

No. 773,773.

PATENTED NOV. 1, 1904.

G. AMBORN & H. C. CHASE.

CHAIN PIPE WRENCH.

APPLICATION FILED APR. 19, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

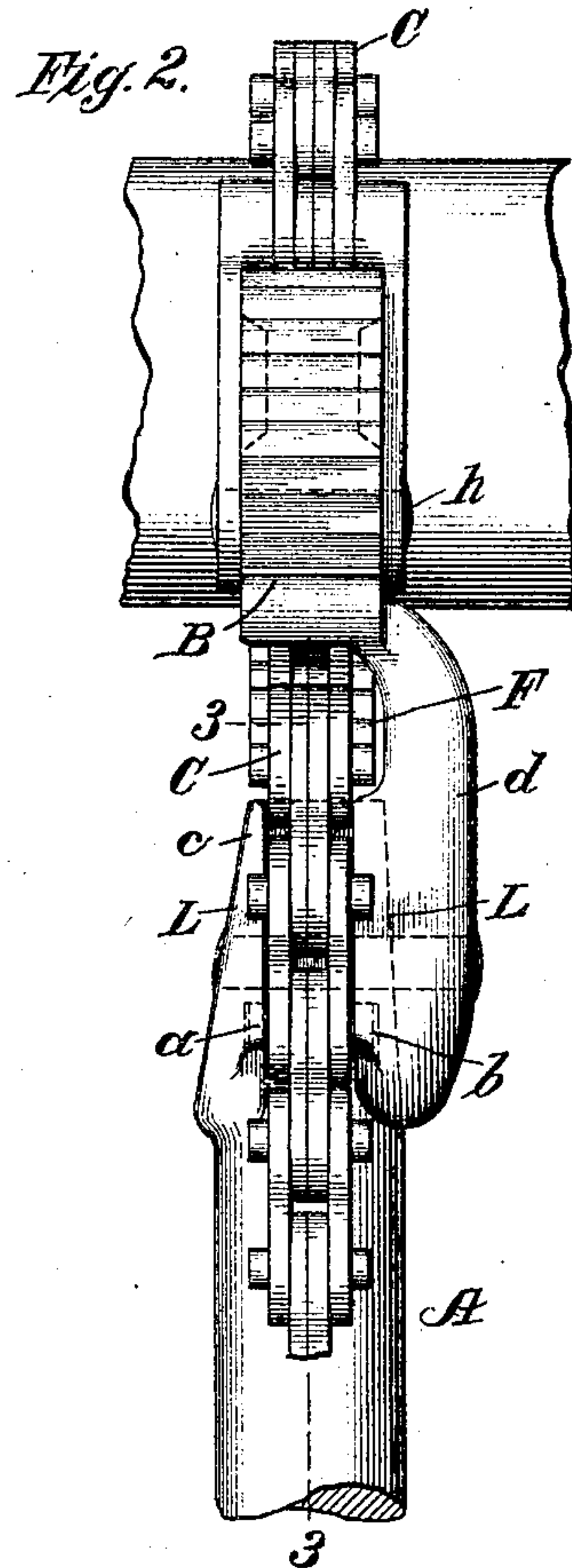
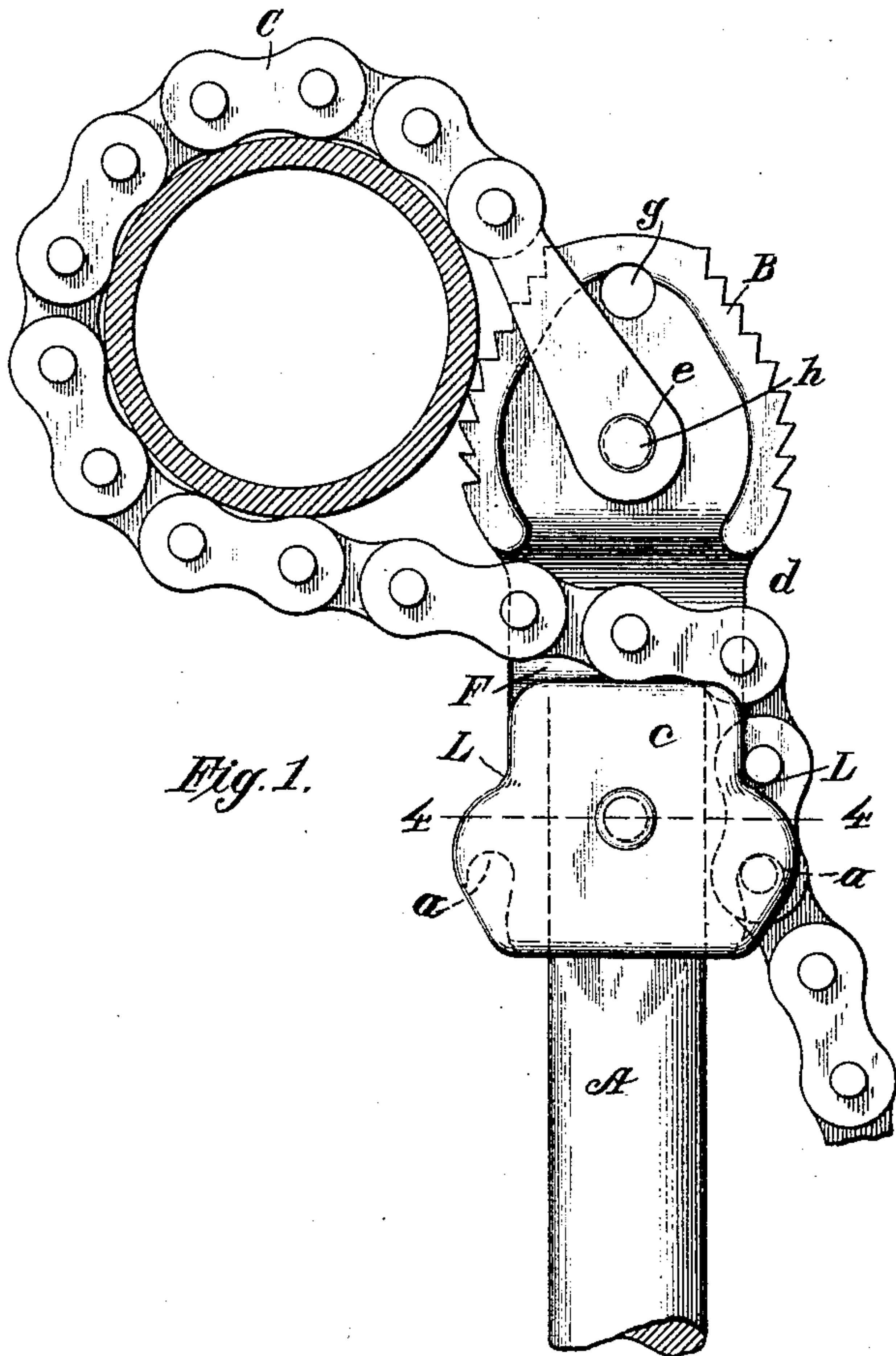


