

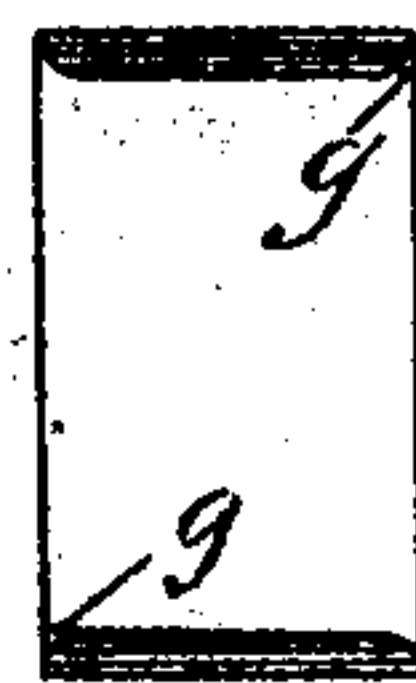
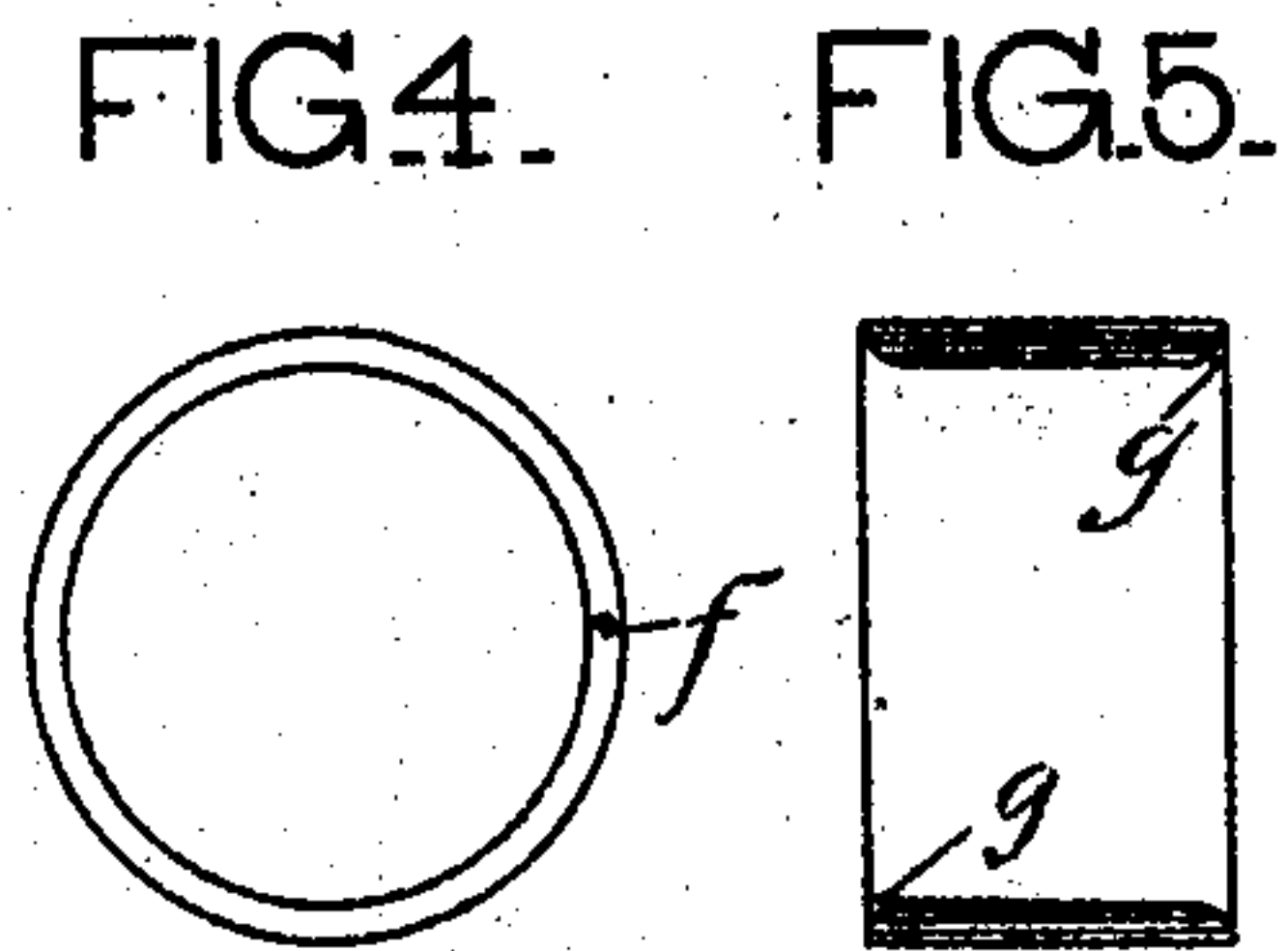
