

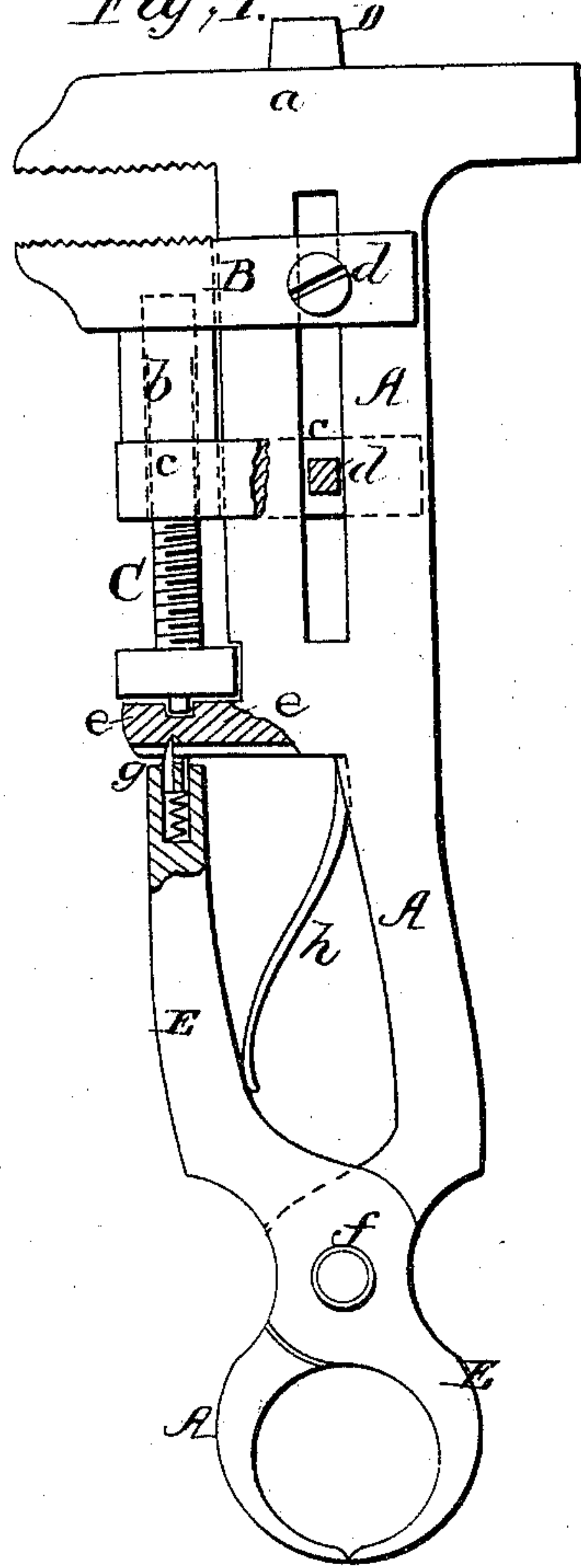
E. Froggat.

Combination Tool.