Fig. 3.

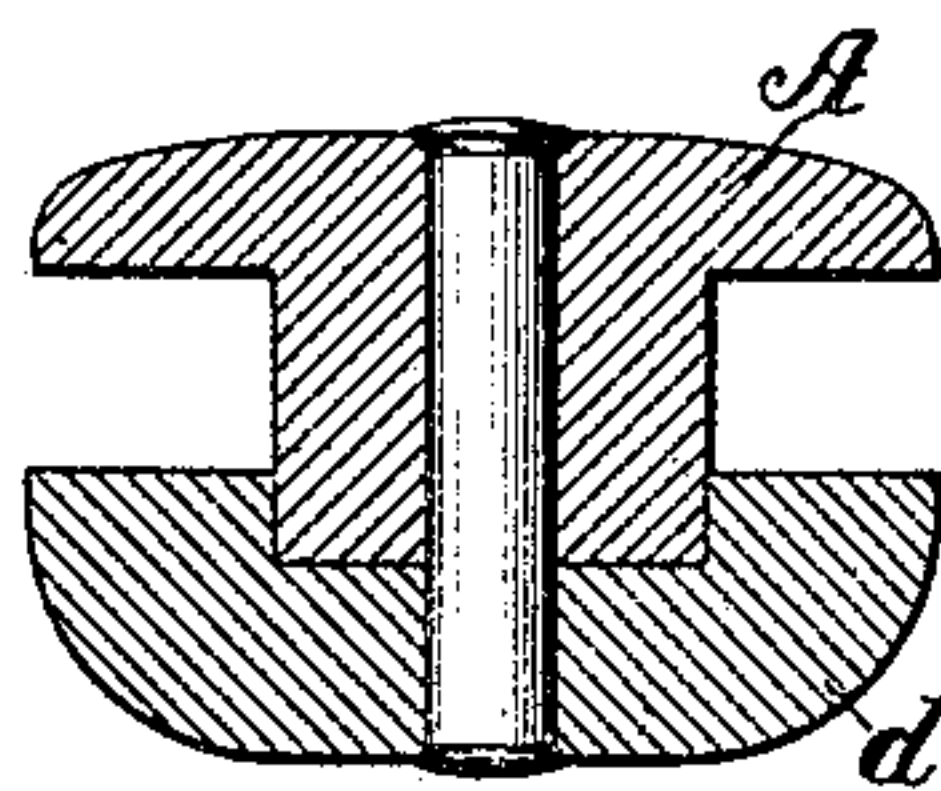
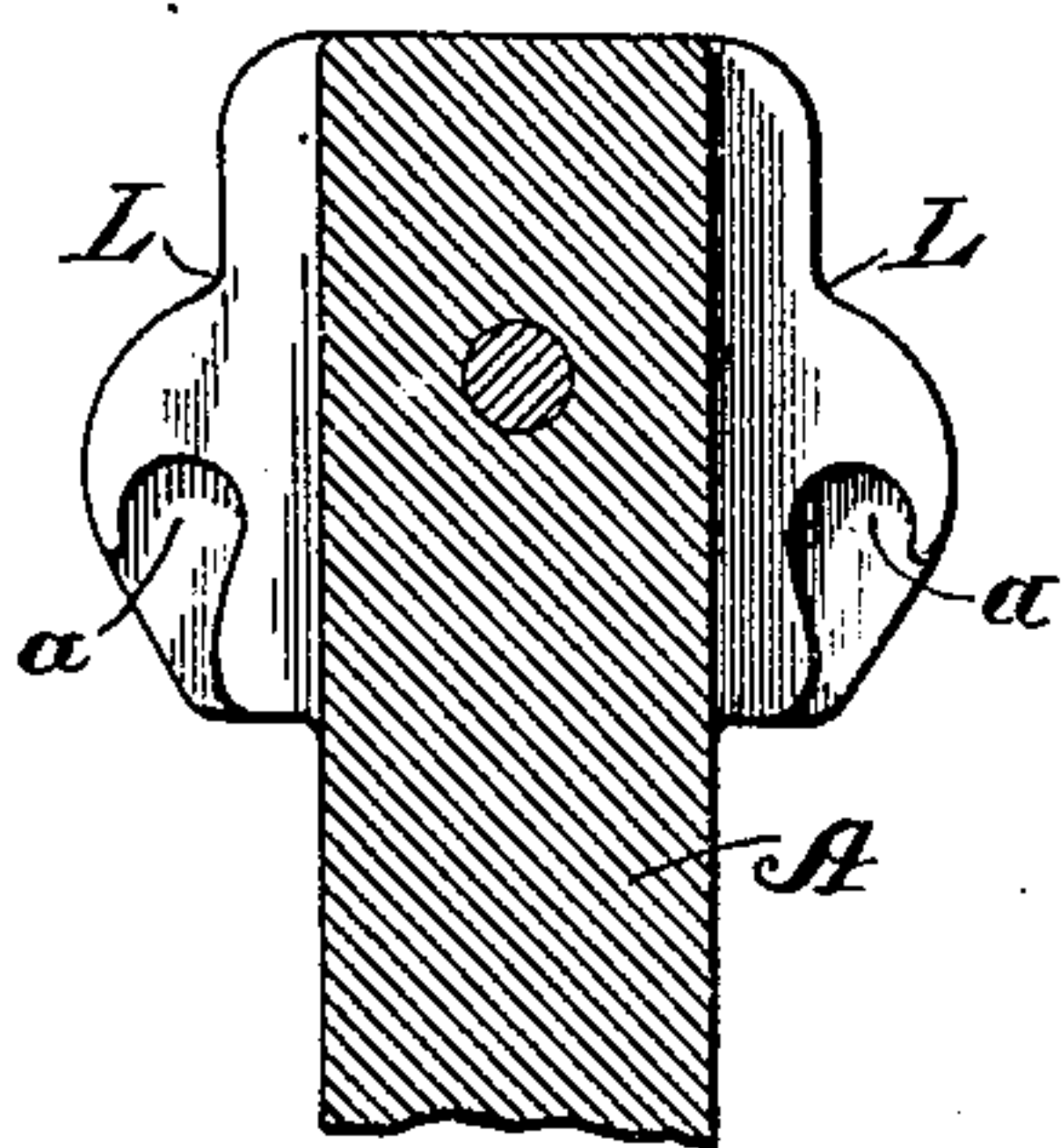


