

(No Model.)

W. E. BADGER.
MONKEY WRENCH.

No. 502,869.

Patented Aug. 8, 1893.

Fig. 1.

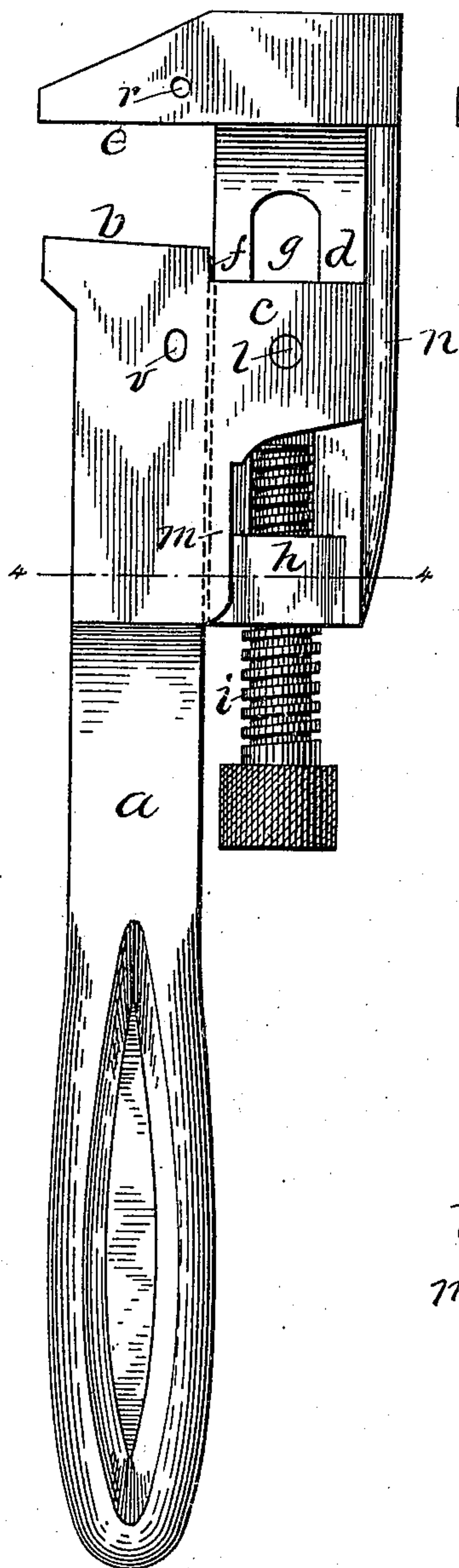


Fig. 2.

