

(Model.)

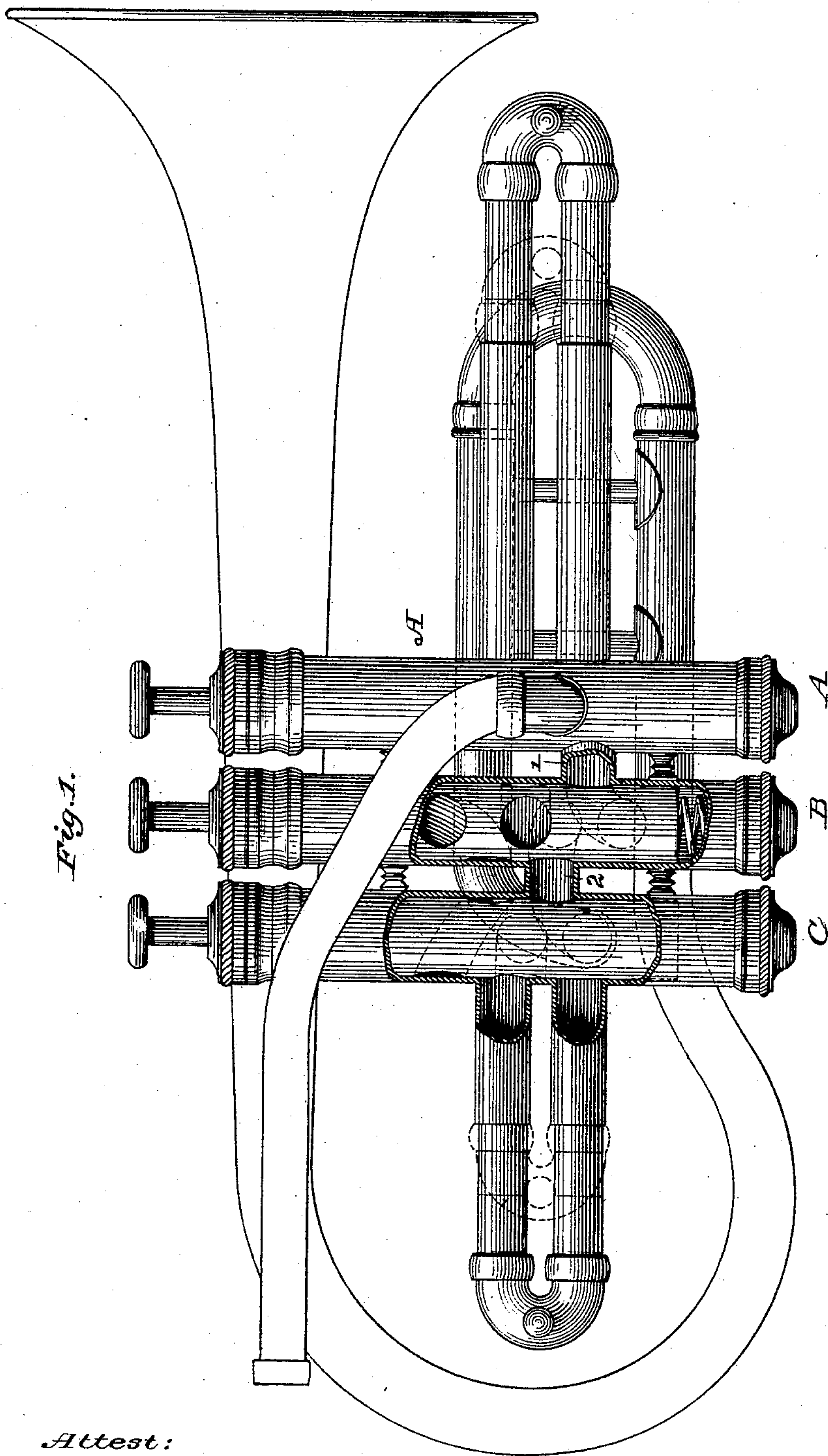
E. DUPONT.

2 Sheets—Sheet 1.

CORNET.

No. 249,323.

Patented Nov. 8, 1881.



Attest:

R. F. Barney.
Warren Seely.

Inventor:
Eugene Dupont
by *Ellis Spear*
Attorney.

(Model.)

2 Sheets—Sheet 2.

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Fig. 2.

