

A. W. SMITH.
SPANNER.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.

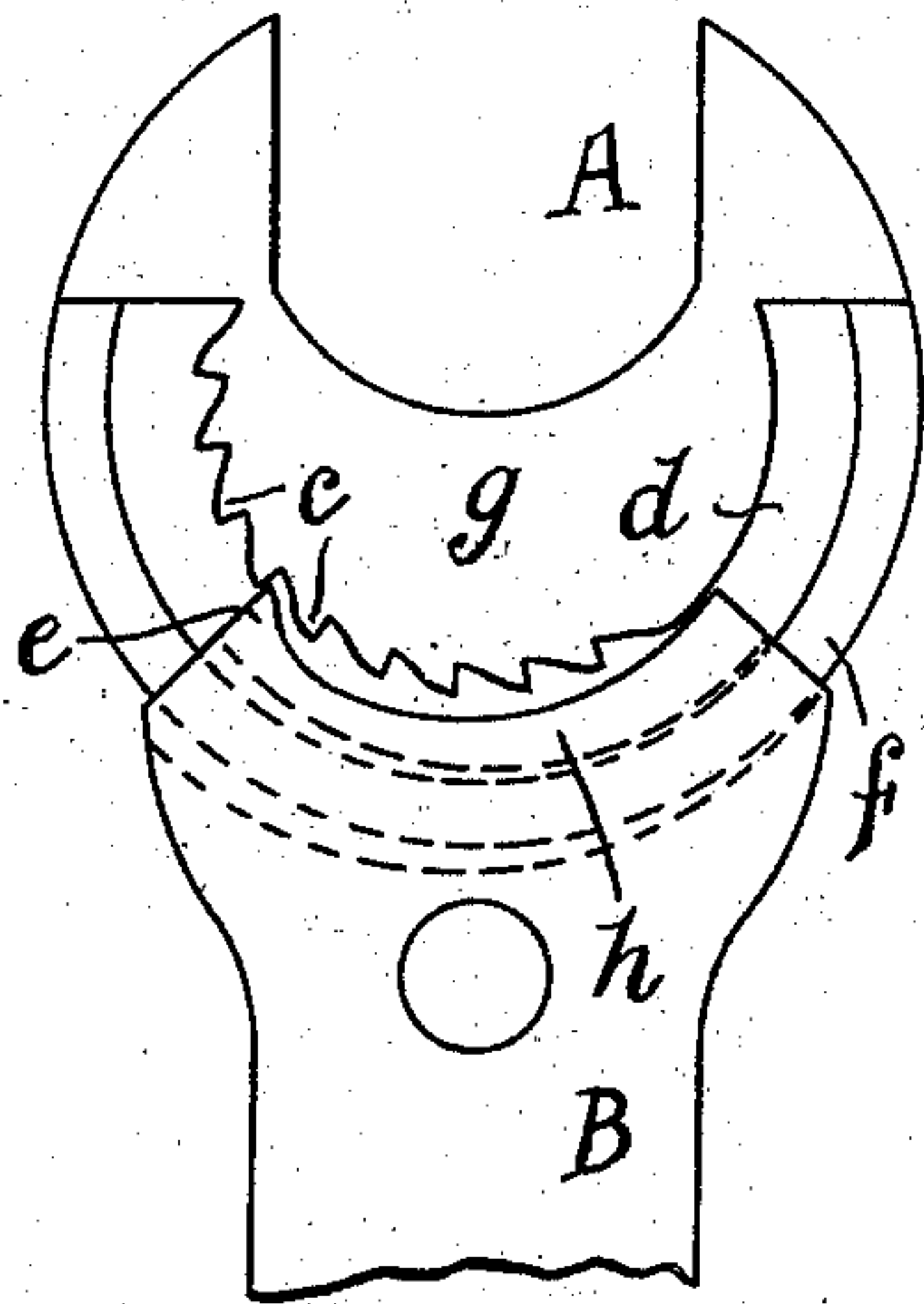


FIG. 1.

