(No Model.)

C. A. BLOMQUIST & T. BUSKIRK.

WRENCH.

No. 284,598. Patented Sept. 11, 1883.

Fig 1

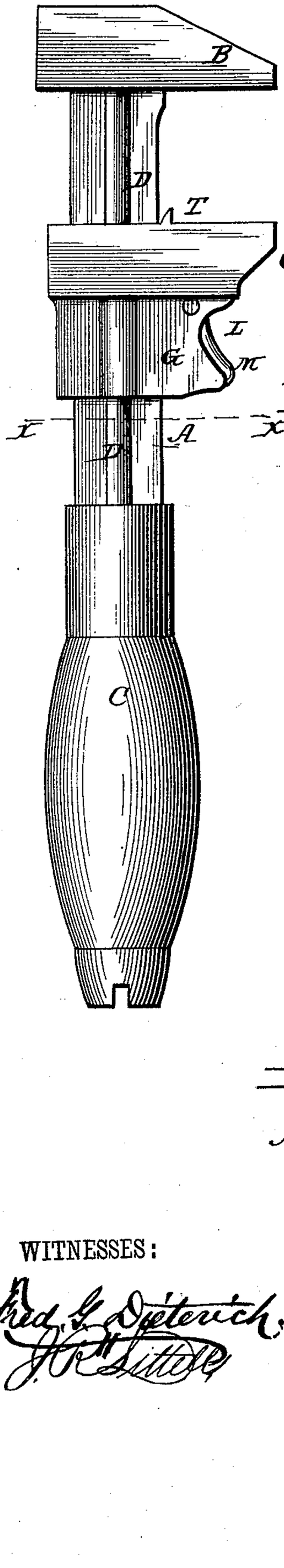

Fig 2

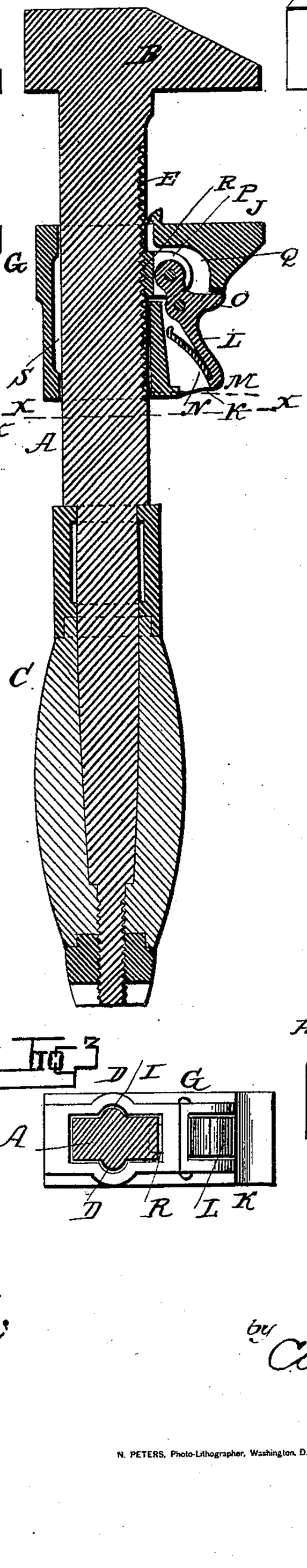

Fig 4

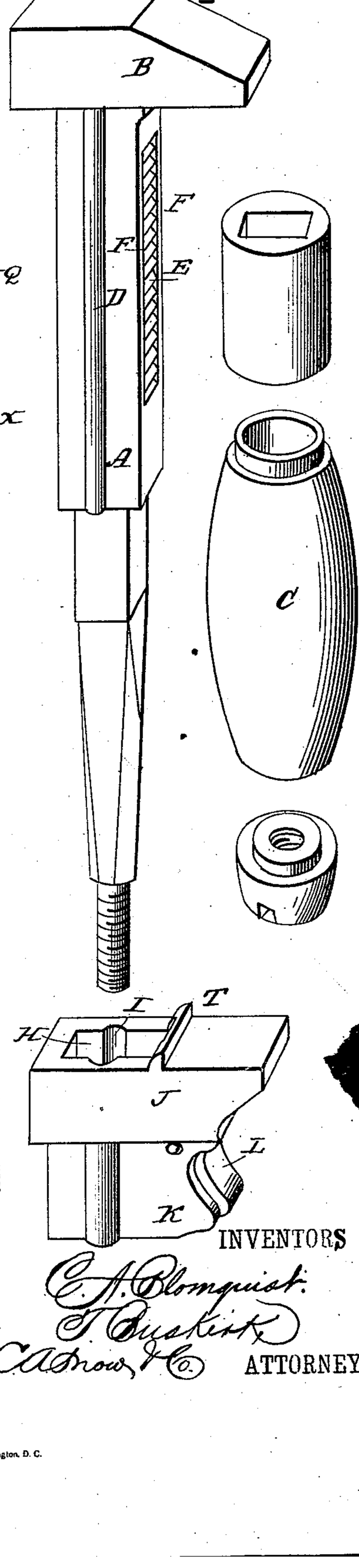

Fig 3

WITNESSES:

Fred. L. Peterich.
J. R. Sitler

INVENTORS

C. A. Blomquist.
T. Buskirk

by C. A. Snow & Co. ATTORNEYS.

