

No. 658,017.

Patented Sept. 18, 1900.

C. W. LEVALLEY.
DRIVE CHAIN.

(Application filed Jan. 20, 1900.)

(No Model.)

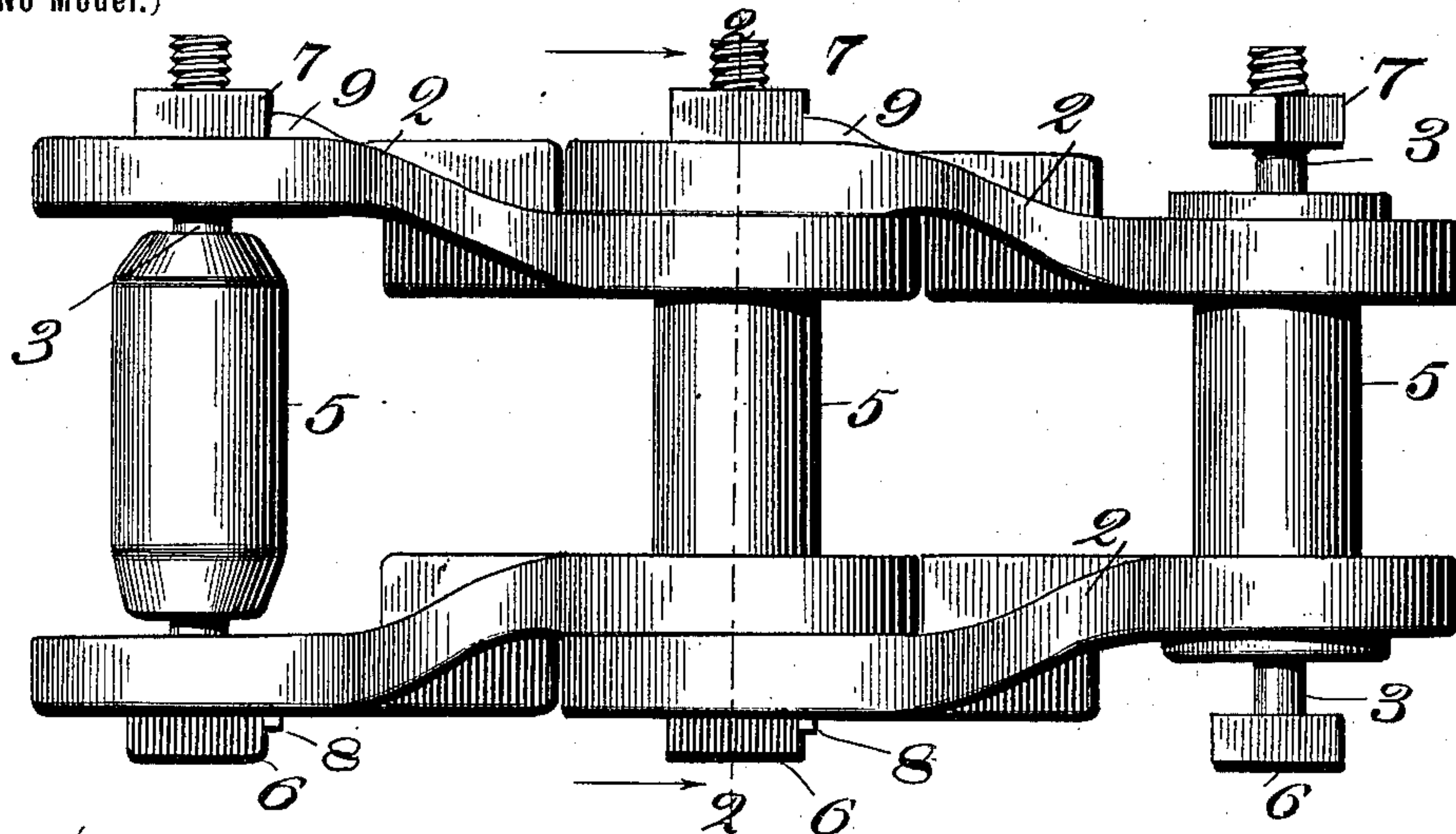


Fig. 1.