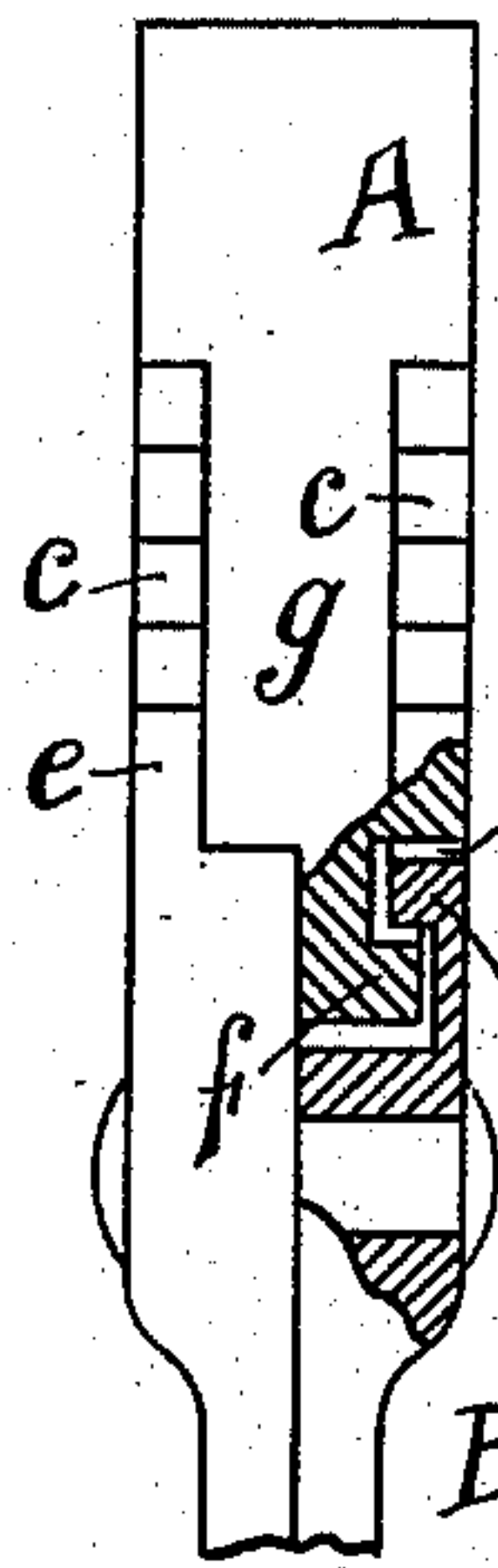


FIG. 1a.

