

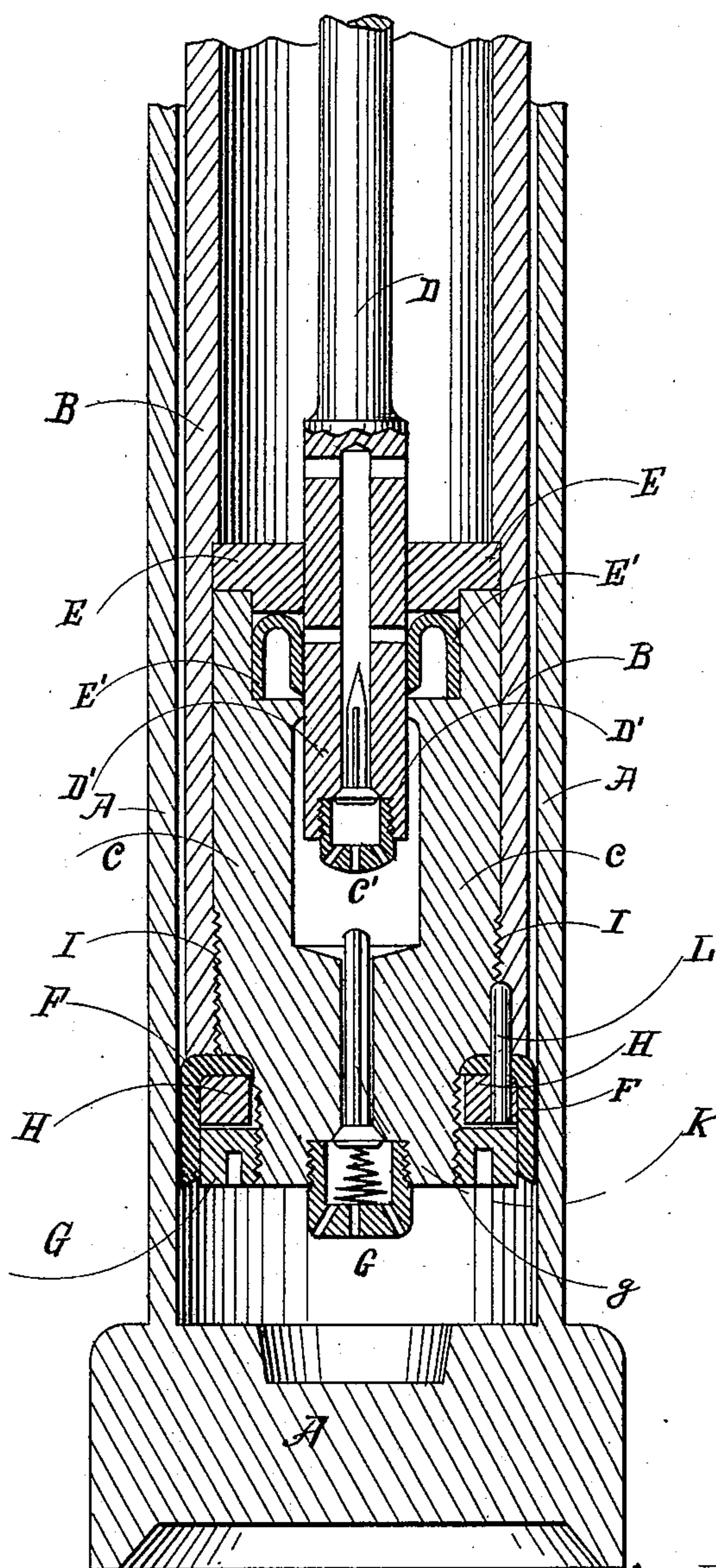
(No Model.)

J. WEEKS & H. TRAVER.

HYDRAULIC JACK.

No. 334,206.

Patented Jan. 12, 1886.



Witnesses.

John H. Lewis
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UNITED STATES PATENT OFFICE.

JOHN WEEKS, OF NEW YORK, AND HARRISON TRAVER, OF BROOKLYN,
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HYDRAULIC JACK.

SPECIFICATION forming part of Letters Patent No. 334,206, dated January 12, 1886.

