

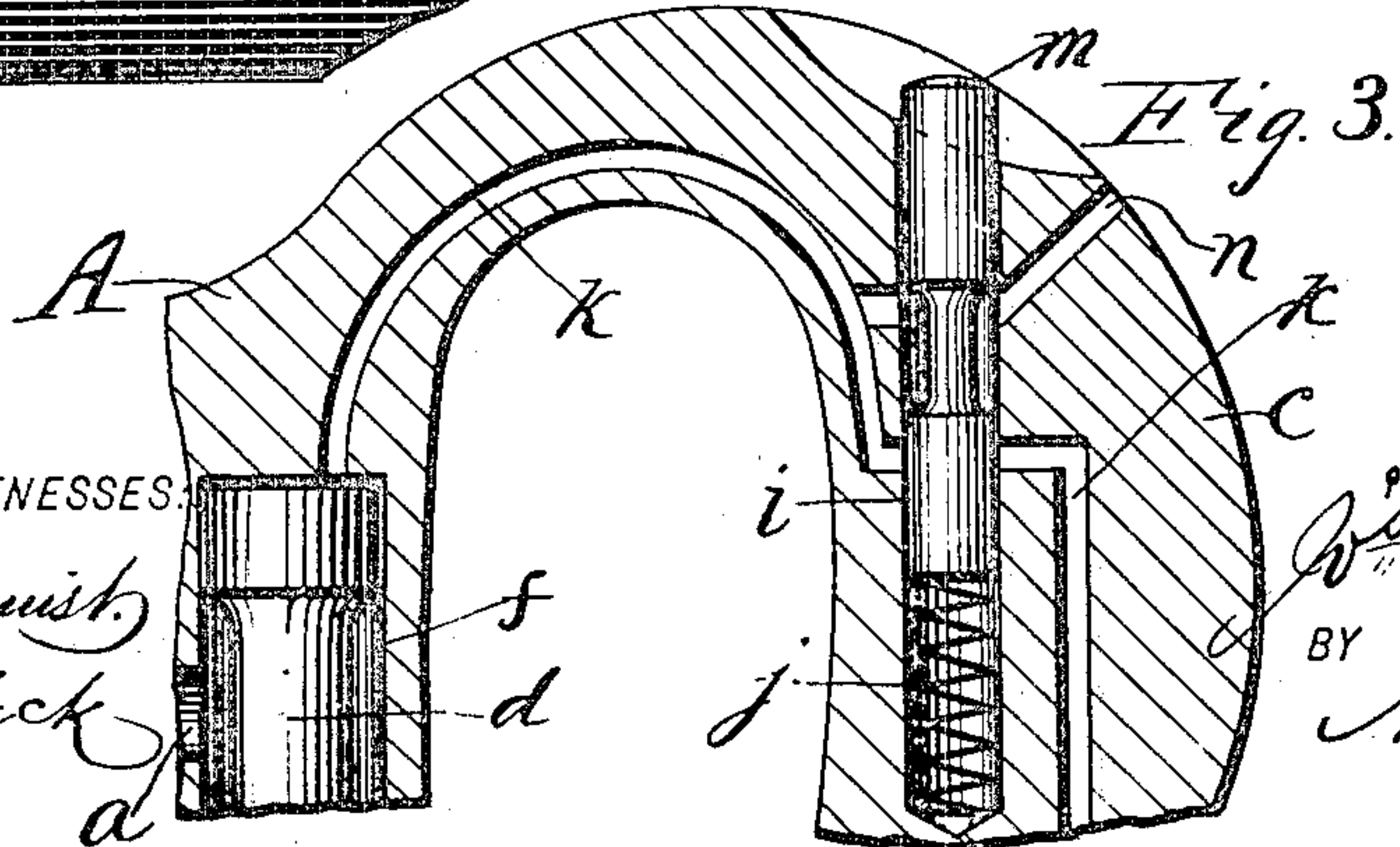