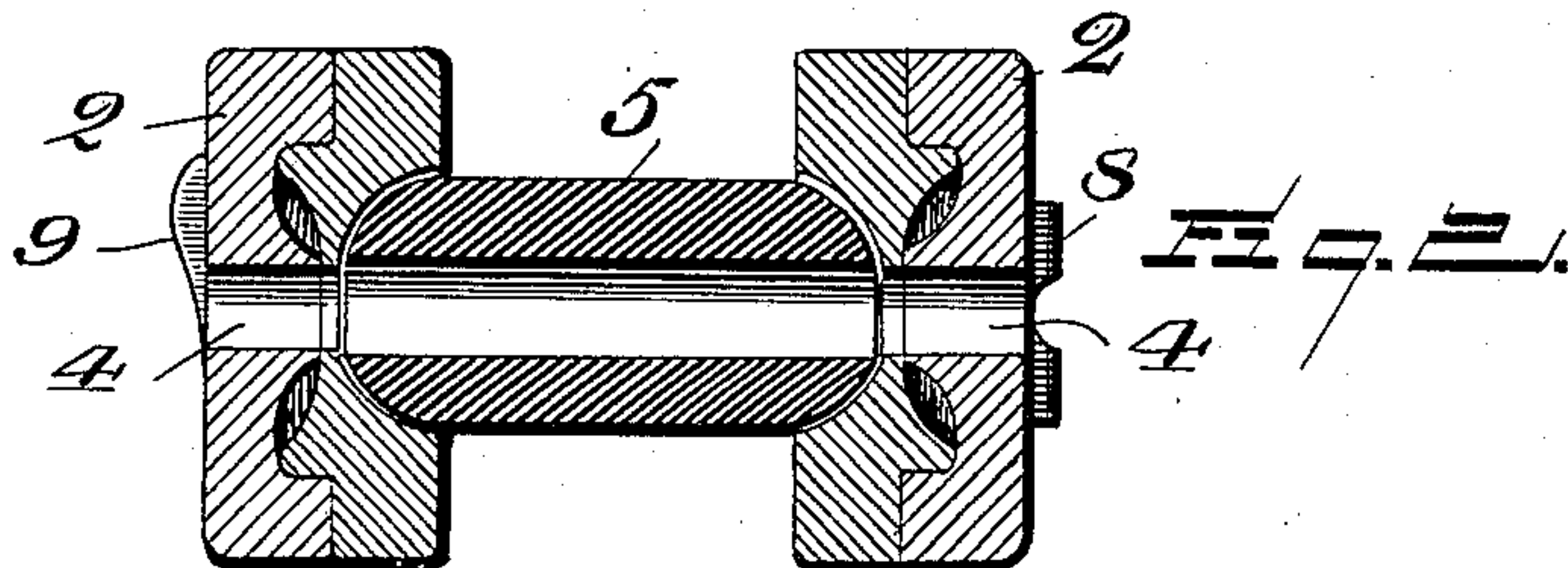


Fig. 2.

