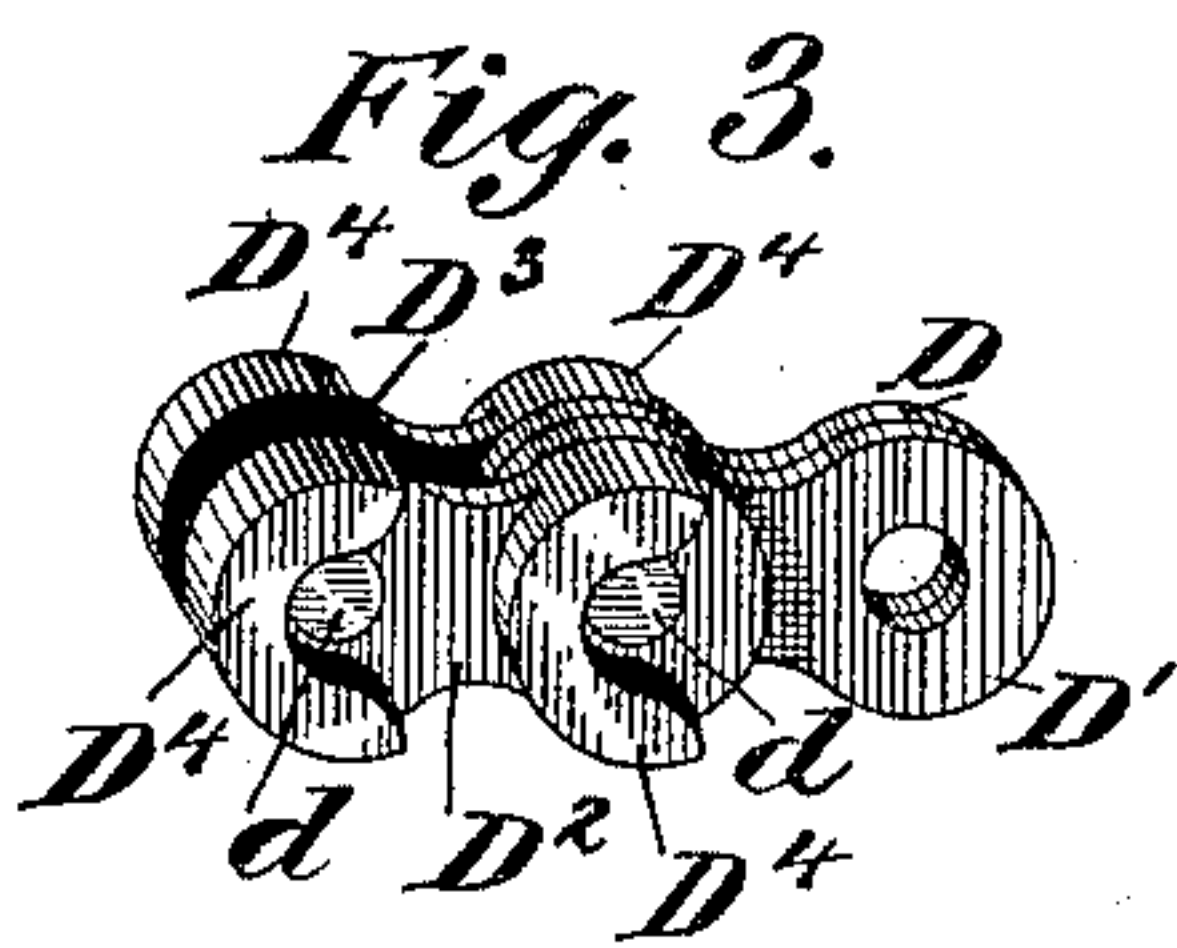
