

W. Craig,

Hose Coupling,

Patented Jan. 29, 1867.

N^o 61,607.

Fig 1.

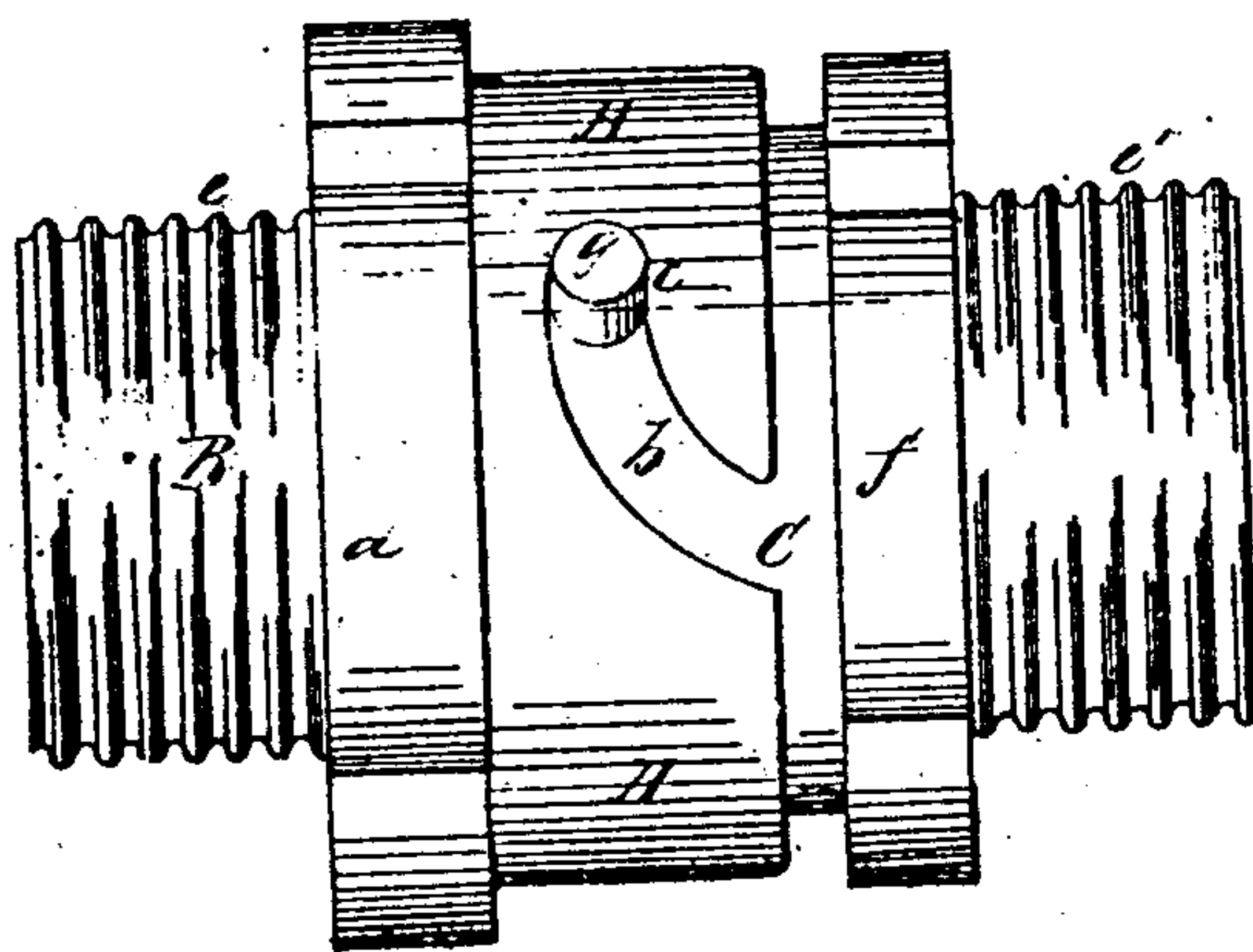


Fig 2.

