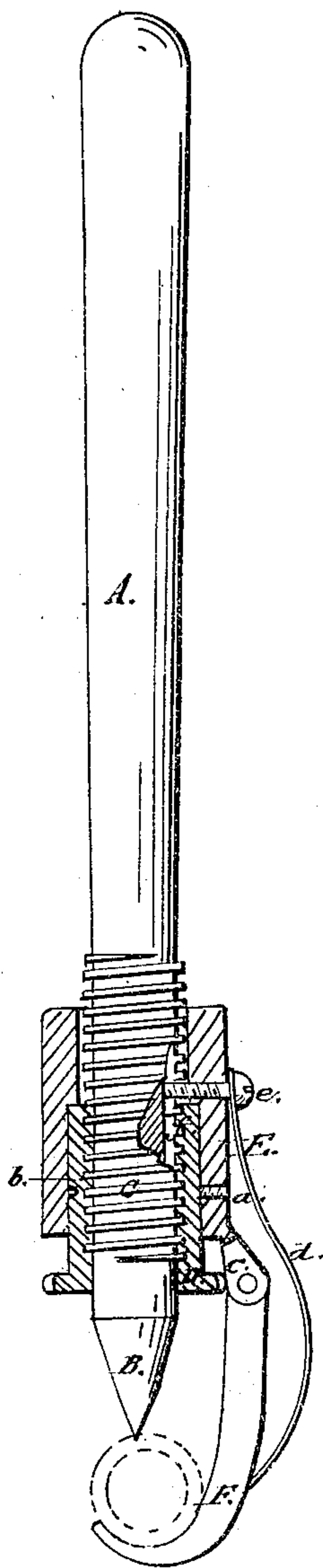


H. Richter,

Gas Plier.

No. 87,972.

Patented Mar. 10. 1869.



Witnesses:
Frederic Haynes
McCombs

Inventor:
Herrmann Löhler



HERRMANN RICHTER, OF NEW YORK, N. Y.

Letters Patent No. 87,972, dated March 16, 1869.

IMPROVEMENT IN GAS-PLIERS

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HERRMANN RICHTER, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Pliers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and which represents a partly sectional longitudinal view of my improved gas-pliers.

My improvement in gas-pliers consists in a lever, or handle, having the gripping-tooth made in one piece with it, and a screw-thread cut upon it, for adjustment of the outer elip, or hook, in combination with a nut, arranged to fit said screw-thread, and carrying, or having connected with it, a longitudinally-sliding block, or sleeve, to which the hook, having a spring applied to its back, is hinged.

By this combination, or arrangement of parts, an independent screw is dispensed with, and a general simplicity attained, combined with efficiency, and facility for operating and adjusting the pliers by one hand, which, together with other advantages, unite to give to the pliers a novel and most serviceable character.

Referring to the accompanying drawing—

A represents the handle of the pliers formed at its inner end with a tooth, B, and having cut upon it, immediately in rear of the tooth, a screw-thread, C.

Upon this screw-thread is fitted a milled nut, D, which serves to carry, by a guide-pin, *a*, fitting an annular groove, *b*, an adjustable or sliding block, E, that is provided with an outer tooth, or hook F, pivoted or hinged as at *c*, and acted upon by an adjustable spring, *d*, at its back, to restrict its backward movement, said hook, or outer tooth, operating conjointly with the inner tooth, to effect the necessary gripe on the pipe.

By rotating the nut D in reverse directions, a reciprocating movement is imparted to the block E, to

effect the necessary adjustment and bite, or hold of the pliers on the pipe, said block being restrained from turning with the nut, by a set-screw, *e*, passing through the block, and sliding within or along a longitudinal groove, *f*, cut in the handle.

The instrument is operated, after gripe on the pipe has been effected, by turning the handle, as indicated by the arrow *x*, swinging the handle back, and repeating the action as often as necessary.

A gas-plier thus constructed, combines great simplicity with efficiency, and forms a powerful and solid instrument, particularly adapted to heavy work, and always ready for use.

It may be entirely worked with or by one hand, that is, adjusted to effect gripe by the thumb of the hand which is employed to swing or work the instrument, and may be used in every nook and corner.

An independent screw, to effect adjustment, is dispensed with, and the handle, screw, and inner tooth, all made in one piece, which cheapens construction and adds to efficiency.

But two sizes of such pliers are sufficient for most or all sizes of gas-pipe. Said pliers, also, are not liable to get out of order, or become useless, it only being necessary occasionally to grind the edge of the tooth B, which cuts into the pipe.

What is here claimed, and desired to be secured by Letters Patent, is—

The sliding block E, carrying the pivoted or hinged hook F, and its spring *d*, in combination with the rotating nut D and screw-thread C, on the handle A, all constructed, arranged, and operating as shown and described.

HERRMANN RICHTER.

Witnesses:

D. W. BROWN,
HENRY PALMER.