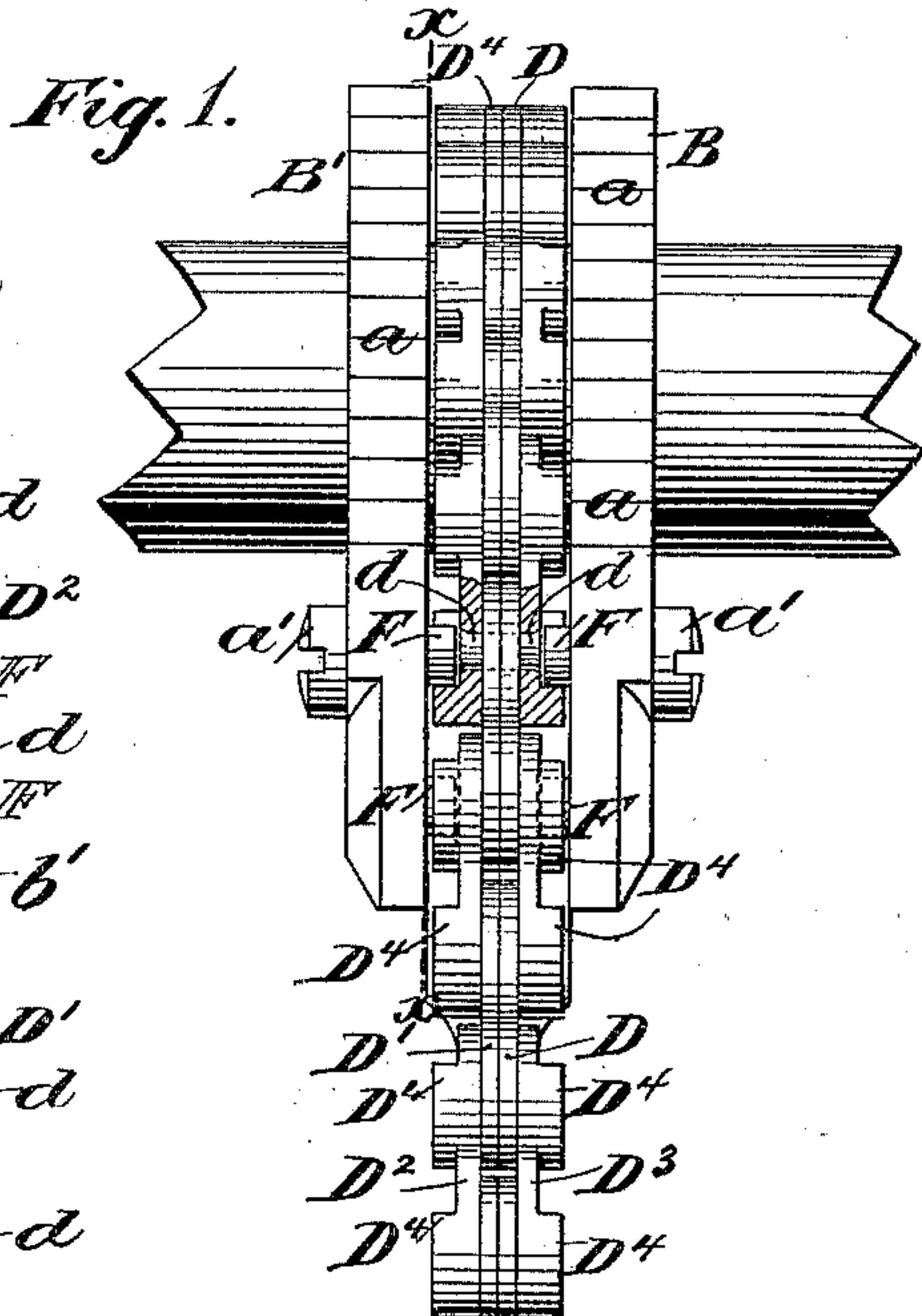