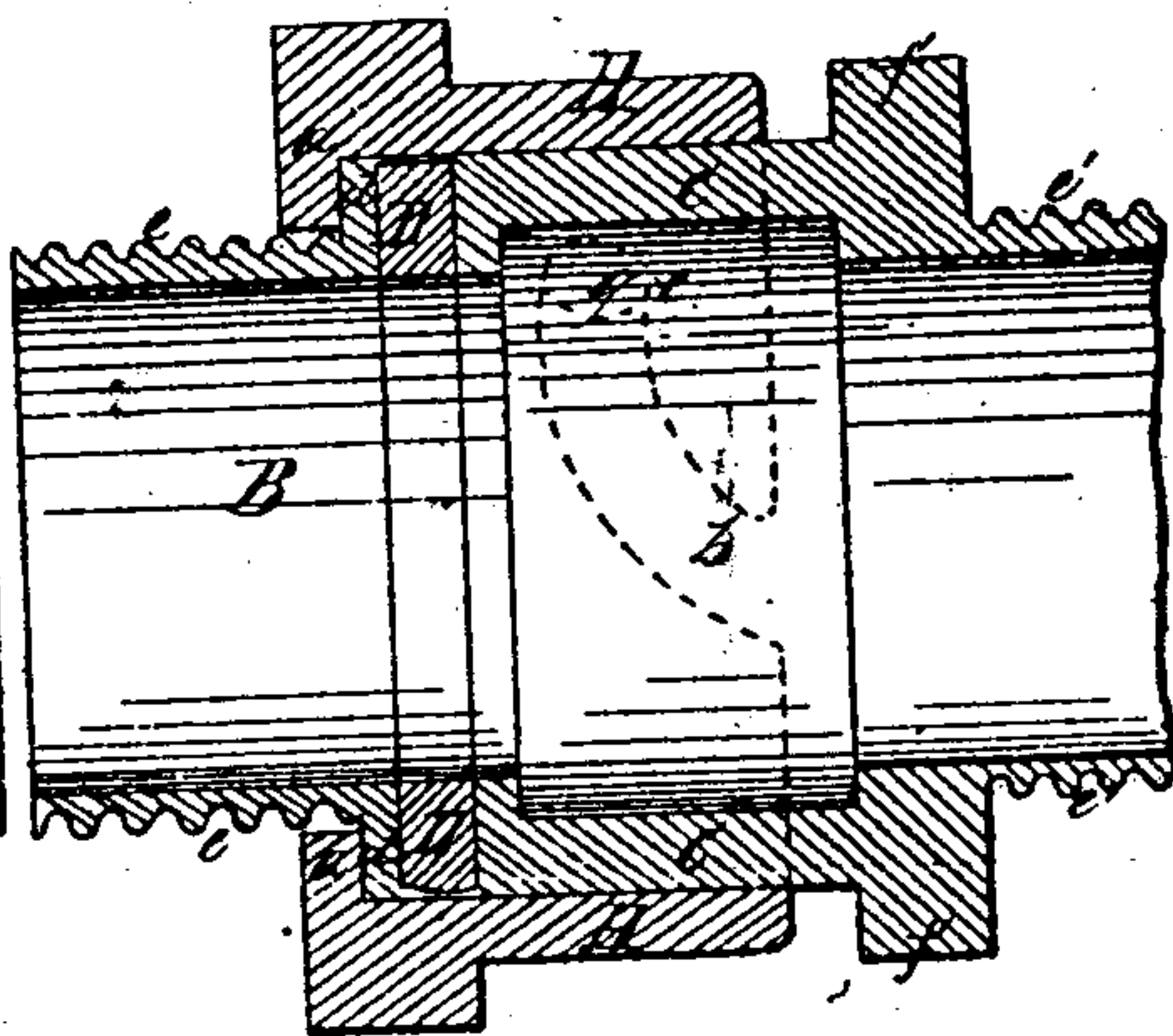


Fig 4.

