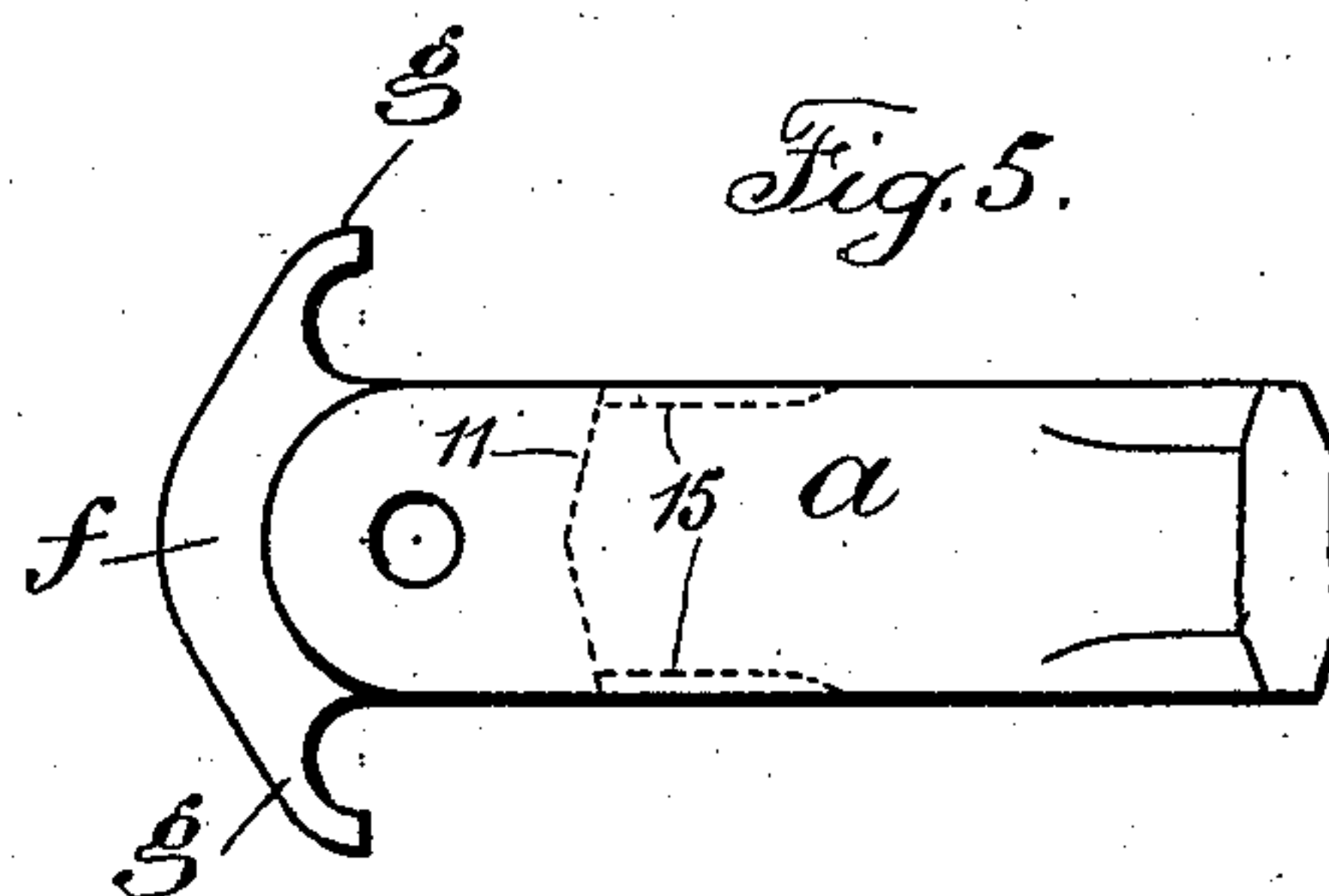
