same may be made in order that others skilled in the art to which my invention may relate shall be able to construct and use the same.

Referring to Fig. 1, it will be seen that as

the liquid passes through the induction-pipe and elbow it will be retained within the tube or hose A when the valve C' is closed, so that said liquid passes through the closely-felted texture of the tube or hose A, and is thus filtered and freed from the objectionable matter. In time, however, the inner walls of the tube or hose become foul and require cleansing, in which case the valve C' is opened and a continuous stream of water, coming in direct contact with the inner walls of the hose, serves to thoroughly clean the same.

In Fig. 2 I have illustrated by the dark lines *a* the fibers indiscriminately disposed so as to cross each other, and therefore tending to strengthen the hose; but, as before indicated, I do not limit my invention to any particular disposition of the fibers.

I am aware that coats and other garments and boots and shoes have been made by slit-

ting and otherwise manipulating felt-cylinders, and do not claim such as of my invention.

I am also aware that felt bags have been employed as filters in the art of sugar-making; but such are not claimed by me, nor are they capable of being cleansed according to the process hereinbefore set forth—namely, by the passage therethrough of a liquid sufficient in quantity to completely fill the same.

Having described my invention, its purposes and operation, what I claim as new is—
A felted-fabric seamless tube or hose for filtering purposes, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS S. WILES.

Witnesses:

WM. S. DUVALL,
E. B. STOCKING.