

A. C. INGELS,  
PAPER TRIMMING DEVICE.  
APPLICATION FILED SEPT. 18, 1910.

988,783.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.

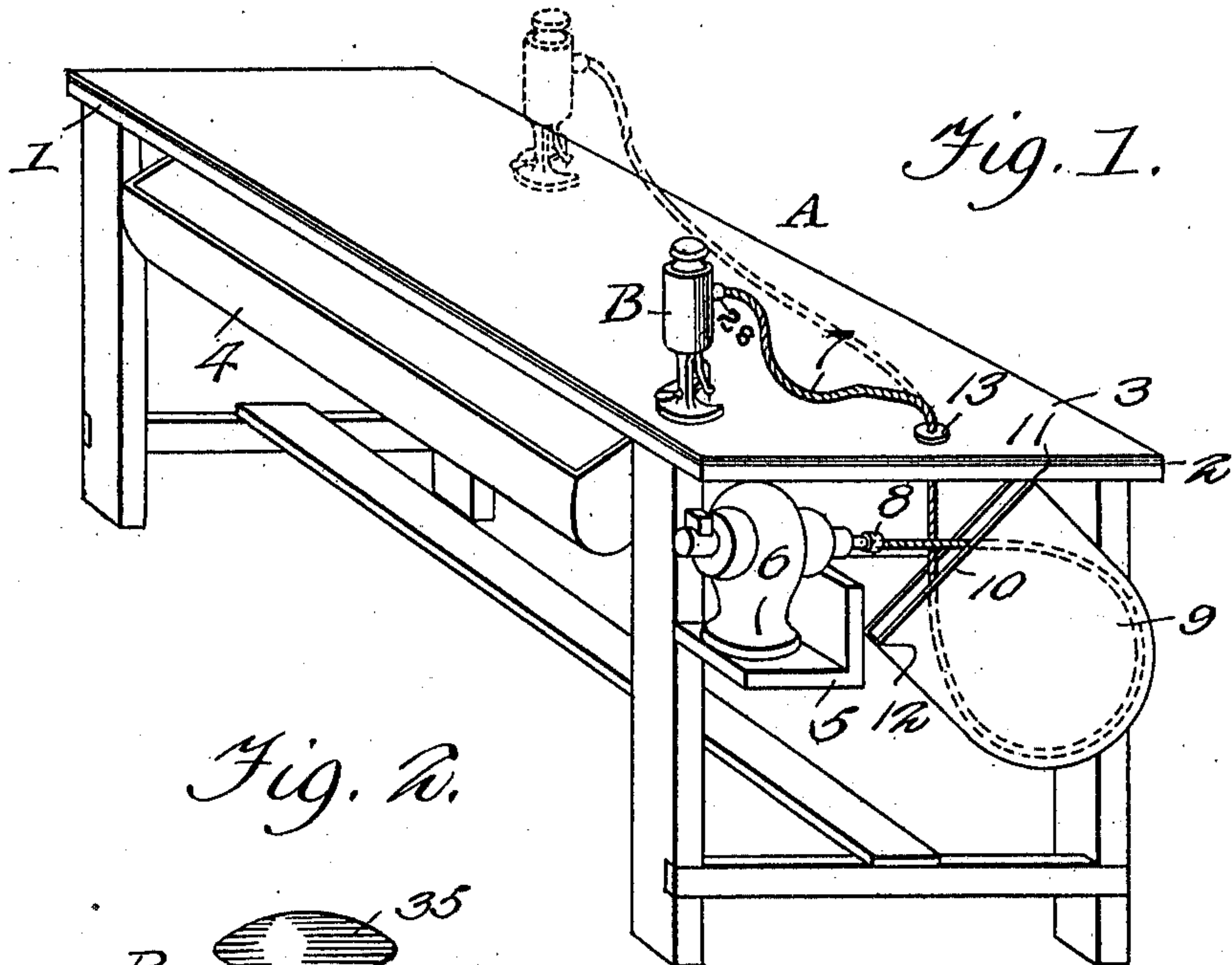


Fig. 1.