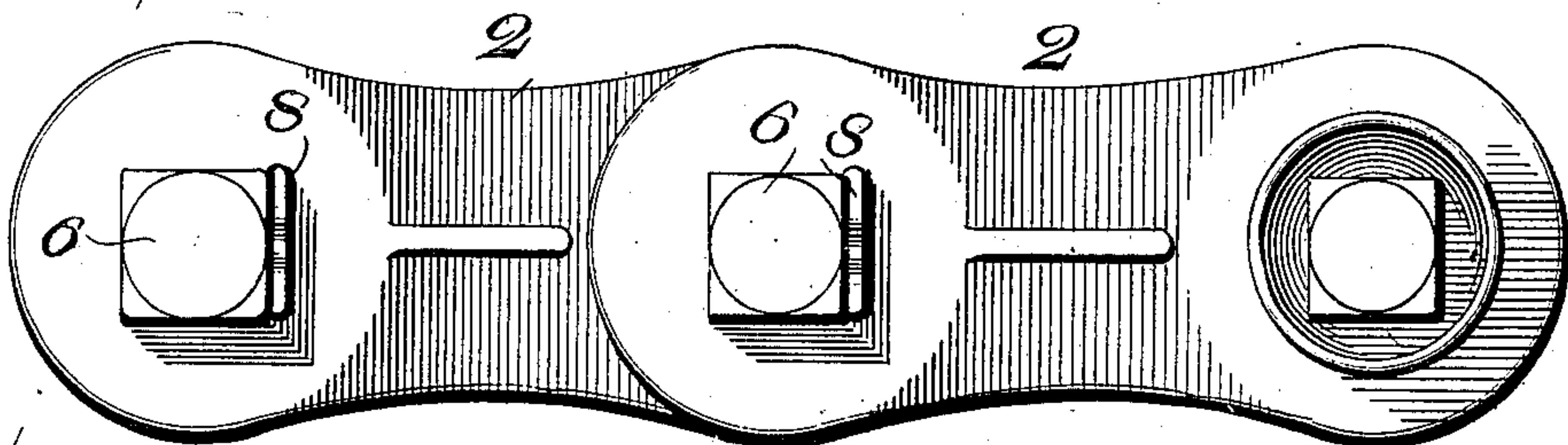
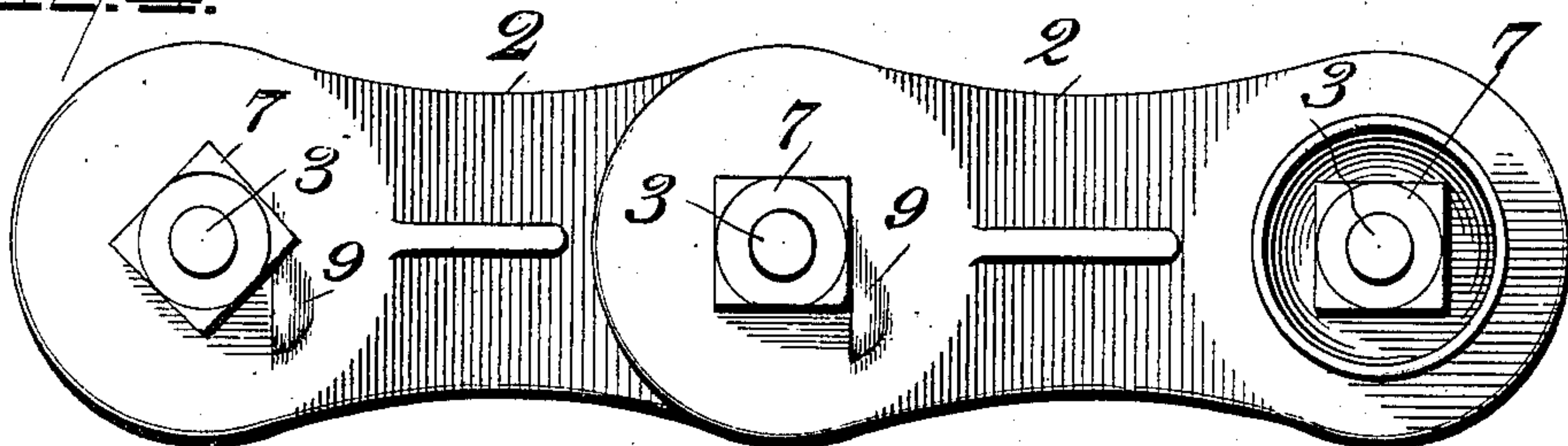


Fig. 3.



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DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 658,017, dated September 18, 1900.

Application filed January 20, 1900. Serial No. 2,160. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER W. LEVALLEY, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Drive-Chains, of which the following is a specification.

In the use of drive-chains which are composed, essentially, of separate side bars and connecting cross-bolts, which constitute the end bars of the links, much difficulty has heretofore been experienced in keeping the articulating parts of the link tight and in permitting the tightening of these parts when from wear or otherwise they become undesirably loose.

My invention has for its object to produce a drive-chain of the character above suggested in which it is possible to easily tighten the chain and which shall not be liable to become loose by reason of the parts working out of the positions to which they may have been set.

I have in the accompanying drawings illustrated my invention applied to a form of chain containing certain improvements of my own which formed the subject-matter of other applications for patent, and I therefore do not in this application claim any features except those specifically set forth in the claims, other novel features of the chain shown being claimed in other applications.

In the drawings, Figure 1 is a plan view of two links of the chain embodying my present invention. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1, the connecting cross-bolt being omitted for the purpose of clearness. Figs. 3 and 4 are side views of the opposite sides or edges of the chain.

