

No. 732,757.

PATENTED JULY 7, 1903.

J. R. LONG.

WISE.

APPLICATION FILED JUNE 2, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.

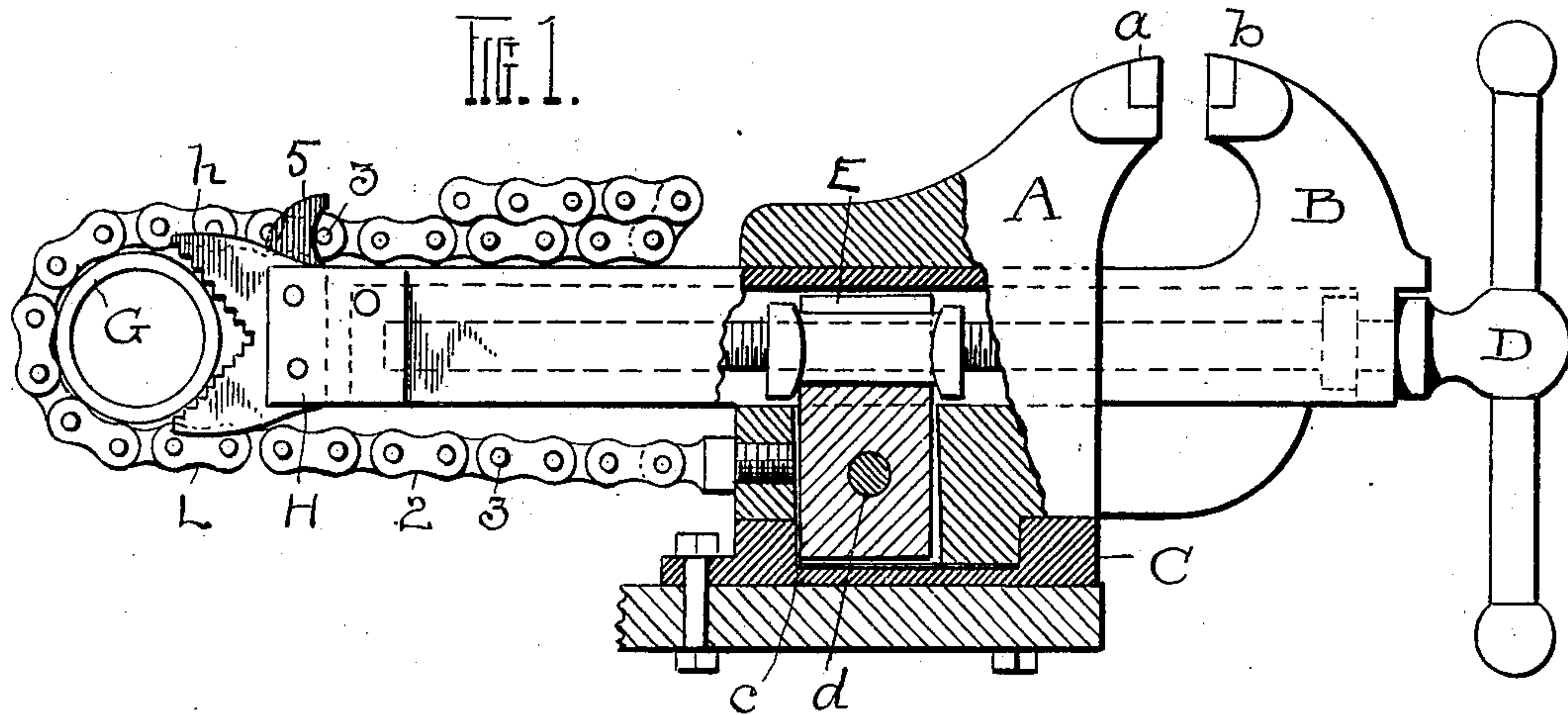


FIG. 2.