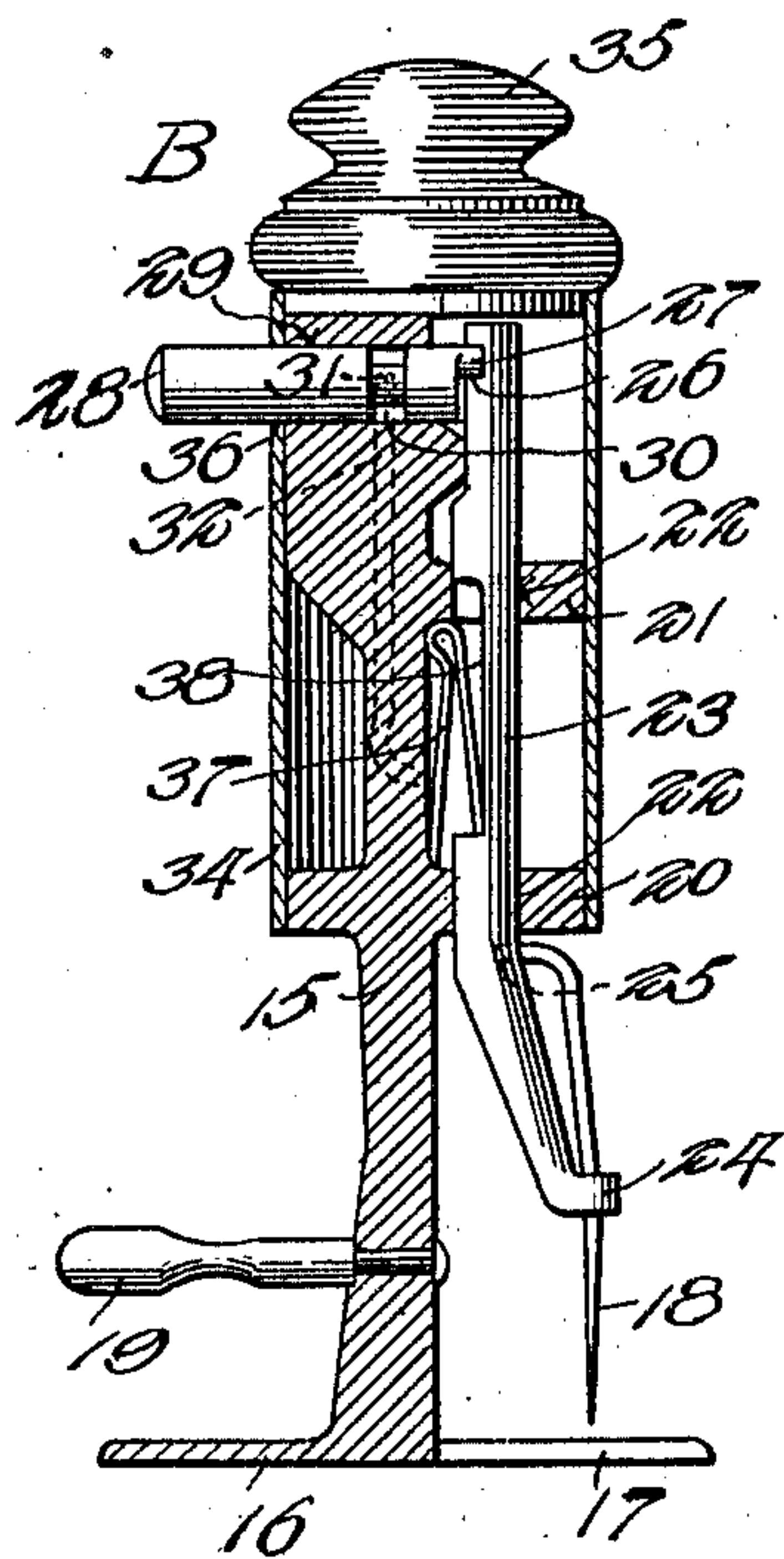


Fig. 2.

