D. L. WEAVER & G. NOBLE.

HYDRAULIC JACK.

No. 192,472. Patented June 26, 1877.

Fig. 1.

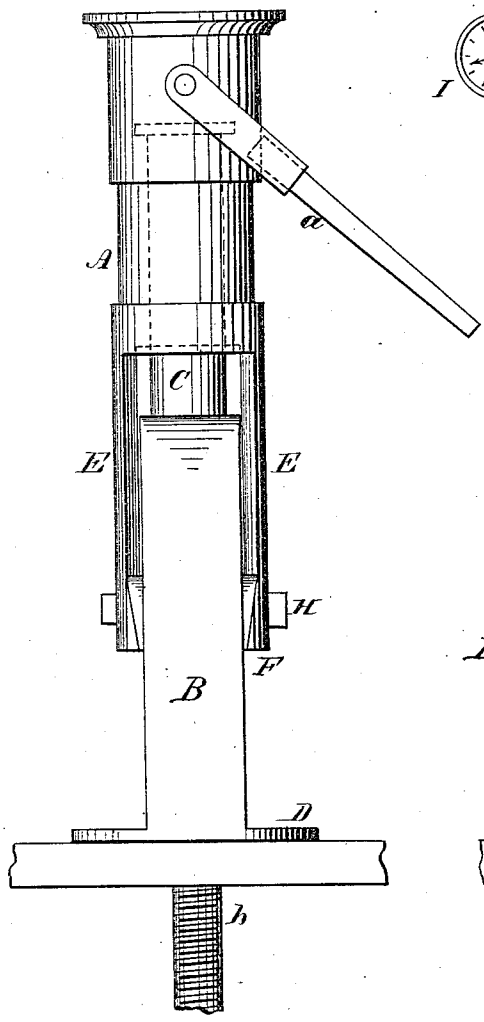
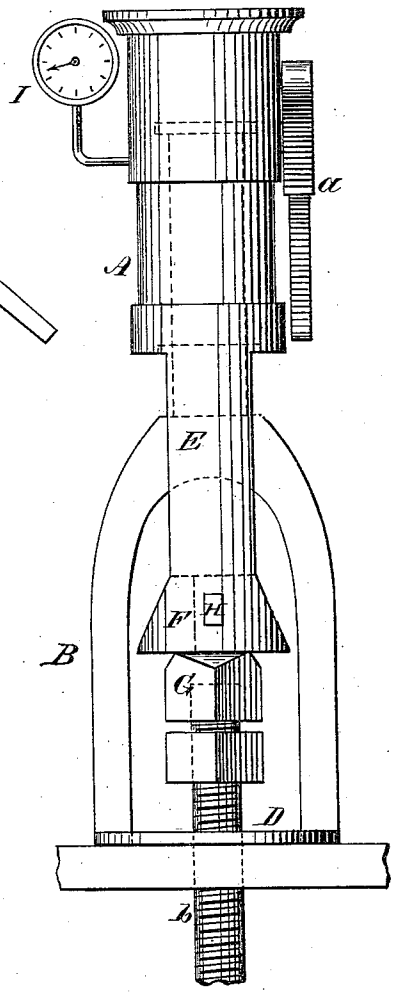


Fig. 2.



WITNESSES:

H. Rydquist

J. H. Scarborough.

INVENTORS

D. L. Weaver.

BY G. Noble.

Munn & Co

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL L. WEAVER AND GEORGE NOBLE, OF HUNNEWELL, KENTUCKY.

IMPROVEMENT IN HYDRAULIC JACKS.

Specification forming part of Letters Patent No. **192,472**, dated June 26, 1877; application filed April 30, 1877.

Be it known that we, DANIEL L. WEAVER and GEORGE NOBLE, of Hunnewell, Greenup county, Kentucky, have invented a new and useful Improvement in Hydraulic Jacks, of which the following is a specification:

Figure 1 is a side elevation, and Fig. 2 is a front elevation.

The object of our invention is to provide a jack for testing bridge-bolts, and for adjusting them to the proper degree of tension, so that the strain upon the several bolts in a bridge may be evenly distributed.

In the drawing, A is the cylinder of the jack, which is provided with the usual pump for forcing water into the barrel containing the piston, which is worked by the lever *a*. B is a yoke for supporting the piston C, and D is an annular base-piece, to which the said yoke is attached. E E are bars attached to the cylinder A, and also to a head, F, placed within the yoke B. The head F is mortised vertically to receive the shank of the socket-nut G, and is mortised transversely to receive the key H, which also passes through the shank of nut G. A pressure-gage, I, is connected with the cylinder A, having a dial, the graduations of which represent different sizes of bolts, the graduations being arranged with reference to the strain to be put upon the bolt, so that when the index is opposite the figures on the dial representing the size of the bolt under strain the limit of tension is reached, and the pressure is not further increased.

The manner of using the improved jack is as follows: The annular base-piece D is placed on some portion of the bridge over the end of the bolt *b* to be tested or adjusted; the socket-nut G is screwed on the end of the bolt, and the cylinder A is let down until the shank of the nut G is received by the mortise of the head F, when the key H is inserted and the lever *a* is worked until the index of the pressure-gage stands at the number representing the bolt under strain; the pump is then stopped, and the nut upon the bolt is turned down to its seat.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The yoke B, piston C, cylinder A, bars E, and mortised head F in combination, substantially as herein shown and described.

2. The combination of the socket-nut G and head F, substantially as and for the purpose shown and described.

DANIEL L. WEAVER.
GEORGE NOBLE.

Witnesses:
SEBASTIAN EIFONT,
CHARLES WHITTINGTON.