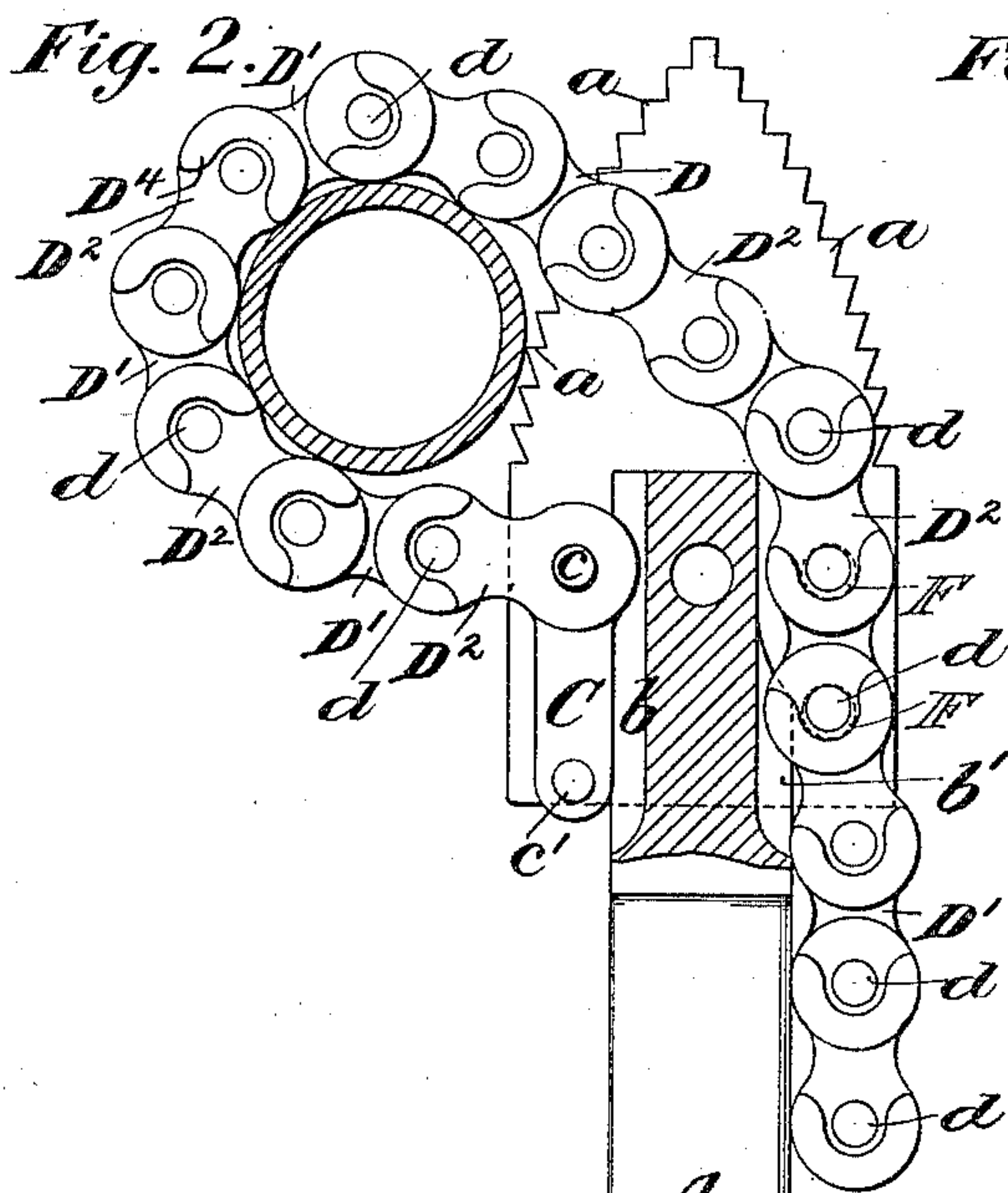