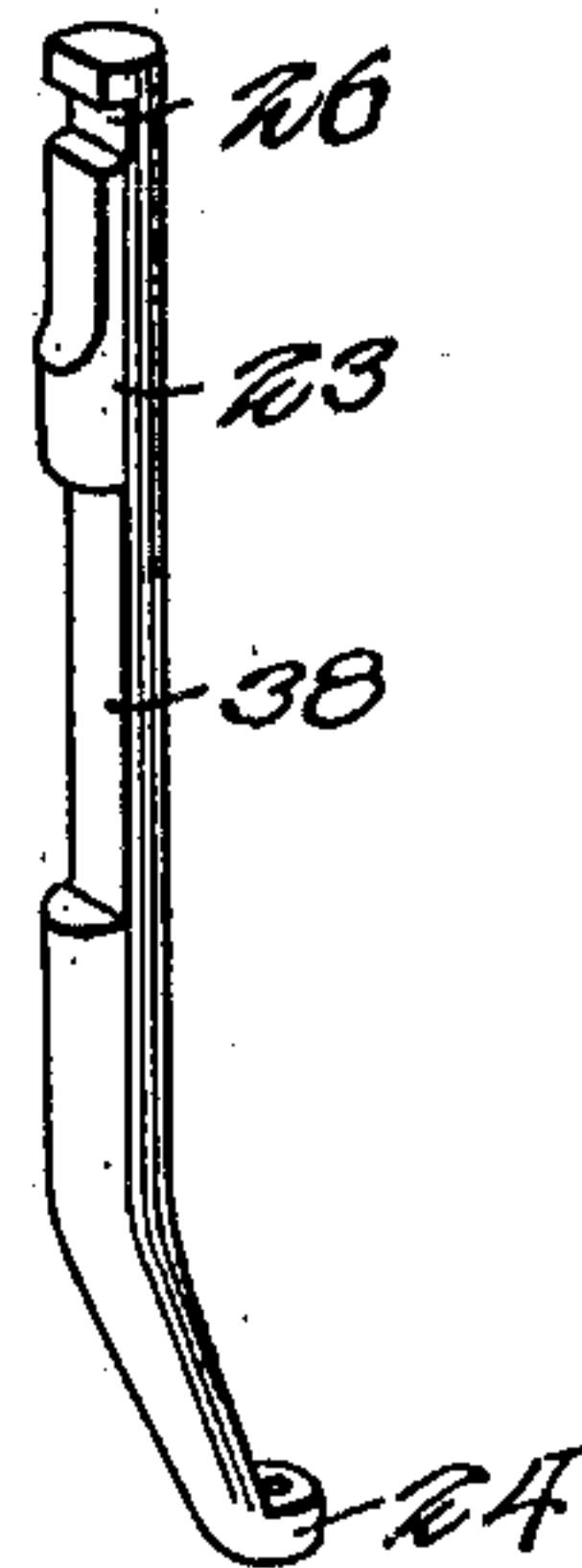


Fig. 3.

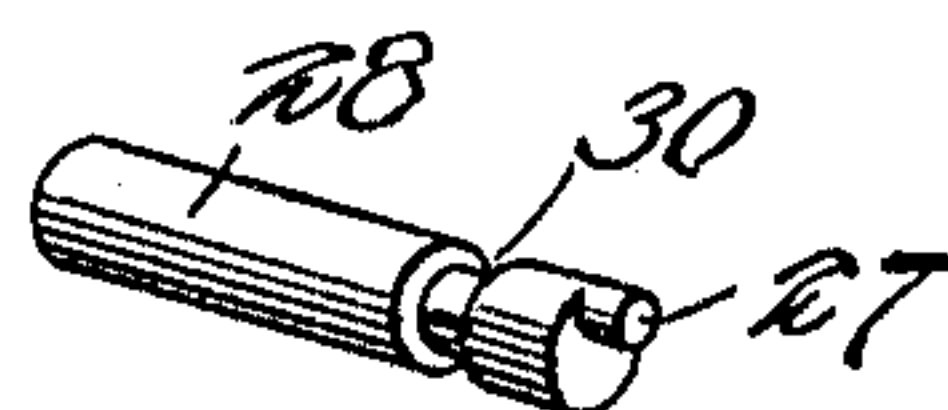


Fig. 4.