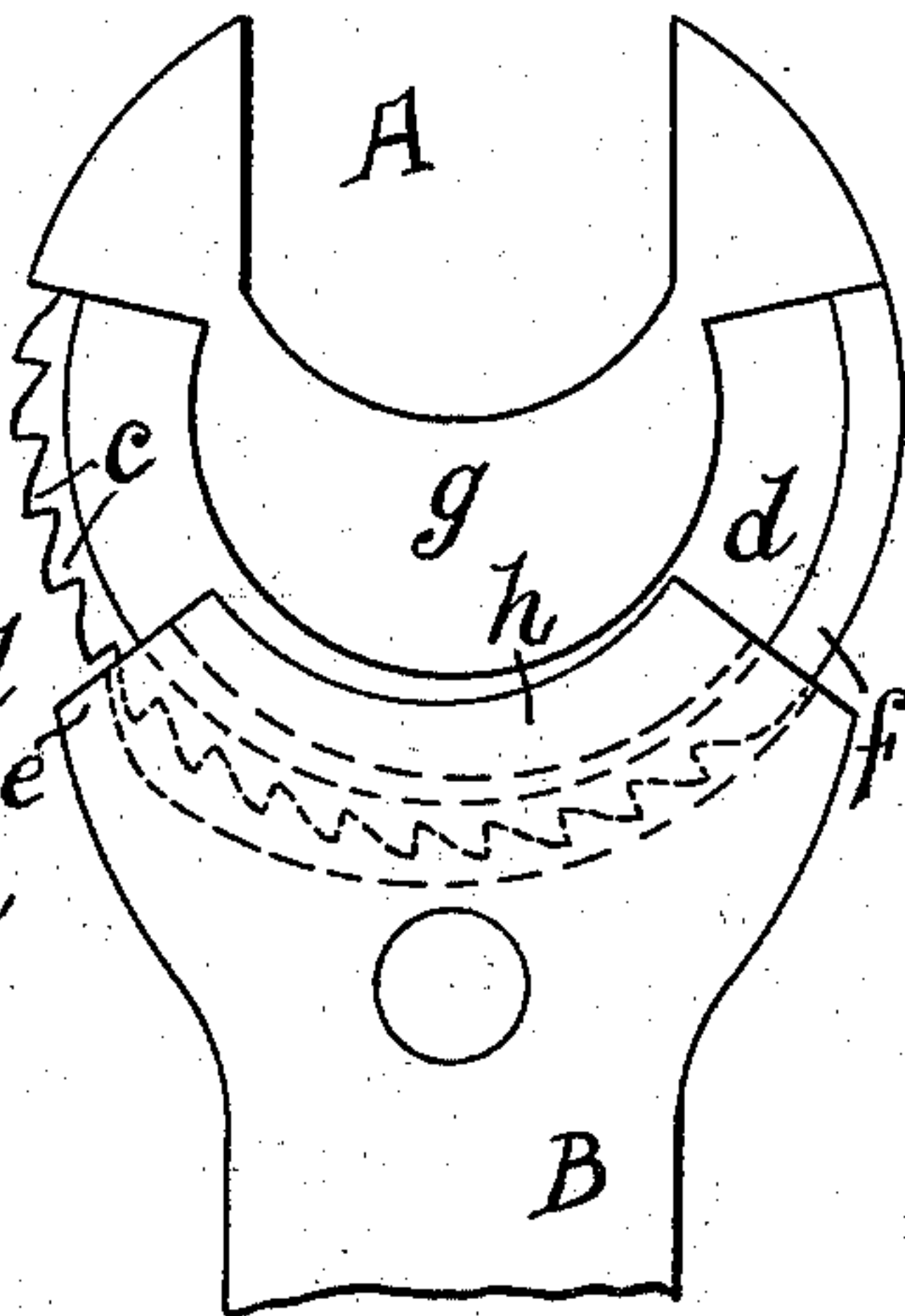


FIG. 2.

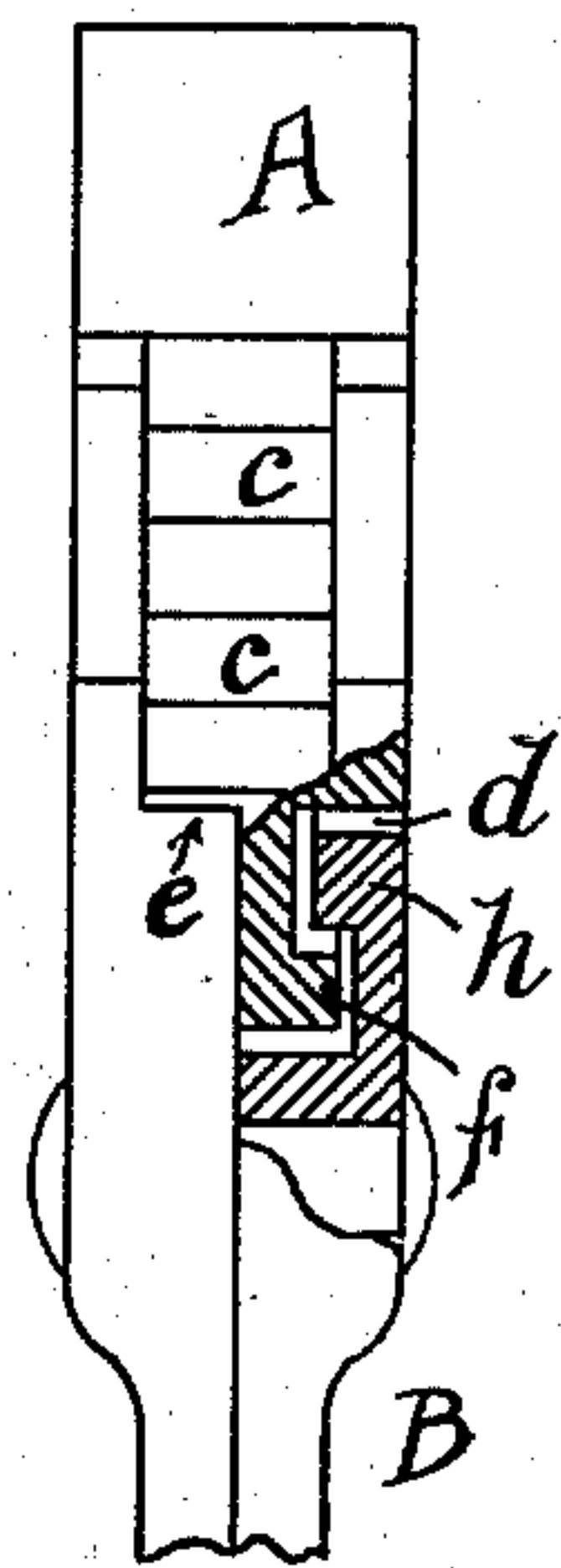


FIG. 2a.