Fig. 4.

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2 SHEETS—SHEET 2.

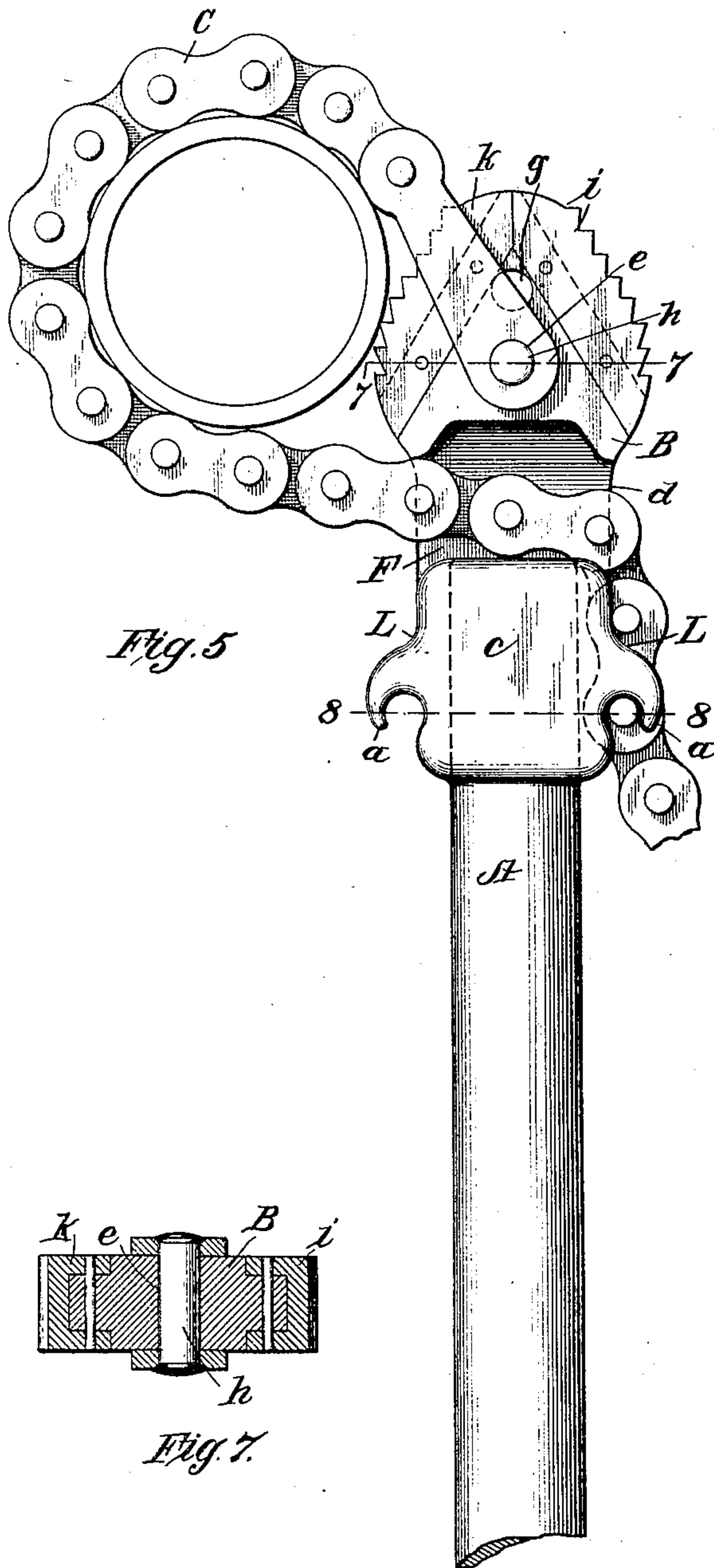


