(No Model.)

W. WEAVER.

FILTER.

No. 463,410. Patented Nov. 17, 1891.

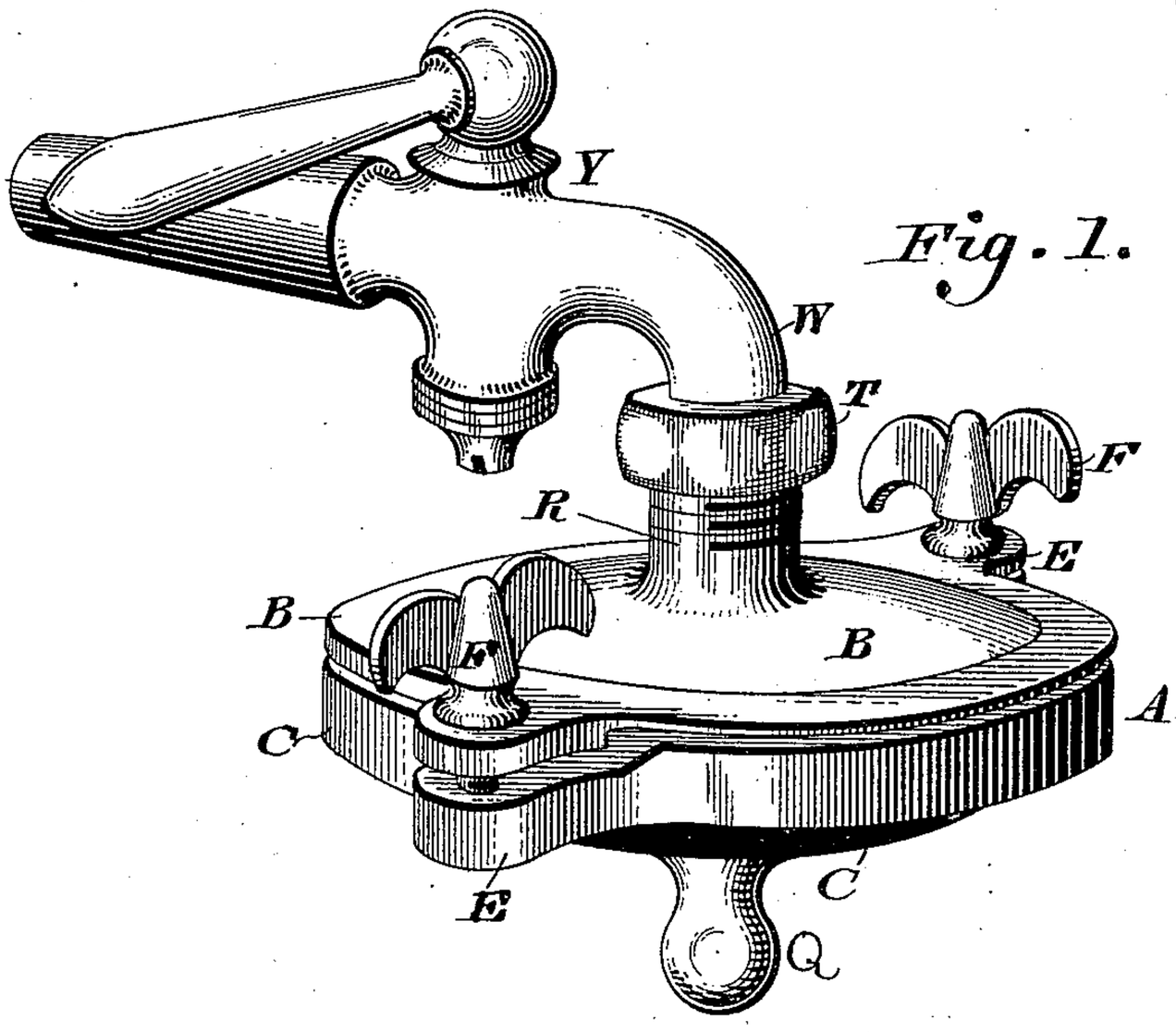

Fig. 1.