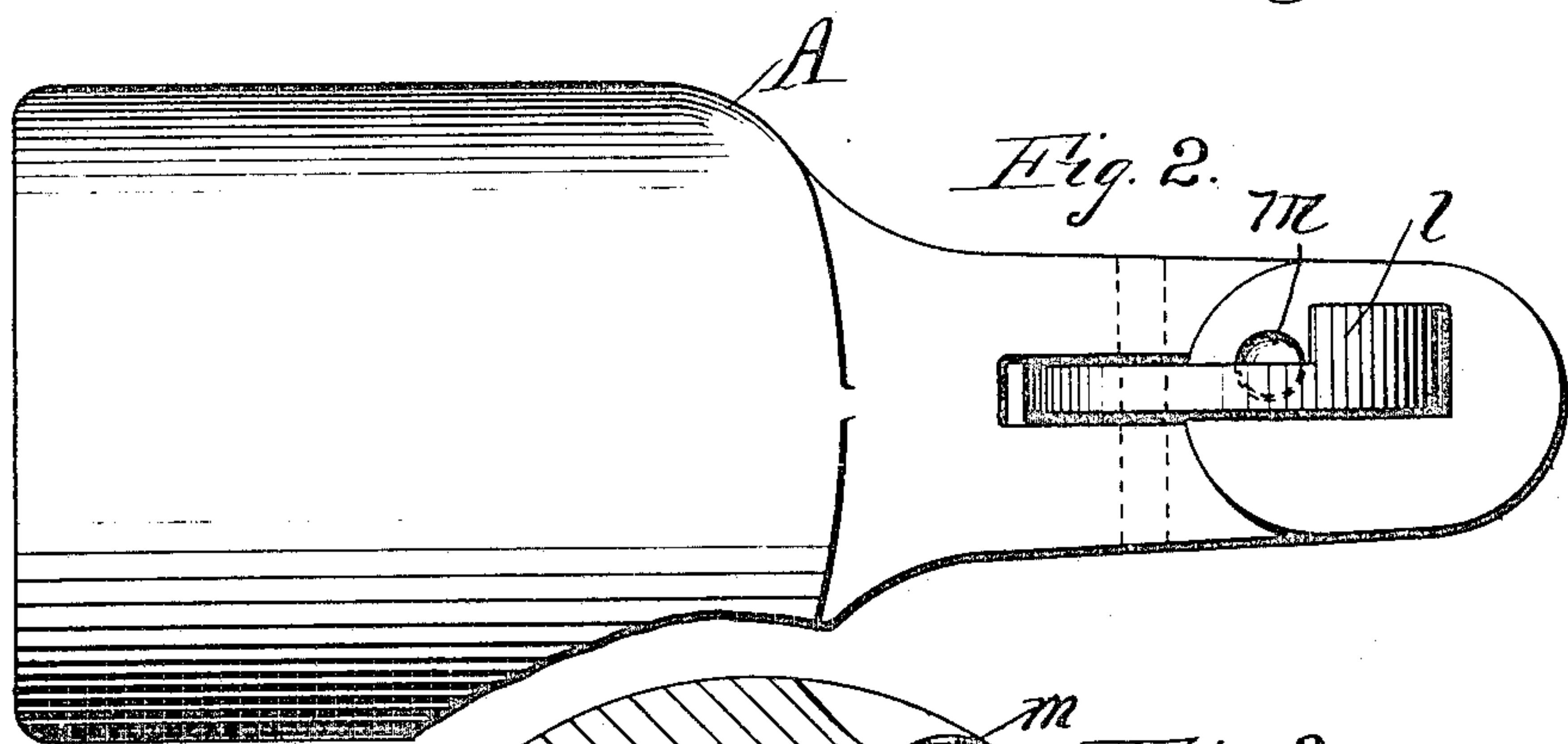
