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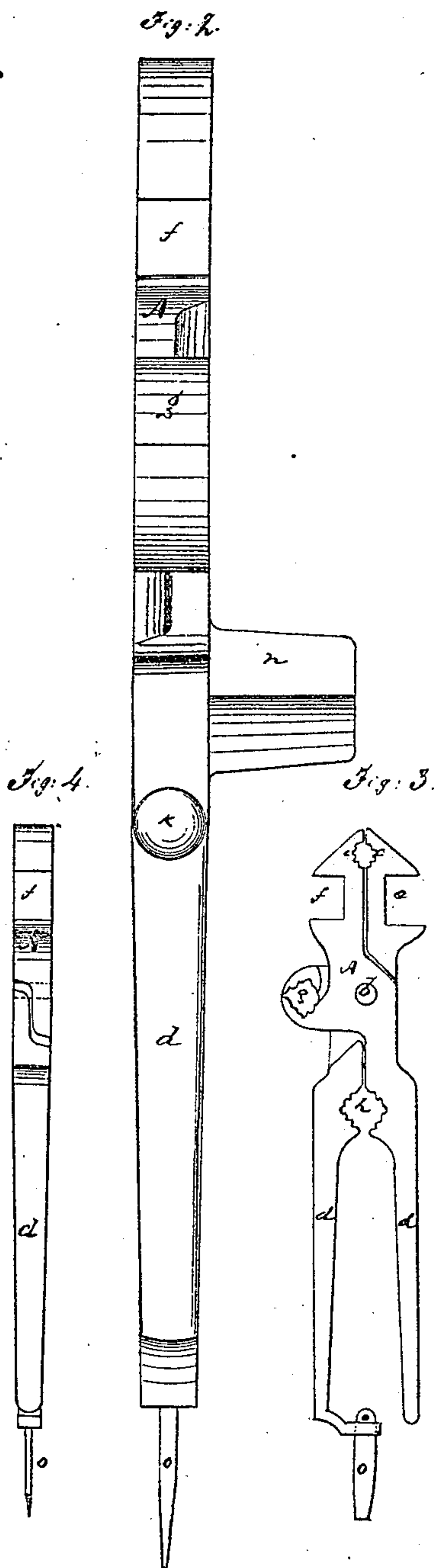
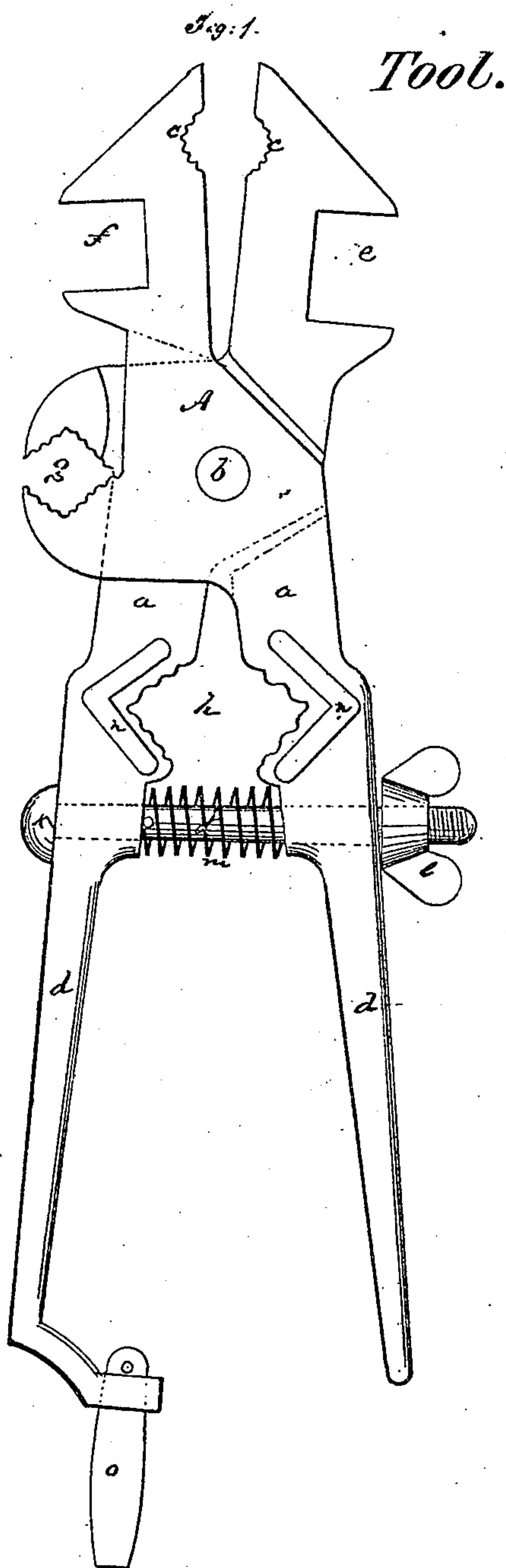
GEORGE J. CAPEWELL.