Referring to the drawings, 2 2 indicate the side bars of the chain; 3, the connecting cross-bolts, which pass through apertures 4 in the ends of the side bars, the opposite ends of the side bars lapping over one another, as indicated in Fig. 1, and the cross-bolts passing through the apertures in the ends of the side bars of the two adjacent links and constituting the pivot upon which the parts turn or articulate.

5 indicates a spacing barrel or sleeve, which surrounds the cross-bolts 3 between the ends of the side bars and serves to keep them properly spaced apart.

The preferred form of cross or connecting-bolts is that shown, and consists of a bolt having a head 6, preferably square in outline at one end and with its opposite end screw-threaded to receive a nut 7, which is likewise preferably square in outline.

The side bars, which are arranged upon one side of the chain, are provided, adjacent to the holes or apertures 4 therein, with stops 8. These stops are plain-faced along the edges nearest the said holes and are situated at such distance therefrom as to permit the faces or edges of the bolt-heads 6 to rest close against the stops, which stops therefore operate to prevent the turning of the bolts. Upon the outer faces of the opposite side bars and adjacent to the apertures or holes therein for the cross-bolts there are arranged the beveled stops 9. These stops are formed with flat or plain faces adjacent to the apertures and with which the sides or faces of the nuts 7 are adapted to engage, and they operate therefore to prevent the nuts from turning upon the bolts. The outer faces of each stop 9 is beveled or inclined, as indicated in Fig. 2, in such direction that when the nut is being screwed upon the cross-bolt the corners of the nut ride over the said stop, passing up the inclined face thereof. On the other hand, when it is attempted to turn the nut in the opposite direction or back it off the bolt the side face or edge of the nut comes in engagement with the stop at its thickest portion, which thus operates as an obstruction to prevent the backward turning of the nut, except when great force is applied, as by the use of a long-handle wrench.

The advantages of this invention will be apparent. The stop 8, engaging with the head of the bolt, holds the bolt securely against turning in either direction, while the stop 9 will permit of the nut being screwed upon the bolt, but will operate to prevent its working in the opposite direction or being easily or accidentally turned, so as to loosen the parts. If through wear or otherwise the parts of the chain become loose, it is only necessary to turn the nut sufficiently far upon the bolt to cause the necessary tightness of parts, care being taken that it shall so far pass over the stop 9 as to permit its side face to rest against the parallel straight face of the stop.

It will be understood that in chains of the character described, and indicated in the drawings, there is always and necessarily a certain amount of looseness of parts, so that
5 they may be crowded undesirably close together during the moment the nut is being forced across the inclined face of the stop 9, but will come back to the desirable working conditions as soon as the nut passes the thick-
16 est portion of the stop and lies against the plain or straight face thereof.

It will be understood that this invention is applicable to chains of the character described—that is, having side bars and cross
15 connecting-bolts, these parts being arranged to freely articulate even though such parts differ in details of construction from the form of chain indicated in the drawings. I therefore do not desire my invention to be limited
20 to the particular form of chain to which I have represented it as being applied.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

25 1. A drive-chain consisting of side bars and connecting cross-bolts and nuts engaging with the cross-bolts by screw-threads, certain of said bars having stops with which the heads of the bolts are adapted to engage and which
30 operate to prevent the bolts from turning, and

the opposite side bars being provided with inclined or beveled stops with which the nuts on the bolts engage, substantially as set forth.

2. In a drive-chain the combination of the side bars having end portions which lap past
35 each other, the headed cross-bolts which pass through the said lapping portions of the side bars and unite them, and the nuts upon the said bolts, certain of the side bars being provided with stops, 8, with which the heads of
40 the bolts engage, and certain others with beveled or inclined stops, 9, with which the nuts engage, substantially as set forth.

3. In a drive-chain the combination of the side bars having end portions which lap past
45 each other, connecting cross-bolts, having heads, the nuts upon the bolts, and the barrels or sleeves which surround the bolts and arranged between the side bars, certain of the
50 side bars having stops with which the heads of the bolts engage and which prevent them from turning, the opposite side bars being provided with inclined stops 9, with which the nuts are adapted to engage, substantially as set forth.

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Witnesses:

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