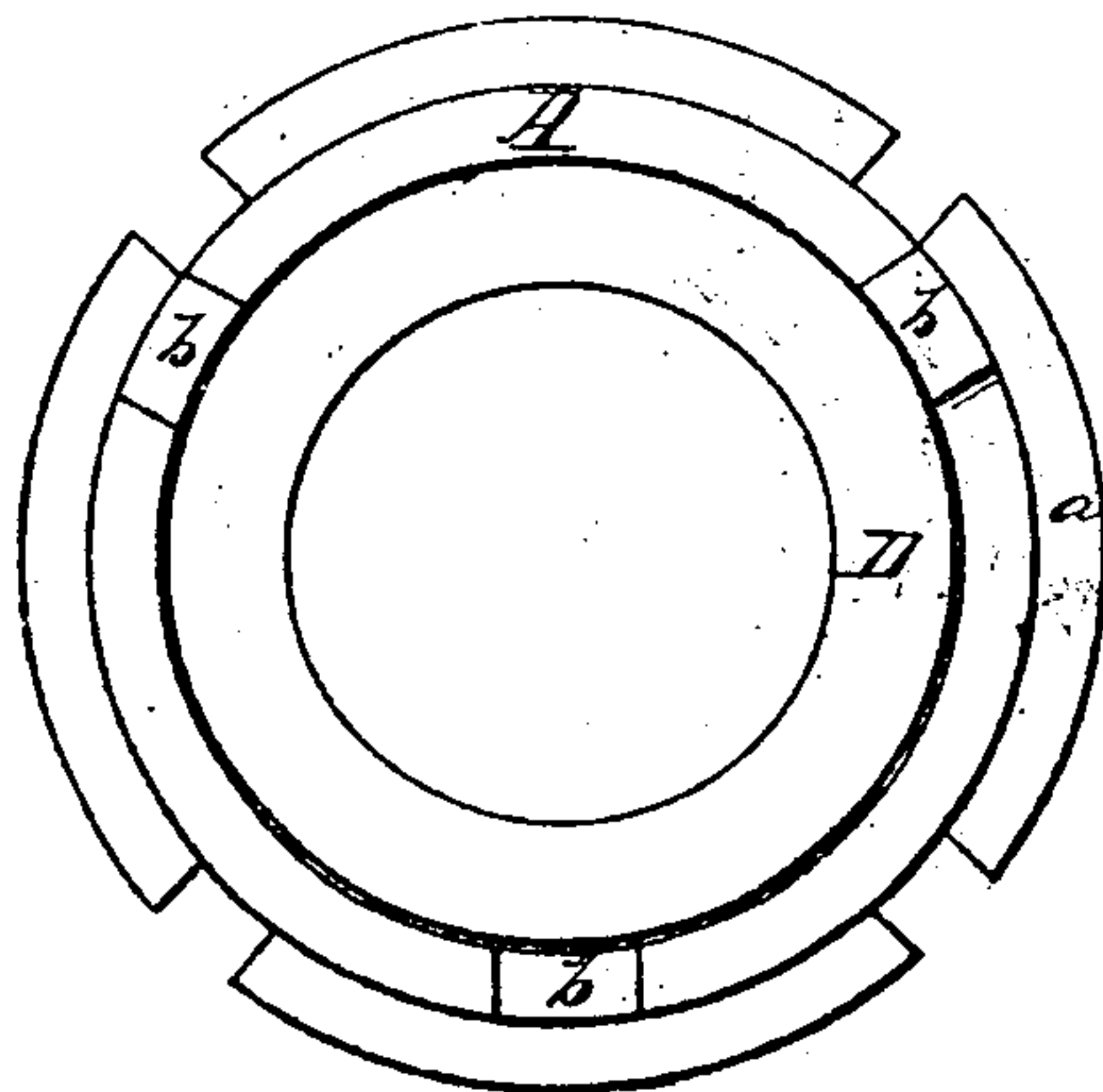