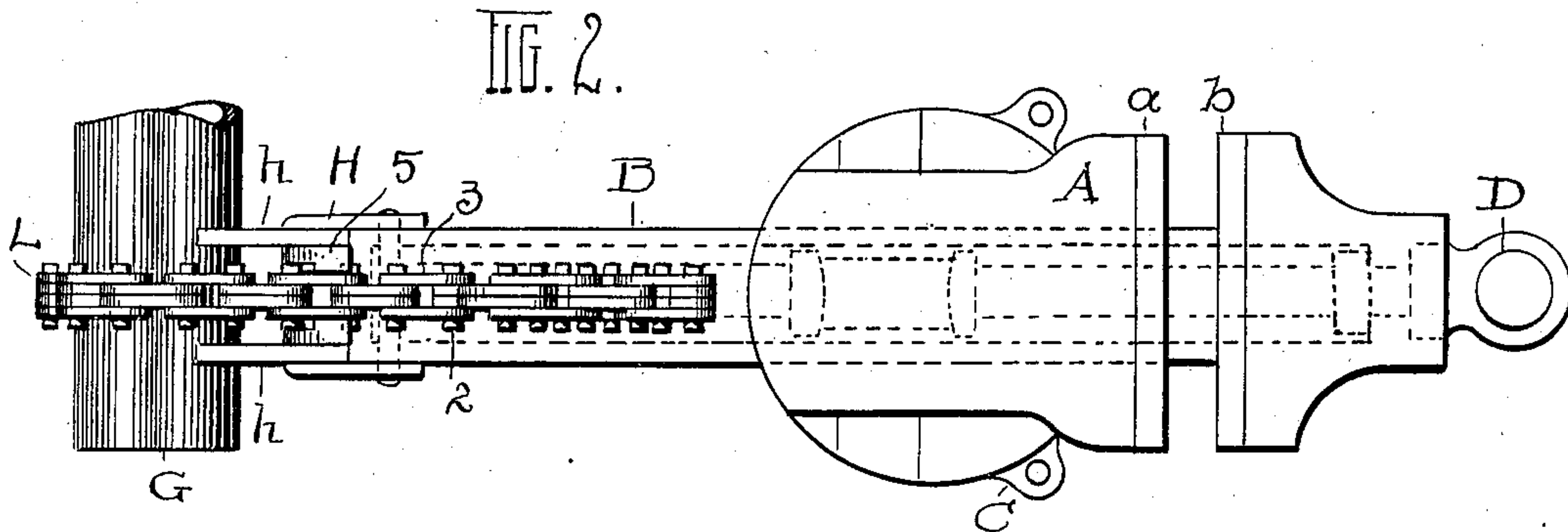


FIG. 3.

