

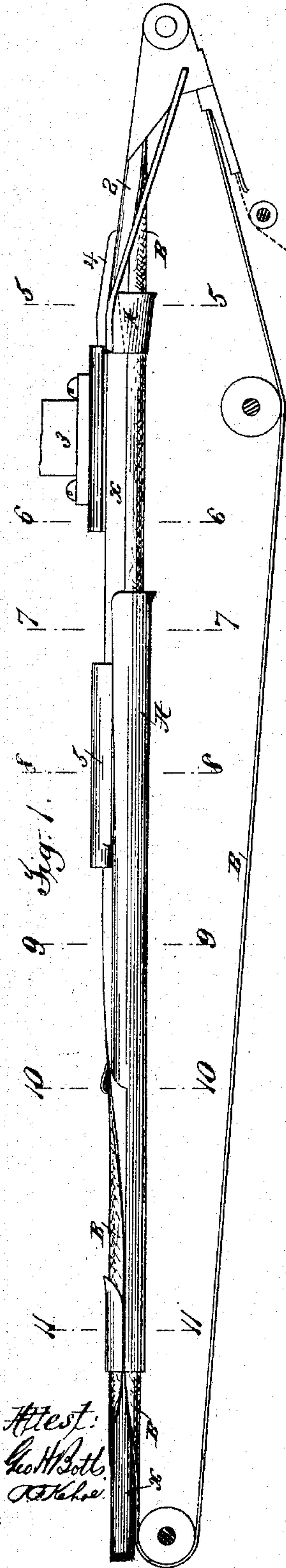
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3 Sheets—Sheet 1.

J. B. DUKE.
CIGARETTE MACHINE.

No. 503,582.

Patented Aug. 22, 1893.



Attest:
Geo. H. Holt,
Attorney.

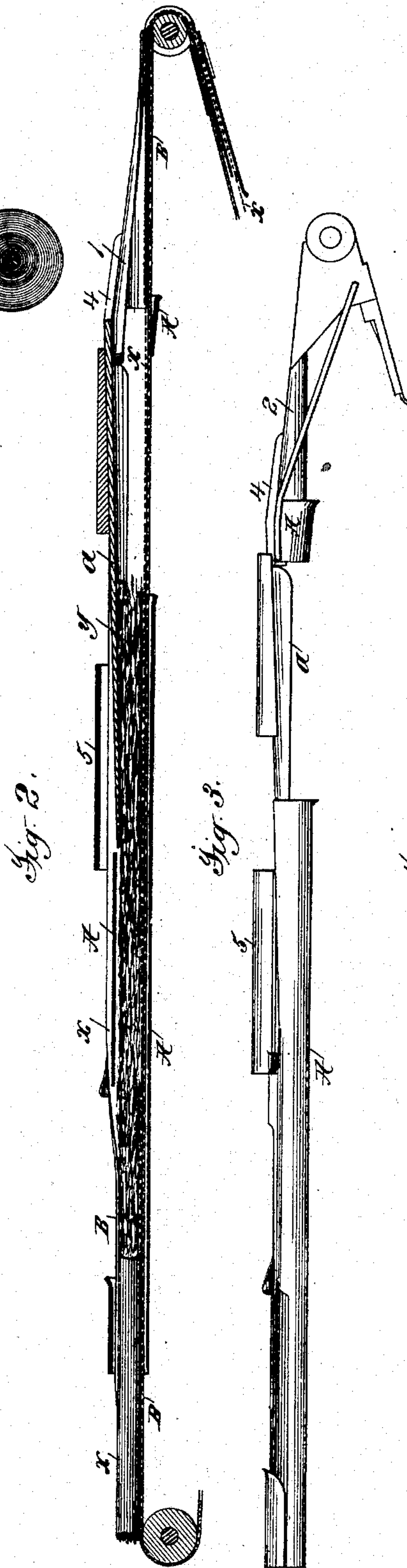
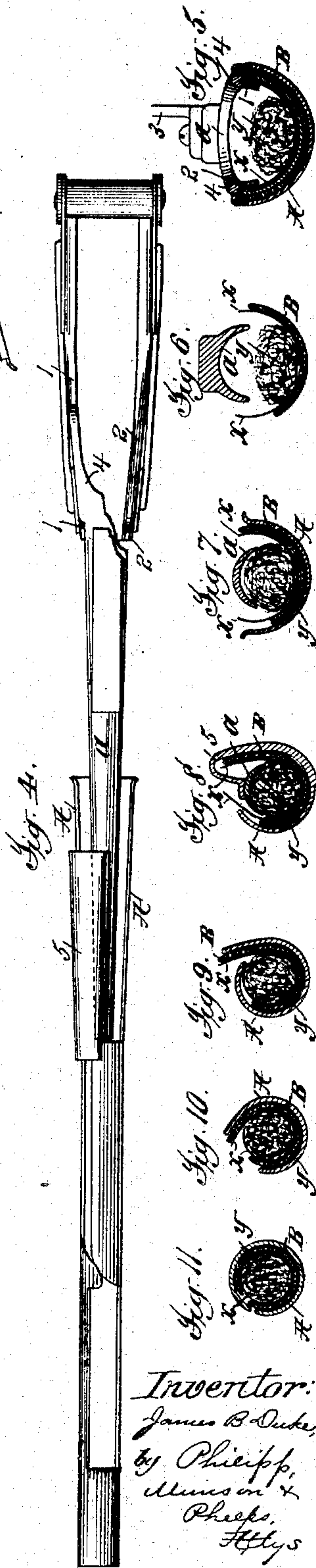