Fig. 5

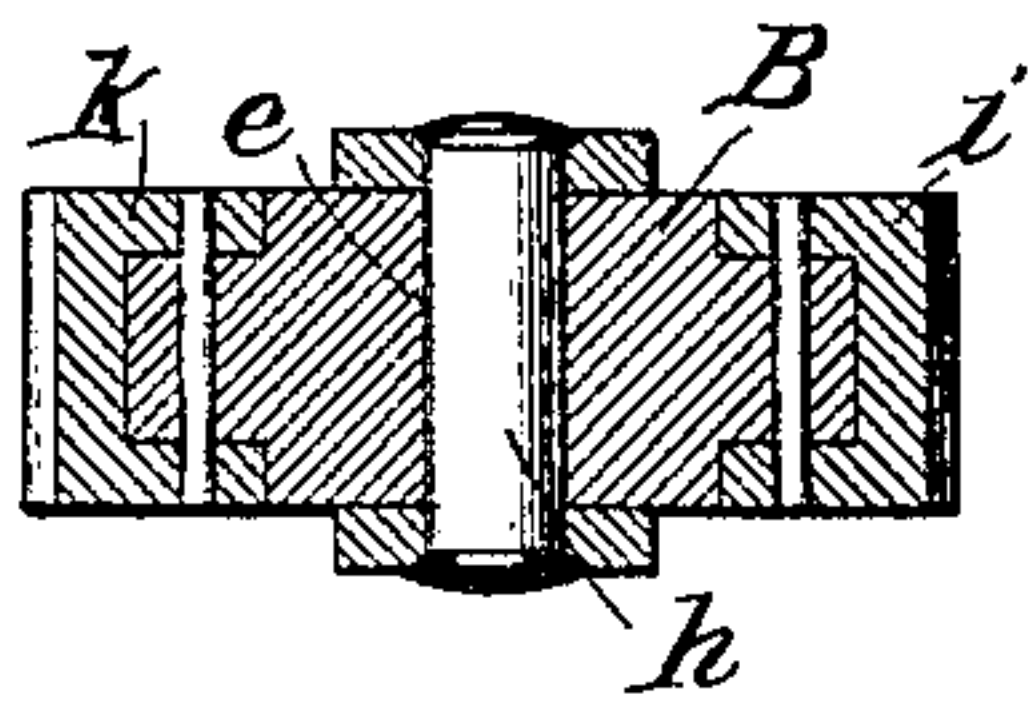


Fig. 7

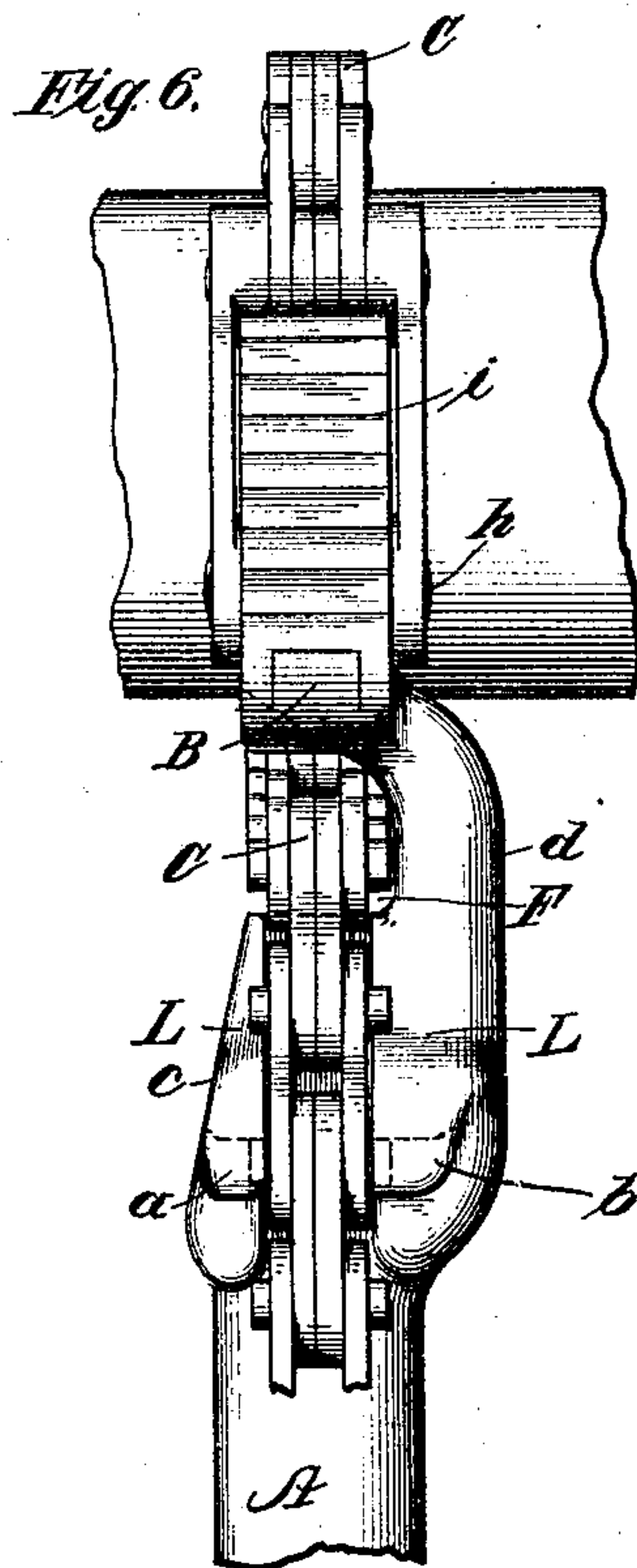


Fig. 6