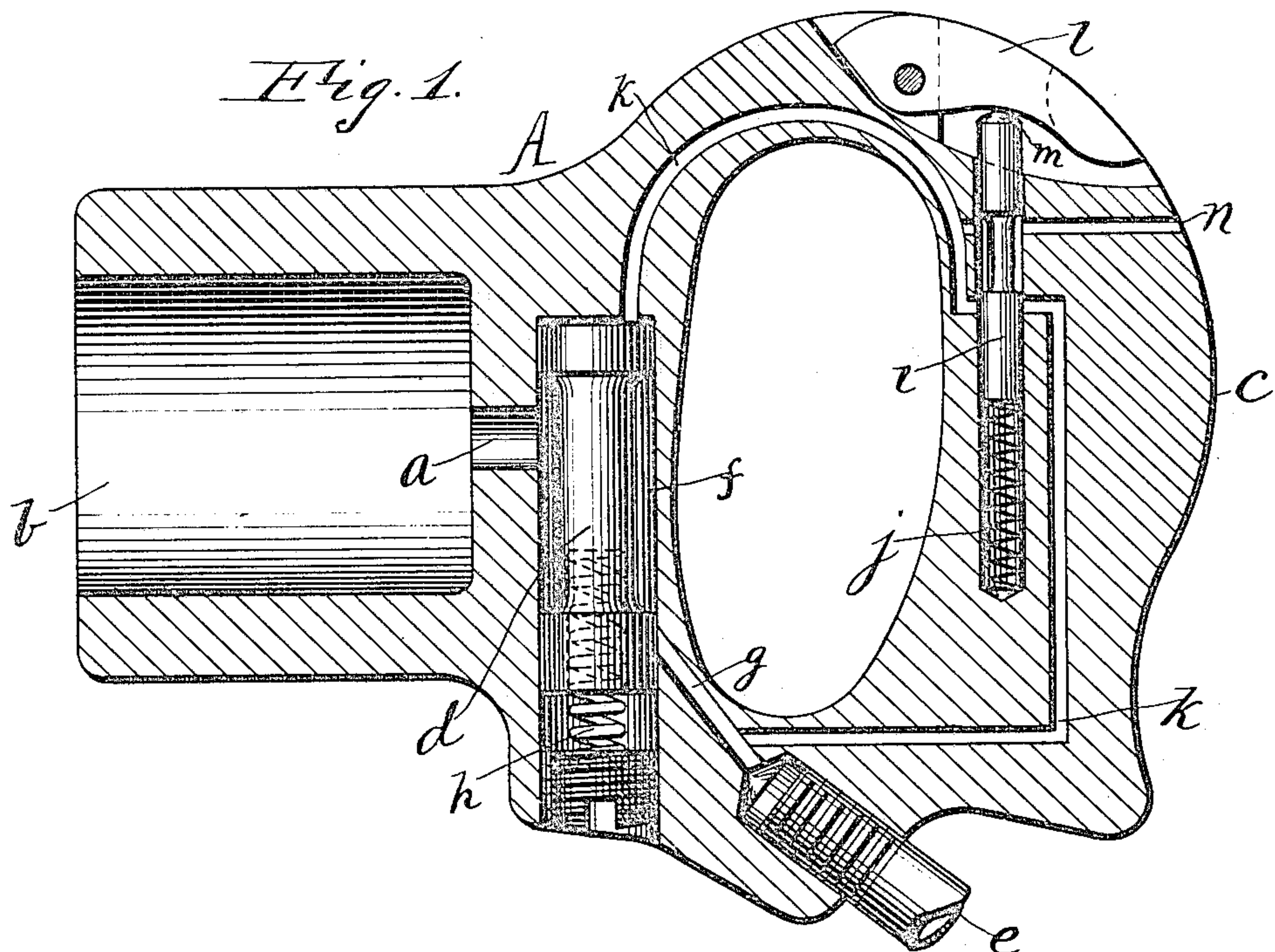
No. 787,347.