Fig. 3.



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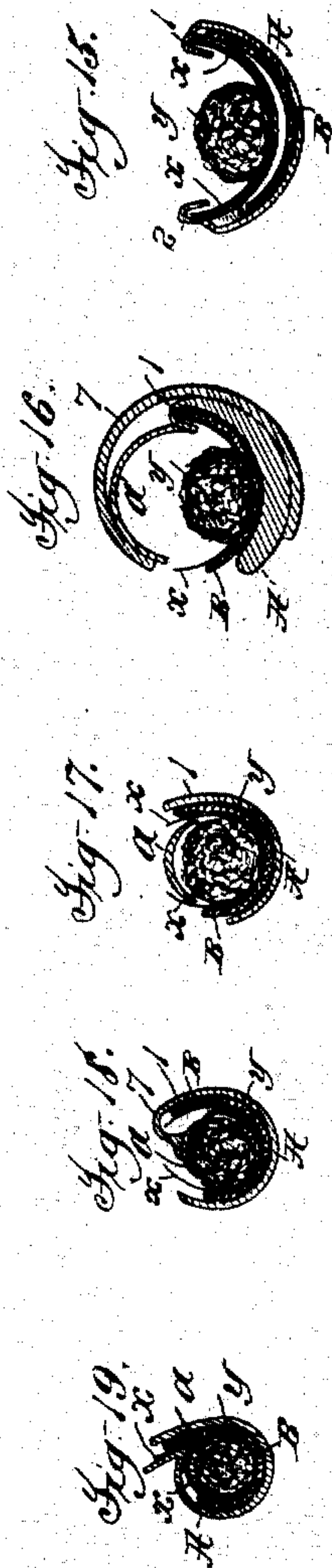
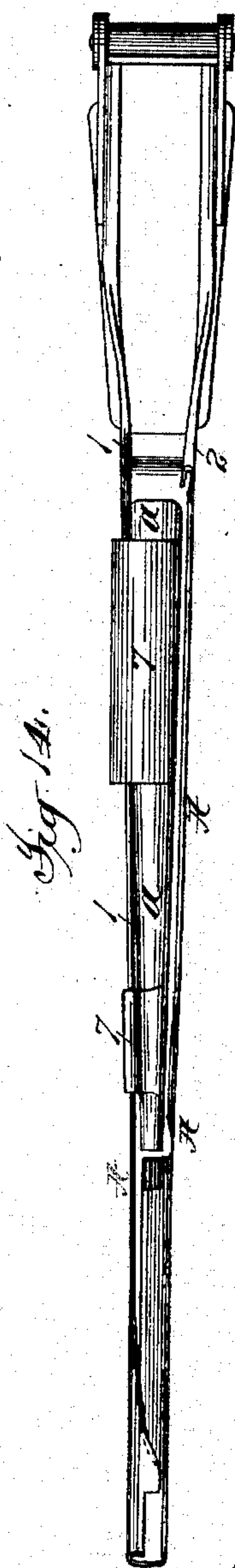