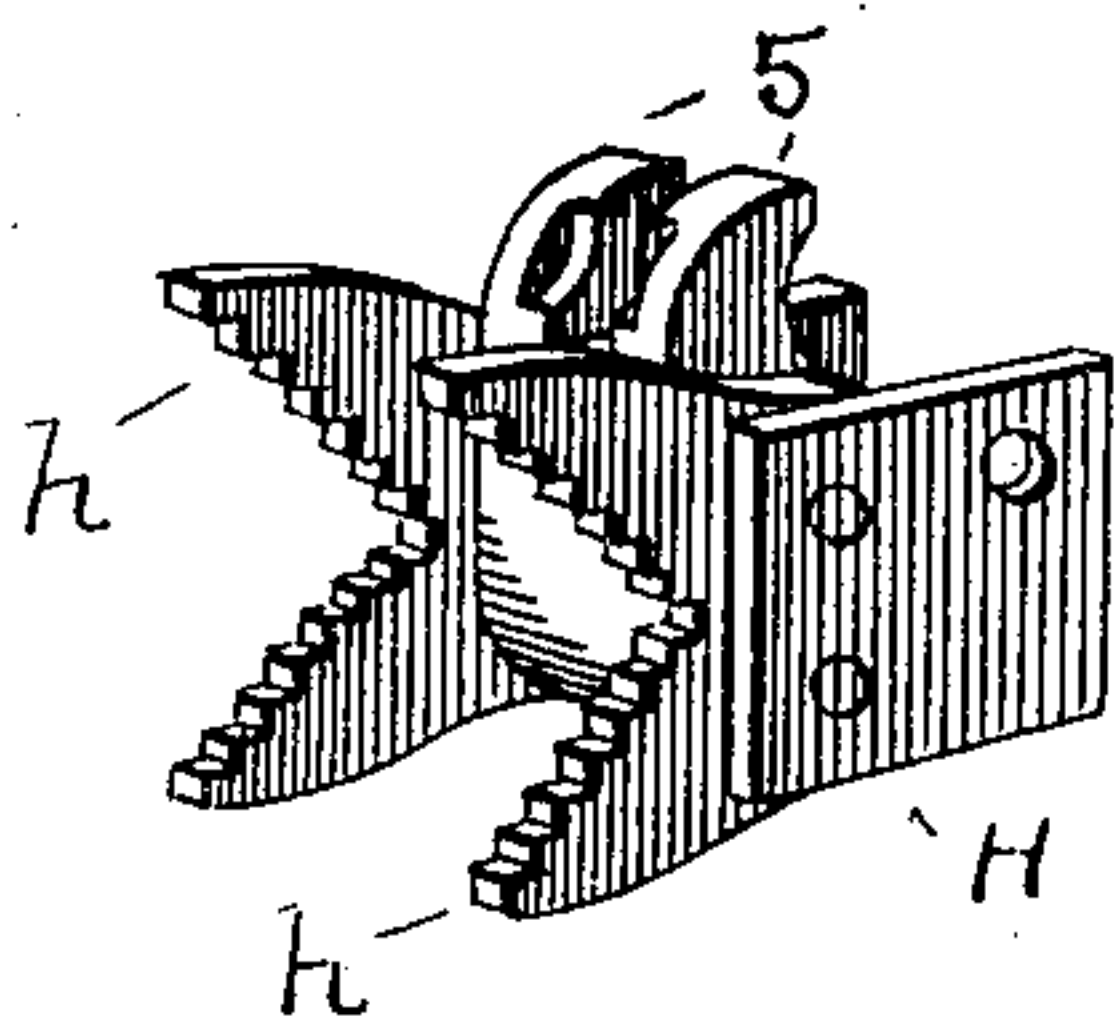
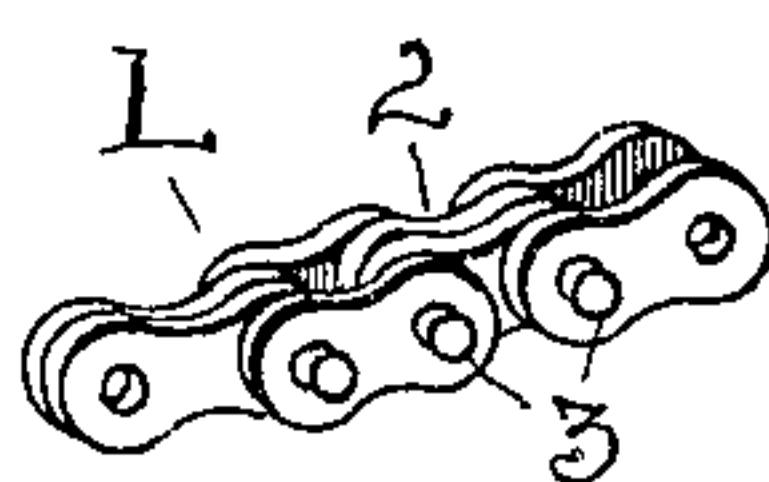


FIG. 4.



