

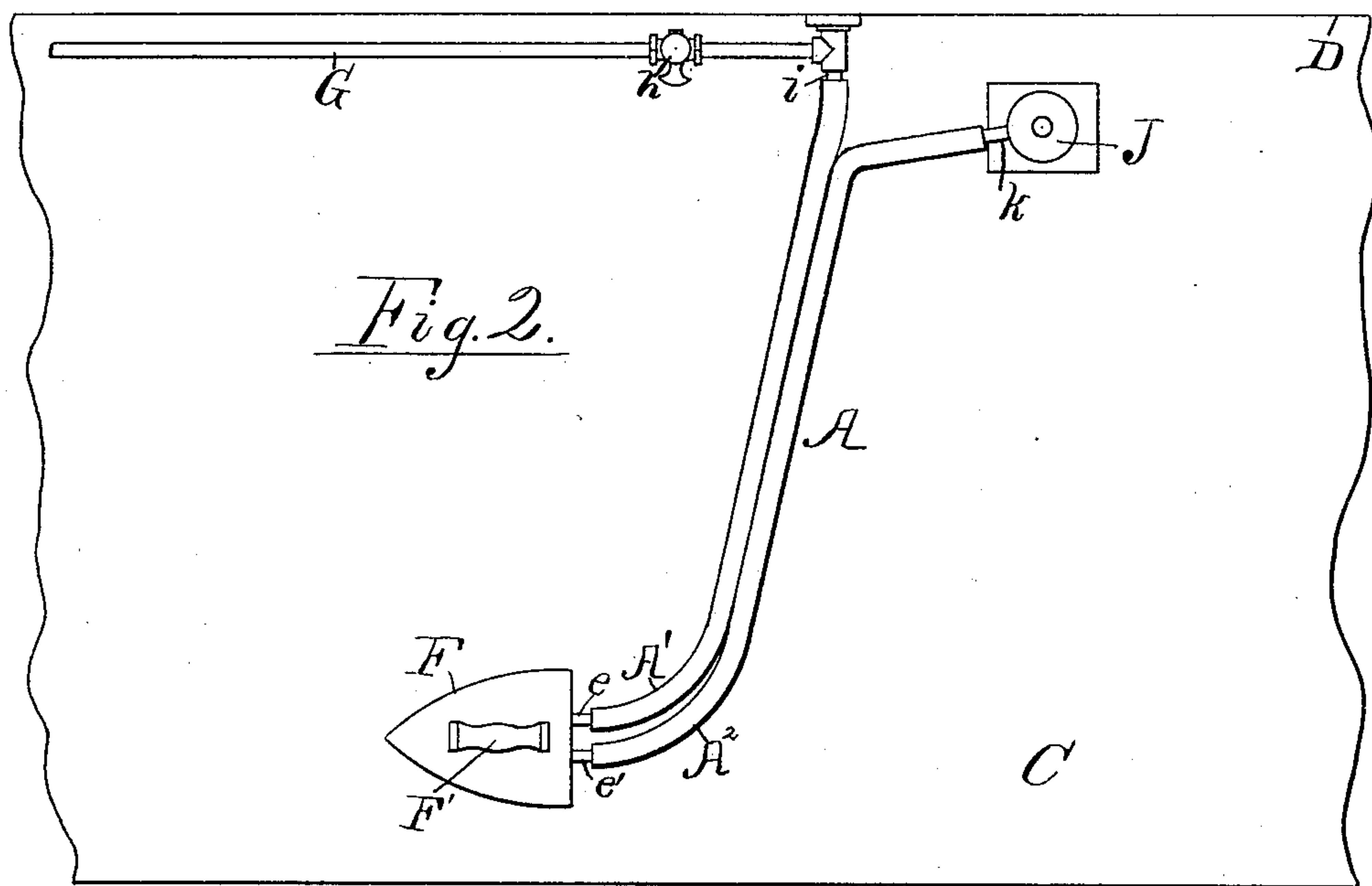
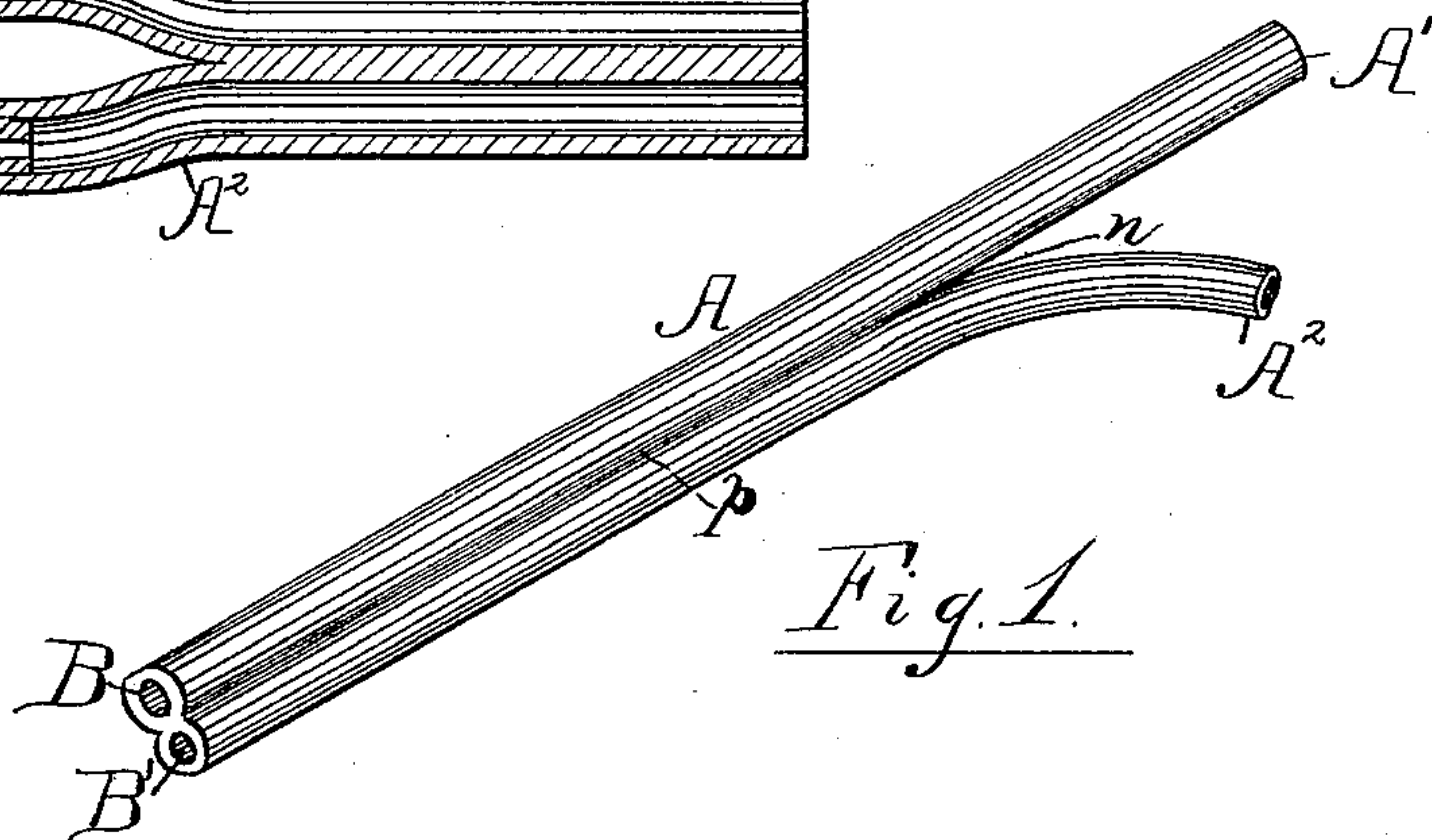