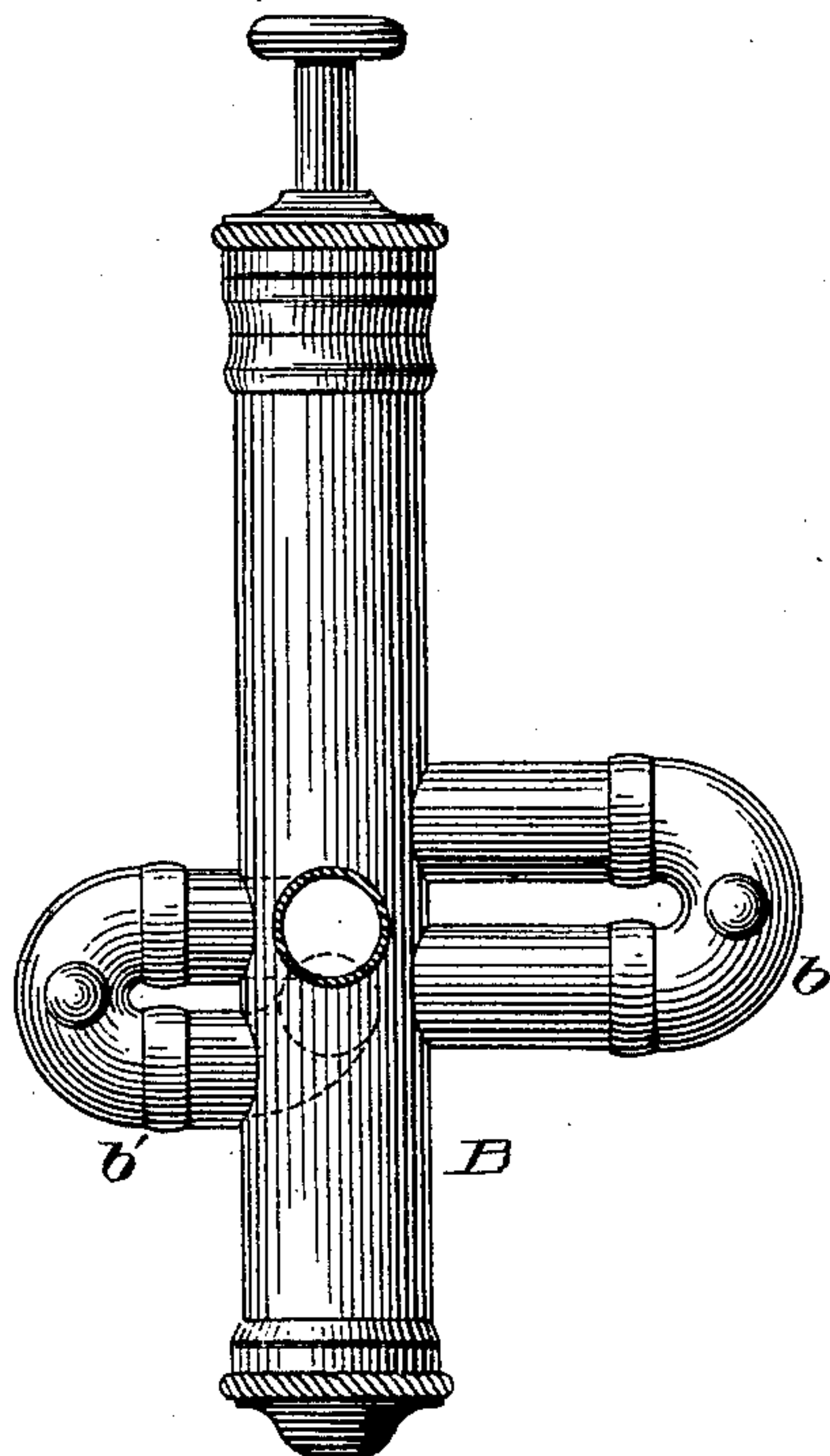


Fig. 3.

