

C. H. DOWNES.
Stylographic Fountain-Pen.

No. 218,503.

Patented Aug. 12, 1879.

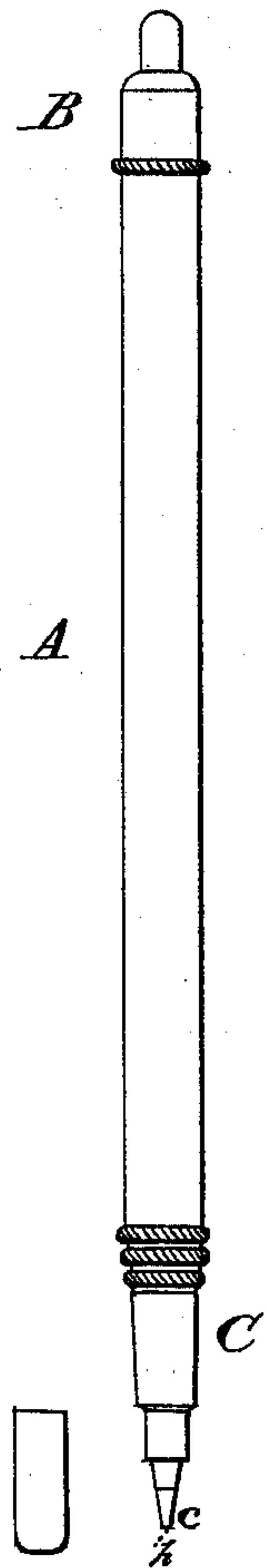


Fig. 1.

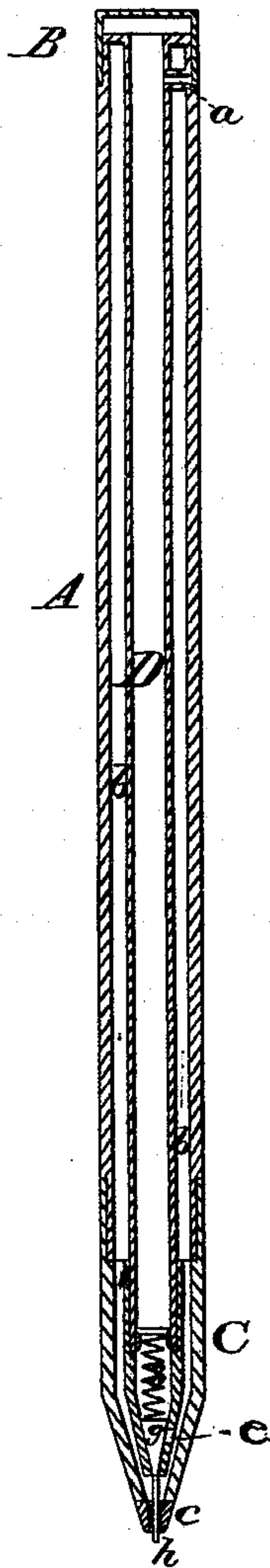


Fig. 2.