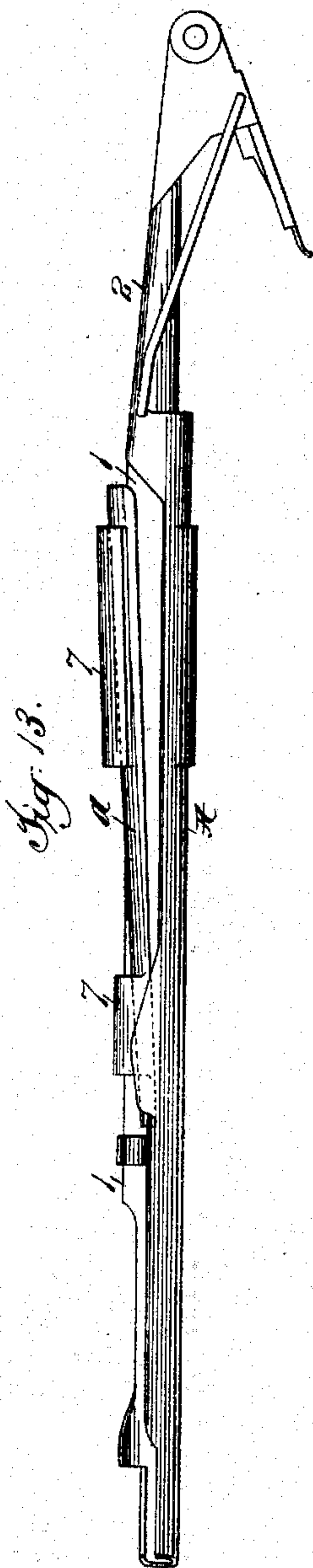
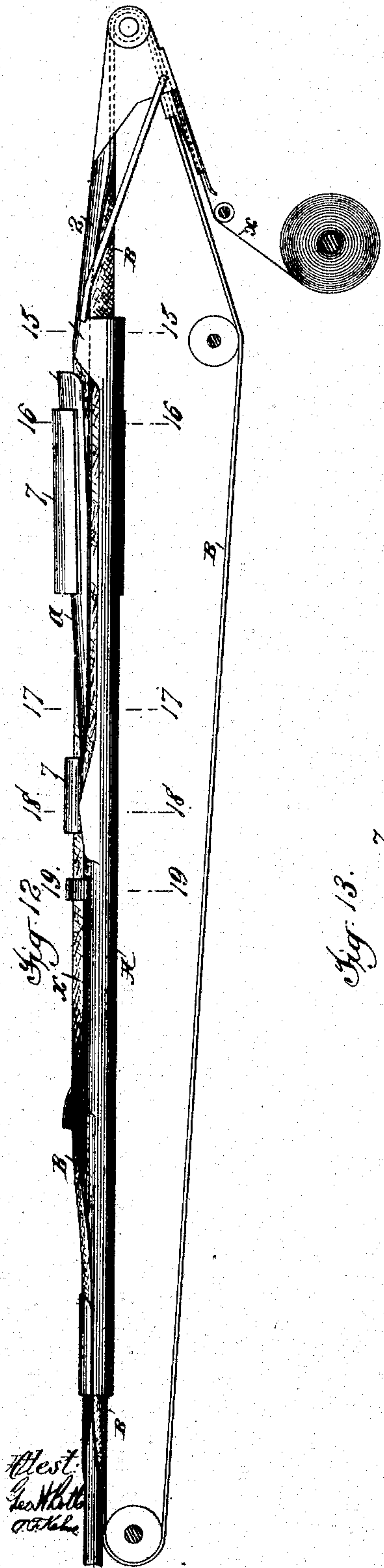
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J. B. DUKE.
CIGARETTE MACHINE.