PATENTED APR. 11, 1905.

J. H. TEMPLIN.
HANDLE FOR PNEUMATIC TOOLS.

APPLICATION FILED SEPT. 22, 1903.

2 SHEETS—SHEET 1.



WITNESSES:
L. Almquist.
G. Sedgwick.

INVENTOR
J. H. Templin
BY *A. O. Thayer*
ATTORNEY

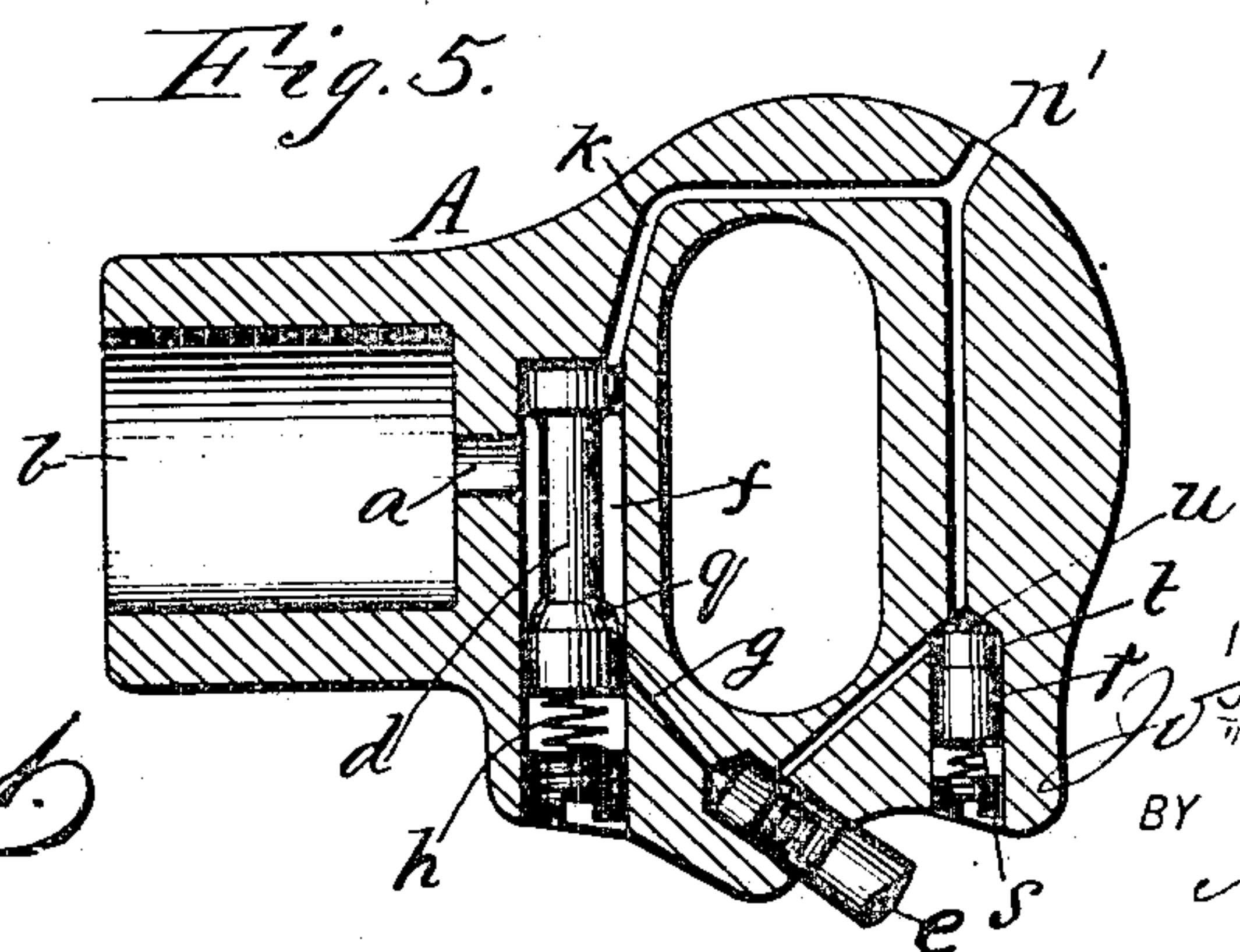
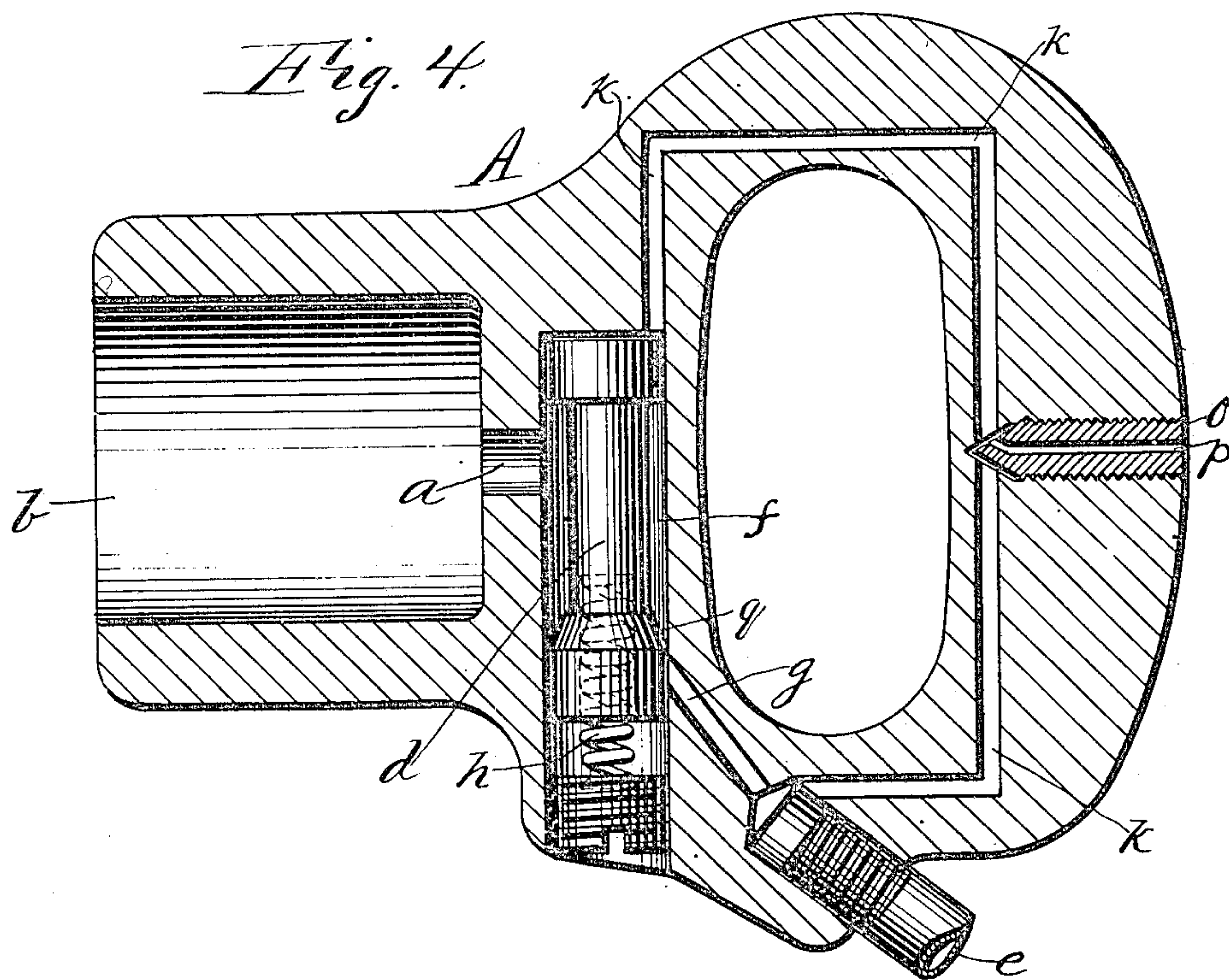
