

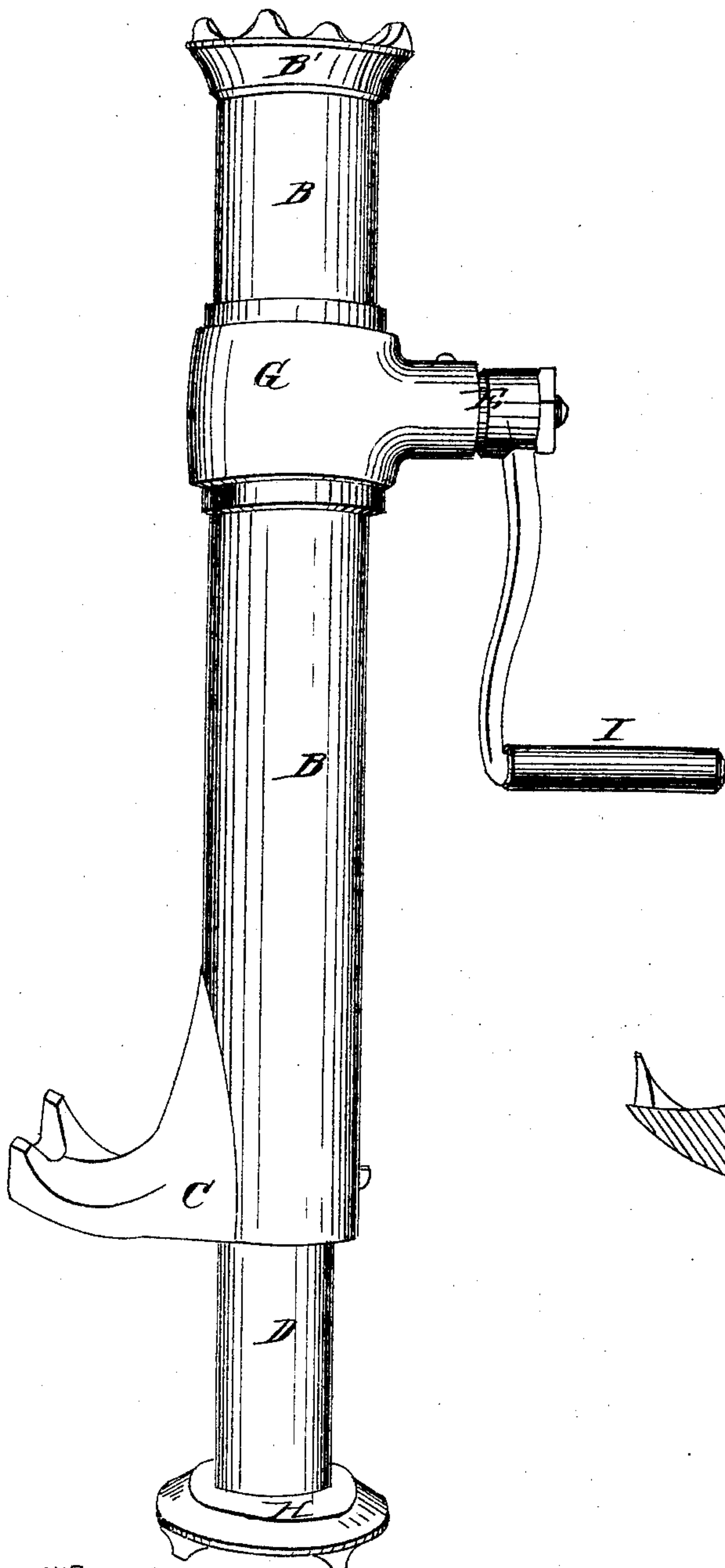
*D. L. Miller,*

*Lifting Jack.*

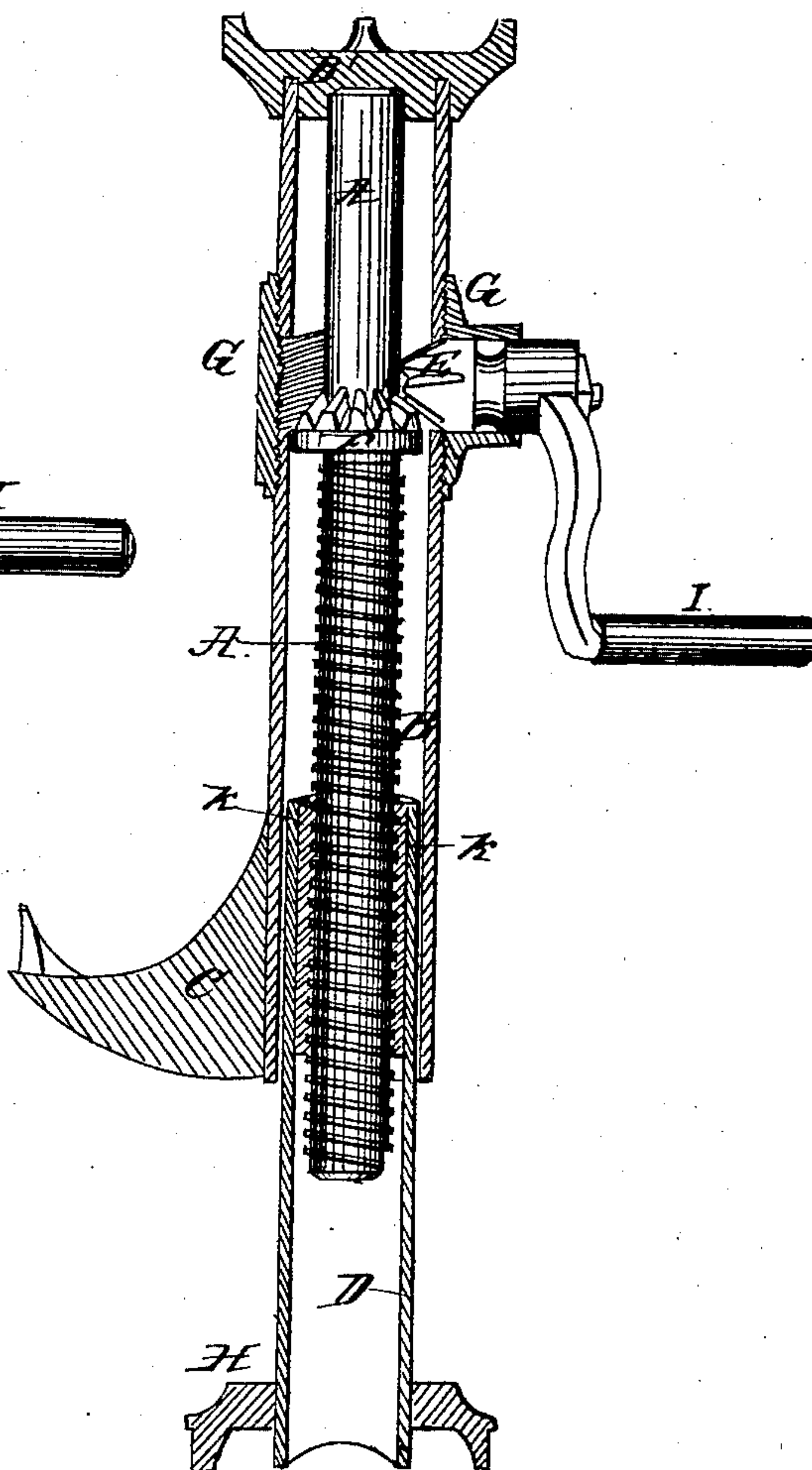
*N<sup>o</sup> 18,760.*

*Patented Dec. 1, 1857.*

*Fig. 1.*



*Fig. 2.*



*Witnesses*

*James H. Edwards*  
*James B. Lea*

*Inventor.*

*David L. Miller*

# UNITED STATES PATENT OFFICE.

DAVID L. MILLER, OF MADISON, NEW JERSEY.

## LIFTING-JACK.

Specification of Letters Patent No. 18,760, dated December 1, 1857.

*To all whom it may concern:*

Be it known that I, DAVID L. MILLER, of Madison, in the county of Morris and State of New Jersey, have invented a new and useful Improvement in the Construction of Lifting-Jacks; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which are lettered to correspond with the specification and form a part of the same.

The nature of my invention consists in the construction of a lifting jack, after the following plan:—

Figure 1 is an exterior view of the jack, partly raised as shown from (H,) to (C,).

Fig. 2 is a vertical section of the same, showing the operation of the screw (A,) and gearing (E,) and (F,) during the process of raising a heavy body either upon the foot (C,) or upon the head of the outer cylinder (B',) which moves up and down with the screw (A,) when revolved by means of the bevel gearing (E,) and (F,) operated by the crank (I.) The gear (F,) is attached to the screw (A,) and forms a part of the same, and the male gear (E,) which is attached to the crank, and connects with the corresponding gear (F,) through the outer or movable cylinder (B,) at (G,) which moves up or down, with the screw (A,) thus keeping the bevel gearing in gear, and at a fixed point upon the lifting screw (A,) near the top (B',) of cylinder (B) which has a recess to receive and support the top of the screw (A,) thus preventing any lateral movement when the screw is at its highest point; the base, being supported by the stationary nut (K) in the inner cylinder or standard (D,) that is attached to the base H.