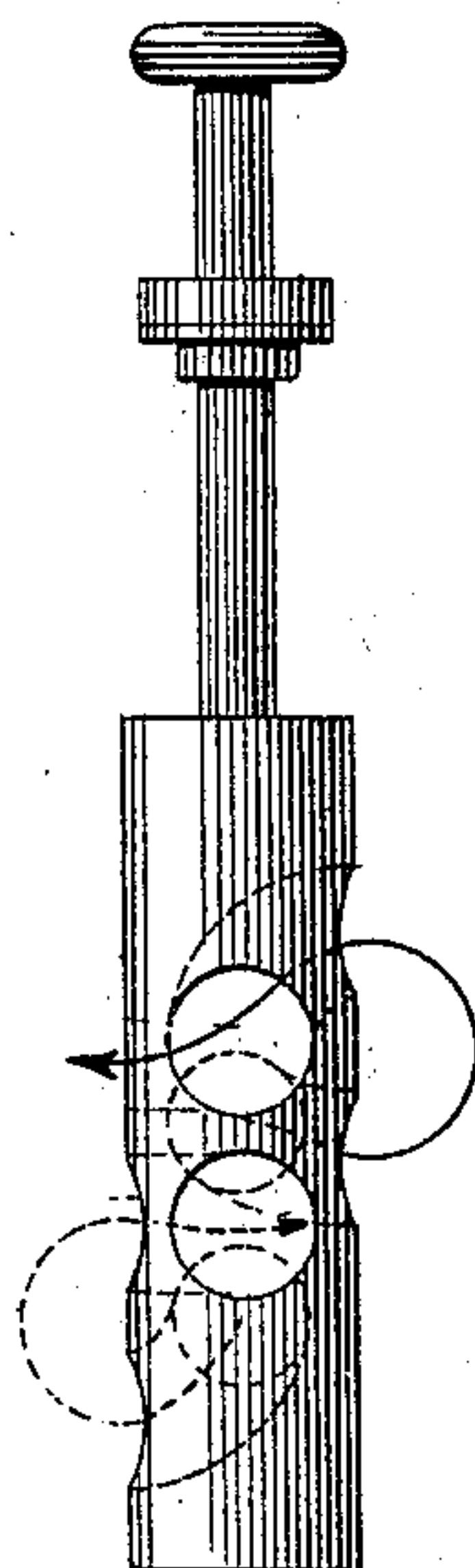


Fig. 4.