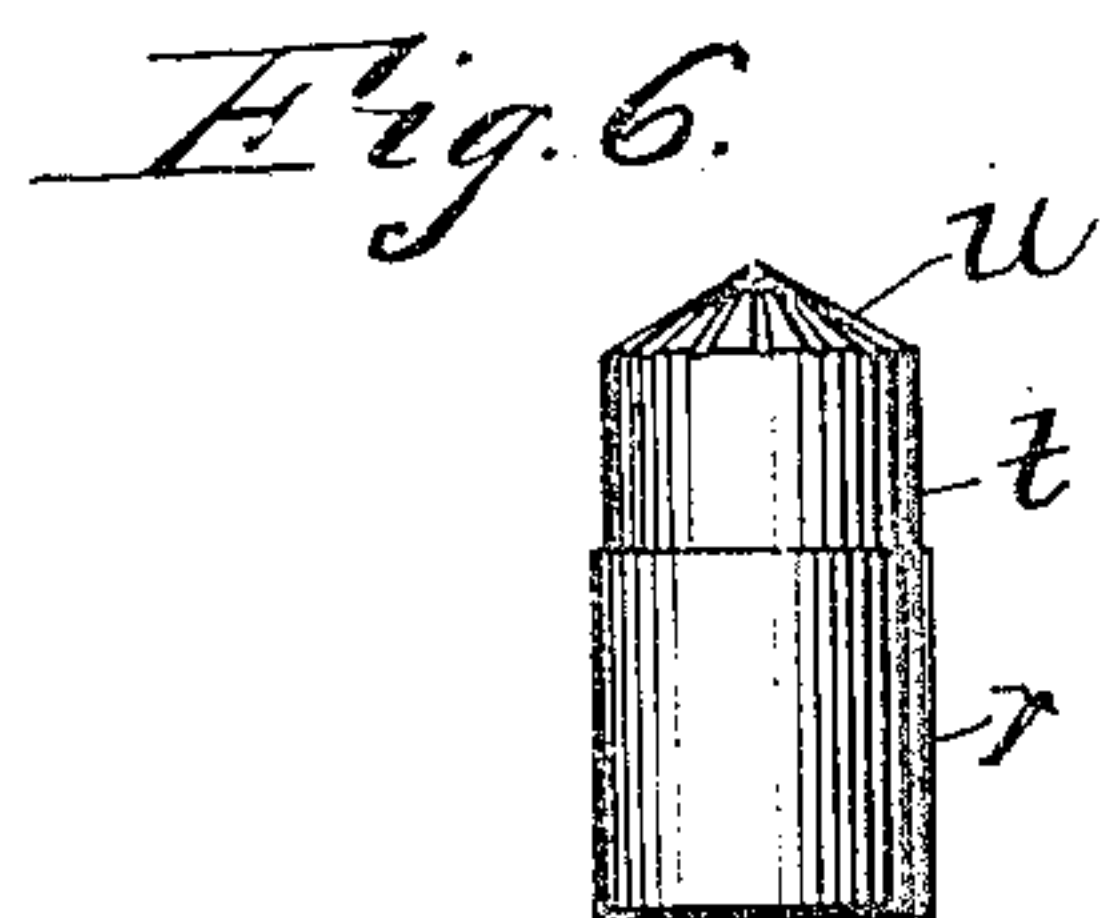
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UNITED STATES PATENT OFFICE.