SUBSTITUTE FOR MISSING OR

Improvement in Combined Tools.

No. 114,759.

Patented May 16, 1871.



Witnesses:

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# United States Patent Office.

GEORGE J. CAPEWELL, OF CHESHIRE, CONNECTICUT.

Letters Patent No. 114,759, dated May 16, 1871.

## IMPROVEMENT IN COMBINED TOOLS.

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, GEORGE J. CAPEWELL, of Cheshire, in the county of New Haven, State of Connecticut, have invented a new and improved Combination Tool; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The object of this invention is to produce an instrument which shall combine within itself several different tools, such as wrenches, pliers, vise, screw-driver, &c., so that a person having the one instrument will have at the same time ready at hand, without further adaptation, several kinds of useful appliances which will not only be extremely convenient, but, by reason of the cheapness of their construction put the instrument within the reach of all.

The invention is an improvement in combination tools; and

It consists in the construction, arrangement, and combination of parts as hereinafter described and claimed.

In the accompanying drawing—

Figure 1 is a front view of my invention;

Figure 2, an edge view of same; and

Figures 3 and 4 are plan and edge views of modification of same.

Similar letters of reference indicate corresponding parts in the drawing.

A represents an instrument, which may be made of malleable iron or any other suitable material, composed of two sides, *a a*, joined together by a fulcrum-pivot, *b*, in a manner similar to scissors and other like implements, so that when the instrument is grasped in the hand and the handles *d d* pressed together the upper portion of the parts *a a* will be brought together, forming pliers, between the jaws of which any desirable object may be held.

Into the face of the jaws thus formed, and near their point, recesses *c c* are made, with corrugations or teeth, so that when the jaws are brought together said recesses will inclose any round object, as a gas-burner, and unscrew the same.

The outer side of the jaws just mentioned are formed into open-jawed square wrenches, the one, *e*, being larger than the other, *f*, the object of which is manifest.

Immediately below the wrench *f* the sides *a a* are formed into jaws with rounded face, and recessed inside

with corrugations, thus making a pipe-wrench, *g*, the rounded faces coming together with sharp edges. These jaws may be advantageously employed for drawing nails, &c., using the handles for a lever, and the jaws grasping the nail as a fulcrum.

Just below the pivot *b* the sides *a a* are again recessed, and the recesses corrugated, in this way producing a pipe-wrench, *h*, of larger grasp than the wrench *g*, before described, and on one face of the sides or legs *a a* are cast two projections, *n n*, which are angular in shape, so that when said projections are brought together, a convenient box-wrench is formed for taking off axle-nuts, and for other similar purposes.

In order to form the instrument above described into a hand-vise for holding pipes or otherwise, a bolt, *j*, is passed through the sides *a a*, just below the wrench *h*. This bolt is formed with a head, *k*, on one end, and screw-threads on the other, so that the jaws of the several wrenches may be brought together and held tightly in place by means of the thumb-screw *l*, the spiral spring *m* throwing the sides *a a* apart as the screw is released.

One of the sides or legs *a*, as will be seen by reference to fig. 1, at its lower end, is turned inward nearly at right angles, into which there is fitted in any desirable manner a small screw-driver, *o*.

Thus it will be seen that in one instrument I have pliers, two open square wrenches, a gas-burner wrench, a pipe-wrench and nail-drawer, a pipe-wrench of large grasp, a box-wrench, hand-vise, and screw-driver, all combined in a simple and useful manner. Or, if desired, the combination tool above described may be modified (see figs. 3 and 4) by constructing the same without the screw-bolt *j* and projections *n n*, thus producing a less expensive but at the same time extremely useful implement.

Having thus described my invention,

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

The combination of the handles *d d*, pivot *b*, bolt *j*, *k*, spring *m*, and thumb-nut *e*, the parts *d d* being constructed to form wrenches for round and square bodies, and provided with a screw-driver, the bolt, spring, and nut forming the implement into a hand-vise, all substantially as herein described.

GEORGE J. CAPEWELL. [L. S.]

Witnesses:

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