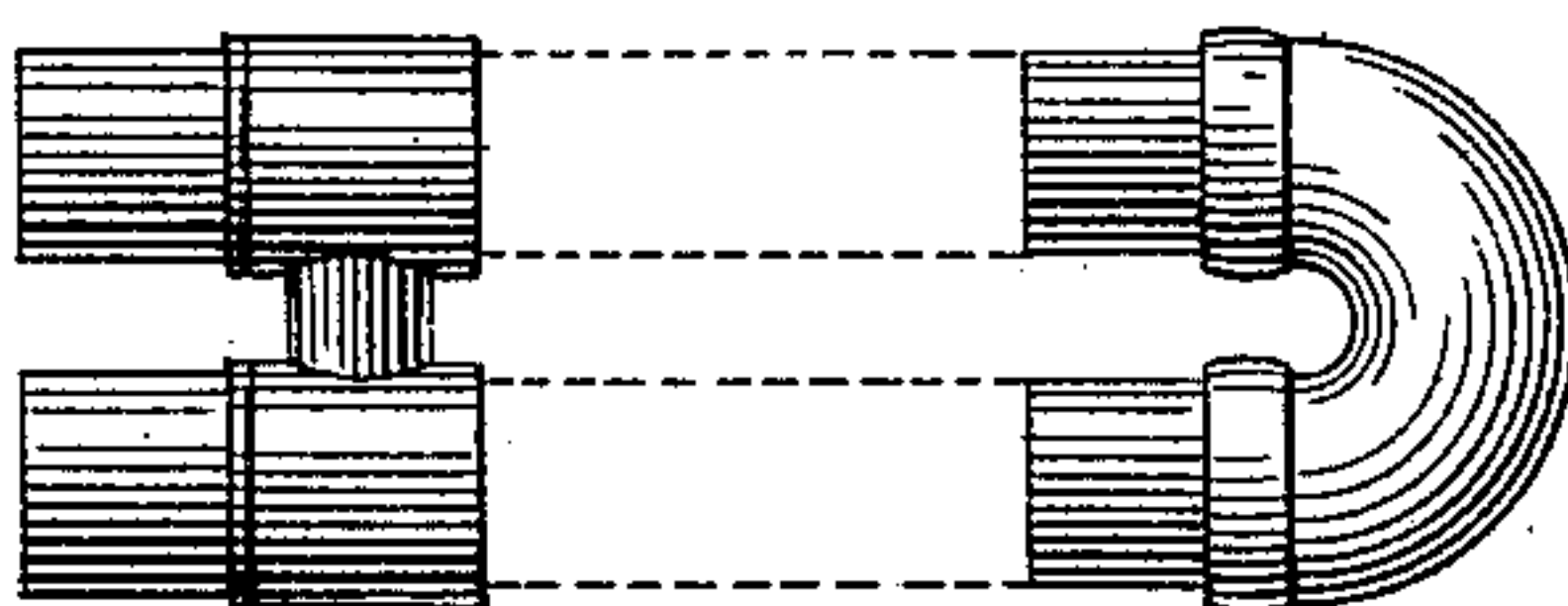
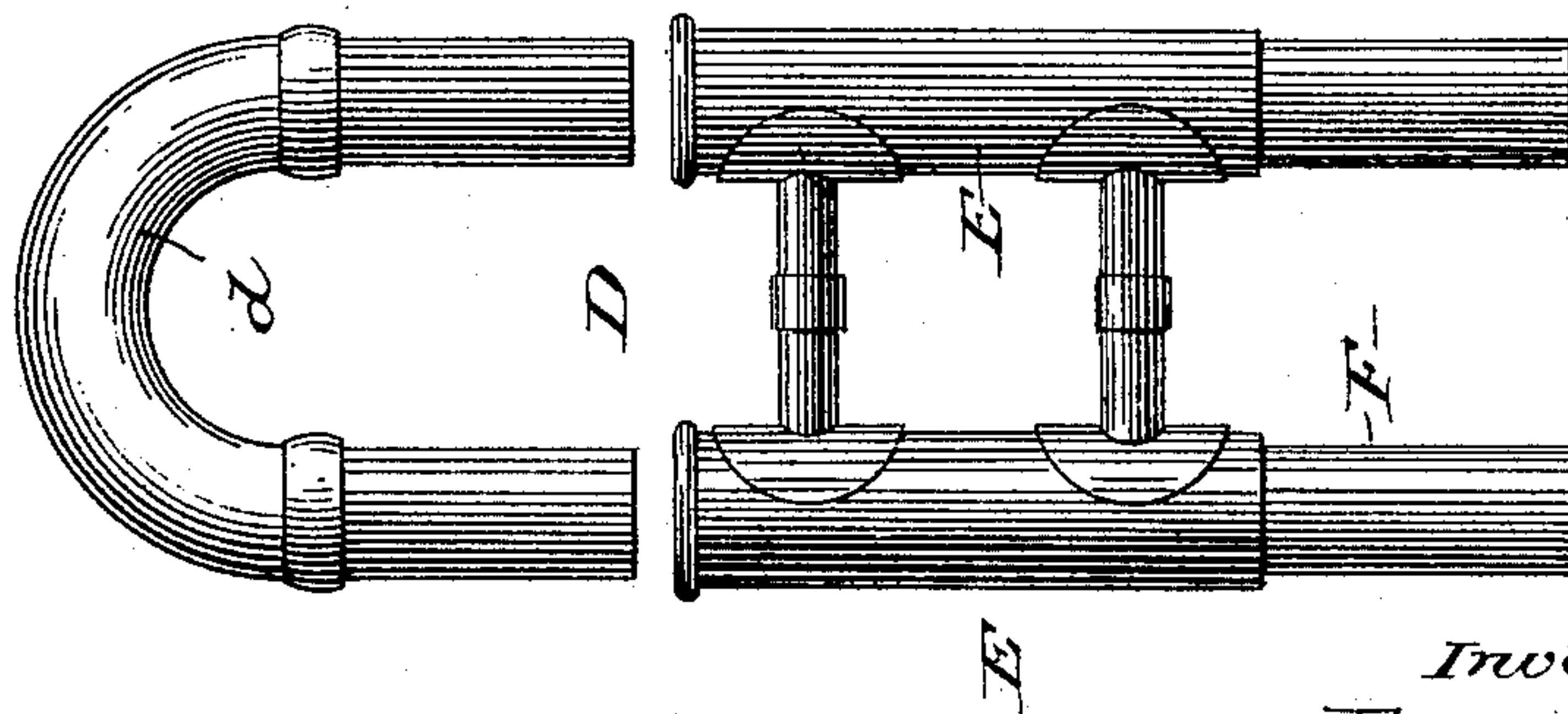


Fig. 5.



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UNITED STATES PATENT OFFICE.

EUGENE DUPONT, OF CHICAGO, ILLINOIS, ASSIGNOR TO A. L. R. VANDEN BERGHEN AND EUGENIE VANDEN BERGHEN, BOTH OF WASHINGTON, D. C., AND MARY DUPONT AND CLARISSE DUPONT, BOTH OF CHICAGO, ILLINOIS.

CORNET.

SPECIFICATION forming part of Letters Patent No. 249,323, dated November 8, 1881.

Application filed August 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, EUGENE DUPONT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Cornets; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to certain improvements in the construction of cornets and other instruments of the Sax-horn class by which I am able to tune the valve-notes when the instrument is changed from one key to another, and also to an improved form of tuning-slide.