Witnesses

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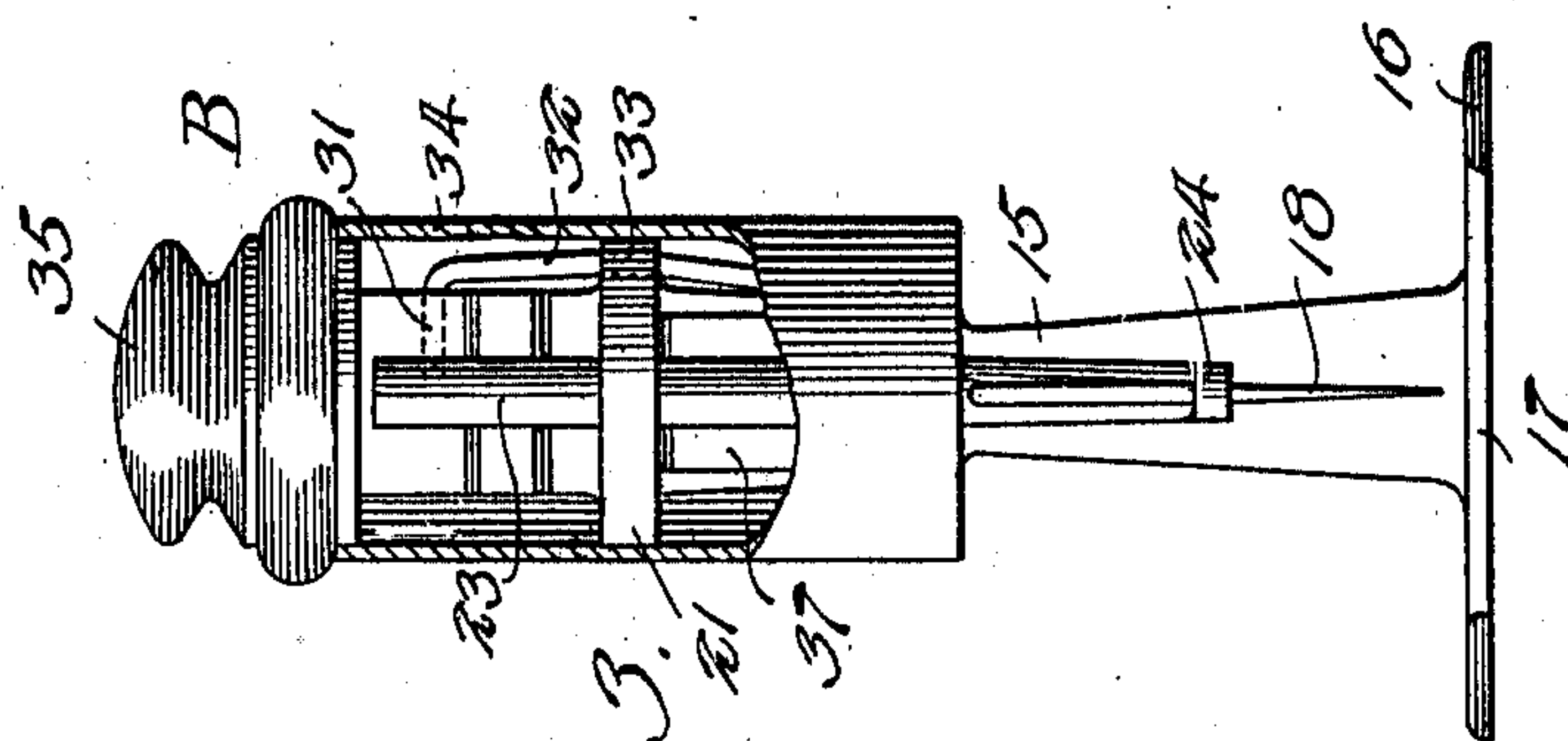
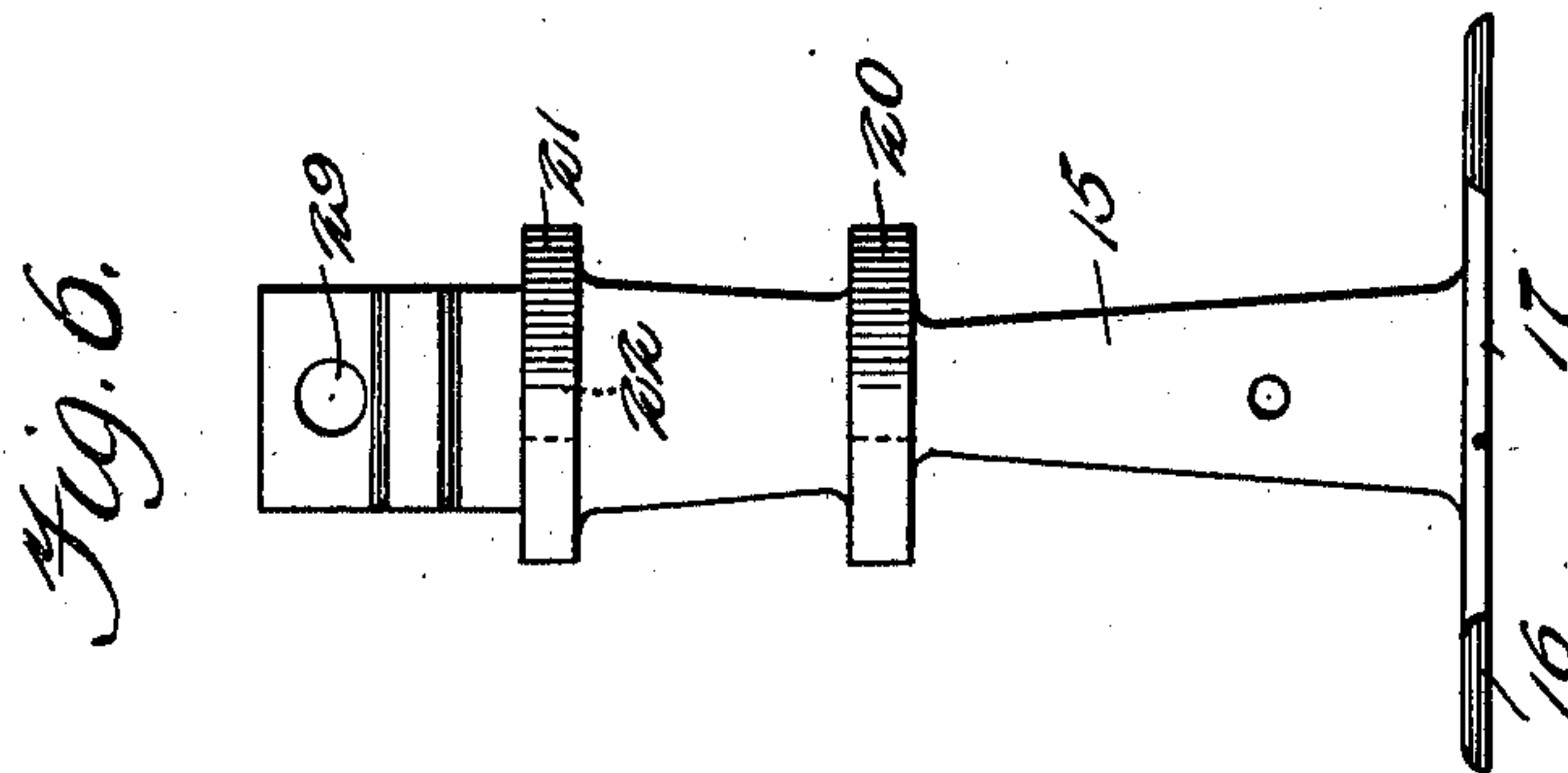