ATTEST

R. B. Moser
T. M. Madden.

INVENTOR

John R. Long

By H. J. Fisher ATTY

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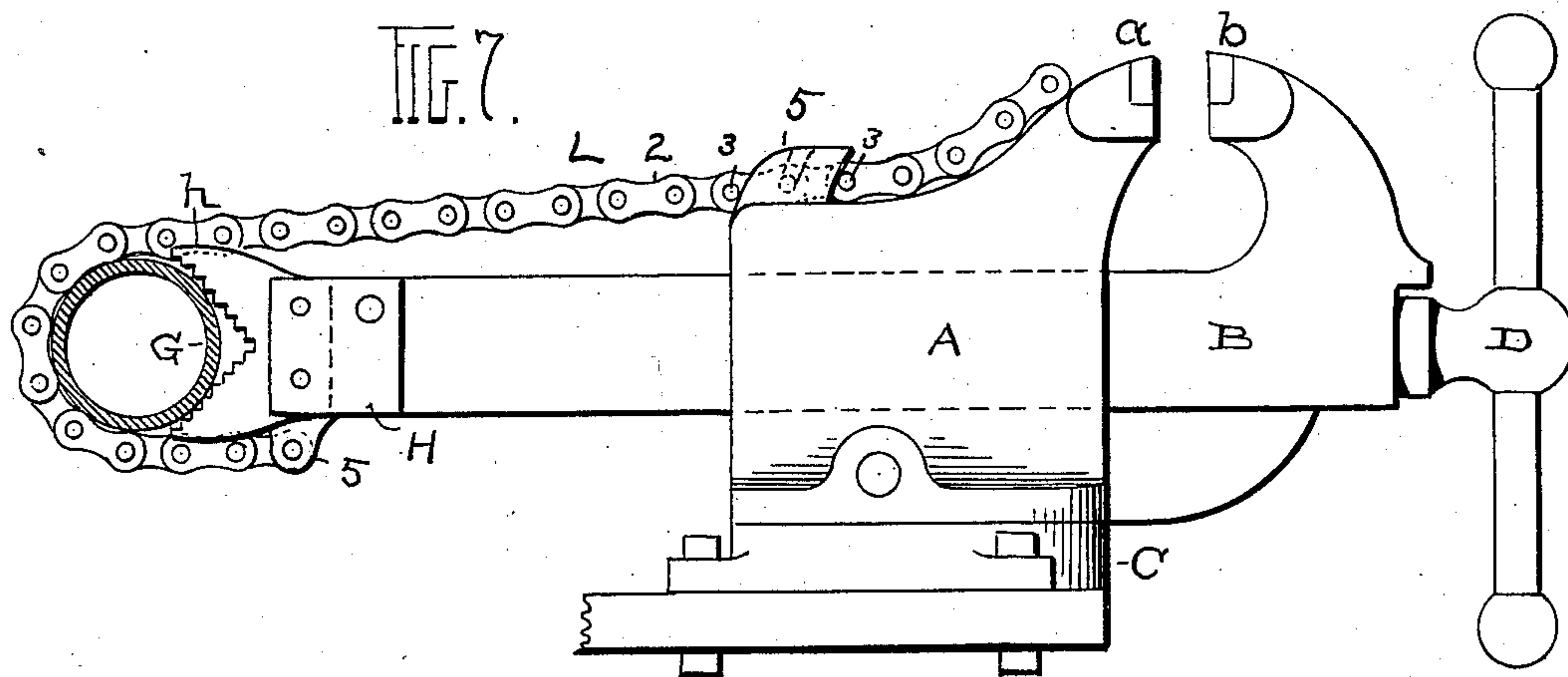