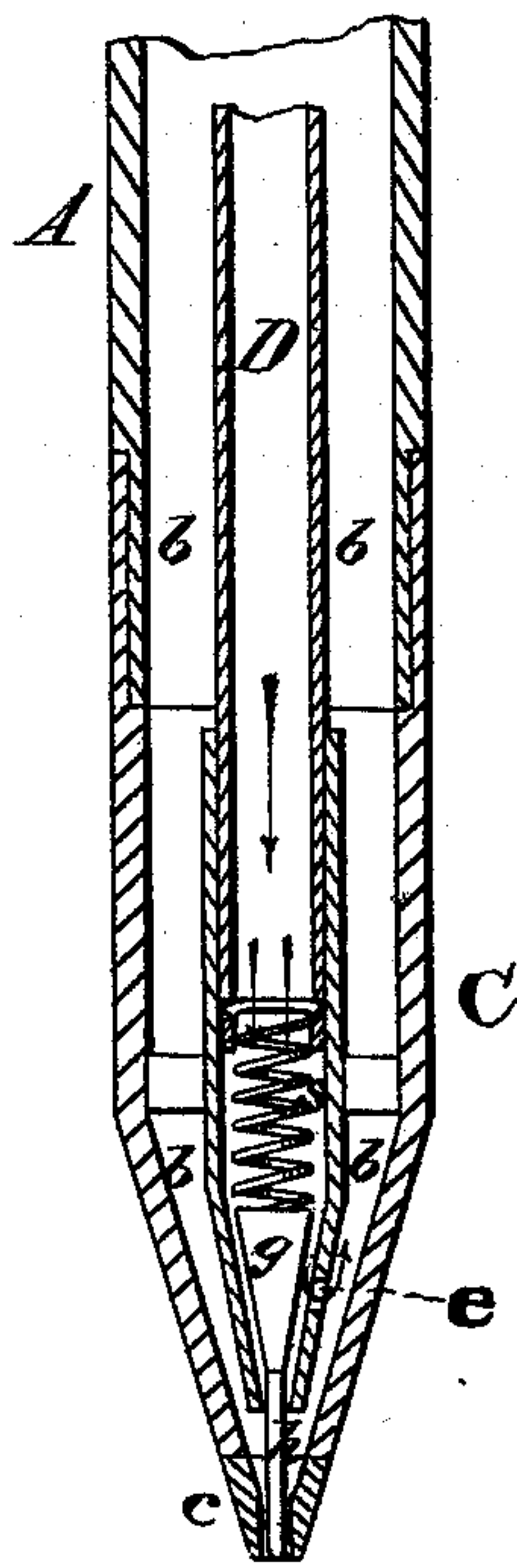


Fig. 3.

Witnesses
J. Campbell
W. C. Chaffee

Inventor
Charles H. Downes.
per R. P. Campbell Attorney

UNITED STATES PATENT OFFICE.

CHARLES H. DOWNES, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN STYLOGRAPHIC FOUNTAIN-PENS.

Specification forming part of Letters Patent No. **218,503**, dated August 12, 1879; application filed April 29, 1879.

To all whom it may concern:

Be it known that I, CHARLES H. DOWNES, of Jersey City, in the county of Hudson and State of New Jersey, have invented new and valuable Improvements in Stylographic Fountain-Pens; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of an enlarged external view of a stylographic fountain-pen which I have improved. Fig. 2 is an enlarged section taken diametrically through the instrument, showing my improvements, the valve or plug being closed. Fig. 3 is a highly-magnified section of the lower portion of the instrument, showing the valve or plug raised from its seat as it would appear in the act of writing.

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

This invention has relation to fountain writing-instruments which are made with conical writing-points, through which points needles or spindles play freely, carrying valves that prevent the flow of ink when the instruments are not in use.

Air-tubes are centrally arranged in the fountain-handles, which tubes admit air therein near the writing-points for the purpose of allowing a free flow of ink through them when the valves are raised from their seats during the act of writing.

The nature of my invention consists in improving such writing-instruments by inclosing the needle-carrying valve and its spring, if a spring be used, inside of the lower end of the air-tube, for the purpose of keeping these working parts free from the corroding effects of the ink, as will be fully understood by the following description.

In the annexed drawings, A designates the body of the tubular handle or holder, which is provided with a movable cap or cover, B, and a removable section, C.

Centrally arranged inside of the handle A is an air-tube, D, which is open at its upper

end, and provided near this end with an air-inlet hole, *a*, which is closed from the external air when the cap B is forced down tightly upon its shoulder. By slightly unscrewing cap B the external air is admitted into the air-tube D D.

The section C is removable for the purpose of introducing writing-fluid into the reservoir *b*, which is between the tubes A and D. This section C is tapering, and its perforated point *c* is formed of any suitable metal or mineral substance which is sufficiently hard to be durable. A combination of substances may be used in the formation of this conical point *c*.

The lower end of the air-tube D terminates in a conical point, inside of which a seat is formed for a conical valve, *g*, and from the lower end of this cone-valve extends a needle or spindle, *h*.

When the valve *g* is down on its seat, the point of the needle *h* protrudes a short distance from the writing-point *c*, as shown clearly in Fig. 2.

When the point of the instrument is pressed upon a surface as in the act of writing, the needle *h* pushes the valve *g* up from its seat, and opens a vent, *e*, through air-tube D, as shown in Fig. 3, thus admitting air from tube D and allowing ink to flow freely through the writing-point *c*.

In practice I may use a spring, *s*, to press valve *g* down on its seat; but I do not confine myself to a spring for this purpose, as the weight of the valve itself will answer without a spring.

It will be seen from the above description that the valve and its seat and also the spring *s* are inclosed within the air-tube D, and are not exposed to the corroding and clogging effects of the ink in the reservoir.

In a stylographic fountain-pen I disclaim as my invention, first, an air-tube made of two parts; second, a case or holder made of two parts; third, a valve held in position by a spring; fourth, a prolongation formed on the removable cap of the barrel or case to receive the cover for the writing-point.

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

1. In a stylographic fountain-pen, the needle-carrying valve *g*, seated in the lower end of an air-tube, D, having a vent, *e*, in combination with the inclosing-handle A and its conical writing-point, substantially as described.

2. The spring *s*, in combination with a needle-carrying valve, *g*, inclosed in the perforated air-tube D at the lower end thereof, substantially as set forth.

CHARLES H. DOWNES.

Witnesses:

JOHN C. HARING,
WM. H. MEEKS.