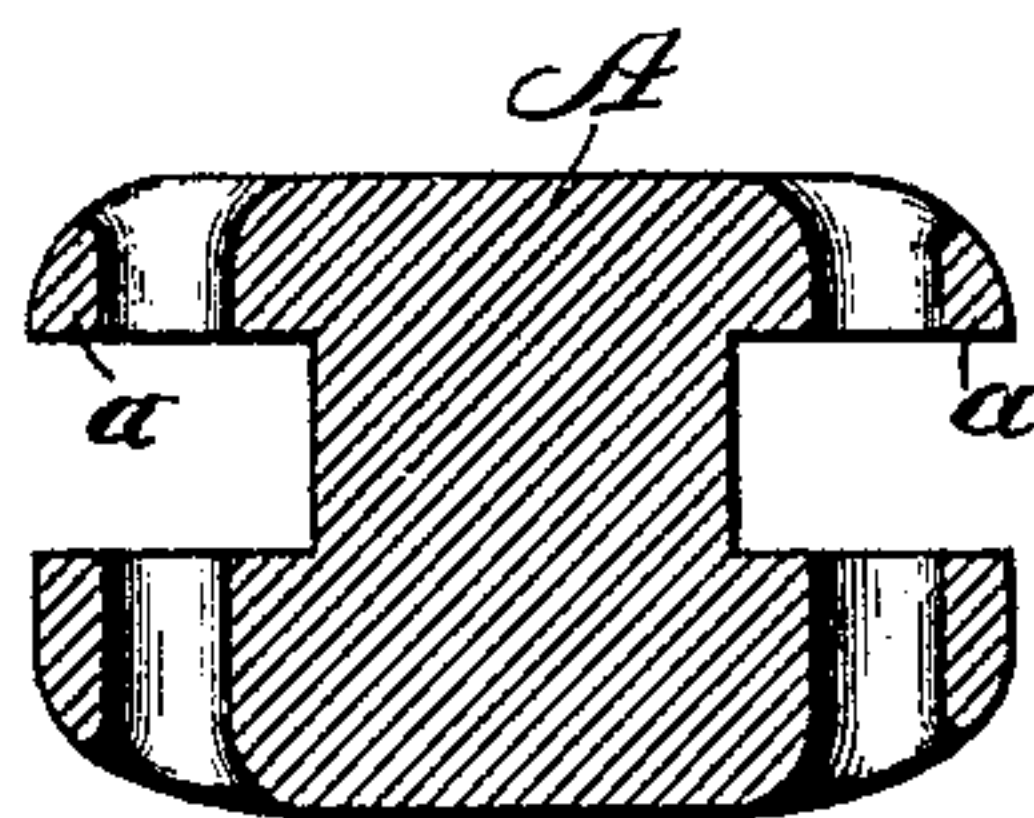


Fig. 8

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UNITED STATES PATENT OFFICE.