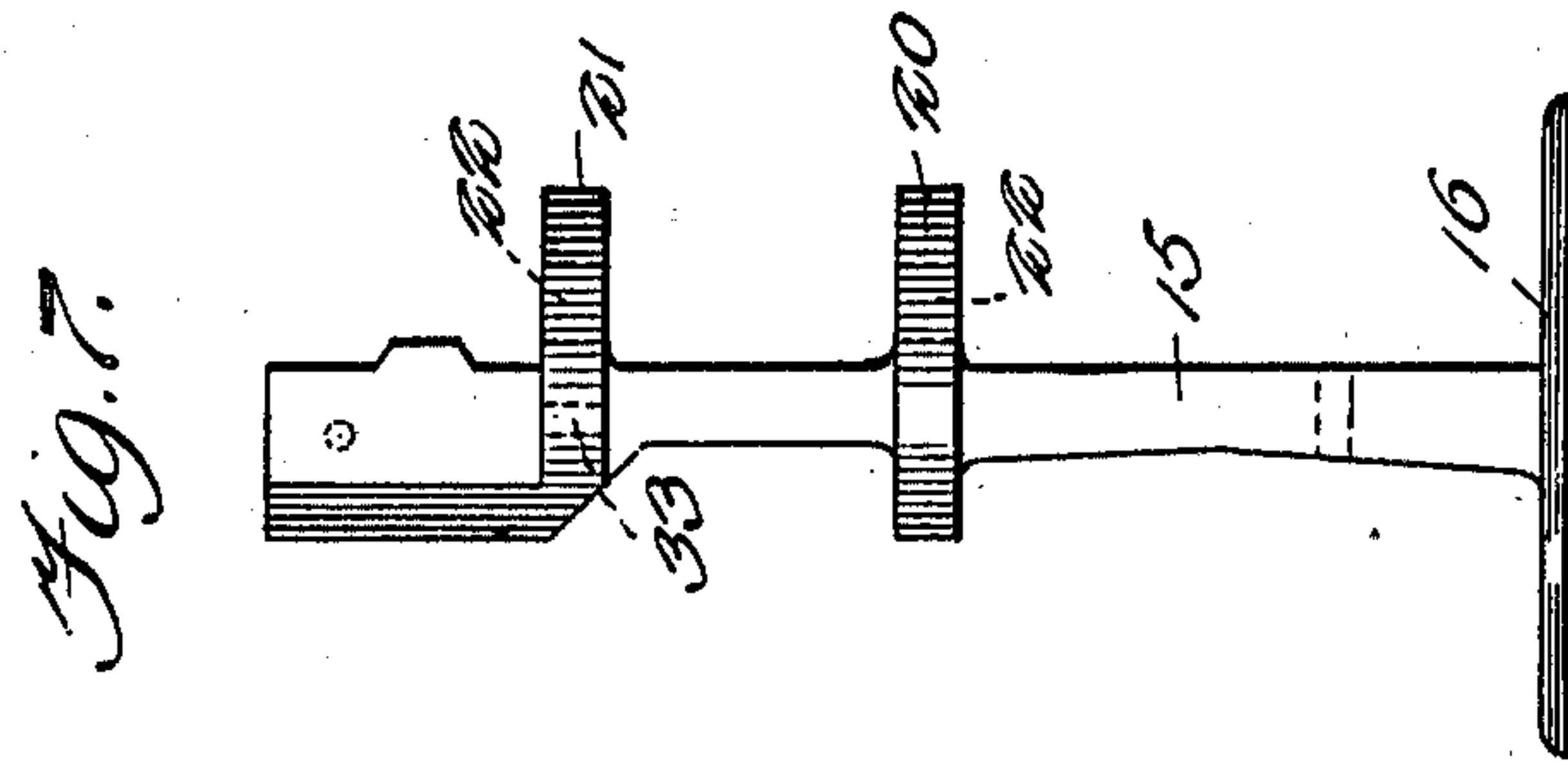
Attorney