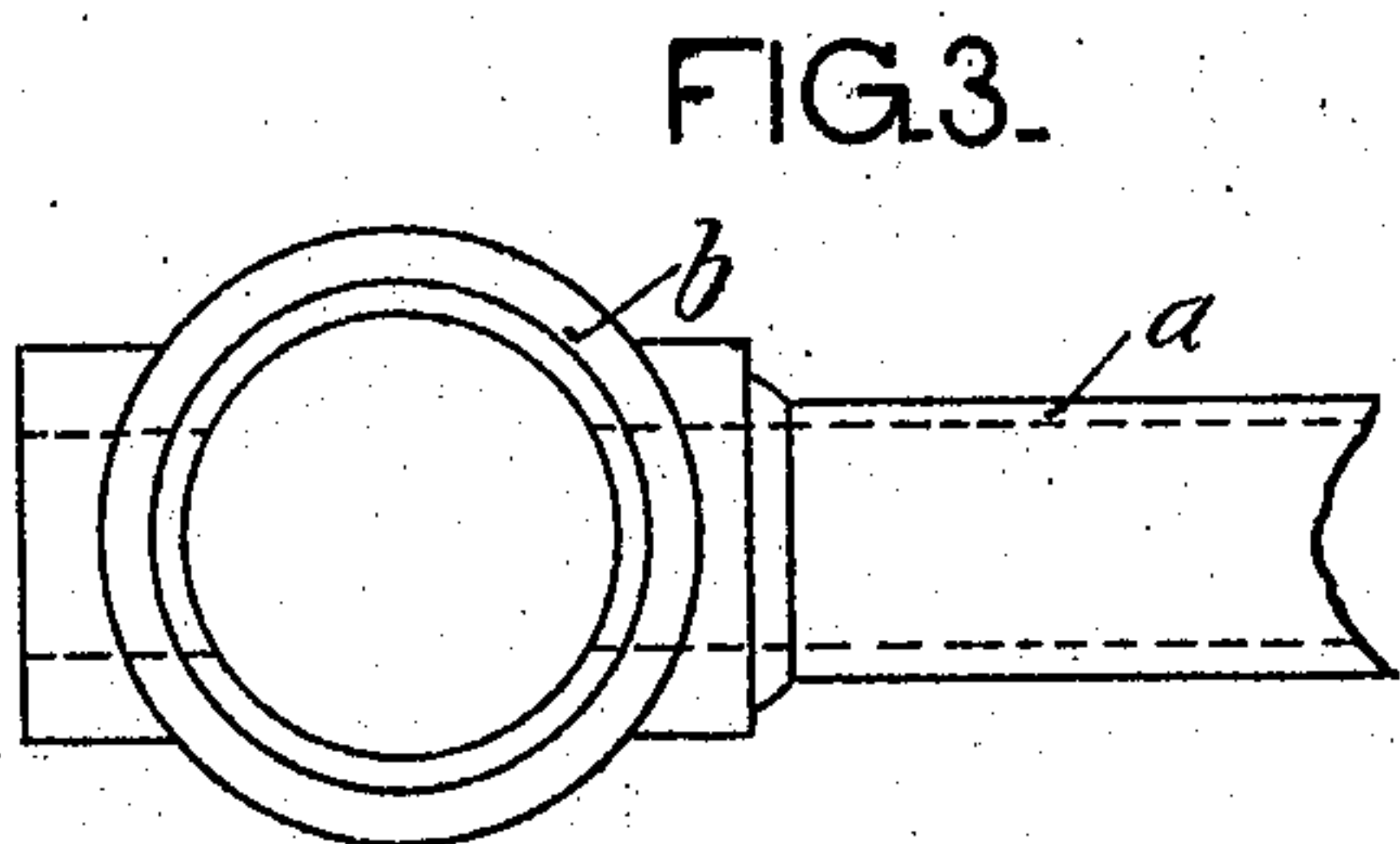
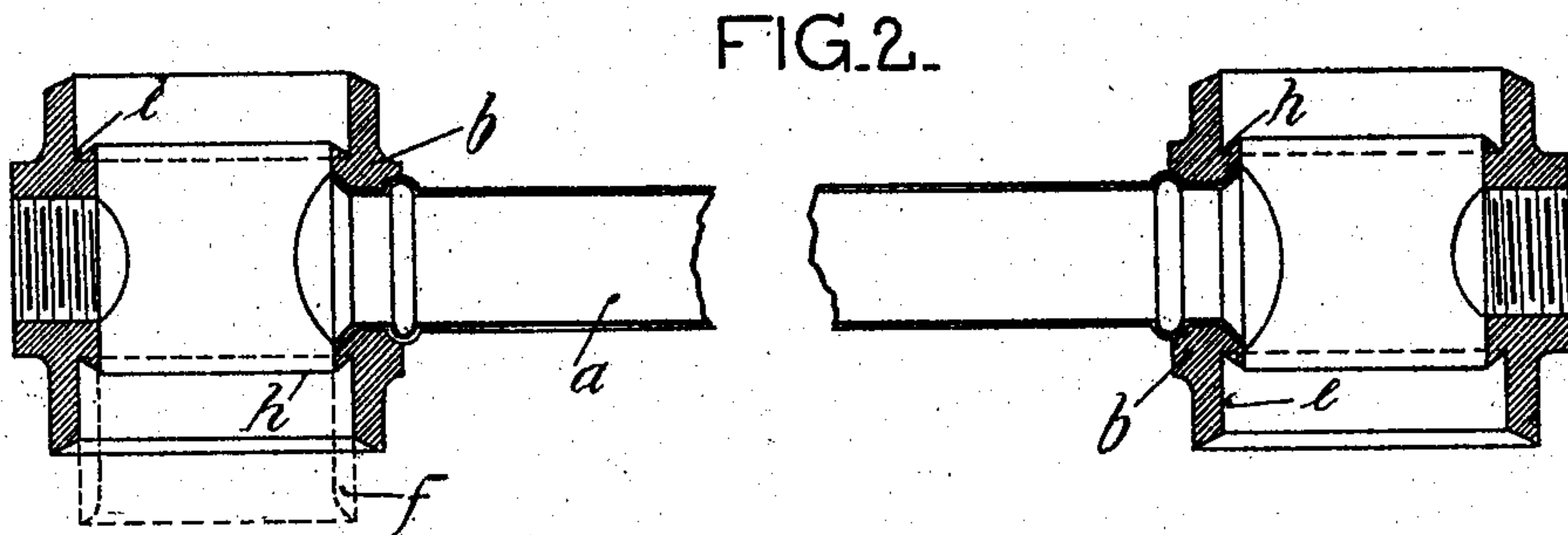