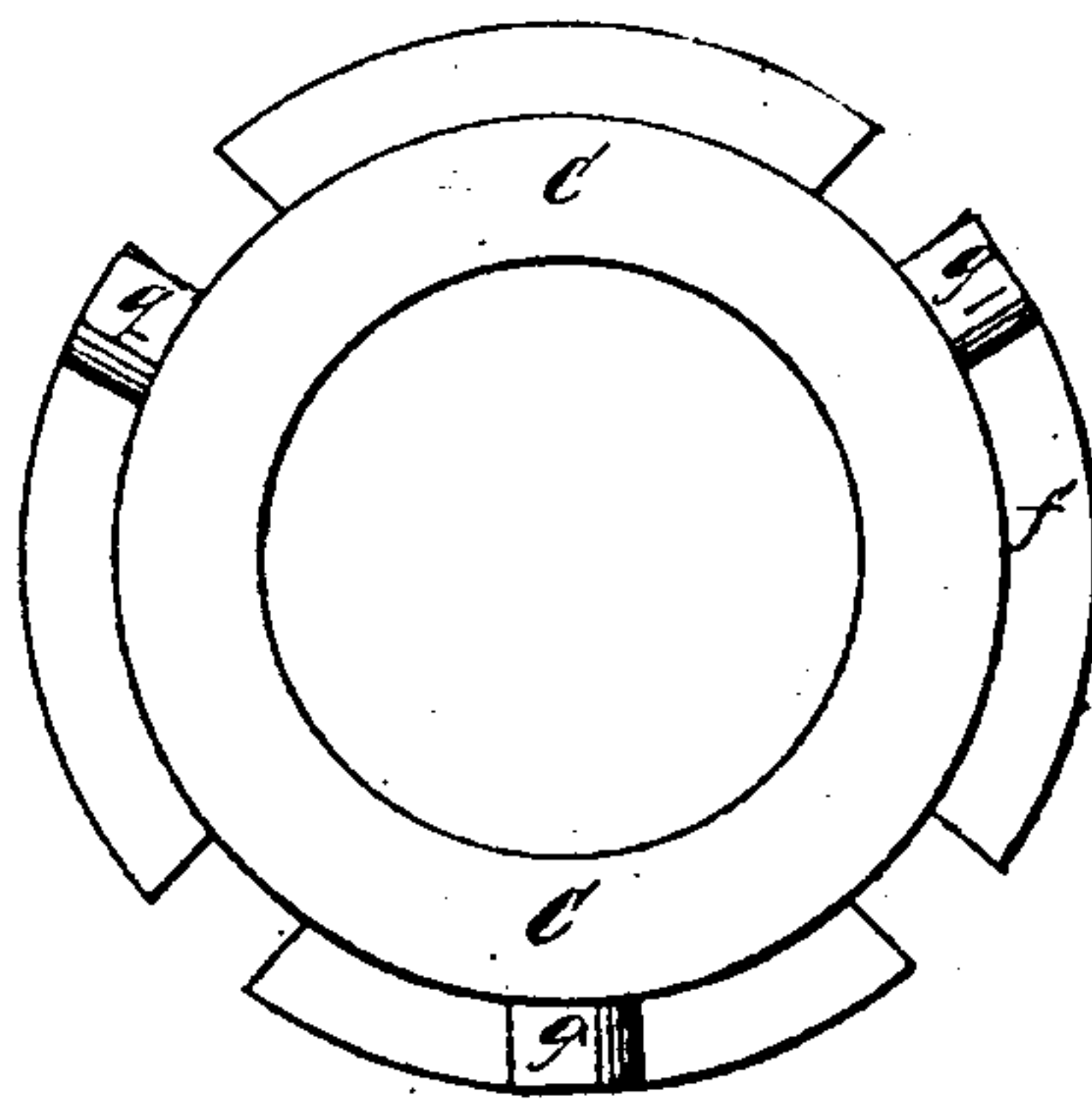