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2 SHEETS—SHEET 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

ALBERT C. INGELS, OF WAYNESBORO, PENNSYLVANIA.

## PAPER-TRIMMING DEVICE.

988,783.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed September 16, 1910. Serial No. 582,383.

*To all whom it may concern:*

Be it known that I, ALBERT C. INGELS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented new and useful Improvements in Paper-Trimming Devices, of which the following is a specification.

This invention relates to an apparatus for cutting out figures or designs from wall paper or the like by means of a reciprocating needle, and the invention is especially adapted for paper hangers, although it is not necessarily limited to such use.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and readily manipulated.

Another object of the invention is the provision of an improved operating table on which the paper or other material is to be placed and the design cut out by means of a portable perforator that is connected by a flexible cable with an electric motor mounted under the table, there being a novel cable sack or pocket which maintains the intermediate portion of the cable in proper operative condition and allows the perforating device to be moved back and forth over the table in the operation of cutting out a design.

A further object of the invention is the provision of an extremely simple, durable and light perforating device of novel construction.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a perspective view of the apparatus. Fig. 2 is an enlarged vertical section of the perforator. Fig. 3 is a front view thereof with a portion of the casing removed. Fig. 4 is a perspective view of the needle bar. Fig. 5 is a perspective view of the operating crank of the needle bar. Figs.

6 and 7 are front and side views of the column.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawings, A designates the table which has a flat top 1 that is provided with a sheet of plush 2 over which is stretched a sheet of muslin 3 whereby a soft surface will be provided for holding the paper from which a design is to be trimmed. At the front of the table is a trough or rack 4 of such shape as to hold a roll of wall paper and allow the paper to be unrolled and laid flat on the table top. At one end of the table is a shelf or bracket 5 for supporting an electric motor 6, and the shaft of this motor is connected by a flexible cable 7 with the perforating device B. This cable consists of a fine piano wire which is formed into a coil and on the ends are fastened sleeve connectors 8 which are pinned or otherwise secured to the shaft of the motor and the crank shaft of the perforator.

The intermediate portion of the cable or driving element 7 is adapted to coil and uncoil in a sack or holder 9 which is fastened to the table at a point adjacent the motor, the said sack being preferably made of canvas and has a mouth 10, the sack being suitably fastened at 11 and 12 to the table top and bracket 5. From the sack the cable passes through an opening 13 in the table top so as to form a guide between the perforating device and sack, the said guide being disposed above the open mouth of the latter. As the perforating device is moved back and forth over the table, the cable will coil and uncoil in the sack and the latter will prevent the cable from twisting or becoming tangled.

In operating the device, the roll of paper from which the design is to be cut is placed in the rack, then unrolled as desired and stretched over the table top. The perforating machine is now moved over the paper along the edge of the design to be used in decorating, thereby perforating the paper so as to easily separate the design desired from the other portion of the paper after paste has been applied to the back.