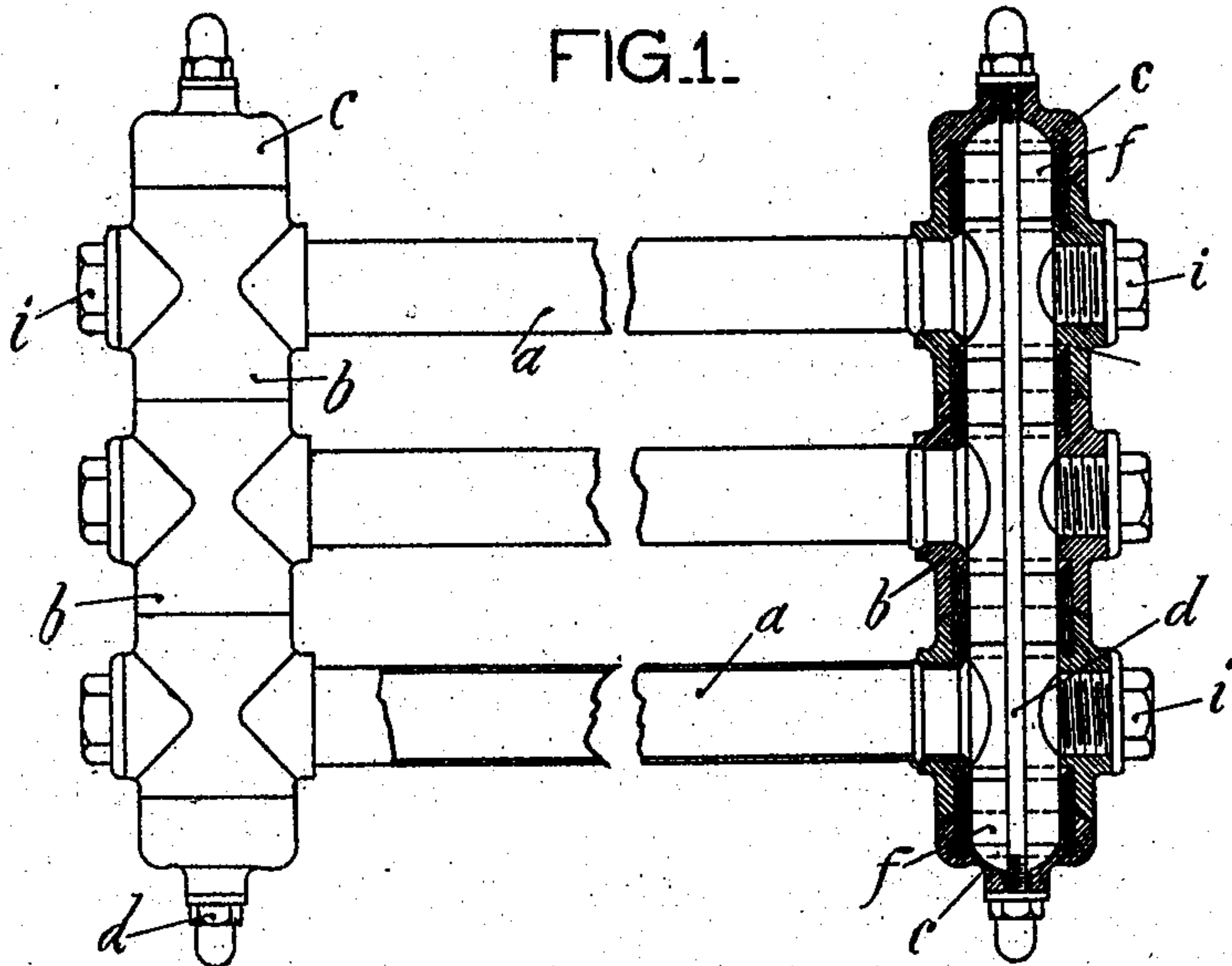
No. 815,930.