JOSEPH H. TEMPLIN, OF NEW YORK, N. Y., ASSIGNOR TO PHILADELPHIA PNEUMATIC TOOL COMPANY, A CORPORATION OF NEW JERSEY.

HANDLE FOR PNEUMATIC TOOLS.

SPECIFICATION forming part of Letters Patent No. 787,347, dated April 11, 1905.

Application filed September 22, 1903. Serial No. 174,160.

To all whom it may concern:

Be it known that I, JOSEPH H. TEMPLIN, a citizen of the United States of America, and a resident of the borough of Brooklyn, New York city, State of New York, have invented certain new and useful Improvements in Handles for Pneumatic Tools, of which the following is a specification.

My invention relates to improvements in handles for pneumatic tools used for chipping, riveting, and the like; and the essential object is to reduce the labor of the operator in opening the admission-valve of the tool.

Another object is to facilitate varying the operation of the tool as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved handle. Fig. 2 is a plan view. Fig. 3 is a detail in vertical section, showing a modification. Figs. 4 and 5 are vertical sections showing other modifications. Fig. 6 is a view of an automatic controlling-valve for the air operating the admission-valve.

A represents the stock, which has a socket *b* at one end for suitable connection with the chipping, riveting, or other tool to be operated and through which the air is supplied to the tool by a passage *a*, and on the other end is a hand gripping-piece or handle proper, *c*. The balanced piston admission-valve *d* is located wholly outside of the handle proper as well as its grasping portion, intermediately of the said ends, for controlling the admission of compressed air or other fluid, which is received from any suitable source through a conductor *e* and enters the valve-chamber *f* through a passage *g*, which is also located wholly outside of the handle proper as well as its grasping portion. A spring *h* is employed in connection with the valve for closing it, said spring having a constant tendency thereto. Although a lever is commonly employed in connection with the valve for opening it against the force of the spring, the lever being worked by the thumb of the hand of the operator grasping the handle, the strain on the thumb is very tiresome, because the

spring is of necessity somewhat powerful to insure prompt action of the valve in closing, particularly when resisted by dirt, which is sometimes the case. I therefore provide for the application of air-pressure in lieu of the thumb-lever for opening the admission-valve, which in one form of my apparatus I effect with an auxiliary thumb-actuated valve, as *i*, to control it, which, owing to the small quantity of air necessary to open it, may be very small and light, and therefore less tiresome to the operator. This is also a balanced piston-valve and has a light coiled spring *j* to close it. Said valve is arranged to control a branch air-passage *k*, leading from passage *g* to the end of valve *d*, on which force is applied for opening it, and projects at the upper side of the handpiece *c* suitably for the use of a thumb-lever *l* for applying thumb-pressure on its head *m*, if desired, as in Figs. 1 and 2, or such lever may be omitted, as in Fig. 3, and the thumb may act directly on the head *m*.

n is the exhaust-passage from valve *d*. It is closed when valve *i* opens passage *k* and is opened when valve *i* is closed by spring *j*.

I find that by placing the thumb on the exhaust *n* and not touching the lever *l* or the head of valve *i* through leakage—in case said valve is ground slightly small or slightly tapered—enough air will enter to operate valve *d*, and the operation may be controlled as the exhaust is so controlled by the thumb.

In the modification represented in Fig. 4 it will be seen that the valve *i* may be omitted and the operation of valve *d* may be controlled with a constant flowing supply of air by means of a needle-plug, as *o*, set in so as to throttle passage *k*, but allowing enough air to pass to operate valve *d* when the full force takes effect on said valve, with a vent-passage *p* intermediate of said plug and valve *d* to reduce the pressure between them and allow valve *d* to remain closed, said vent adapted to be closed by the thumb or hand of the operator, and thus cause pressure on valve *d* to increase and open it when desired. The necessity for throttling the passage *k* by the plug *o* is due