No. 503,582.

Patented Aug. 22, 1893.



Inventor:
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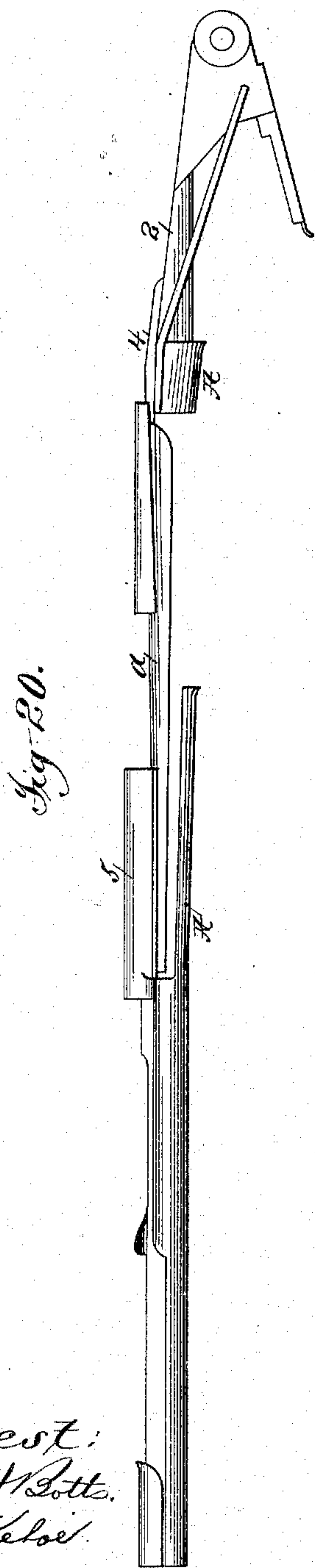
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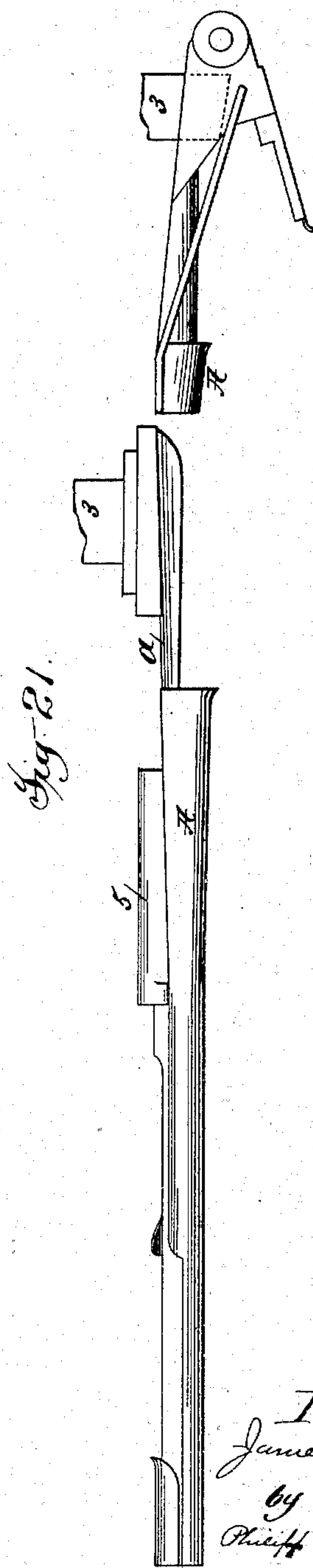
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CIGARETTE MACHINE.

No. 503,582.

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UNITED STATES PATENT OFFICE.

JAMES B. DUKE, OF NEW YORK, N. Y.

CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,582, dated August 22, 1893.

Application filed November 29, 1892. Serial No. 453,462. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. DUKE, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Cigarette-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to that class of cigarette machines in which a continuous filler of tobacco is inclosed within a continuous wrapper, and commonly known as "continuous filler" machines, and especially to that part of the machine known as the wrapping tube, in which the wrapper and filler are brought together and the filler inclosed within the wrapper.

20 The object of the invention is to provide an improved wrapping tube, and especially one affording more convenient access to the filler during the wrapping operation than the wrapping tubes heretofore in use; and I attain this result by making the wrapping tube open at the side rearward of the point at which the edges of the wrapper are brought together, and preferably by providing an opening extending through a considerable portion of the length of the tube between the rear end and 25 this point and below the filler presser commonly used in such constructions, so that the tube may readily be cleared in case of obstruction, by running a clearer through the opening longitudinally of the tube. The construction of the wrapping tube is thus simplified also and a freer movement of the belt and wrapper secured. The tube may be open on only one side, but is preferably made open on both sides.

40 The features forming my invention are applicable generally in continuous filler machines employing a wrapping tube, and to wrapping tubes of different detailed constructions, but they will be illustrated as applied to wrapping tubes of the general construction of those used at the present time in the well known "Bonsack" machine.

50 Referring to the accompanying drawings forming a part of this specification:—Figure 1 is a side elevation showing in operation such parts of a cigarette machine as are necessary to illustrate my invention, the tube

shown being of the preferred form, open at both sides. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a side view of the wrapping tube detached. Fig. 4 is a broken plan view of the same. Figs. 5 to 11 are cross sections on lines 5 to 11 respectively of Fig. 1, looking to the left. Figs. 12, 13, and 14 are views corresponding respectively to Figs. 1, 3 and 4, showing a modified form of tube, open only on one side. Figs. 15 to 19 are cross sections on lines 15 to 19 respectively, of Fig. 12. Figs. 20 and 21 are views similar to Fig. 3, showing other modifications.