I am aware of the different kinds of lifting jacks that are in common use, such as the lever and rack and others operated by means of gearing and worked by a crank,

but the method of raising heavy weights such as locomotives by means of a screw having a bevel gearing attached to it in such a manner that it (the gearing) raises with the outer cylinder by means of the crank turning the screw in a stationary or fixed nut placed in the inner cylinder or standard (D,) about four inches more or less from the bottom, at the same time being enabled to lift an equal amount of weight upon the shoe (C,) that I do on the head of the cylinder at (B',) without injuring the main or lifting screw (A.) This cannot be done by any other screw jack, having the shoe (C) or foot attached to the main or lifting screw (A) without bending or breaking the said screw.

The shoe (C,) may be attached to the movable cylinder (B,) by means of a screw or otherwise so that it stands parallel with the gearing (E.) I can set my jack at any desired height by simply turning the inner cylinder or standard (D,) with the hands, in a much shorter time than by the ordinary operation of the crank (I.) I not only shield the main screw (A) from the injurious effects of the weather, dirt, &c., by the inner cylinder (D,) but in a great measure support and prevent the prime motor (A,) from bending during the operation of raising a heavy weight.

I do not claim to be the inventor of the individual or separate parts of the above described screw jack, but

What I claim is—

The adjustable cylinder (B,) shoe (C,) inner cylinder or adjustable standard (D,) in combination with the main or lifting screw (A,) and gearing (E, and F,) arranged and operated substantially as described and shown in the drawings.

DAVID L. MILLER.

Witnesses:

JAMES W. EDWARDS,  
JAMES P. McLEAN.