PATENTED MAR. 20, 1906.

G. F. MILLER & J. KRONIER.

PACKING FOR WATER TUBE BOILERS.

APPLICATION FILED DEC. 2, 1904. RENEWED FEB. 27, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

GUSTAV FRANZ MILLER AND JEAN KRONIER, OF FRANKFORT-ON-THE-MAIN, GERMANY.

PACKING FOR WATER-TUBE BOILERS.

No. 815,930.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed December 2, 1904. Renewed February 27, 1906. Serial No. 303,202.

To all whom it may concern:

Be it known that we, GUSTAV FRANZ MILLER and JEAN KRONIER, subjects of the German Emperor, and residents of Frankfort-on-the-Main, Germany, have invented certain new and useful Improvements in and Relating to Packings for the Chambers of Water-Tube Boilers, of which the following is a specification.

10 This invention relates to a packing or stuffing for the chambers of water-tube boilers whose chambers consist of separable cylindrical head-pieces.

15 The essential feature of the invention is the cylindrical formation of the packing of soft metal, which is placed between the head-pieces of the tubes forming the chambers in a manner that it is not immediately touched by the flame.

20 On the drawings the packing is illustrated in combination with a water-tube boiler of a known construction.

25 Figure 1 shows a front view, partly in section, through a group of tubes; Fig. 2, a longitudinal section through a tube and its head-pieces. Fig. 3 is a partial ground plan of Fig. 2, while Figs. 4 and 5 show the new packing apart from the rest.

30 The boiler formed by the tubes *a* and the head-pieces *b* is held together by grappling-irons *d* between the caps *c*. For cleaning the different head-pieces it is provided with stoppers *i*, which can be screwed out. The head-pieces *b* have on the inside of their shell recesses *e*, Fig. 2, into which before being put

together cylindrical stuffings *f*, Figs. 1, 4, and 5, are placed. These consist of a soft metal—for instance, copper—and may have end surfaces of any kind. In the drawings, for instance, they are shown with sloping ends *g*, 40 which set against the sloping end faces *h* of the head-pieces. On putting together the head-pieces the end faces of the stuffing *f* press against those of the head-pieces *b*. The real tightening, however, is effected by 45 the shell of the stuffing *f*, which under the pressure of the steam is pressed against the shell of the head-pieces *b*. As the stuffings lie perfectly inside of the head-pieces and are therefore not within reach of the flame, they 50 will last longer than the stuffings now in use.

What we claim as our invention, and desire to secure by United States Letters Patent, is—

Packing or stuffing for the chambers of water-tube boilers, whose chambers are formed 55 by cylindrical head-pieces joined together, the joints between the different head-pieces being covered by cylindrical rings of soft metal on the inside of the head-pieces, substantially as and for the purpose set forth. 60

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GUSTAV FRANZ MILLER.
JEAN KRONIER.

Witnesses:

JEAN GRUND,
CARL GRUND.