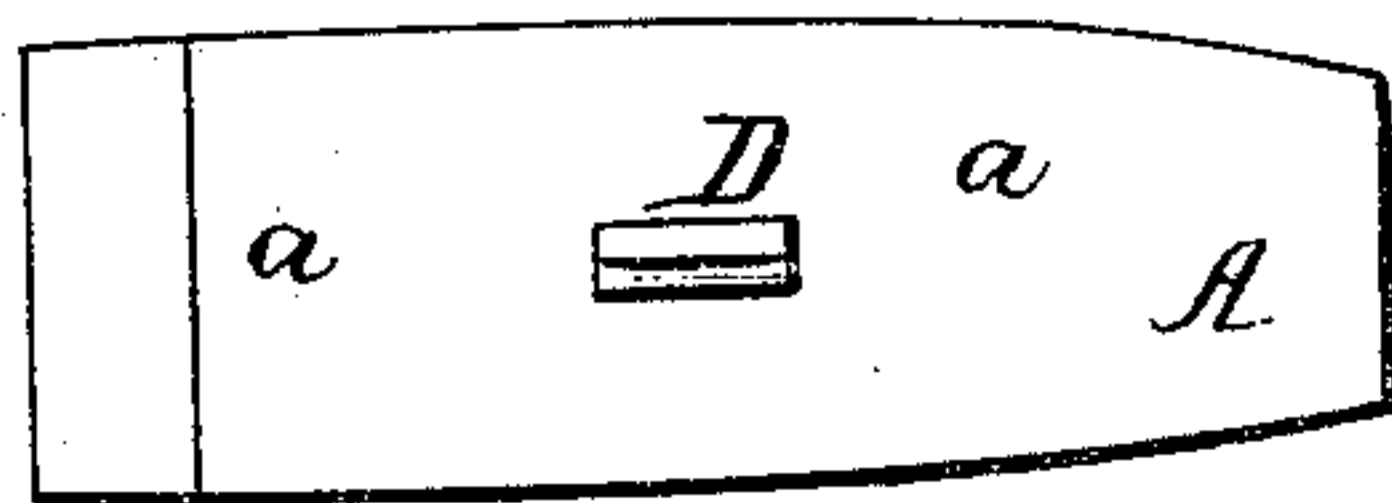
N^o 88,621.

Patented Apr. 6, 1869.

Fig; 1.



Fig; 2.



Witnesses;

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EDWIN FROGGATT, OF CENTRAL CITY, COLORADO TERRITORY.

Letters Patent No. 88,621, dated April 6, 1869.

IMPROVEMENT IN WRENCH AND PINCERS.

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, EDWIN FROGGATT, of Central City, in the Territory of Colorado, have invented a new and improved Combination-Tool; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view, partly in section, of my combined tool.

Figure 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new tool, which is to be used by blacksmiths and mechanics for various purposes, and in which the most important tools, to wit, the hammer, screw-driver, wrench, and pincers, are combined in such manner that either can be used with great facility.

A, in the drawing, represents the shank of my improved tool.

It is made of malleable iron, or other suitable material, and has, on its upper end, formed a head, *a*, projecting from both sides, as shown.

One end of this head serves as a hammer, the other one, as the upper jaw of a wrench.

The upper half of the shank A is, under the hammer-head *a*, made flat, and is slotted, as shown.

B is the lower jaw of the wrench. It is forked, so as to straddle the slotted upper part of the shank, and is, by means of a tube, *b*, connected with a lower guide-arm, *c*, which also straddles the shank, as shown.

Screws *d d* are fitted through the forked ends of the parts B *c*, and through the slot of the shank.

C is a screw, for working the lower jaw. It rests on a step, *e*, formed on the shank, and fits into the arm *c* and tube *b*, as shown. By turning it, the lower jaw will be raised or lowered, at will.

The screw *d* and the lower arm *c* serve to steady the motion of the jaw, and make the wrench effective.

The working-faces of the jaws *a* and B are or may be grooved, or roughened, to increase the effectiveness of the wrench.

D is a tapering metal arm, projecting from the head, *a*. It serves as a screw-driver.

The lower end of the shank A forms one of the jaws of a pair of pincers, as shown.

The other arm, E, of the pincers is, by a pin, *f*, pivoted to A, and can, by a spring-catch, *g*, be fastened to the step *e*, when the pincers are not to be used.

h is a spring, for forcing the jaws of the pincers apart.

Another form of wrench may be arranged in the same combination with equal effect, and the screw-driver can be omitted, if desired.

The hammer is strengthened by an additional brace, *o*, as shown, which connects its head with the shank.

The nippers may have steel-faced points, that may be removable, if desired.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination-tool, consisting of the wrench, hammer, and pincers, with or without the screw-driver, all operating and arranged substantially as specified.

2. Connecting the movable jaw B of a wrench, by means of a bar or tube, *b*, with a parallel arm, *c*, the jaw and arm being bifurcated, so as to straddle the slotted shank A, through which screws *d* are fitted into the parts B *c*, substantially as herein shown and described, for the purpose specified.

EDWIN FROGGATT.

Witnesses:

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