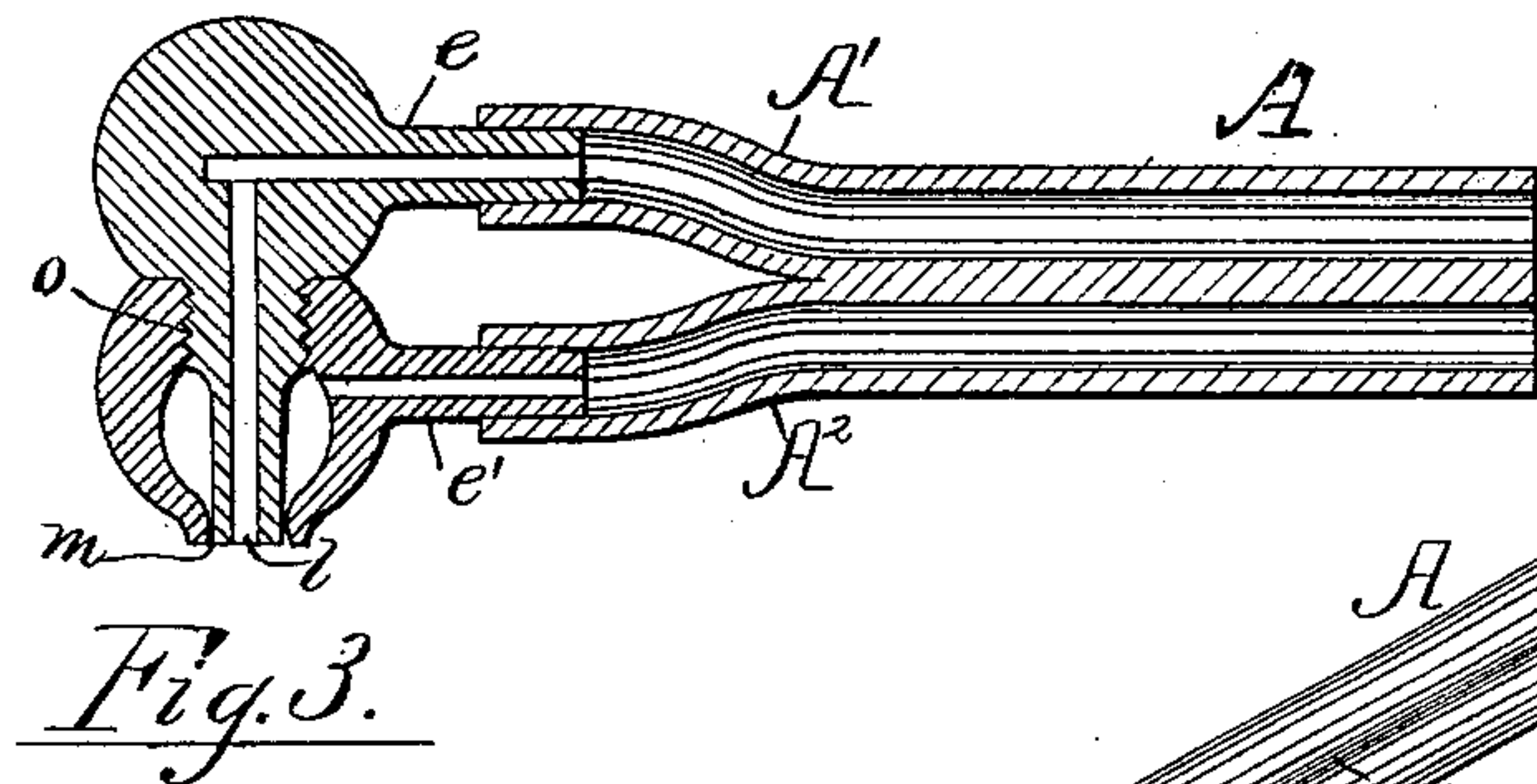
(No Model.)