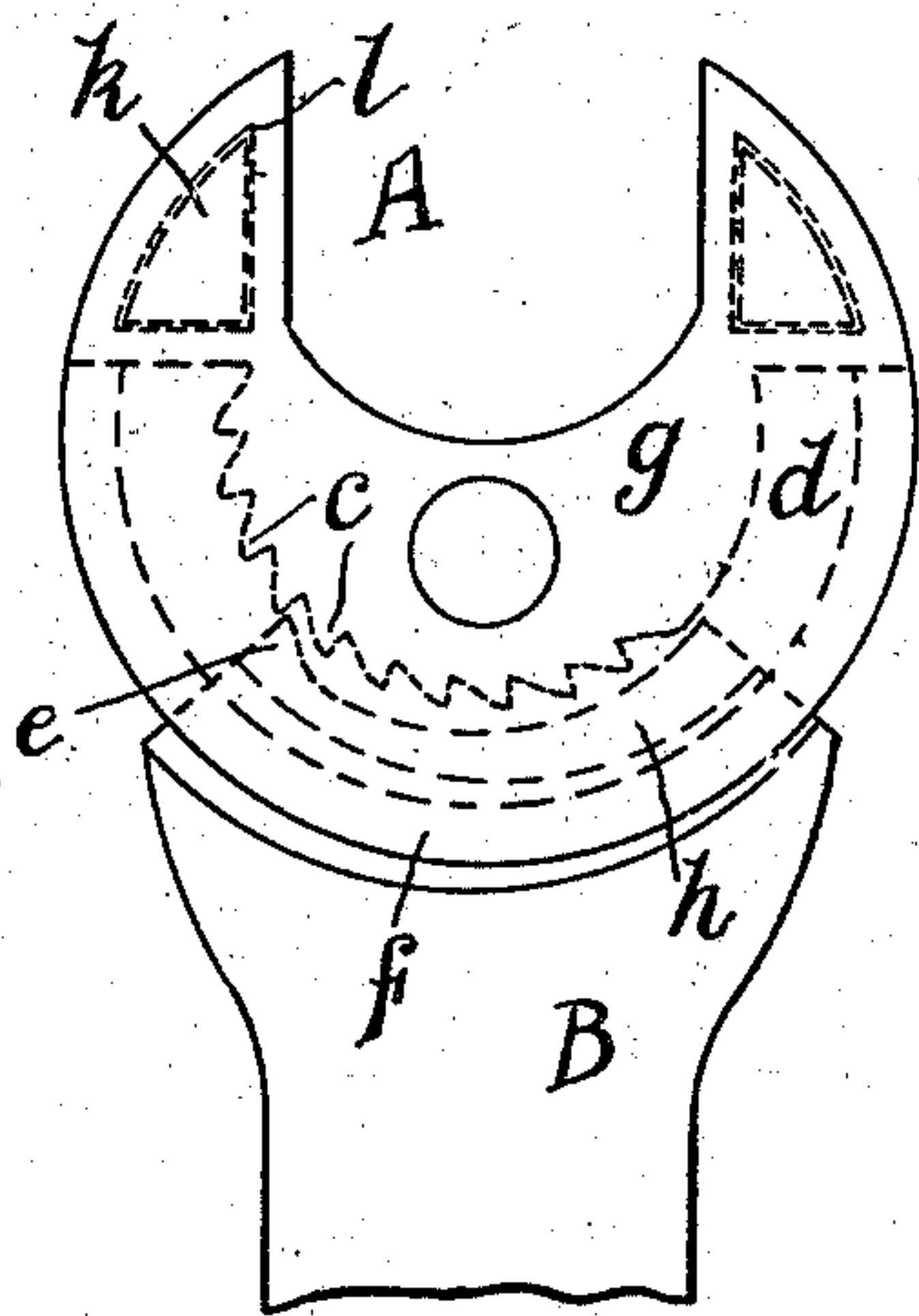


FIG. 3.