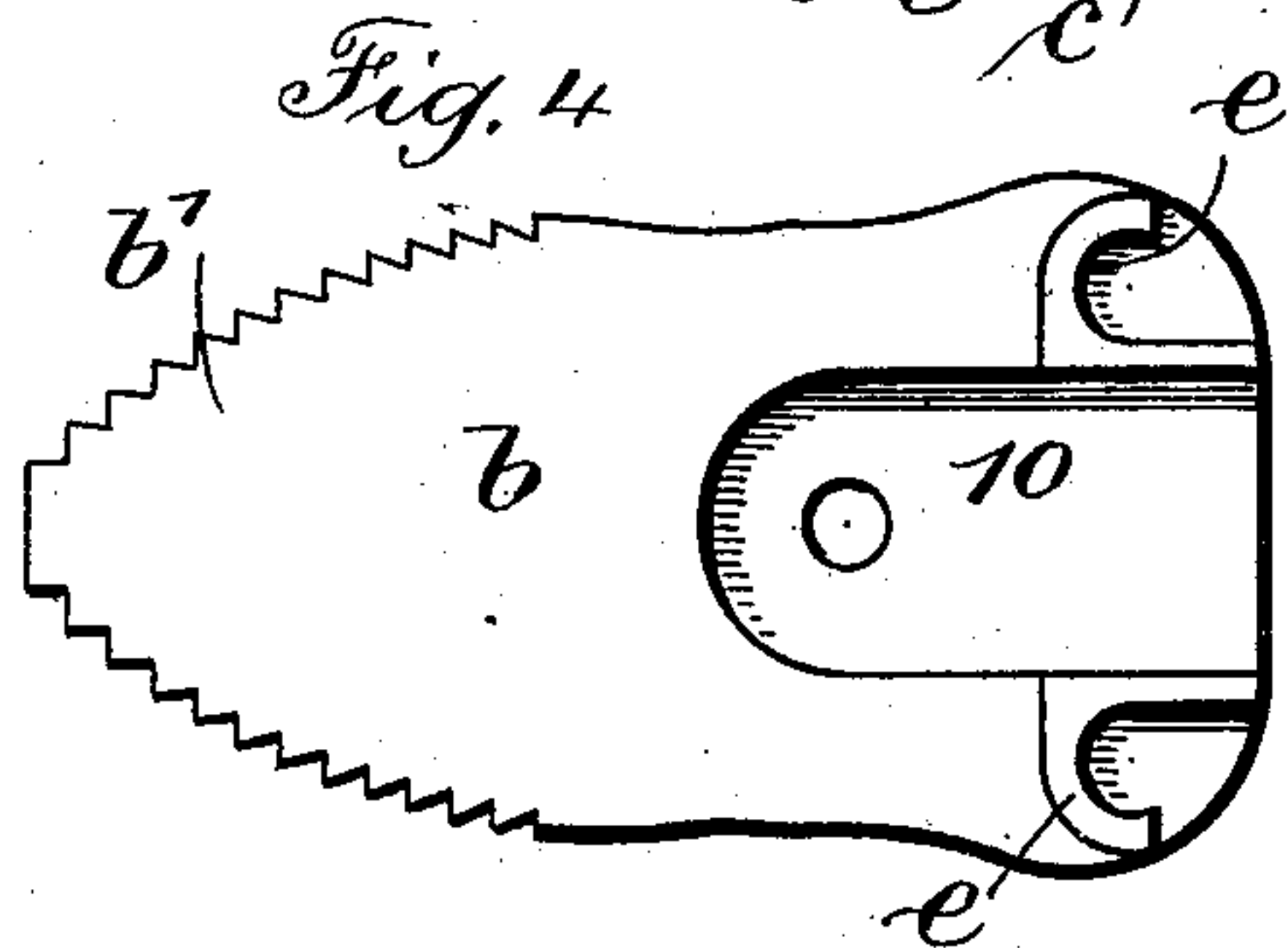
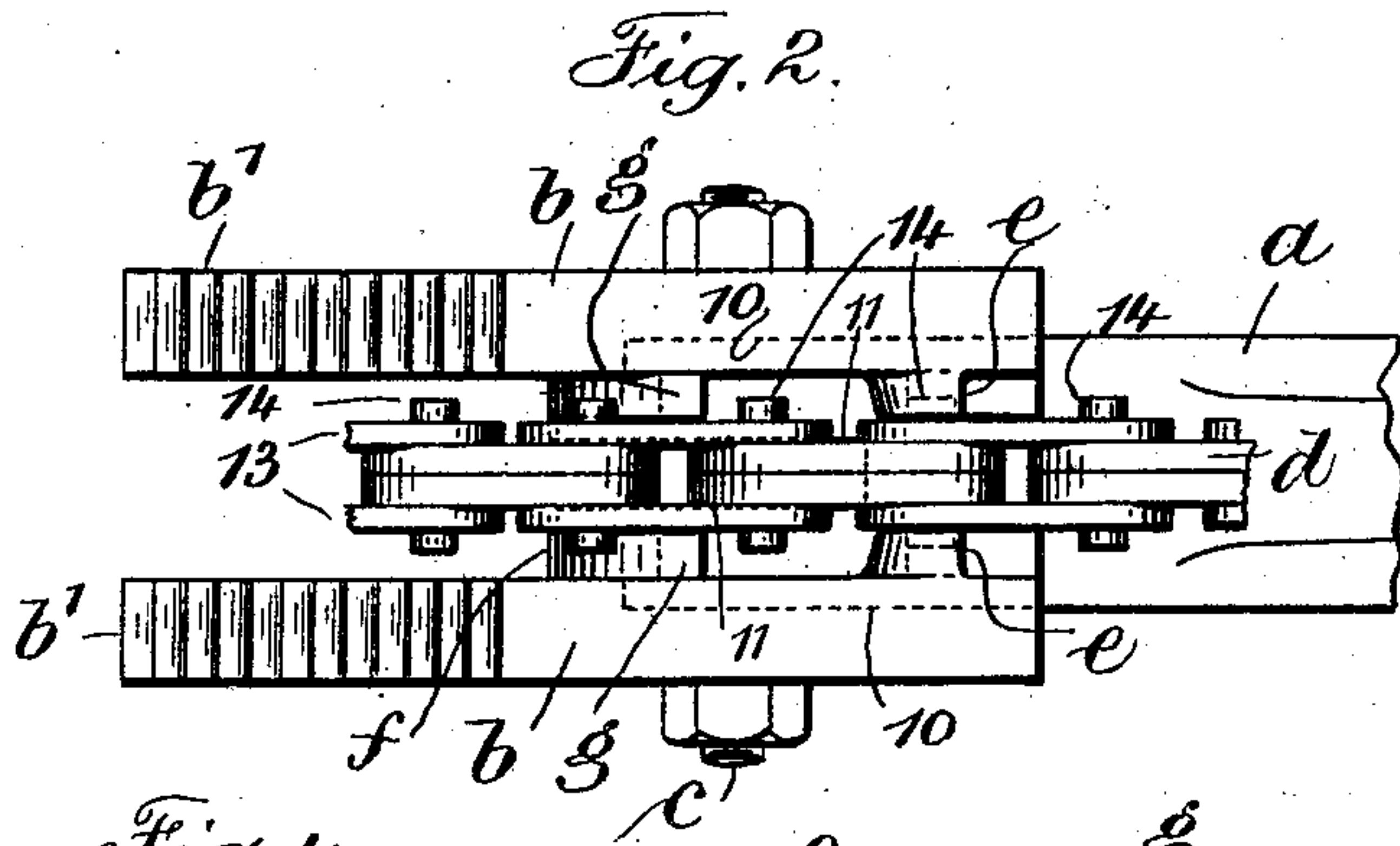