G. YULE.

RUBBER TUBE FOR HATTERS' IRONS.

No. 338,815.

Patented Mar. 30, 1886.



Attest:

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UNITED STATES PATENT OFFICE.

GEORGE YULE, OF NEWARK, NEW JERSEY.

RUBBER TUBE FOR HATTERS' IRONS.

SPECIFICATION forming part of Letters Patent No. 338,815, dated March 30, 1886.

Application filed June 8, 1885. Serial No. 167,992. (No model.)

To all whom it may concern:

Be it known that I, GEORGE YULE, a citizen of the United States, residing in Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Rubber Tubes for Hatters' Irons, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improved means for conducting two fluids to and from adjacent points in a single conductor; and it consists in a duplex tube or conductor, formed of india-rubber and provided with a double channel, through which the separate fluids
15 may be conveyed.

The improvement is described herein as applied to the conductors for leading gas and air under pressure to the various irons and implements which are used in a heated state for pressing and ironing, and when used for this purpose is applicable to smoothing-irons held in the hand, as illustrated herein, or to the tools used for curling, pressing, and finishing
25 hats with the use of automatic machinery.

The invention also consists in a flexible duplex tube having the ends parted for attachment, respectively, to the gas and air supply and delivery.

30 It has been common in many cases heretofore to apply a gas-jet to the interior of heated irons or pressing-tools, and to admit the necessary supply of air by merely providing openings through which the atmosphere could gain access to the interior of the iron; but it is now common to compress the air by a rotary fan or pump, and to supply the gas and air to the same burner having a central gas-tube surrounded by an annular air-jet. Such a construction furnishes a flame of much greater intensity and produces so perfect a combustion as to avoid the production of smoke and smell.