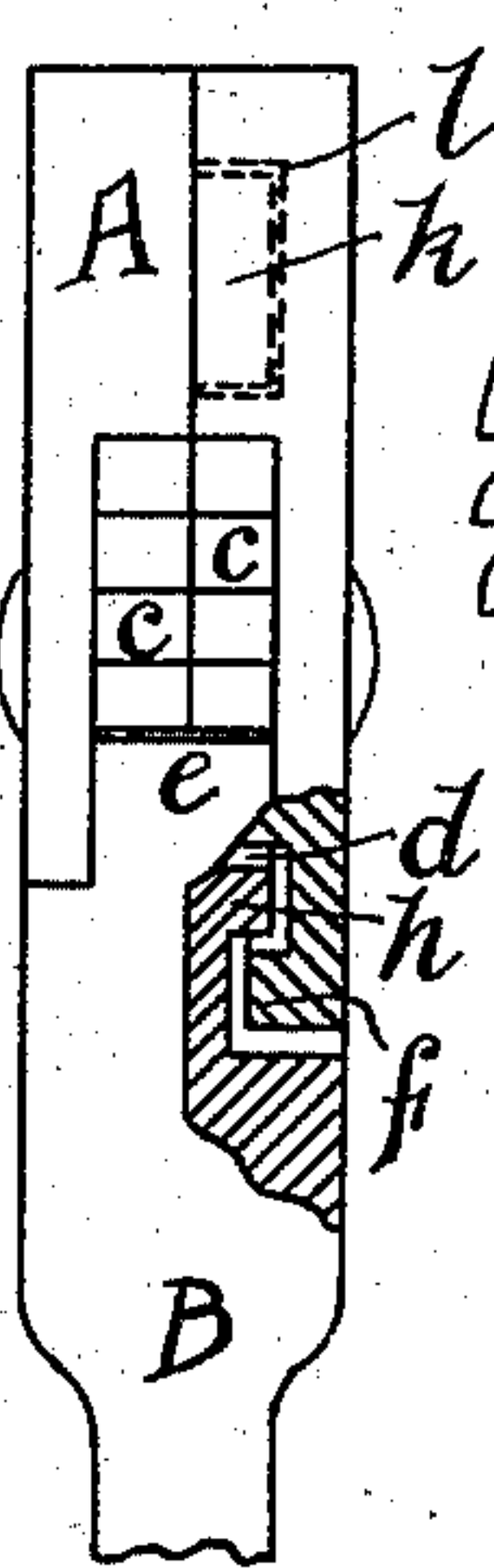


FIG. 3a.

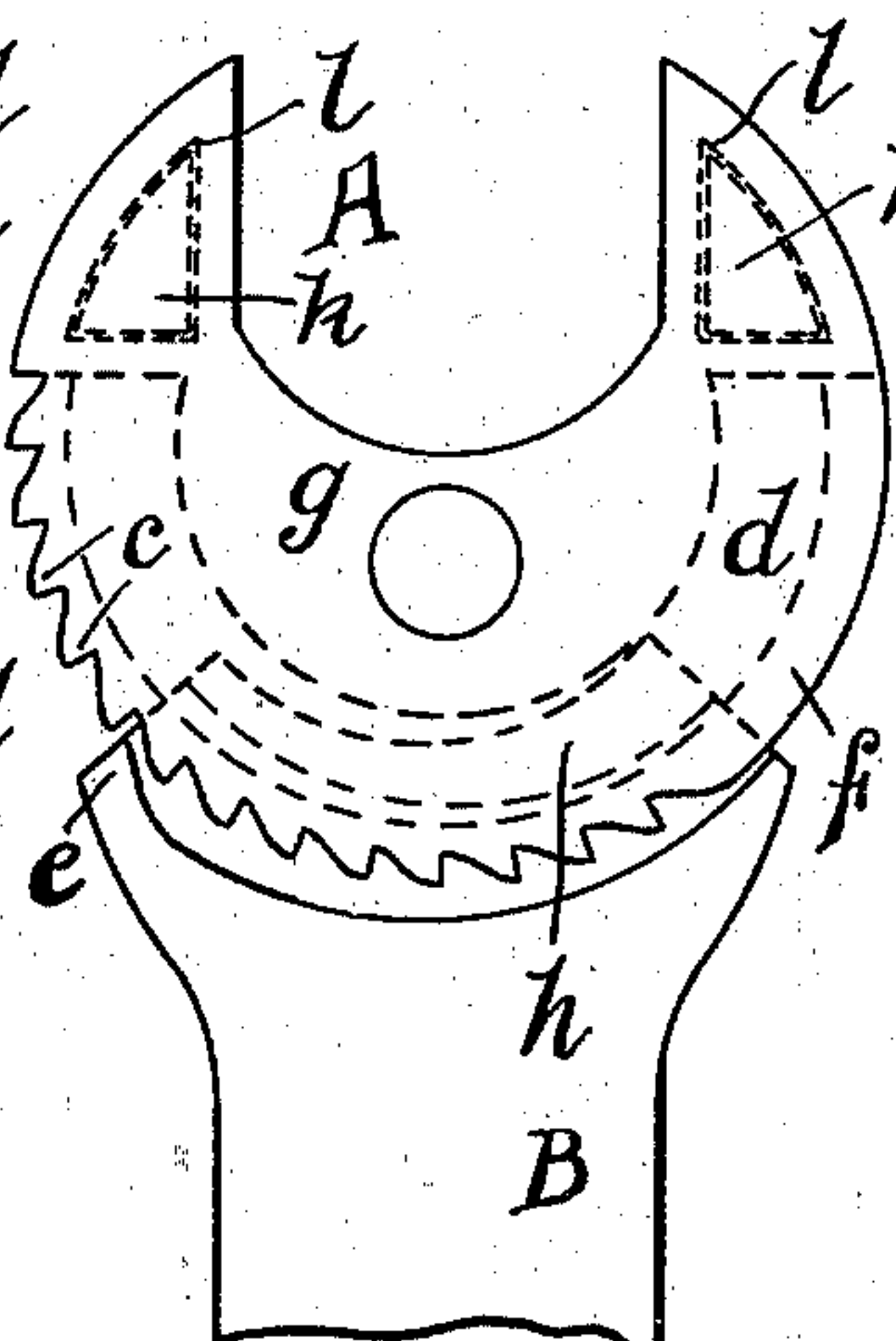


FIG. 4.