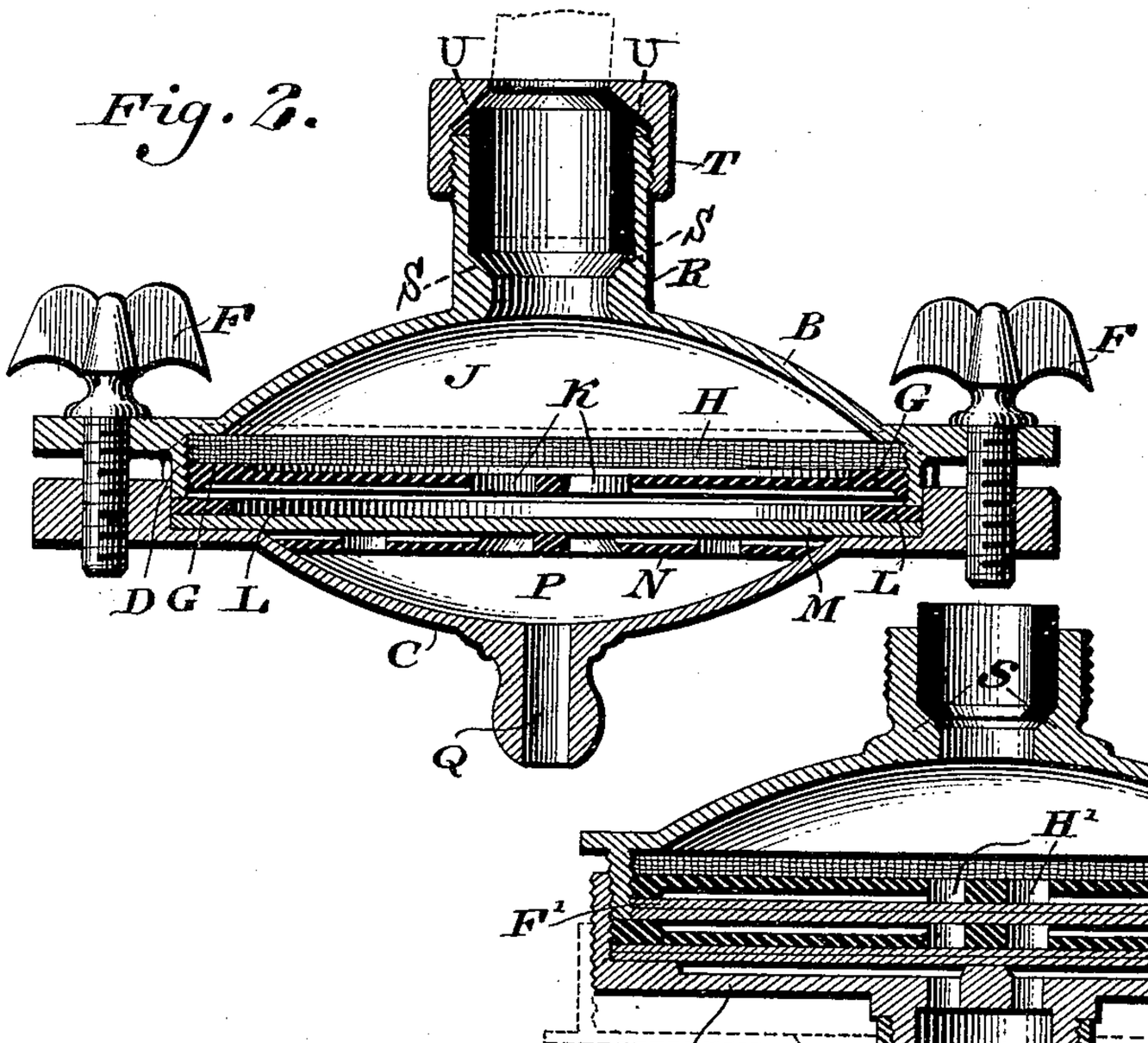

Fig. 2.

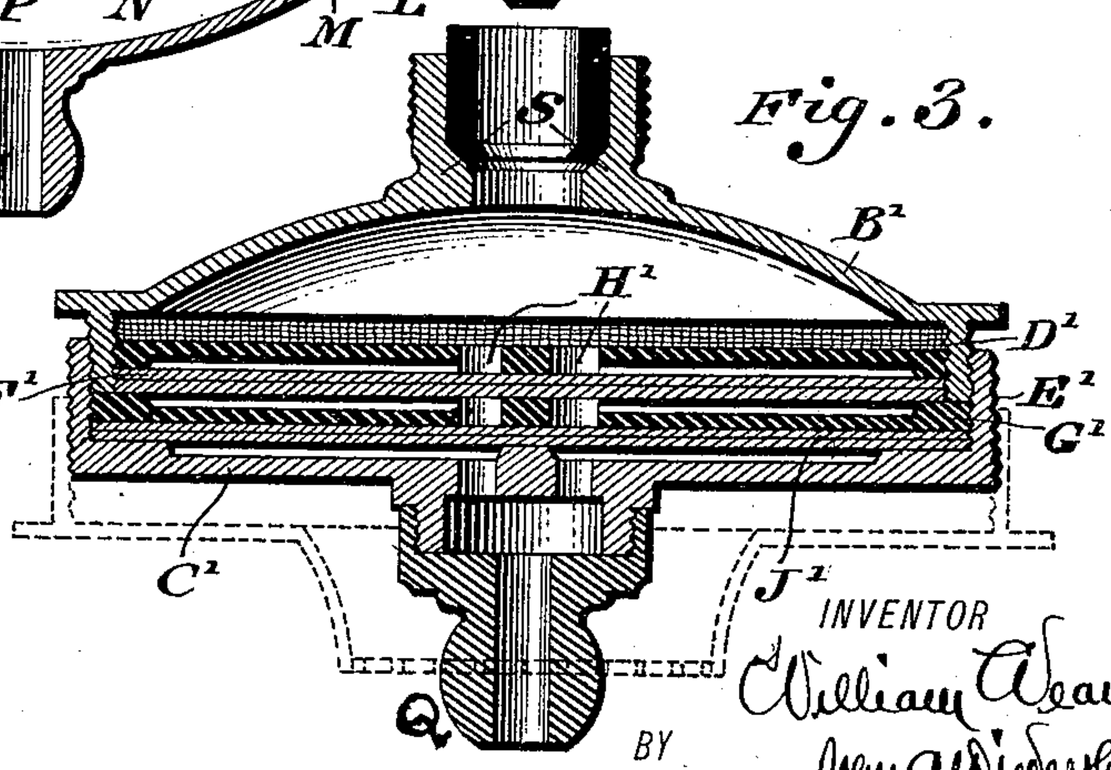

Fig. 3.

