

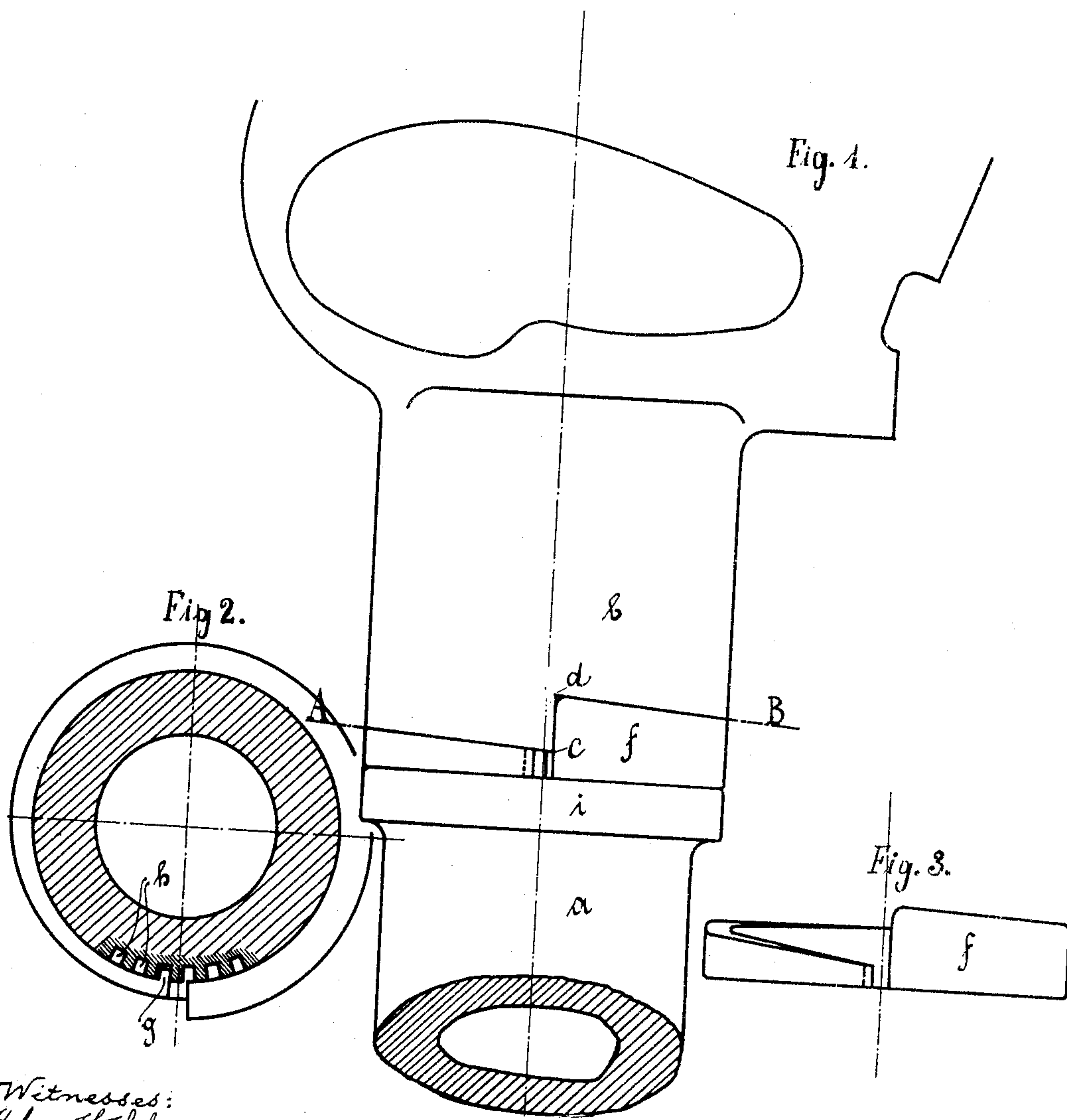
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C. F. W. A. OETLING.
LOCKING DEVICE FOR PNEUMATIC TOOLS.

APPLICATION FILED AUG. 22, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

CARL FRIEDR. WILHELM ALEXANDER OETLING, OF STREHLA, GERMANY.

LOCKING DEVICE FOR PNEUMATIC TOOLS.

SPECIFICATION forming part of Letters Patent No 768,294, dated August 23, 1904.

Application filed August 22, 1903. Serial No. 170,411. (No model.)