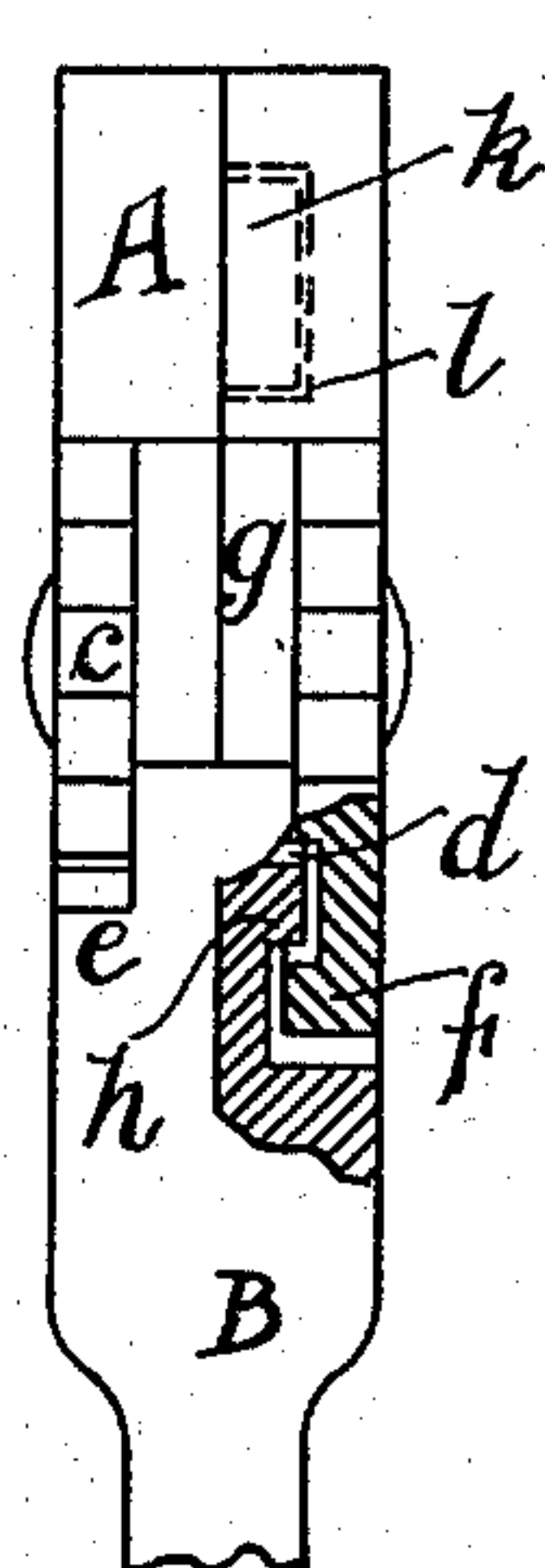


FIG. 4a.