WITNESSES:

P. F. Hagle.

L. Dourille.

INVENTOR

William Weaver

BY

John A. Wiedersheim

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM WEAVER, OF PHILADELPHIA, PENNSYLVANIA.

FILTER.

SPECIFICATION forming part of Letters Patent No. 463,410, dated November 17, 1891.

Application filed April 20, 1891. Serial No. 389,647. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WEAVER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Filters, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvement in filters; and it consists of a filter having a body formed in sections, with means for adjustably connecting the same and retaining a diaphragm and filtering material therein.

It also consists of the combination of parts hereinafter set forth.

Figure 1 represents a perspective view of a filter embodying my invention. Fig. 2 represents a central vertical section of the filter shown in Fig. 1. Fig. 3 represents a central vertical section of a modification thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a shell or body formed of an upper section B and a lower section C. One of said sections is provided with a flange D, on which the other section is adapted to close, and both sections are provided with rims having the ears E on opposite sides thereof, and in which the thumb-screws F are adapted to work, so as to adjust said sections on each other. The interior wall of the flange D is threaded, so as to permit the adjustment of the metallic diaphragm G therein, and thereby the securing of the fibrous or other filling H in place. Above the said filtering material H, which may be felt, linen, flannel, potter's clay, charcoal, &c., adapted to catch the heavier matters in the water, is the chamber J, in which the water to be filtered is received. The said diaphragm G is provided with the opening K, through which the water that has been filtered by the filtering material H passes.

Between a rubber gasket L, which is under the flange D, and the wall of the lower section C is a piece of flexible filtering material M, as buckskin, kid, &c., adapted to receive thereon the water which has passed through the openings K and retain the finer impurities which have passed through the filtering material H. To sustain the said filtering material M in place and prevent its sagging, a perforated metallic diaphragm N is employed, the same having its edges resting on the walls of the chamber P in the lower section C. The said lower section is provided with an outlet Q, and the upper section has an inlet tube, neck, or nozzle R, with a beveled or inclined shoulder S on its inner wall and a threaded outer portion, on which a nut or cap T works. The said nut has a beveled or inclined inner shoulder U above an interior screw-threaded portion thereof, forming a recess between the said shoulder and the end of the tube or recess, it being noticed that the nut T is of such diameter as to encircle both the top of the packing and neck, while the beveled shoulder U bears constantly upon said top of the packing, and the bottom edge of the packing rests constantly upon the beveled shoulder S, whereby a piece of rubber, gum, or other suitable packing, which is held within said nut and tube, will be compressed inwardly both at top and bottom, so as to be forced against the nozzle W of the inserted faucet Y by turning the nut in one direction or screwing it on the tube, thus forming a water-tight joint between said filter and faucet, said joint holding the said filter and nozzle closely together.

It will be seen that by unscrewing the nut, thereby releasing the pressure on the packing, the nozzle end of the faucet can readily be withdrawn from the tube.

In Fig. 3 is shown a modification of the filter, the sections B′ and C′ being secured together by means of a screw-threaded flange D′ on one section and an interior screw-threaded rim E′ on the other section. Two pieces F′ of textile filtering material are shown in the said modification, and the lower diaphragm G′ is channeled or grooved on its upper side, thereby freely permitting the passage of the water falling thereon to the openings H′ therein. Within the lower section C′ is secured two thicknesses J′ of textile fabric, whereby a further filtration of the water is had, thereby removing the finer particles of foreign matter which may have passed through the other and coarser filtering material.

An additional section (shown in dotted lines, Fig. 3, and forming an additional chamber) may be added if desired.

It will be seen that the parts of the device

are readily put together or separated, as desired, and that, owing to their simplicity of construction, they can easily be cleansed. The filter herein described is compact in form, efficient in operation, and durable in character, while of little cost.

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

1. A filter having a body formed of adjustable sections, a diaphragm adjustably located in one of said sections, filtering material held in place by said diaphragm, filtering material in the other section, and a diaphragm supporting said latter-named material, said parts being combined substantially as described.

2. The body of a filter having one of its sections provided with a flange, a second section adjustable on said flange, a diaphragm adjustable on a screw-threaded portion of the inner face of said flange, filtering material held in place in the section having the flange, a diaphragm in the second section, a piece of textile filtering material supported on said second diaphragm, and a gasket between the lower end of the flange and the rim of the piece of textile filtering material, said parts being combined substantially as described.

WILLIAM WEAVER.

Witnesses:
JOHN A. WIEDERSHEIM,
A. P. JENNINGS.