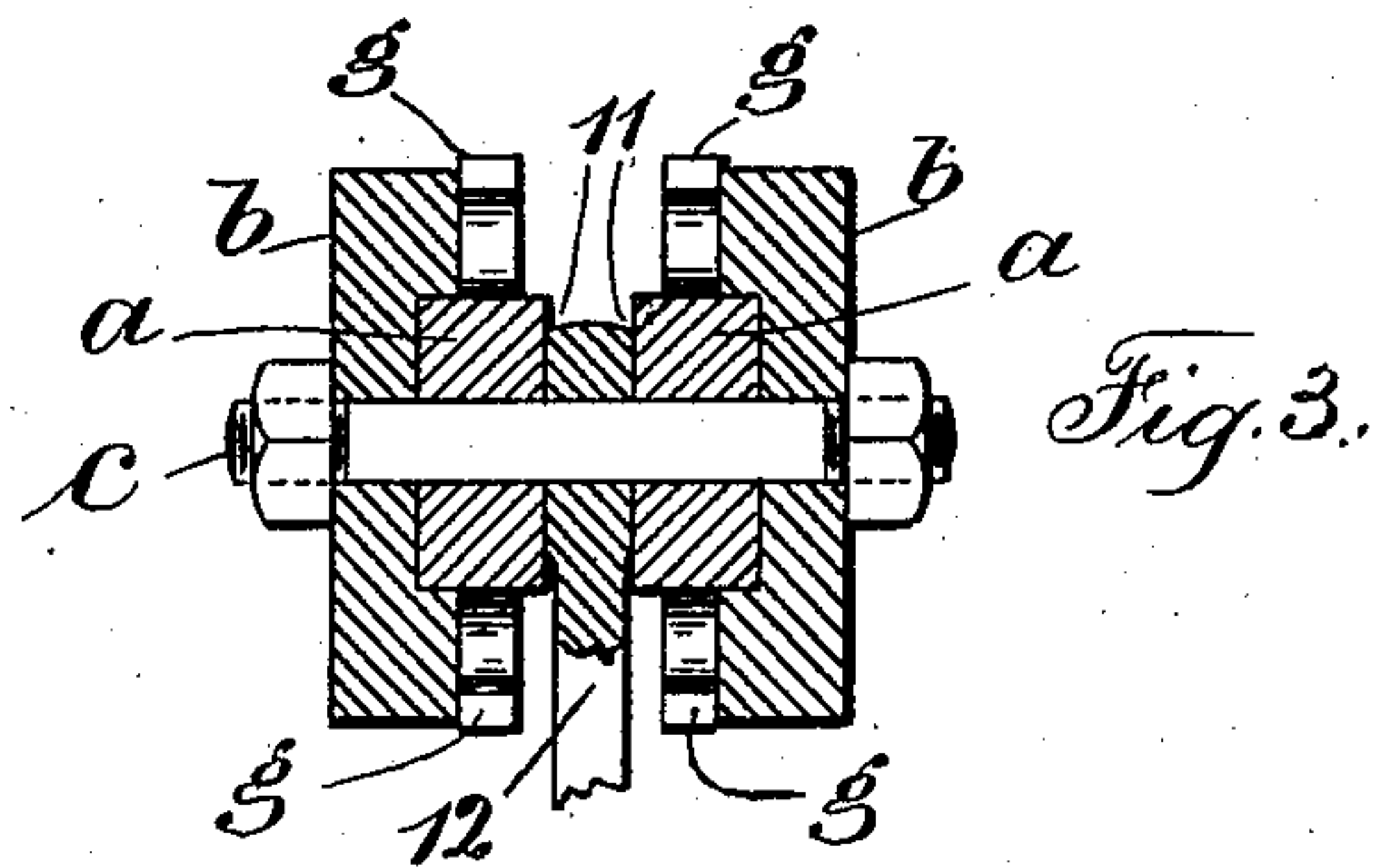