(No Model.)

G. W. BUFFORD.
PIPE TONGS.

No. 432,195.

Patented July 15, 1890.



Witnesses:-
W. H. Haywood
O. Sundgren

Inventor:-
George W. Bufford
by his attorneys
Brown & Griswold

UNITED STATES PATENT OFFICE.

GEORGE W. BUFFORD, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF
TO JOHN E. KITSON, OF SAME PLACE.

PIPE-TONGS.

SPECIFICATION forming part of Letters Patent No. 432,195, dated July 15, 1890.

Application filed December 31, 1889. Serial No. 335,491. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BUFFORD, of Brooklyn, in the county of Kings and State of New York, have invented a certain
5 new and useful Improvement in Pipe-Tongs, of which the following is a specification.

My improvement relates to pipe-tongs in which the pipe to be turned is gripped between a jaw or jaws having a serrated edge
10 or edges and a chain, one end of the chain being permanently secured to the wrench, and one end thereof being free and adapted to be passed about the pipe and then to be engaged with the body of the tongs.

15 I will describe in detail a wrench embodying my improvement, and then point out the novel features in a claim.

In the accompanying drawings, Figure 1 is an edge view of a wrench embodying my improvement and showing the same as engaging
20 a pipe. Part of the chain shown in this view is in section. Fig. 2 is a sectional view of the same, taken on the line $x x$, Fig. 1. Fig. 3 is a view in perspective of one of the
25 links employed in the chain.

Similar letters of reference designate corresponding parts in all the figures.

A designates a handle, preferably made of metal. To this handle are secured jaws B
30 B'. These jaws, as shown, are somewhat conical in shape near their outer ends, and their outer edges upon said conically-shaped portions are serrated or provided with teeth a . I have shown screws a' , by which the
35 jaws B B' are secured to the handle A. Near the extremity of the handle A, which is secured to the jaws B B', the handle is provided upon its edges with recesses $b b'$.

D designates a chain, which chain is permanently secured near one of its ends to the
40 jaws B B'. It is thus permanently secured by a pin c , which extends through the jaws B B' and through one of the joints of the first link. The pin also extends through a
45 metallic anchor-piece C, near one of the ends of said anchor-piece. The other end of said anchor-piece is secured to the jaws by means of a pin c' , which extends through apertures
50 in the jaws and also through an aperture in the anchor-piece.

Each of the links of the chain in my improvement comprises two members of flat metal D D', which members are perforated near their ends, and two members D² D³. The members D² D³ are each perforated near
55 their ends, and are provided upon their exteriors with arc-shaped hooks D⁴. These hooks extend outwardly considerably beyond the surface of the main or body portions of the members D² D³. In securing the mem-
60 bers of the links together the members D D' are placed between the members D² D³ in such manner that the perforations in the end portions of the different members will be opposite each other. Rivets d are then
65 passed through the perforations thus brought opposite each other, which rivets are upset upon their outer ends and operate to secure the different members together. The different members may, however, turn freely
70 relatively to each other. It is to be observed that the ends of the rivets d are considerably inward of the outer edges of the hooks D⁴.

Extending inwardly from the sides of the jaws B B', and opposite those where the end
75 of the chain is permanently secured, are stout pins or projections F, which pins or projections may be formed with the jaws, or may be secured therein in any suitable manner. The chain having been passed about
80 a pipe, as shown, the free end is brought round until it is made taut, and the hooks D² are then caused to engage the pins or projections F. The wrench may then be operated to cause the turning of the pipe.
85

It will be observed that the strain exerted upon the chain is borne almost wholly by the hooks D⁴, and not by the rivets which unite the links. The hooks, owing to their shape and arrangement, cannot be bent or
90 deflected. The hooks also may be very readily engaged with or disengaged from the pins or projections F, and by engaging two of the hooks with pins F the former will be securely maintained in position against acci-
95 dental displacement, even though the wrench be used in an inverted position.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a pipe-wrench, the combination, with a 100

handle, of a pair of jaws having serrated
outer edges and secured to said handle, a
chain permanently secured near one of its
ends to the wrench, said chain comprising
5 links having members provided upon their
exteriors with hooks, and pins or projections
extending inwardly from said jaws, with which

said hooks may be engaged, substantially as
specified.

GEORGE W. BUFFORD.

Witnesses:

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