The perforating device consists of a column 15 which is provided with a base



16 having an opening or recess 17 through which the needle 18 reciprocates in perforating the paper. This column is provided adjacent its base with a handle 19 whereby the perforating device can be guided effectively over the design. On the column at spaced intermediate points are disk-like flanges 20 and 21 that have bearing openings 22 in line with each other, and in these openings is a slidable needle bar 23, the lower end of which turns laterally and has an apertured lug 24 at its bottom end. Through the aperture of the lug extends the needle 18 that has its upper end bent laterally so as to spring into a recess 25 formed in the needle bar. In this manner, the needle is effectively held in position without danger of becoming loose, but at the same time the needle can be readily taken out when required. The upper end of the needle bar is provided with a transverse slot 26 for receiving the crank pin 27 on the crank shaft 28 and the latter is driven by the motor 6 through the flexible element or cable 7. This shaft is mounted in horizontal bearing openings 29 in the upper end of the column and the shaft has a peripheral groove 30 into which extends a pin 31 for preventing the longitudinal displacement of the crank shaft. This pin 31 is formed by a spring wire 32 which passes through an opening 33 in the flange 21, and is held in place thereby. Surrounding the upper portion of the column is a cylindrical casing 34 which snugly fits the disks or flanges 21 and 22, and in the portion of the casing above the flange 21 gasoline or any other lubricant may be contained for lubricating the working parts, the casing being closed by a cap plug 35 at the top. One side of the casing is provided with an opening 36 through which the crank shaft extends and by this means the crank shaft serves to hold the casing in place. Interposed between the column and needle bar is a double leaf spring 37 that is confined between the two flanges 20 and 21. The free end of this spring bears on a flat face 38 formed by recessing the needle bar and as the bar reciprocates, the spring serves to steady the bar and prevent undue vibration. A perforator of this character is extremely light and can be used with great ease.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illus-

trative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim as new, is:—

1. A machine of the class described comprising a table, a paper roll holder mounted thereon, a motor on the table, a portable perforator movable over the table, a flexible driving element between the perforator and motor, and a device mounted on the table in which the driving element coils and uncoils as the perforator is moved back and forth over the table.

2. An apparatus of the class described comprising a table, a perforator movable over the same, a driving motor, a flexible driving element connected with the motor and with the perforator, a sack in which the intermediate portion of the cable coils and uncoils, and a guide between the sack and perforator through which the cable passes.

3. An apparatus of the class described comprising a table, a driving motor thereon, a portable perforator, a flexible driving element between the perforator and motor, said table having an opening in its top through which the cable passes, a pocket-like holder mounted on the table below the opening and in line with the motor for permitting the intermediate portion of the cable to coil and uncoil as the perforator is moved back and forth over the table.

4. A perforator comprising a supporting column, a handle connected therewith, said column being provided with spaced flanges having openings, a vertically-disposed needle bar slidable in the openings, means on the upper end of the column for reciprocating the needle bar, said needle bar having a lug at its bottom and a recess above the lug, a needle passing through the lug and having its upper end bent laterally to engage in the said recess, and a spring interposed between the column and needle bar to bear against the latter.

5. A perforator comprising a supporting column, a handle connected therewith, said column being provided with spaced flanges having openings, a vertically-disposed needle bar slidable in the openings, means on the upper end of the column for reciprocating the needle bar, said needle bar having a lug at its bottom and a recess above the lug, a needle passing through the lug and having its upper end bent laterally to engage in the said recess, a spring interposed between the column and needle bar to bear against the latter, and a casing surrounding the upper end of the column and fitted to the said flanges.

6. A perforating device comprising a column having spaced flanges at intermediate points, a casing surrounding the upper end of the column and fitted to the flanges, a



crank shaft extending into the casing and  
 journaled in the upper end of the column,  
 a needle bar mounted in the said flanges for  
 reciprocation, a needle on the lower end of  
 5 the bar, said bar having a slot, a crank pin  
 on the shaft engaging in the said slot for  
 reciprocating the needle bar, a flexible driv-  
 ing element connected with the shaft for  
 rotating the same, a removable cover for the

upper end of the casing, and a handle con- 10  
 nected with the column.

In testimony whereof I affix my signature  
 in presence of two witnesses.

ALBERT C. INGELS.

Witnesses:

CLAYTON E. SHRIFLER,  
 ALF. N. RUSSELL.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
 Washington, D. C."

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