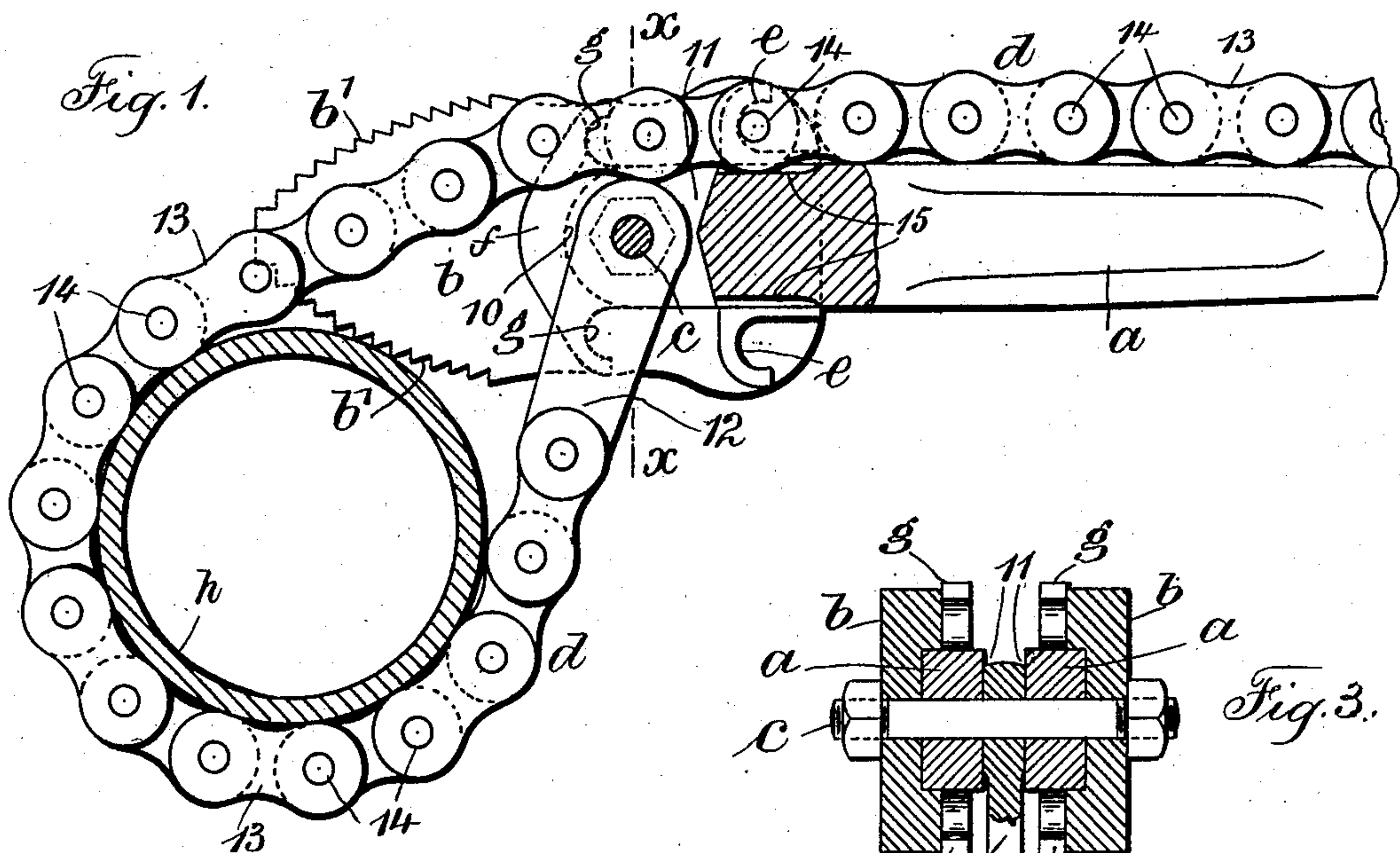