to the fact that it is not practicable to construct passage *k* only large enough to permit the passage of the quantity of air needed. The cutting or boring tool must be larger for
 5 the requisite strength, or the core in case the passage is cored. Instead of this plug, however, an automatic needle-valve may be used, as in Fig. 5, which will limit the escape of air to a greater extent, such a valve being represented at *r* in the air-passage *k* and separately
 10 in Fig. 6 with a spring *s* for closing it and being slightly reduced at *t* and fluted at *u*, so that a slight quantity of air will exhaust through passage *n'*, and by closing said passage with the thumb or hand pressure will
 15 back up against valve *r* and open free passage of air in sufficient quantity to operate valve *d*. The operation of such a valve may be graduated and the supply of air to valve *d* controlled
 20 according as the passage *n'* is opened more or less, and it will not jar loose.

The valve *d* may be tapered at *g* to open passage *g* gradually for more effective graduation of the action of the chipping or other
 25 machine when less than full power is to be applied and full pressure is not admitted through passage *k*.

It will be apparent to those skilled in the art that the pressure-supply duct *g*, which conveys the motive fluid to its passage *a* outside
 30 of the handle, is in each instance located wholly outside of the handle as well as outside of the grasping portion thereof. The motive fluid flowing through the passage *k* in each instance is utilized solely to actuate the valve *d*,
 35 located outside of the handle, and does not pass into the passage *a*. The valve *d* is located wholly outside the handle proper as well as its grasping portion or part *c*, which alone
 40 constitutes the handle.

I am aware that it is a common right not only to locate the pressure-supply duct at a point inside or outside the handle or its grasping part, but also to locate the throttle-valve
 45 at any desired point inside the grasping portion of the handle, as seen in the British patent to Low, No. 1,778 of 1865. My present invention therefore consists, broadly, of a fluid-actuated throttle-valve located wholly
 50 outside of the handle and its grasping portion and having the pressure-supply duct also located outside of the handle and its grasping portion and is clearly differentiated from prior patents, such as Boyer, No. 537,629,
 55 wherein the pressure-supply duct and the throttle-valve are located wholly in the grasping portion of the handle, and to none of the

structures of the prior art do I herein make my claim.

It will be apparent that slight changes may be made by those skilled in the art in the construction of the throttle-valve and location of the ports and passages employed, and I do not, therefore, desire in every instance to be limited to the precise construction I have here-
 60 in shown and described. 65

What I claim as my invention is—

1. The combination with the admission-valve of a pneumatic handle for chipping, riveting and other machines, of fluid-pressure
 70 means for opening said valve holding it open and for graduating its closing, and means constantly tending to close said valve against said opening means, said opening and closing
 means controlled by regulating the exhaust of
 75 the opening means.

2. The combination with the admission-valve of a pneumatic handle for chipping, riveting and other machines, of fluid-pressure
 80 means for opening said valve, holding it open and for graduating its closing, and means constantly tending to close said valve against said opening means, said opening and closing
 means controlled by regulating the exhaust of the opening means by the hand of the op-
 85 erator.

3. The combination with the admission-valve of a pneumatic handle of chipping, riveting and other machines, of fluid-pressure
 90 means for opening said valve by pressure thereon, means constantly tending to close said valve against said opening means, means for exhausting said pressure, and means for controlling the exhaust by throttling it by the
 thumb or hand of the operator of the handle
 95 and thereby controlling the operation of the admission-valve.

4. The combination with the admission-valve of a pneumatic handle of chipping, riveting and other machines, of fluid-pressure
 100 means for opening said valve, means constantly tending to close said valve against said opening means, means for controlling said fluid-pressure consisting of a constant re-
 stricted air-supply and a normally open ex-
 105 haust therefor adapted to be throttled by the thumb or hand of the operator for effecting operation of the admission-valve.

Signed at New York this 8th day of September, 1903.

JOSEPH H. TEMPLIN.

Witnesses:

A. P. THAYER,
 HENRY E. LE GENDRE.