Fig 3.



Witnesses.

J. W. Conub

G. W. Reed.

Inventor.

William Craig

United States Patent Office.

WILLIAM CRAIG. OF NEWARK, NEW JERSEY.

Letters Patent No. 61,607, dated January 29, 1867.

IMPROVEMENT IN PIPE-COUPPLINGS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM CRAIG, of Newark, in the county of Essex, and State of New Jersey, have invented a new and useful Improvement in Hose or Pipe-Coupling, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a longitudinal view of my improved coupling.

Figure 2, a longitudinal section thereof.

Figure 3, and end view of the entering-but detached; and

Figure 4, a similar view of the outside ring or sleeve.

Similar letters of reference indicate corresponding parts throughout the several figures.

In hose and other similar couplings, it is a matter of no small moment that the two butts to which the adjacent ends of continuous hose sections or lengths are lashed, be so constructed as that they may not only be readily and quickly united and disunited from time to time, but, also, that when united they form a tight junction and perfect lock, and one that will be but little impaired by wear or rough usage. A stud and groove is a general and perhaps the simplest mode of gearing the entering-but and sleeve that holds the opposite one together, as such mode affords great facility for connecting and disconnecting the two butts; but all such previous constructions have been so defective in establishing a perfect lock against the butts separating accidentally in twisting or turning and handling the hose so united in sections, that it has even been proposed to insert an independent locking-screw to prevent the sections disconnecting, excepting when it is desired they should be drawn apart. The liability to loss and breakage, however, of such independent locking-screw, and the time required to work it, are great objections to its general adoption, and the object and nature of my present invention are to give an equally or more secure lock by forming the entering-but with studs or projections, and the sleeve that holds the other but with such peculiarly shaped grooves as that, by the interposition of an elastic ring or washer between the butts, every facility will be afforded for establishing or breaking the connection when it is desired to unite or disunite said butts, yet, when joined, a perfect lock of them will be established by the studs passing the culminating line of gear in the grooves or points that draw the butts closest together, being there held to prevent the casual turning of either hose section working the studs out of the grooves, the elastic character of the interposing ring or washer.

To enable others skilled in such matters to make and use my improvement, I will now proceed to describe it with reference to the accompanying drawing.

The part marked A in said drawing represents the outer ring or sleeve of a hose-coupling provided with the usual wrench holding-collar *a*, and formed with curved grooves, *b*, open at the outer end of the body of the sleeve, and extending from said end or face some distance beyond lines drawn longitudinally with the coupling from the centres from which said curves were struck, as illustrated by the red line in fig. 1, and so that the inner end or portion of each curve *b*, will form a locking cavity or continuation, *c*, slightly varying towards the outer end of the sleeve body that said curve as its mouth started from. B is the one but, held by an inner annular extension of the sleeve-collar *a*, lapping over an outer collar, *d*, to the inner end of said but, which has the usual grooves *e* on its body for lashing to and round it the one end of a hose length or section. C is the sliding or entering-but to the sleeve. This but has the usual wrench-collar *f*, and grooves, *e'*, for lashing to it the adjoining length or section of hose, and may be formed at its interior end with an inner projecting flange, between which and the collar of the other but B is interposed an India-rubber or elastic ring, D. Studs or projections *g* are arranged round the body of the entering-but, one for each curved groove or slot, *b*, in the sleeve, and of such diameter or thickness as to enter and fit easily but snugly within said grooves. Now, from this description it will be apparent that every facility is afforded for connecting and disconnecting at pleasure the entering-but C, and sleeve A, carrying the other but, and so uniting or disuniting the adjacent hose sections, by simply turning the sleeve or entering-but to throw in or out of gear the studs *g*, with the grooves *b* of the sleeve. But, in establishing the connection, it will be perceived that as the studs *g* approach and reach their culminating line, shown in red in fig. 1, the elastic ring or washer D will be compressed, but, in travelling beyond this point or line and on entering and passing into the end cavities or continuations *c*, which

slightly verge towards the end of the sleeve from which the grooves started, the elastic ring D will to a certain extent be relieved from its extreme compression, still sufficiently compressed to hold steady the sleeve and but in their coupled connection. To break the connection, however, it will be necessary to again compress the elastic ring, by and as the studs *g* work inwards on approaching and passing in their return their culminating points or lines, that is, passing from the cavities or continuations *c* to the main portions of the grooves *b*, and thus it will be seen there is a restraint or lock placed upon the coupling when the connection is fully established, that no accidental twisting or turning or handling of the hose sections can break, as to pass the studs beyond their culminating lines or points and compress the elastic ring will require a positive, and, though not to an objectionable degree, considerable force. If preferred, the grooves *b*, with their cavities or continuations *c*, may be formed inversely in the entering-but C, and the studs *g* made to project from the sleeve A, to gear with said grooves and for operation together and with the elastic ring D in the same manner; such modification being equivalent to the arrangement herein described. The grooves *b c* need not extend completely through the sleeve A to the exterior thereof, but may, by making the sleeve thick enough, extend only partly through from the interior, the portion of metal outside of the said grooves, in such case, forming shields to the studs or lugs *g*.

What I claim herein as new and useful, and desire to secure by Letters Patent, is—

The combination of the sliding or entering-but C, with its studs *g*, elastic ring D, and the adjacent but-holding sleeve A, formed with grooves *b*, made to terminate in cavities or continuations *c*, that verge outwardly towards the end or face of the sleeve from which said grooves started at their open extremities or mouths, all for operation together, substantially as and for the purpose or purposes herein set forth.

WILLIAM CRAIG.

Witnesses:

A. LE CLERC,

J. W. COOMBS.