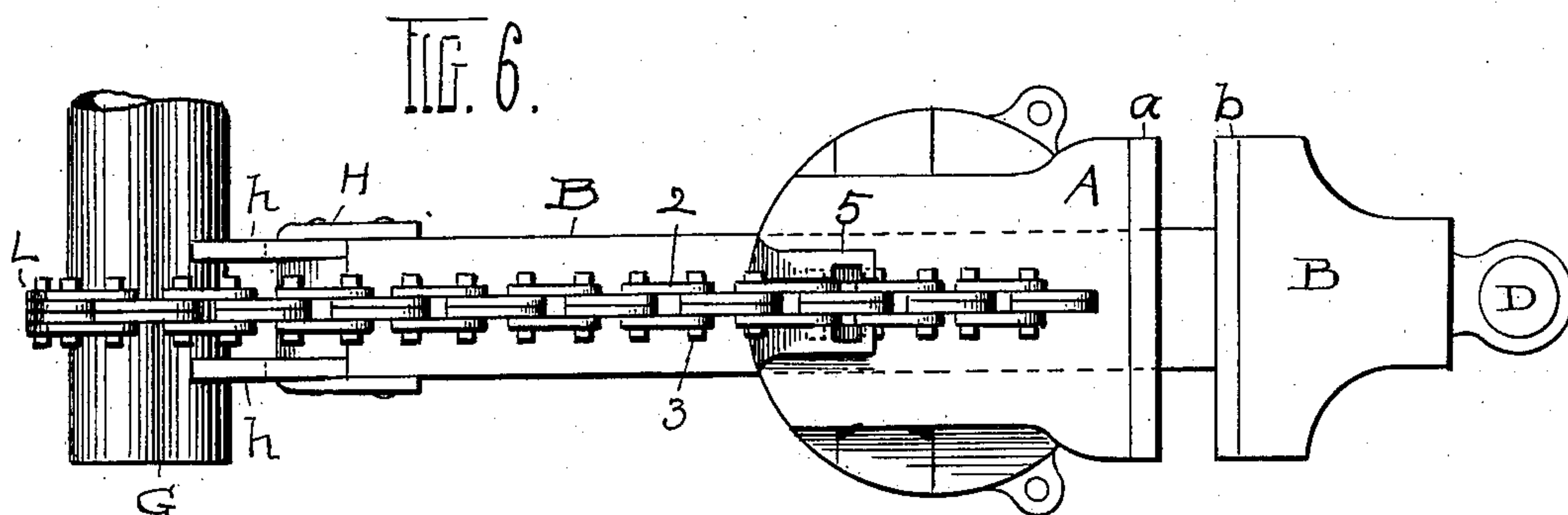
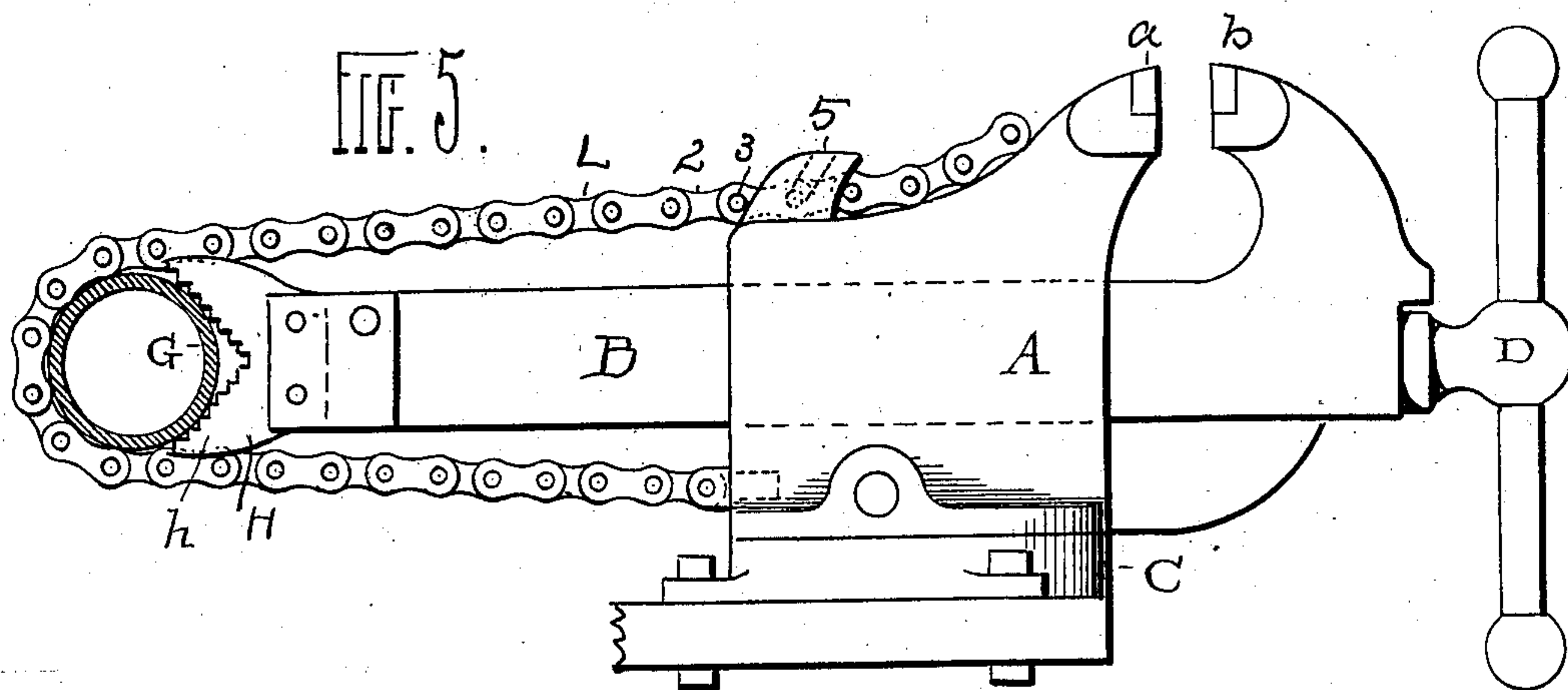
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VISE.