No. 891,016.

PATENTED JUNE 16, 1908.

F. W. TRABOLD.
CHAIN WRENCH.

APPLICATION FILED JUNE 5, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK W. TRABOLD, OF JOHNSTOWN, PENNSYLVANIA.

CHAIN WRENCH.

No. 891,016.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed June 5, 1907. Serial No. 377,318.

To all whom it may concern:

Be it known that I, FRANK W. TRABOLD, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented an Improvement in Chain Wrenches, of which the following is a specification.

Heretofore, chain wrenches comprising a lever handle, jaw members secured thereto and a link chain connected to the handle, have been provided with lugs or hooks, either on the handle or on the jaw members in such positions as to be adapted to engage the link chain or portion thereof after the same has been passed around the pipe or other article to be turned, to secure the chain in position and effect the proper working of the wrench. I have found from experience however that the parts of chain wrenches so constructed are liable to work loose through wear or by means of neglect and when these parts do work loose, the pivot pins or other parts of the chain are likely to come out of or away from the hook lugs on the jaw members and cause the wrench to slip.

Now the object of my present invention is to provide a chain wrench so constructed that a serious slip of the wrench in the use of the same, is rendered practically impossible, and in carrying out the same, I prefer to employ a lever handle, jaw members, means for securing the jaw members to the handle, a chain pivotally mounted in the end of the handle, means engaged by the chain in the normal use of the wrench, and means to be engaged by the chain should the last aforesaid means become disengaged from the chain, while the wrench is in use.

In the drawing, Figure 1 is an elevation and partial section of my improved chain wrench. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a cross section on line *x, x*, Fig. 1. Fig. 4 is an elevation of one of the jaw members, showing the inner face thereof, and Fig. 5 is an elevation of the end of the lever handle.

In the drawing, *a* designates the lever handle and *b, b*, are the two similar oppositely placed jaw members of the wrench, as is customary in these wrenches. Each jaw is provided in its inner surface with a recess 10 adapted to receive the end of the lever handle, both jaw members *b* being provided, as is also customary, with serrated or toothed edges *b'*. The lever handle *a* and the jaw members *b* are secured together by means of

a tie-bolt *c* passed through these parts or otherwise as may be desired. The end of the lever handle is provided with a slot 11 adapted to receive the link 12 at the end of the chain *d*, this link 12 fitting within the slot 11 and pivotally connected therein on the tie-bolt *c*, and the chain *d* of the plate links 13 is connected together by pivot pins 14 in any desired manner, and these pivot pins 14 extend an appreciable distance beyond the outer faces of the outer plate links 13. Each of the jaw members *b* in similar positions on both sides of the recess 10 therein, is provided with hook lugs indicated at *e* and the end of the lever handle on both sides of the slot 11 is provided with lugs *f*, parallel with one another and each provided with hook ends *g*, it being understood that these hook ends *g*, together with the lugs *f* and also the hook lugs *e*, are preferably formed integral with the lever handle *a* and the jaw members *b* respectively.