Referring to said drawings, A is the wrapping tube, and B the wrapper carrying belt, which two parts may be supported and the latter led through the wrapping tube and driven in the manner common in this class of machines. The continuous wrapper *x* is led onto the carrying belt and advanced thereby through the wrapping tube, and the filler *y* received thereon at the rear end of the wrapping tube in the usual manner. The construction of the wrapping tube in advance of the point at which one edge of the wrapper is turned inward, and the devices co-operating therewith for securing the wrapper by pasting or otherwise may be of any suitable construction, this part of the wrapping tube being shown substantially as in common use in the machine above referred to.

The present invention consists of improvements in the rear portion of the wrapping tube, in which the wrapper carrying belt and wrapper are turned upward about the compressed filler so that the wrapper will be in proper position for securing the edges at the forward part of the wrapping tube; and these improvements will now be described as applied to the special wrapping tube shown, from which description their application to tubes of other constructions will be understood.

Referring now especially to the construction shown in Figs. 1 to 11, in which the wrapping tube is open upon both sides, the body of the wrapping tube is formed in two sections arranged to leave a space between them opposite the filler presser *a*, this space extending preferably a considerable distance longitudinally of the tube, and preferably from a point at or near the rear end of the tube, as shown. At

the extreme rear end of the wrapping tube the usual guides 1, 2 for the edge of the wrapper are provided, these guides terminating, however, with the rear section of the tube, that is, about the rear end of the filler presser. It will be understood, however, that these guides are not essential.

The parts of the tube may be supported in any suitable manner, but they are shown as supported from the frame of the machine by a bracket 3 secured to the top of the filler presser α , the rear section of the wrapping tube being supported by arms 4 extending rearward from the filler presser, and the forward section of the tube by the overhanging arm 5 carried by the filler presser. It will be seen that this construction allows the belt and wrapper a very free movement, and gives free access to the filler opposite the filler presser, so that a clearer may be introduced inside the belt for removal of obstructions and other purposes. It is not absolutely necessary, however, that the tube should be open on both sides, and in Figs. 12 to 19 I have shown a construction in which the tube is open only on one side. In this construction the tube may be and is shown of the common form, except that the side wall of the tube on one side is cut away to open the tube from the rear end to substantially the point where the edge of the wrapper on this side is turned inward into a position for overlapping it by the opposite edge, a comparatively wide slot thus being formed below the filler presser. In this construction the guide 1 is shown as extending forward to the point where the paste or gum is applied, and terminating in a pasting abutment or flange, as usual in the machine above referred to, but the guide 2 is cut away with the tube. As the filler presser in this construction is supported from the body of the tube by overhanging brackets 7, it is possible to make the slot in the tube open at the rear end, so that the clearer may be run rearward through the slot from any point and out at the rear end.

It is evident that a tube open on both sides may be formed from the construction first described by cutting away the side wall on the opposite side in the same manner as shown, and supporting the filler presser from above by a bracket as in the construction shown in Figs. 1 to 11, or otherwise.

If it be desired to open the tube of the construction shown in Figs. 1 to 11, so as to afford access to the filler at a point further forward, it will be necessary only to cut away the forward section of the tube at the side opposite

and below the filler presser, as shown in Fig. 20, it being understood that either one or both side edges of the tube may be thus cut away. This will generally be found unnecessary, however.

In the construction shown in Figs. 1 to 11, it is not necessary that the rear section of the tube should be connected to the filler presser, but this is preferable, as giving a single support on the machine for all the parts and insuring the correct position of the latter relatively to each other. If the rear section of the tube be supported separately from the other parts, however, as shown in Fig. 21, it is evident that provision is made for running a clearer rearward and out as before described in connection with the construction shown in Figs. 12 to 19.

While it is preferable that the tube should be open for a considerable distance, my invention is not to be limited to opening the tube for the distance shown, but the length of the opening may be diminished without departing from my invention. It will be understood also that many other modifications may be made without departing from the invention, and that the latter is not to be limited to wrapping tubes of the special construction shown, nor to the special manner of applying my improvement thereto, as it is evident that the invention is applicable to wrapping tubes of other constructions, and the details of its application thereto may be varied.

What is claimed is—

1. A wrapping tube for cigarette machines open at the side rearward of the point at which the edges of the wrapper are brought together, substantially as described. 95
2. A wrapping tube for cigarette machines open at the side below the filler presser, substantially as described. 100
3. A wrapping tube for cigarette machines open on both sides rearward of the point at which the edges of the wrapper are brought together, substantially as described. 105
4. A wrapping tube for cigarette machines having the body of the tube formed in two sections arranged to leave a space between them opposite the filler presser, substantially as described. 110

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. DUKE.

Witnesses:

J. M. W. HICKS,
C. J. SAWYER.