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NO MODEL.

2 SHEETS—SHEET 2.



ATTEST
R. B. Moser
T. M. Madden.

INVENTOR:
John R. Long
BY H. T. Fisher ATT'Y

UNITED STATES PATENT OFFICE.

JOHN R. LONG, OF EAST AKRON, OHIO.

WISE.

SPECIFICATION forming part of Letters Patent No. 732,757, dated July 7, 1903.

Application filed June 2, 1902. Serial No. 109,850. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. LONG, a citizen of the United States, residing at East Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Vises; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in vises; and the object of the invention is to provide a vise of a given size with means for gripping objects of a size out of all proportion to the capacity of the vise except by my attachment, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved vise and gripping attachment combined; and Fig. 2 is a plan view thereof. Fig. 3 is a perspective view of one form of outer gripping head or jaw, as hereinafter fully described; and Fig. 4 is a section of a chain comprised in my attachment. Fig. 5 is a side elevation, and Fig. 6 is a plan view, of a modified construction of the vise and particularly as to the location of the means for securing the free end of the chain. Fig. 7 is a further modification of the invention, in which the fixed end of the chain is secured to the movable member.

As thus shown in the several views, the invention is comprised in a vise embodying what may be termed the "supporting" member or body A, having a fixed jaw *a*, and the movable member B, projecting through member A at both ends and having a jaw *b* at its front end to work with jaw *a*, and these members are together horizontally rotatable on a suitable base C. The usual handled screw D extends through the member B lengthwise and is engaged through a threaded sleeve lodged in the upper portion of the dog E, which is supported on pivot *d* in member A and adapted to slightly tilt thereon, so that when the vise is clamped on an object said dog will engage base C at *c* and form a frictional lock after a manner now well known to this style of vises.

The member B has a jaw-head H at its

rear or outer end provided with a set or pair of serrated V-shaped jaws *h* in this instance and which are spaced apart laterally such distance as to give a firm hold upon the object gripped therein and which will prevent tilting of the object, whether it be a pipe or tube G, as shown in several figures, or some other object or article. The said head H is rigid with the outer extremity of member B, and thus while the body A has a single jaw *a* the said member B has two jaws *b* and *h*, respectively, at its opposite extremities or ends, and for designation the jaw *b* is called the "inner" jaw and jaw *h* the "outer" jaw.

Now in order that a vise thus generally constructed may be utilized for holding pipes or tubes of relatively large dimensions I equip the same with an attachment in the form of a double-linked chain L, in which the links 2 are connected by pivot-pins 3, which project through beyond the sides of said links at each side a sufficient distance to form engaging portions for the chain, and the said chain may have such length as to take in the largest object that can be handled on a vise of a given size. This chain is adapted to be used in conjunction with the double grip-jaws *h*, and it may have one or both ends permanently engaged or both loosely connected, as may be preferred. In Fig. 1 it is shown as fixed to the body A at its lower end and hooked over projections 5 on the outer extremity of jaw member B. In Fig. 5 both ends are engaged with body A, and in Fig. 7 it is engaged with member B below and with body A above on hooks or projections 5. It is immaterial whether the upper or the lower end be permanently fastened, and for that matter they might both be detachably fastened or permanently, as already set forth. The invention, therefore, is not so much in securing the chain as in its use and combination with the movable jaws *h*, whereby different objects or articles of varying shapes and sizes may be secured in the vise, and especially such objects as cannot be gripped between jaws *a* and *b*.

When an object is to be placed therein and held by the chain, the member B is run back or opened as much as may be necessary, and then as the said object is to be tightened in the vise the chain is brought around it and

fastened on hooks 5 as tightly as possible, whereupon the member B is operated to tighten. First, however, the member B is carried forward sufficiently to give it the requisite back movement when tightening is to occur.

The hooks or projections 5 are double or in pairs with space between for the chain-links to pass through and are set closely enough to be engaged by the extremities of pivot-pins 3, and thus the said pins take the strain at this point, and they are made strong enough to withstand any strain that can come upon them by reason of pressure through member B and its fastening-screw.

What I claim is—

1. In a bench-vise, a supporting member having a single jaw, a movable member having a jaw at each end front and rear of said supporting member and slidable therein, a chain operatively related to the rear jaw of said movable member and having end connection with the supporting member, and a screw within said movable member to tighten and loosen the chain, said screw being rotatably fixed in one end of said movable member, substantially as shown.

2. The vise comprising a rotatable supporting member with a single jaw, and a movable

member with a jaw at each end and extending bodily through the top of the supporting member, a chain arranged to work with the outer jaw of said movable member and having a free portion to take up slack, and a screw extending lengthwise into said movable member from the end opposite said chain and rotatably secured therein, and a lock for the said supporting member engaged through its top by said screw, whereby when said chain is tightened the entire vise is locked in a fixed position, substantially as shown.

3. The vise having a supporting member with a single jaw, and a movable member with a jaw at each end and slidably supported in the upper portion of said supporting member, in combination with a chain adapted to work with the outer jaw of the movable member, a screw to move said movable member, a base on which both said members are rotatable together, and means operatively connected with said screw to lock said base against rotation, substantially as shown.

Witness my hand to the foregoing specification this 10th day of May, 1902.

JOHN R. LONG.

Witnesses:

R. B. MOSER,

T. M. MADDEN.