In the old form of cornet having valves of the Distin light valve, Besson clear bore, or Courtois pattern, when the key of the instrument was changed by the insertion of an additional piece of tubing, technically called a "crook," it was found necessary to draw the slides for the valve-notes to a corresponding degree, in order that the valve-tones should be in perfect tune with the open tones of the scale, and although the slide-bends for the valve-tones of the first and third valves were sufficiently long to admit of tuning, the slide-bend for the middle or semi-tone valve-tone was so short that it could not be drawn sufficiently to bring that tone into tune with the rest of the instrument. In the cornet described in Patent 199,516, called a "four-in-one cornet," granted to me in connection with C. G. Conn, this difficulty was obviated by the use of compensating-bends on each of the valves; but this device was open to objections on several accounts: first, it required valves constructed specially for it and of a greater length than the ordinary Besson valves; second, it was very heavy and costly in the manufacture, and, third, as the total length of tubing used in making a cornet is only about .95 of a meter, of which .45 of a meter is used for the bell, it was found that when the requisite amount had been used for the valves and their corresponding slides—namely, .35 of a meter—the .15 of a meter of tubing that remained was not sufficient to form a tuning-slide.

In my improved cornet these difficulties are overcome by using the ordinary valve-slides

of the first and third valves for tuning them, and a short compensating-bend is added to the second or semi-tone valve. By this construction I get the same facility in tuning the valve as in the cornet above referred to, with these additional advantages: I am enabled to use an ordinary Besson clear-bore, Courtois or Distin patent light valve, and while in the Conn and Dupont patent .35 of a meter are required for the valves and their slides, in my improvement only .11 of a meter are used, leaving the remaining .24 of a meter in which I form a telescopic tuning-slide.

For the purpose of more specifically describing my invention reference is made to the accompanying drawings, in which—

Figure 1 is a side elevation of a cornet having my improvements. Fig. 2 is an elevation of the middle or semi tone valve, showing the compensating-slide. Fig. 3 is an elevation of the pump for the same. Figs. 4 and 5 show views of my telescopic tuning-slide.

When the valves are in their normal position open tones are produced; when depressed, valve-tones.

In the cornet represented in these drawings the wind-passage for the open tones is shown as passing from the mouth-piece branch to the third valve, A, through the connecting-tube 1, to the valve B; from the valve B to the compensating-bend *b'*; through this bend and back again to the valve B; from the valve B, through the connecting-pipe 2, to the valve C, and from that valve to the bell branch or tube.

On the rear side of the valve B, and nearly opposite the valve-tone slide *b*, I fix my compensating-bend *b'*. (Shown more clearly in Fig. 2.) This forms a part of the wind-passage for the open tones when the valve B is in its normal or raised position. When, however, the valve B is depressed, the bend *b'* is cut off and the wind passes through the valve-tone bend *b* instead. It is obvious that by this arrangement of the wind-passages the difference in tone produced by the depression of the valve B will be effected by the substitution of a longer bend for a shorter one, and the precise amount of difference in the tone will be regulated by

the amount of difference in length between the two bends.

5 The difference in length in an ordinary Eb cornet is .053 of a meter, or the length of an ordinary semi-tone bend, when the cornet is changed to the key of C by the insertion of the C crook. This difference must be increased to .065 of a meter, and this increase is effected by drawing the valve-tone bend to the
10 required distance. The comparative lengths of these bends must be changed for every key. The valve-tone slides of the valves A and C are of sufficient length to allow of their being drawn sufficiently to place them in tune with
15 the rest of the instrument.

For the purpose of convenience in lowering the pitch of the instrument I have added a telescopic tuning - slide, D, to the bell branch of the instrument, (shown in detail in Fig. 5,)
20 consisting of a piece of tubing, *d*, bent in the form of the letter U, and adapted to slide one end into the tubes E E, these, in their turn, sliding in the tubing F, which forms the bell branch of the cornet.

25 In Fig. 4 I have shown a small telescopic

slide, which may be used instead of the valve-tone slide *b* where additional length is required.

Having thus described my invention, what I claim is—

1. The method of tuning the valves of a cor- 30 net or other wind-instruments of that class by means of the usual tuning-slides on the first and third valves, a compensating - bend and valve-slide on the semi-tone valve, and a tuning-slide on the main tubing, substantially as 35 described.

2. The combination of the valves, each having its appropriate valve-slide, with the compensating-bend *b'* on the middle valve and a tuning-slide on the main tubing of the instrument. 40

3. In a cornet, a telescopic tuning-slide made in two parts adapted to slide upon one another.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGENE DUPONT.

Witnesses:

HENRY D. FIELD,

A. L. R. VANDEN BERGHEN.