45 In the drawings, Figure 1 shows a piece of such duplex tubing with the farther end parted. Fig. 2 is a plan of an ironing-table with wall adjacent, showing the branches of the duplex tube attached at one end to a gas-pipe and air-pump and at the other end to the gas and air nozzles upon the smoothing-iron; and Fig.
50 3 is a sectional view of a duplex gas-burner with nozzles *e* and *e'*.

A is the duplex tube, provided with two

continuous passages, B and B', which may be formed in the tube simultaneously by any process of manufacture, as by pressing the india-rubber, when plastic, through a die with two mandrels, or preferably by cementing two single tubes together before vulcanization.

The tube A is shown in Fig. 1 divided at its rear end into branches A' and A², by which the separate passages can be readily brought into connection with two nozzles at any required distance apart. The tube, being made of india-rubber, is readily divided longitudinally between the passages by applying a moistened knife and cutting the tube longitudinally apart on its center line, as at *n*. Such division may be made in the center of the tube for any required distance, so that the branches A' and A² may be bent in opposite directions, either of them being cut off to fit the required connection or nozzle at any convenient point.

C is an ironing-table; D, an adjacent wall; F, a smoothing-iron, and F' its handle.

e and *e'* are respectively gas and air nozzles, adapted to fit the passages B and B', the duplex pipe being divided into branches A' and A², as shown in Fig. 2, at the end where it is applied to such nozzles.

G is a gas-supply pipe provided with cock *h* and nozzle *i*.

J is an air-pump, and *k* a nozzle conducting air under pressure to one branch of the pipe A, the other branch being applied to the nozzle *i*. As stated above, the air may be supplied under pressure from a blower or any other source.

The duplex burner (shown in Fig. 3) consists in a central gas-tube, *l*, connected with a nozzle, *e*, and an annular passage, *m*, connected with a nozzle, *e'*, the two nozzles being screwed together by a thread, as at *o*, for convenience of manufacture. The duplex pipe A is shown in this figure divided into branches A' and A² and applied, respectively, to the nozzles *e* and *e'*. Wherever such burners are used in connection with movable pressing-irons and the air and gas conducted thereto from a distance, it has been necessary heretofore to employ separate tubes which required to be fitted separately to the nozzles at their opposite ends, and to be guided separately from the gas and air supply to the heated iron.

By my construction the duplex tube is far more compact and furnishes a joint conductor for both the fluids through the entire distance, except at the ends, where it may be necessary 5 to separate it into branches for attachment to the contiguous nozzles. The use of india-rubber for such a conductor enables the operator to split its ends into branches whenever desired by means of an ordinary pocket-knife, 10 and the flexibility of the entire tube enables it to be bent and conducted in any direction with perfect facility and attached to the connecting-nozzles by stretching over the tips of the same in the manner common with india- 15 rubber connections.

In Fig. 1 the duplex tube is shown of the form naturally produced when two single round tubes are cemented or stuck together when first manufactured and in an adhesive 20 state; but the depression or groove shown at *p* may be obliterated if the conductor is made in dies provided with a double mandrel. When formed of two distinct tubes cemented together, the vulcanization which the material re- 25 quires to make it retain its form serves also to harden their point of union, and to unite the tubes in a single conductor as solid as if made in a single piece.

The duplex tube is much more firm and 30 rigid than a single tube of the same internal capacity, owing to the stiffening effect of the two parts upon one another, and is not liable to be flattened when bent or twisted, so as to choke the passages, as is a single round tube, 35 and it may, therefore, be used for any purposes

when such quality alone would make it desirable.

I am aware that it is not new to form a coil by placing an india-rubber tube in a spiral form and vulcanizing the entire tube in such 40 position, and I do not therefore make any claim to the mere sticking of rubber tubes together while soft and the vulcanizing of them thereafter to secure them permanently together. My invention differs essentially from such a 45 coil, as described in United States Patent No. 311,552, dated February 3, 1885, in having two independent channels or passages adapted to convey two distinct fluids separately, while the coil referred to has but one channel 50 throughout its entire length, and could not be used in any manner to convey gas and air separately. I therefore disclaim the said rubber coil and the process of manufacture by which it is made, it being obvious that my invention 55 could be produced by other processes, if desired, as described herein.

Having thus described my invention, what I claim is—

The conductor herein shown and described, 60 consisting in a tube formed of india-rubber and provided with two separate continuous channels, substantially as shown and described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 65 witnesses.

GEORGE YULE.

Witnesses:

THOS. S. CRANE,
L. LEE.