GEORGE AMBORN AND HERBERT C. CHASE, OF NEW YORK, N. Y., ASSIGNORS TO J. H. WILLIAMS & COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

CHAIN PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 773,773, dated November 1, 1904.

Application filed April 19, 1904. Serial No. 203,877. (No model.)

To all whom it may concern:

Be it known that we, GEORGE AMBORN and HERBERT C. CHASE, both citizens of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Chain Wrenches, of which the following is a specification.

The present invention consists in certain improvements upon the type of chain wrenches set forth in the United States patent to Amborn, No. 698,780, dated April 29, 1902. In the wrench of that patent the chain passes through an open-mouthed chain-receiving passage located between the base of the head and the end of the handle. The chain was engaged by locks opposite the ends of the handle and immediately below the chain-passage. This construction necessitated a material lateral extension of the metal constituting the locks beyond the open mouth of the chain-passage, which interfered with the ready insertion of the chain in the chain-passage.

The object of the present invention is to reduce the lateral extension of the wrench beyond the mouth of the chain-passage to a minimum, so as to facilitate the entrance of the chain into the passage and the use of the wrench in close quarters.

The present improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the wrench as seen when gripping a pipe. Fig. 2 is a top view of the wrench. Fig. 3 is a sectional view of one form of the wrench along the line 3 3 of Fig. 2. Fig. 4 is a sectional view of the same wrench along the line 4 4 of Fig. 1. The foregoing figures illustrate a wrench of which the head and handle are separable. Fig. 5 is a side view, comparable to Fig. 1, of a wrench of which the head and handle are integral. Fig. 6 is a top view of the wrench shown in Fig. 5. Fig. 7 is a sectional view along the line 7 7 of Fig. 5, showing the mode of attachment of the removable jaws of this form of wrench; and Fig. 8 is a sectional view along the line 8 8 of Fig. 5.

A is the handle.

B is the head, and C is the chain.

The head is a single head having serrated gripping-faces, and it is connected with the handle by means of a neck *d*, which extends laterally from one side of the head to the corresponding side of the handle, the head, neck, and handle being rigid with each other. This laterally-extending neck provides an open-mouthed chain-receiving passage between the base of the head, the end of the handle, and at one side of the neck. In the construction shown in Figs. 1 to 4 the neck is integral with the head, but is separate from the handle. The base of the neck is channeled on its side, so as to embrace the handle and to secure rigidity therewith, and the neck and handle are rigidly fastened together by appropriate means, such as by riveting, as shown in the drawings.

The chain C is a double-acting flat-link single-course chain with projecting locking-pintles and so pivoted to the head as to squarely oppose the gripping-faces thereof. The chain is preferably pivoted to the head by means similar to those shown in the United States Patent of Bufford, No. 743,058, dated November 3, 1903. The chain pivot-pin *h* can be pivoted to any portion of the head either at the central pivot-point *e* or at the end pivot-point *g* or at any intermediate point. The chain after being passed around a pipe is passed through the chain-passage and is then fastened to locks with which the wrench is provided, said locks cooperating with the projecting locking-pintles of the chain. Locks are provided on both faces of the wrench, so that the chain may cooperate with either of the serrated faces of the head. Each lock is composed of two spaced lugs *a* and *b*. As shown in Figs. 1 to 4, the lugs *a* are integral with the handle, while the lugs *b* are integral with the neck, being near the rear end thereof—that is to say, at a point where they are remote from the base of the chain-passage. The handle-lugs *a* are opposite the lugs *b*, there being a space between them for the re-

ception of the chain-links, this space being bisected by a plane passing through the middle of the serrated faces of the head. The lugs are suitably hook-shaped to lock the chain-pintles when the wrench is used. The handle-lugs α , which are opposite the neck, are below and remote from the chain-passage F, and they constitute a minimum lateral projection on the side of the handle opposite to where the neck is located. The outer side of the handle slopes inwardly from the outer sides of the handle-lugs to the rear margin of the mouth of the chain-passage, so that the said margin is nearer the central plane of the wrench than the outer sides of the locking-lugs on the same side of the wrench. As the result of this construction sufficient stock is obtained to render the lugs α sufficiently strong, and at the same time there is no lateral projection in the immediate vicinity of the mouth of the chain-passage which prevents the ready insertion of the chain into said passage. With this construction it is not necessary to thread the chain endwise through the passage, since the lateral play allowed by the links is sufficient to enable the chain to be slipped sidewise into the mouth of the passage, this being permitted by reason of the minimum lateral projections on the side of the wrench where the passage-mouth is located, and the remoteness of these lateral projections constituting the locking-lugs from the base of the passage.

