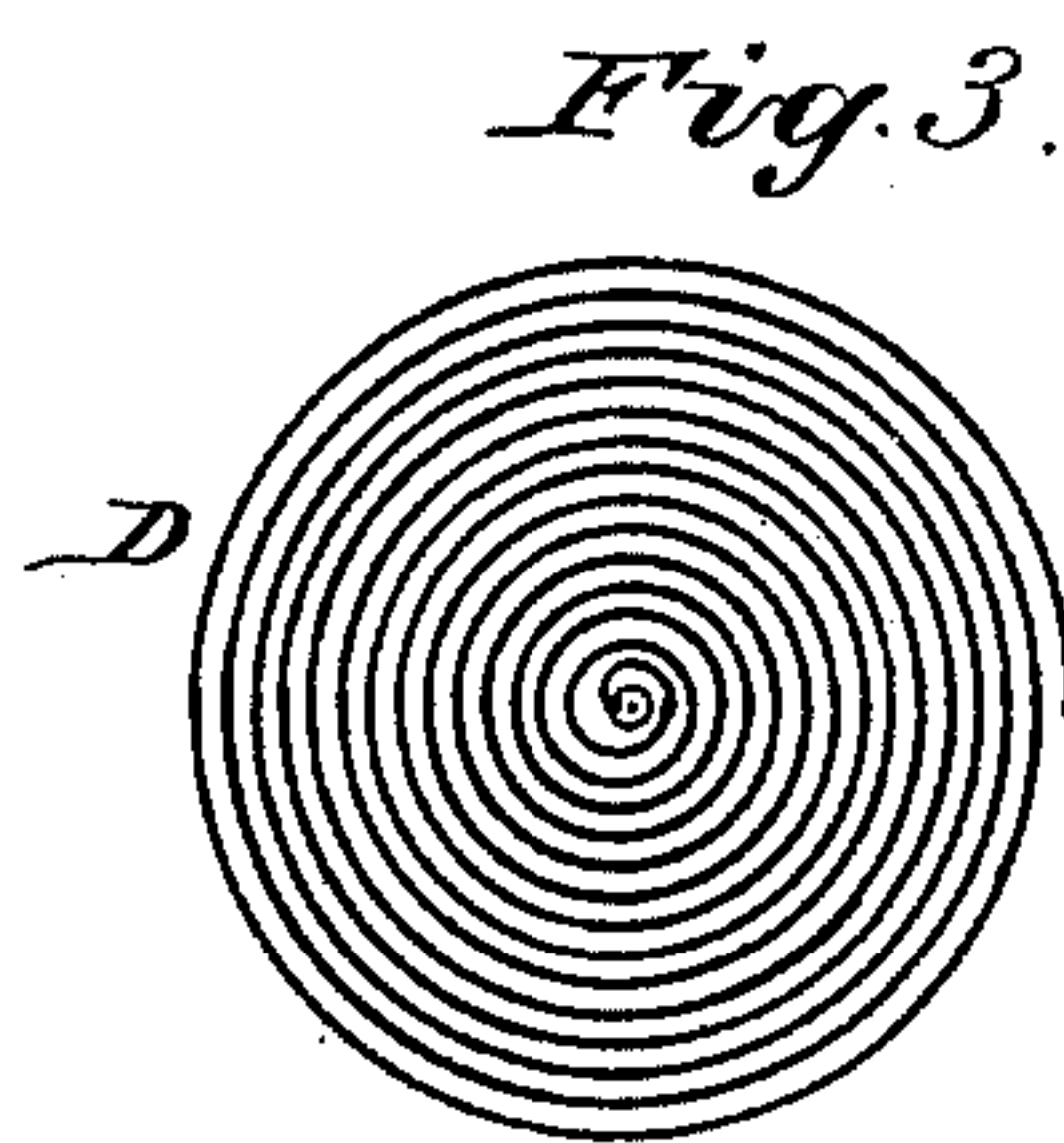
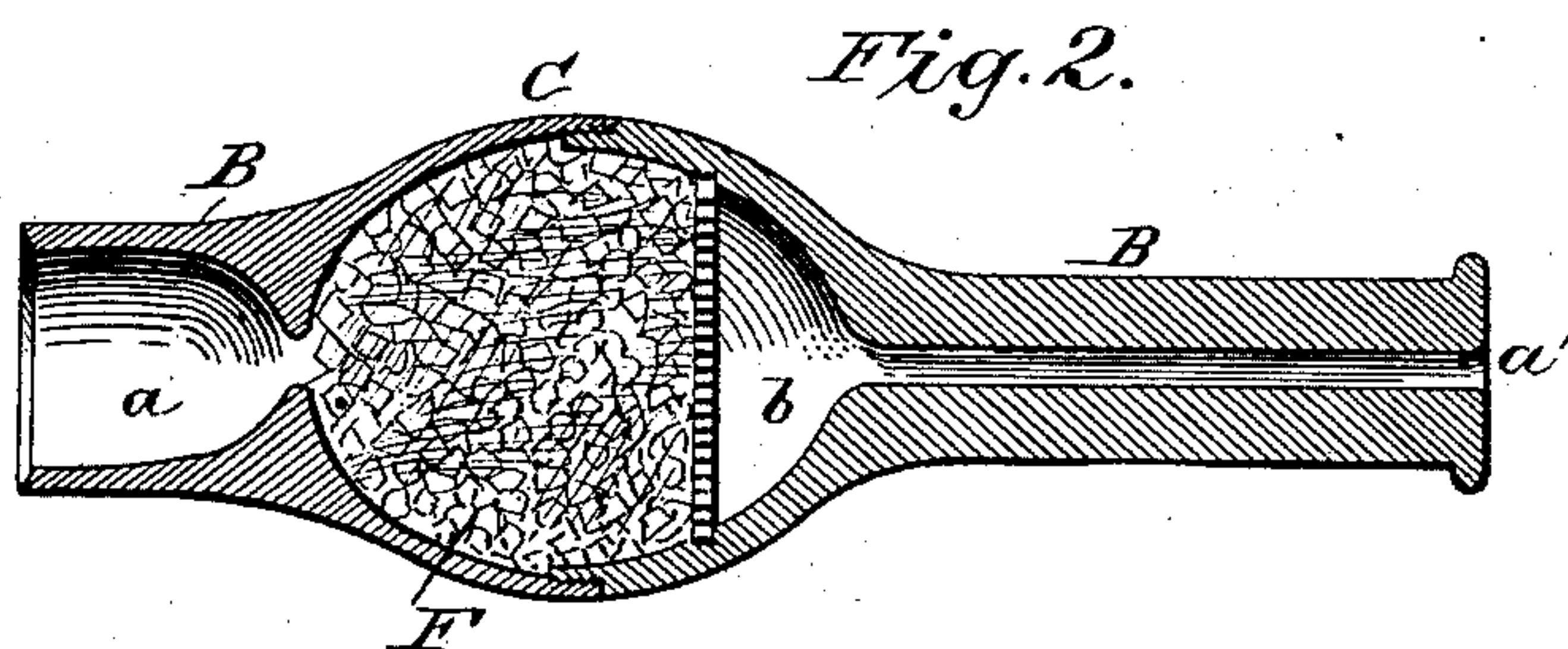