To all whom it may concern:

Be it known that I, CARL FRIEDRICH WILHELM ALEXANDER OETLING, a subject of the King of Saxony, residing at Strehla-on-the-Elbe, in the Kingdom of Saxony and Empire of Germany, have invented a new and useful Improved Locking Device for Pneumatic Tools, of which the following is a specification.

My invention relates to an improved device designed for locking the head to the cylinder of pneumatic tools.

As a general rule the head and cylinder of pneumatic tools are held together by a screw-thread having a small pitch. This screw connection has the drawback of being liable to become loose by reason of the strong vibrations due to the rapidity of the blows delivered by the tool, thus giving rise to leakage through the valve-casing arranged in the head and seated upon the cylinder, and consequently to losses of compressed air and to failures in the action of the distributing-gear. In the case of new tools, the freshly-cut screw-thread of which necessitates continual re-tightening, the aforesaid drawback is particularly noticeable, and many locking devices have been proposed for securing the connection between the head and cylinder, but none of them has satisfactorily fulfilled its purpose. A connection between the head and cylinder other than by means of a screw-thread is not well possible, because other devices decrease the handiness of the tool, so that provision has to be made for obviating the liability of the connection to become loose by making use of a locking device which will act with certainty under any circumstances. By the improved device I not only achieve this object, but gain the further advantage of causing the head to be continually pressed against the cylinder with a force which tends to tighten the screw connection between such head and cylinder.

In the accompanying drawings I have shown, by way of example, how my said invention may be carried into effect.

Figure 1 is a side elevation showing part of the cylinder and the head to which the lock-

ing device is applied. Fig. 2 is a section on the line A B of Fig. 1 along the under side of the head. Fig. 3 is a side elevation of the elastic locking-ring used.

In Figs. 1 and 2 the improved locking device is shown applied to a pneumatic hammer. The cylinder *a* of the hammer is connected with the head *b* in the customary manner by a screw-thread. (Not shown.) The face of the head *b* turned toward the cylinder has a helical shape, its ends being joined to each other by the face *c d*, whose plane passes through the axis of the tool and forms an abutment. At the end of the cylinder which is turned toward the head *b* I provide a plane collar *i*, against which the head bears through the medium of an elastic locking-ring *f*. This locking-ring is of such a shape that it bears with one face against the plane collar *i* and with the other against the helical face of the head *b*. At the point where the ends of the helical face of the ring *f* meet this ring is cut open and carries at its lowest end a nose *g*, which is adapted to engage with one of the grooves *h* in the cylinder *a*, while the thick end of the ring bears against the abutment *c d* of the head *b*, tending to turn the latter upon the screw-thread of the cylinder in such a direction that the head and cylinder will be screwed together still tighter by the vibrations. When the screw connection has been retightened to such an extent that the inner face of the ring *f* bears against the screw-thread on the cylinder *a*, the nose *g* is introduced into the nearest groove *h* rearward—that is to say, in Fig. 2 into the groove situated to the left—so that the screw connection between the head and cylinder may be further tightened.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a device for locking the head to the cylinder of pneumatic tools, the combination, with the cylinder furnished at its end with grooves and the head formed with an abutment, of an elastic locking-ring cut at one point and having at one end a nose adapted to engage with one of the said grooves, and bearing by its face at the other end against

the said abutment, substantially as and for the purpose herein set forth.

2. In a device for locking the head to the cylinder of pneumatic tools, the combination, 5 with the cylinder formed with an abutment and the head furnished at its end with grooves, of an elastic locking-ring cut at one point and having at one end a nose adapted to engage with one of the said grooves, and bearing 10 by its face at the other end against the said abutment, substantially as and for the purpose herein set forth.

3. In a device for locking the head to the cylinder of pneumatic tools, the combination, 15 with the cylinder furnished at its end with grooves and the head formed with a helical face and an abutment connecting the ends of this helical face, of an elastic locking-ring formed with a helical face, said ring being 20 cut at one point and having at one end a nose adapted to engage with one of the said grooves, and bearing by its face at the other

end against the said abutment, substantially as and for the purpose herein set forth.

4. In a device for locking the head to the 25 cylinder of pneumatic tools, the combination, with the cylinder formed with a helical face and an abutment connecting the ends of this helical face, and the head furnished at its end with grooves, of an elastic locking-ring 30 formed with a helical face, the said ring being cut at one point and having at one end a nose adapted to engage with one of the said grooves, and bearing by its face at the other end against the said abutment, substantially as 35 and for the purpose herein set forth.

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

CARL FRIEDR. WILHELM

ALEXANDER OETLING.

Witnesses:

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