The handle-lugs α involve a minimum lateral projection on the side of the wrench where the mouth of the chain-passage is located, the projection beyond the central plane of the wrench being much less on this side of the wrench than on the other. As a consequence the wrench can be used in close quarters where a wrench with greater lateral projections could not be used.

The locking-lugs are formed with reëntrant portions L, so that they may enter between adjacent pintles of the chain, as shown in the drawings, thereby permitting the chain when locked to lie close against the face of the handle.

The construction shown in Figs. 5 to 8, inclusive, is similar to that shown in Figs. 1 to 4, excepting that the neck α is integral with the handle as well as with the body of the head and the head is provided with removable and replaceable serrated jaws j and k . These separate serrated jaws may be used either when the neck is integral with the handle or when it is separate and secured to the handle, as shown in Figs. 1 to 4. Each serrated jaw is channeled on its inner face to fit snugly over a tongue of the head and is secured thereto by bolts or rivets, as clearly shown in Fig. 7. This construction enables a high grade of steel to be used for the jaws, while inferior steel may be used for the head and handle of the

wrench, and the jaws can be readily replaced when worn.

We claim as our invention—

1. A chain wrench having, in combination, a single head serrated on its opposite faces; a handle; a neck integral with the head and extending from one side thereof to one side of the handle, thereby forming an open-mouthed chain-receiving passage between the base of the head and the end of the handle; means for rigidly fastening the neck and handle together; a double-acting flat-link chain pivoted to the head and opposing the serrated faces thereof, said chain having projecting locking-pintles; locks for said pintles on both faces of the wrench below and remote from the chain-receiving passage, each lock consisting of a pair of spaced lugs one of which is integral with said neck and at the rear end thereof, while the other is integral with the handle, the outer side of the handle sloping inwardly from the outer sides of the handle-lugs to the rear margin of the mouth of said passage.

2. A chain wrench having, in combination, a single head serrated on its opposite faces; a handle; a neck connecting one side of the head to one side of the handle and rigid with both head and handle; an open-mouthed chain-receiving passage between the base of the head and the end of the handle and at one side of said neck; a double-acting flat-link chain pivoted to the head and opposing the serrated faces thereof, said chain having projecting locking-pintles; rigid locks for said pintles on both faces of the wrench below and remote from the chain-receiving passage, each lock consisting of a pair of spaced lugs, the outer side of the handle opposite the neck sloping inwardly from the outer sides of the adjacent lugs to the rear margin of the mouth of said passage.

3. A chain wrench having, in combination, a single head serrated on its opposite faces; a handle; a neck connecting one side of the head to one side of the handle and rigid with both head and handle; an open-mouthed chain-receiving passage between the base of the head and the end of the handle and at one side of said neck; a chain pivoted to the head; locks for said chain on both faces of the wrench below and remote from the chain-receiving passage, each lock consisting of a pair of spaced lugs, the outer side of the handle opposite the neck sloping inwardly from the outer sides of the adjacent lugs to the rear margin of the mouth of said passage.

4. A chain wrench having, in combination, a single head serrated on its opposite faces; a handle; a neck connecting one side of the head to one side of the handle and rigid with both head and handle; an open-mouthed chain-receiving passage between the base of the head and the end of the handle and at one side of said neck; a chain pivoted to the head; locks

for said chain on both faces of the wrench below and remote from the chain-receiving passage, each lock consisting of a pair of spaced lugs, the rear margin of the open mouth of
5 the passage being nearer the central plane of the wrench than the outer sides of the locking-lugs on that side of the wrench.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE AMBORN.
HERBERT C. CHASE.

Witnesses:

MORTIMER J. TRAVIS,
WILLIAM H. ANDERSON, Jr.