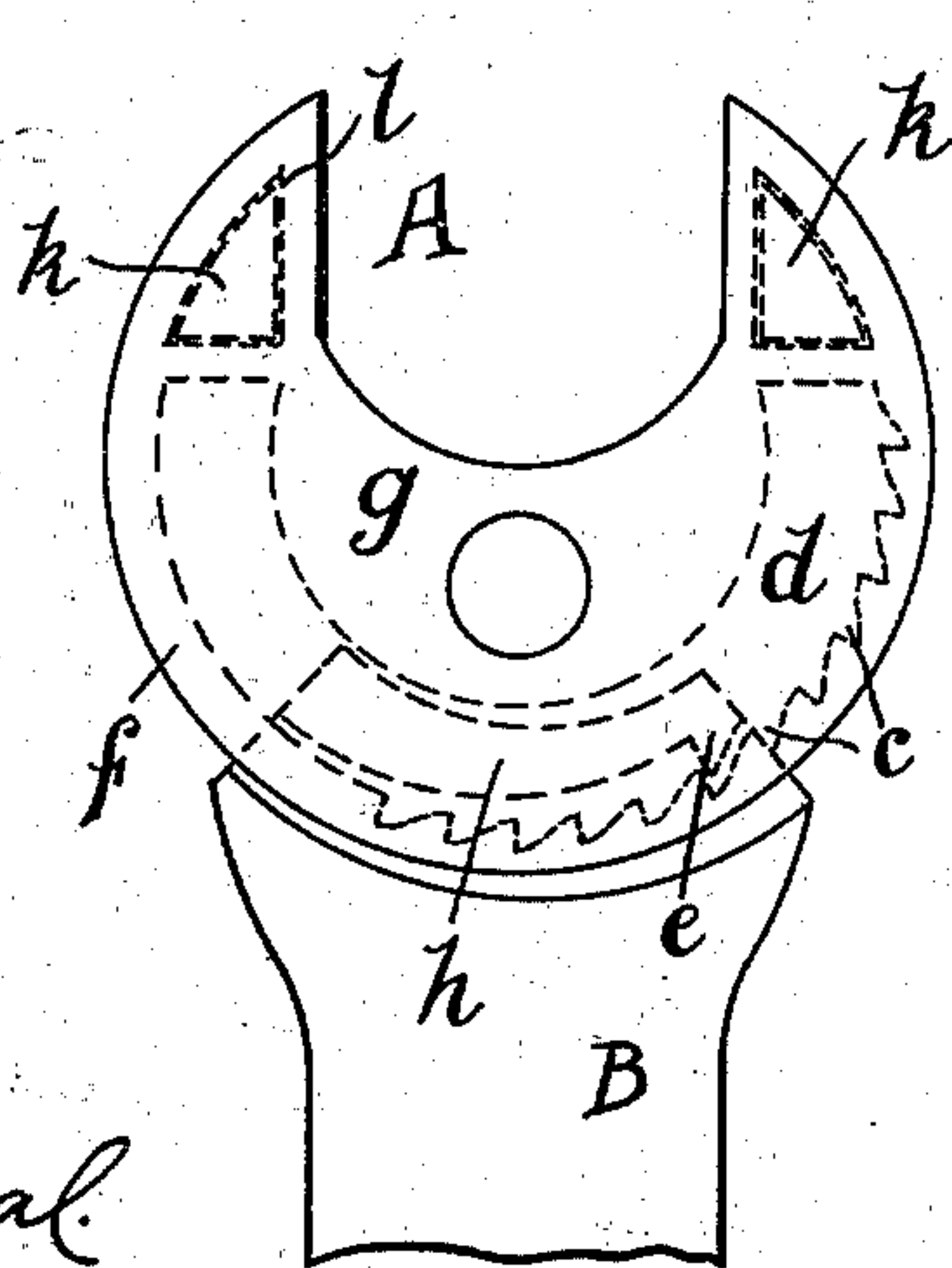


FIG. 5.

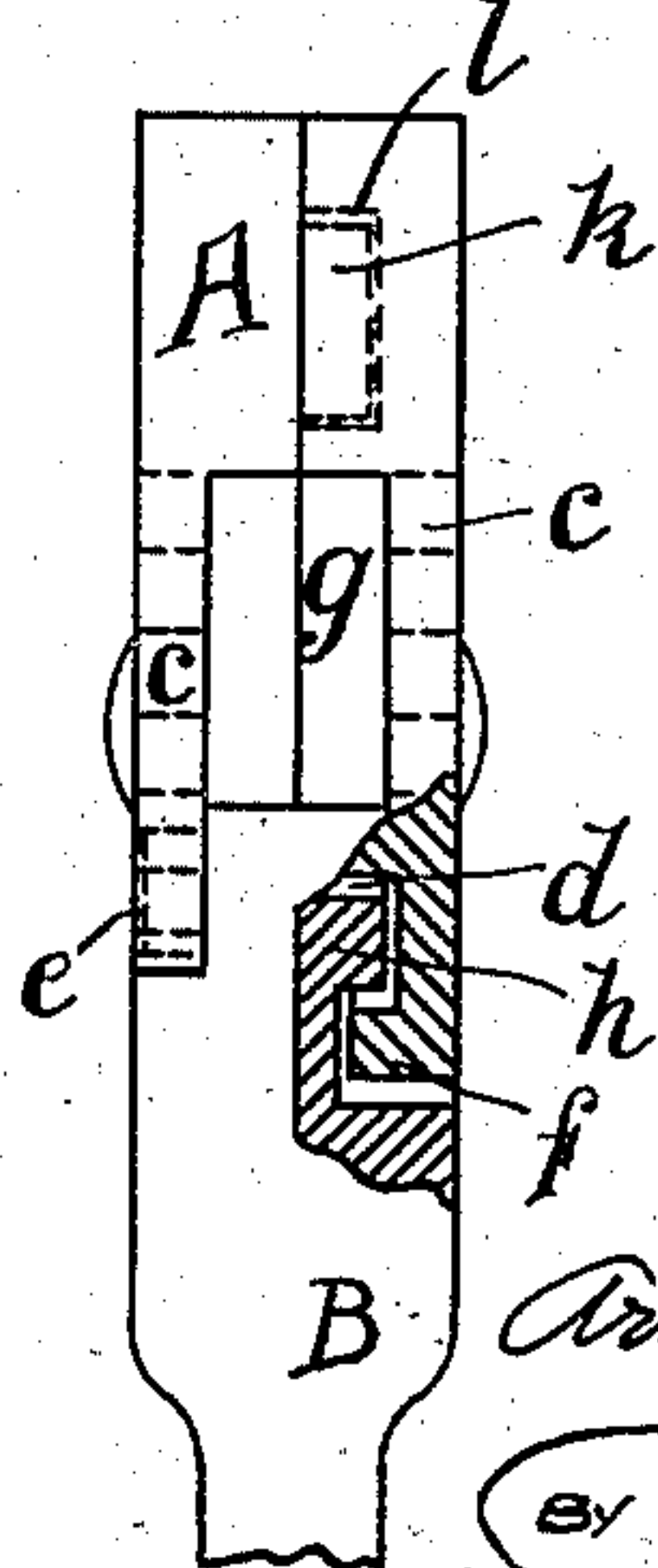


FIG. 5a.

WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR WILLIAM SMITH, OF BARKING, ENGLAND.

SPANNER.

SPECIFICATION forming part of Letters Patent No. 749,588, dated January 12, 1904.

Application filed November 6, 1903. Serial No. 180,124. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR WILLIAM SMITH, a subject of the King of Great Britain and Ireland, and a resident of London Road, Barking, county of Essex, England, have invented a certain new and useful Improvement in Spanners, of which the following is a specification.

This invention relates to a new or improved form of spanner or wrench for use with nuts or bolts which may be difficult to operate and where only a small movement can be made, owing to limitations of space or other conditions.

In order that my invention may be the better understood, I will now describe it by reference to the accompanying drawings and to the letters marked thereon.

Figures 1 and 1^a are respectively a side elevation and a part-sectional edge view of my invention. Figs. 2 and 2^a are similar views of a further modification. Figs. 3 and 3^a are like views of still another form, and Figs. 4 and 4^a are similar views in which a still further form is shown. Figs. 5 and 5^a are like views of an additional modification.

In each of the figures the same reference-letters are used to indicate corresponding parts.

In Figs. 1, 1^a, 2, 2^a the spanner or wrench is composed of the handle B, formed in halves, which has two cheeks having a tooth *e*, (either on the cheeks or in the throat between them,) projections *h*, extending laterally inward, and a jaw-body A, having teeth *c* and recesses *d*, bounded by flanges *f*, which are adapted to engage with the projections *h*. The handle B, being made in halves, is riveted together when properly engaged on the jaw-body.

Figs. 3, 3^a, 4, 4^a, 5, 5^a show the invention as having a solid handle B, *e* being the tooth, *h* the projections extending laterally outward, the jaw-body A being in two halves. *c* are the teeth, *d* the recesses, *f* the flanges, and *g* the center of the jaw-body A. In order to lock the two portions of the head together, projections *h* are provided on one half and recesses *l* on the other half, so that when engaged with each other they form a means of

locking. The jaw-body A, being made in halves, is riveted together when properly engaged on the handle B. The construction of the spanner in each case is such that the jaw-body A moves freely in the head of the handle B and is guided by the projections *h*, engaged within recesses *d*.

In Figs. 1, 1^a, 3, and 3^a the teeth *c* are formed on the outer periphery of the center *g*.

In Figs. 2, 2^a, 4, and 4^a the teeth *c* are formed on the outer periphery of the flange *f*.

In Figs. 5 and 5^a the teeth *c* are formed on the internal periphery of the flange *f*.

On placing the spanner on a nut or bolt for the purpose of screwing or unscrewing and a pressure forward being applied the tooth *e* engages with the teeth *c* and the projections *h* bear on the flanges *f* on each side of the head A, so that the head and handle of the spanner become rigid. On releasing the pressure and moving the handle back one or more teeth a fresh movement of the nut or bolt is obtained.

I am aware that spanners have been devised in which the head is pivoted to the handle and in using which the pressure has to pass through the said pivot. This construction involves weakness and a clumsy head, particularly as to its thickness, and is useless for this reason in many situations where space is limited.

My spanner occupies no more space than an ordinary solid spanner, is equally strong, and can be manufactured very cheaply. It will be noticed that the width of the projections *h* gradually varies, so that at one end there is very little play between the projections *h* and the flanges *f*, while at the other end there is sufficient play to allow the tooth *e* to engage with and disengage from the teeth *c* to allow of a fresh adjustment.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

An improved spanner or wrench comprising a head and a handle, one of said parts having a segmental circular groove in its side and the other a segmental circular rib projecting into said groove, said rib corresponding in

thickness at one end to the width of the groove
and narrowing toward the other permitting
rocking of the rib in the groove and corre-
sponding rocking of the handle, said head hav-
5 ing a segmental circular rack, and said handle
a tooth for engaging said rack when the han-
dle is rocked, substantially as described.

In witness whereof I have hereunto set my
hand in presence of two witnesses.

ARTHUR WILLIAM SMITH.

Witnesses:

CHARLES CARTER,
FRANK HANCOCK.