UNITED STATES PATENT OFFICE.

CARL A. BLOMQUIST AND THEODORE BUSKIRK, OF TOLEDO, OHIO, ASSIGNOR OF ONE-THIRD TO AUGUST W. MACHEN, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 284,598, dated September 11, 1883.

Application filed June 9, 1883. (No model.)

To all whom it may concern:

Be it known that we, CARL A. BLOMQUIST and THEODORE BUSKIRK, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Wrench, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to wrenches, and it has for its object to provide an improved wrench which shall possess superior advantages in point of simplicity, durability, and general efficiency.

To this end it consists in certain improvements in the construction of the said wrench, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, Figure 1 is a side view of our improved wrench. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a cross-section on the line *x x* in Figs. 1 and 2; and Fig. 4 is a detail view, showing in perspective the parts composing our improved wrench detached from each other.

The same letters refer to the same parts in all the figures.

A in the drawings designates the shank of our improved wrench, which is provided at one end with the head or stationary jaw B and at the other end with a suitably-constructed handle, C. The sides of the shank A are provided with longitudinal ribs D, extending over the entire length of the said shank. The upper side or face of the shank A is provided with teeth E, which are sunk in the face of the said shank, so that a flange, F, shall be formed at each side of the said teeth, said flange being on a level with the face of the shank. The object of this construction will be presently more fully set forth.

G is a box or collar, which is fitted to slide upon the shank A, it being provided with an opening, H, the inner sides of which are provided with grooves or longitudinal recesses I, that receive the flanges or ribs D upon the sides of the shank. The sliding sleeve G carries the jaw J, which may be moved, by simply sliding the sleeve upon the shank, to any desired distance from the stationary head or jaw B. The sleeve G is provided with outwardly-extending wings or flanges K K, between which is pivoted a lever, L, the lower end of which forms a thumb-piece, M, which is forced in an outward direction by a suitably-arranged spring, N. At a point near its fulcrum the lever L is provided with an outwardly-projecting arm, O, that abuts against the under side of the jaw J, thus forming a neat joint, through which nothing can enter that would interfere with the successful operation of the wrench; and to the upper end of the lever, above its fulcrum, is pivoted a block, P, that slides through a slot, Q, in the sleeve G, and is provided with teeth R, that engage the teeth E in the face of the shank A. The action of the spring N serves to hold the toothed block P securely in engagement with the teeth E of the shank, thereby retaining the sliding jaw securely in any position to which it may be adjusted. The inner sides of the sleeve H are provided with recesses or concavities S, that serve to decrease the weight and the amount of metal used, and also to lessen the friction between the said sleeve and the shank. The upper side or face of the sliding jaw J is provided with a transverse flange, T, adjoining the shank A and extending out over the teeth E of the latter. The said flange serves to protect the teeth E when the wrench is adjusted upon a nut by preventing the nut from striking the said teeth.

The operation of our improved wrench will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. By pressing the thumb-piece M the toothed block P may be thrown out of engagement with the teeth E, thus enabling the sliding jaw to be adjusted to any desired position upon the shank A. The bearings for the sleeve having the sliding jaw are formed by the smooth sides of the shank A and by the flanges F F, adjoining the teeth E, and at no point is the said sleeve in direct contact with the said teeth. Owing to this construction, the sleeve will slide smoothly and evenly, and will not rock or vibrate upon the shank. The teeth are also thereby protected from any injurious strain or pressure. The side ribs, D D, add greatly to the strength of the wrench. The toothed block P, being piv-

oted to the operating-lever, will at all times engage the teeth squarely, thereby equalizing the strain upon all the teeth of the said block, and enabling it to resist any pressure or strain to which it is likely to be subjected. The general construction of our improved wrench is simple and inexpensive. It is durable and convenient, and it may, in an instant, be adjusted to fit nuts of any size within the limits for which it is constructed.

We claim as our invention and desire to secure by Letters Patent of the United States—

The combination, with the toothed shank, of the sliding jaw-carrying sleeve having outwardly-projecting wings or flanges and a transverse slot, a toothed block sliding in the said slot and engaging the teeth of the shank, and a lever pivoted between the wings of the sleeve and having a thumb-piece, an outward-extending arm resting against the under side of the jaw, and pivotal connection between its upper end and the toothed sliding block, and a spring arranged to force the thumb-piece of the lever outwardly, as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

CARL A. BLOMQUIST.
THEODORE BUSKIRK.

Witnesses:
DANIEL KOHN,
JACOB KOHN.