Application filed October 20, 1885. Serial No. 180,384. (No model.)

To all whom it may concern:

Be it known that we, JOHN WEEKS and HARRISON TRAVER, citizens of the United States, and residents, respectively, of New York, in the county of New York and State of New York, and of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hydraulic Jacks, of which the following is a specification.

Our invention relates to an improvement in hydraulic jacks; and it consists in the employment of a suitable locking-pin or other suitable device, whereby the packing between the cylinder or external case of the jack and the ram, also its confining-ring, and also the pump-block and the ram, are, when in place, all confined rigidly together, so that movement of these parts relative to each other consequent upon swinging the load on the head of the jack is impossible.

In the drawing, A is the external case or cylinder of the jack, resting upon a base, A', as usual.

B is the ram-cylinder, adapted to move upward and downward within the external case, A, as usual.

C is the pump-block, in which is made the pump-bore C'.

D is the piston-rod, having on its end the piston D', which is provided with its ingress-valve, as usual.

E is a gland supported against upward movement by a shoulder formed on the ram B.

F is the packing for the piston. (Shown as a U-packing in the drawing.) It will be understood that the upper parts of the apparatus (not shown in the drawing) may be of any suitable construction, and since they form no part of this invention they are not illustrated; nor is the method of securing the desired flows of the liquid explained for the same reason.

F is the packing between the ram B and the external case, A.

G is the packing-ring, which is screwed in place and firmly held by threads cut in it, and also on the downwardly-extending end of the pump-block.

H is a ring, which comes immediately in contact with the packing F, and is pressed

firmly up against it by the pressure of the packing-ring G. The packing F is shouldered against the lower end of the ram B and a shoulder formed on the pump-block. The pump-block is fastened to the ram B by screw-threads I I.

K is the lower or egress valve of the pump, provided with a spindle or stem, as usual in such cases.

It will be seen that if the parts were put together as illustrated on the left side of the drawing—that is to say, the pump simply screwed into the ram and the packing and the ring F put in their place, and then the ring G simply screwed up tightly against them—the friction between the packing F and the side of the external case, A, would be so great that the packing-ring G would be apt to be unscrewed in the event of swiveling a load supported on the head of the jack, and that if the joint between the pump C and the ram B was not so tight as that between the packing-ring G and the threads on the pump-block which confine it, then instead of the ring G unscrewing, which would loosen the packing, the pump-block C itself would be apt to unscrew, and thus allow the gland E to become loose and the packing F likewise. In either event the machine would become disorganized and unfit for use.

Our invention therefore consists in the employment of a pin, L, which is preferably made of steel, and which fits into a hole bored through the ring H, through the packing F, and through the joint between the pump-block C and the ram B, being preferably half and half in each. The lower end of the pin L should preferably be flush with the under side of the ring H, so as not to obstruct the smooth bearing of the ring G against the ring H. There may be more than one of these pins L, if desired. By their use it is obvious that the pump cannot move relative to the ram, nor the packing or the ring H relative to each other, or to either the pump or the ram, and also that the packing-ring G cannot be unscrewed by the squeeze of the packing against the outer case, because the packing itself is immovable circumferentially.

It will be understood that we do not limit

ourselves to the peculiar character of the devices composing the jack shown in the drawing, they being entirely irrelevant to our invention, and, moreover, we do not limit ourselves to the details of construction shown of those parts which are relevant to the invention, since it will be obvious to any one skilled in the art that these devices may be somewhat changed or others substituted for them, which, however, will be practically the equivalents thereof, and our invention nevertheless be embodied; and we do not limit our invention to hydraulic jacks, since it is equally applicable to other mechanism embodying substantially the same parts.

Having described our invention, we claim—
In a hydraulic jack, the combination, with

the pump C and the ram B, of the packing F, the ring H, the pin L, and the packing ring or nut G, said pin passing through the packing and the ring H and entering the joint between the pump and the ram, substantially as herein shown and described, whereby the packing can be readily applied to the pump and the ram, as set forth, and the several parts prevented from moving relative to each other.

Signed at New York, in the county of New York and State of New York, this 19th day of October, A. D. 1885.

JOHN WEEKS.

HARRISON TRAVER.

Witnesses:

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