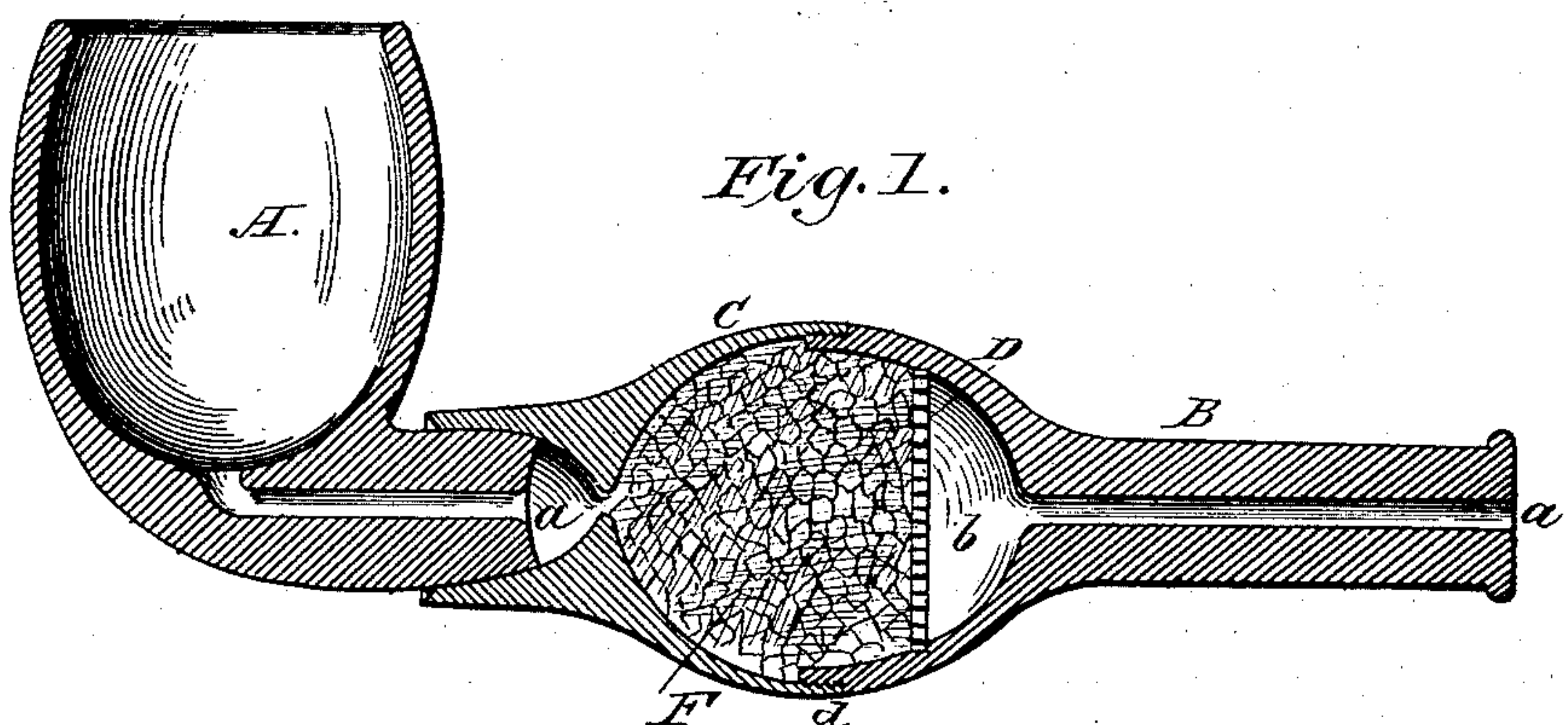