In the use of the hereinbefore described wrench, a chain *d* is passed beneath and around over the pipe *h* or other device to be turned and the hook lugs *e* are engaged by the extremities of one of the pivot pins 14 at the same time one pair of serrated sides of the jaw members *b* are resting upon the pipe *h* in such a position that when the lever handle is raised, the teeth of these serrated edges will grip the pipe, the hooks *g* and the lug hooks *e* being so placed that in the ordinary use of the wrench, the former are not engaged normally by the next adjacent pivot pin of the chain to that engaging the hook lugs *e*. The hook lugs *e* thus constitute what I may term the normal locking means which are adapted to be engaged by the chain in use. It will be manifest however, that should the jaws *b, b*, of the wrench separate by the loosening of the tie-bolt *c* or from any other reason, or should the chain slip for any reason, so as to cause the ends of the pivot pin engaged in the hook lugs *e* to become disengaged therefrom, it will be apparent that there is practically no yielding of the wrench, as the next adjacent pivot pin to the one that has slipped or been removed from the hook lugs *e* will engage the hook members *g* on the end of the lever handle *a*. The hook members *g* thus constitute what I may designate as the safety locking means which are brought into action only when there is a failure of the normal locking action. It is essential to my invention that

the safety locking means shall in all working positions of the wrench lie in the direct line of pull of the pivot pin which they are adapted to engage, so that when the normal locking action fails the safety locking means will engage the chain with certainty. It will also be understood that without departing from the nature and spirit of my invention, I may so place the hook lugs *e* and hook members *g* that they will in the use of the wrench, be engaged simultaneously with the ends of any pair of pivot pins 14 of the chain *d*, and if necessary, the surface of the lever handle coming between each pair of hook lugs *e* may be recessed at 15 to insure the proper engagement between the ends of the pivot pins 14 and the hook lugs *e*.

I claim as my invention:

1. A chain pipe wrench having a lever handle, jaw members at the extremity thereof, a chain pivotally mounted on said lever handle, a succession of engaging faces on said chain, a normal lock and a safety lock spaced apart a distance different from the distance between said faces, so that when one of the latter is in contact with said normal lock an adjacent face is in close proximity to, but out of contact with said safety lock, said safety lock being so disposed with relation to such face that such lock is in the line of pull thereof in all working positions of the wrench.

2. A chain pipe wrench having a lever handle, jaw members at the extremity thereof, a chain pivotally mounted on said lever handle, a succession of engaging faces on said chain, a normal lock and a safety lock spaced apart a distance different from the distance between said faces, so that when one of the latter is in contact with said normal lock an adjacent face is in close proximity to, but out of contact with said safety lock, said safety lock being so disposed with

relation to such face that such lock is in line of pull thereof in all working positions of the wrench, one of said locks being formed on the handle and the other on said jaw member.

3. A chain pipe wrench having a lever handle, jaw members at the extremity thereof, a chain pivotally mounted on said lever handle, a succession of engaging faces on said chain, a normal lock and a safety lock spaced apart a distance different from the distance between said faces, so that when one of the latter is in contact with said normal lock an adjacent face is in close proximity to, but out of contact with said safety lock, said safety lock being so disposed with relation to such face that such lock is in line of pull thereof in all working positions of the wrench, said normal lock being formed on said jaw members and said safety lock being formed on said handle.

4. A chain pipe wrench having a lever handle, jaw members at the extremity thereof, a chain pivotally mounted on said lever handle, a succession of engaging faces on said chain, a normal lock and a safety lock spaced apart a distance different from the distance between said faces, so that when one of the latter is in contact with said normal lock an adjacent face is in close proximity to, but out of contact with said safety lock, said safety lock being so disposed with relation to such face that such lock is in line of pull thereof in all working positions of the wrench, said normal lock being formed on said jaw members, and said safety lock being formed on the end of said handle forwardly of said normal lock.

Signed by me this 17th day of May 1907.

FRANK W. TRABOLD.

Witnesses:

B. F. HALDEMAN,
P. L. CARPENTER.