(No Model.)

S. E. LAWRENCE.  
SMOKER'S APPLIANCE.

No. 338,421.

Patented Mar. 23, 1886.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL E. LAWRENCE, OF UTICA, NEW YORK.

## SMOKER'S APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 338,421, dated March 23, 1886.

Application filed July 7, 1885. Serial No. 170,896. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL E. LAWRENCE, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Appliances for Smokers' Use, of which the following is a full and complete description, such as will enable others to make and use the same, reference being had to the accompanying drawings, in which similar letters of reference indicate like parts in the different figures.

Figure 1 is a longitudinal section through a pipe and its stem, showing the enlargement of the latter, which forms a chamber that contains the smoke-purifying apparatus. Fig. 2 is a longitudinal section through the stem when used as a cigar-holder, showing the same purifying apparatus applied thereto. Fig. 3 is a side view of a coiled-spring diaphragm which divides the smoke-purifying chamber into two parts.

This invention relates to improvements in that class of smokers' appliances which are designed to purify the smoke and to prevent the passage of nicotine and other noxious matters from the burning tobacco of a pipe, cigar, or smoking-tube to the smoker's mouth and lungs, and at the same to allow the draft to be so free as not to incommode the user in the least. Many devices have been suggested by which it was proposed to accomplish this result, such as a chamber in which the smoke became slightly cool and a portion of the essential oils were separated by condensation. In others the chamber was filled with dry cotton, sponge, or other material capable of absorbing and retaining the noxious elements of the smoke; and it has been further proposed to form the filter or medium through which the smoke passes of a mixture of various substances that might have a chemical action upon the products of combustion as they passed through it, and thus to destroy the noxious elements, and which might also be caused to impart fragrance to the smoke at the same time. But these devices, so far as my knowledge extends, were only palliative of the evil, for they failed to remove more than a part of the noxious matters, while the absorbent or filtering material soon became so filled and

clogged with the oils and other matters carried by the smoke as to render its further use difficult, if not impossible, as it was only with great effort that the smoke could be drawn through it, while the desirable properties of the tobacco were as liable to be destroyed as the noxious and unwholesome.

To overcome these difficulties and enhance the value of the chambered smoking tube or stem, my invention consists in the combination, with said chambered tube and inclosed absorbent, of a coiled-spring diaphragm, as hereinafter specified.

In the drawings, Fig. 1 shows a pipe provided with my improvements, A being the pipe-bowl, which enters the socket *a* of the stem B. This stem is provided with an enlarged chamber, C, which serves as a receptacle for the sponge filter F, and is connected by a suitable opening with the socket *a*, and by another opening, *a'*, passing through an extension of the stem, with the mouth of the user. At a suitable point, *d*, in the enlargement C of the stem it is divided and the two parts united, preferably by a screw-joint, although the ordinary socket-joint may be used, if desired. This joint allows the two parts of the stem to be separated, and gives ready access to the filtering-chamber. It will be observed that the part which forms the outside of the joint *d* has no shoulder for the end of the inner part to bear against, by which arrangement it becomes impossible for the sponge or other filtering agent to get into the joint while the two parts are being connected, thus insuring a tight joint without trouble from the filter while making it. Transversely crossing this chamber, and secured in a suitable recess formed in its sides, is the diaphragm D, which consists of a coiled wire spring, as seen in Fig. 3. This form of diaphragm possesses great elasticity, enabling it to readily accommodate itself to the form of the filter. This diaphragm divides the chamber into two parts, one of which, *b*, is commonly vacant and receives the smoke after it has been purified by passing through the filter.

The filter F is preferably a piece of sponge, of suitable size and form, which, when in use, is partially saturated with pure water or water having a slight addition of alcohol, through



which the smoke passes. The sponge separates the particles of water, so that they act in the same manner as a spray, thus coming in contact with every portion of the products of combustion passing through it, washing and purifying them effectually.

It will be apparent that the construction of the joint allows the chamber to be readily opened for the removal of the sponge after using, to facilitate washing or otherwise cleaning the same whenever such purification may be needful, or to replace it with a new one, if desired.

It will be evident that, if desired, other materials may be used in place of the sponge for forming this filter; but I prefer the latter; and, further, if it is desired to add to the aroma of the tobacco, this may be accomplished by saturating a small sponge with the desired flavoring extracts. Said sponge, being placed in the chamber *b* at the rear of the diaphragm, readily imparts its aroma to the purified smoke passing through the chamber.

It will be seen by an inspection of Fig. 2 that the stem *B*, when the pipe-bowl is removed, forms a cigar-holder, and may be used as such.

It will be understood that I do not broadly claim a sectional smoking-tube, nor a smoking-tube having a chambered portion containing a filtering material and divided transversely by a diaphragm, such construction

being old. In smoking-tubes of this kind it is of advantage to provide a diaphragm that shall not only be capable of dividing the chamber and permitting the passage of smoke, but which shall also afford an elastic support for the filtering-sponge.

It is obvious that a diaphragm, as *D*, composed of a coiled wire spring furnishes a cheap, simple, and effective means of accomplishing the above-named objects, and by reason of its compressibility and resiliency such coiled-spring diaphragm is capable of being readily introduced into the chamber *C*, and will instantly and readily accommodate itself to the bulk and form of the filtering material and to the diameter of its inclosing-chamber.

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

A smoking-tube having a chamber, *C*, divided by a transverse coiled-spring diaphragm, *D*, and containing a filtering material, *F*, on one side of said diaphragm, substantially as described.

In testimony that I claim the above as my invention I hereunto affix my signature in the presence of two witnesses.

SAMUEL E. LAWRENCE.

Witnesses:

M. V. E. CHANDLER,  
RUTLEDGE WILLSON.