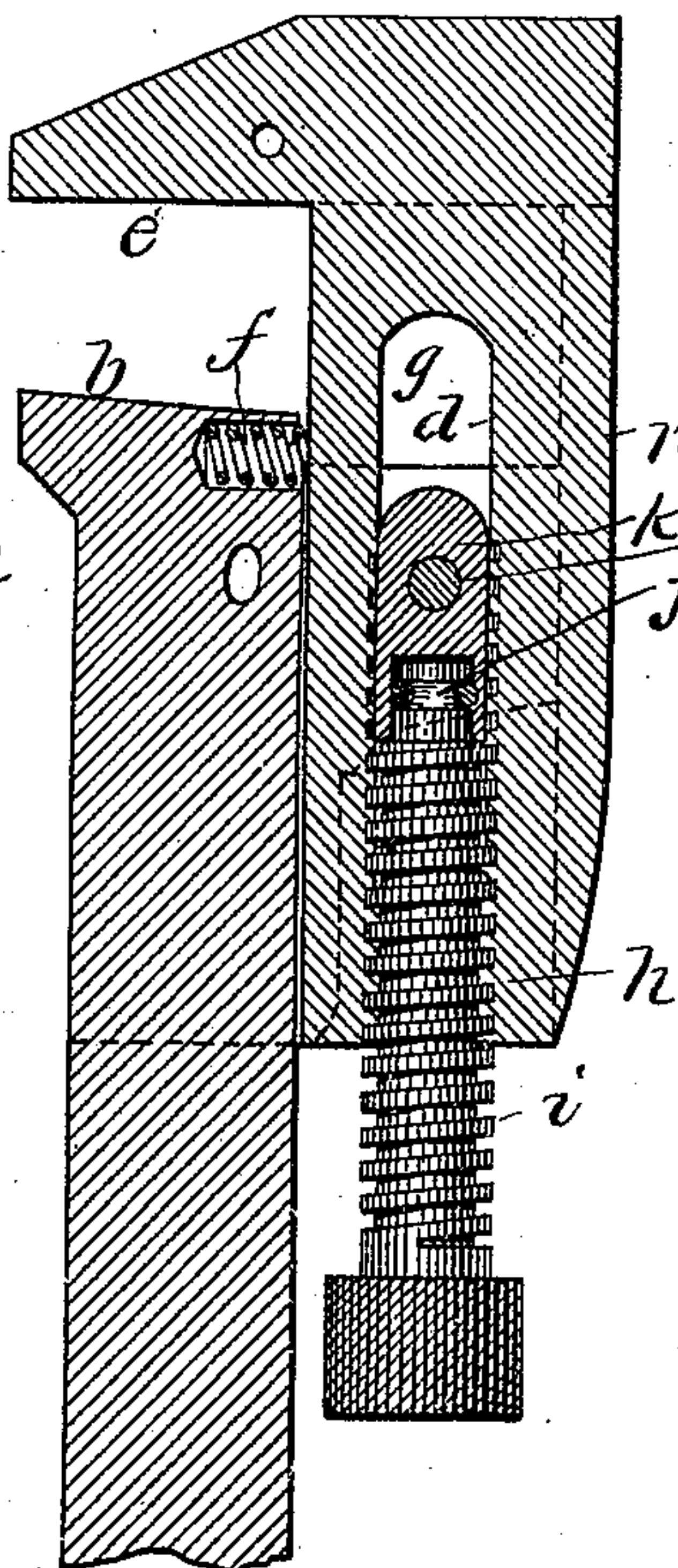


Fig. 3.

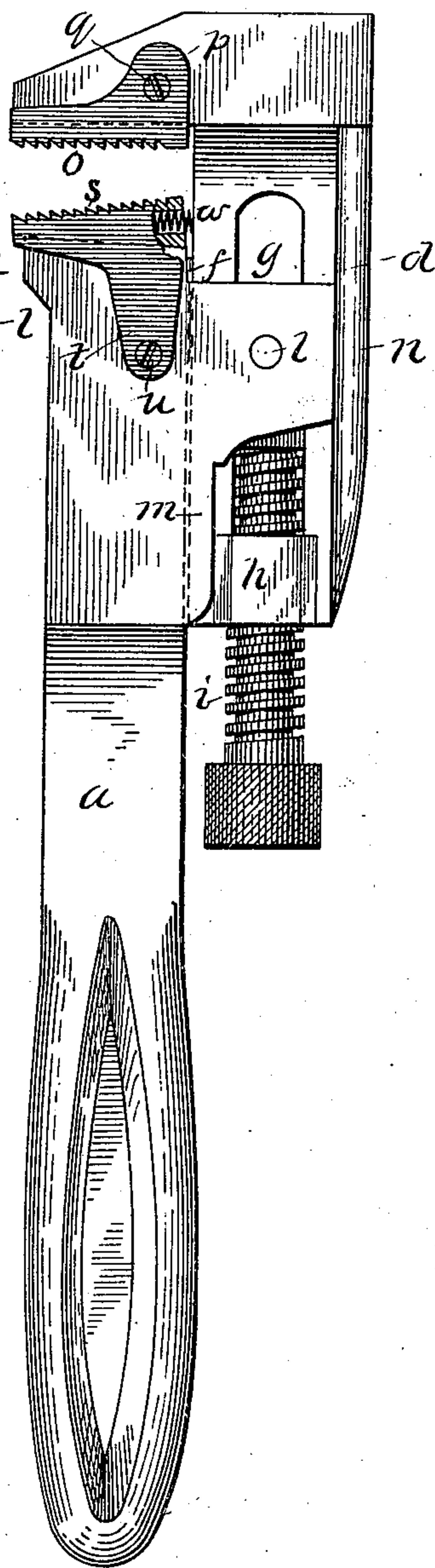
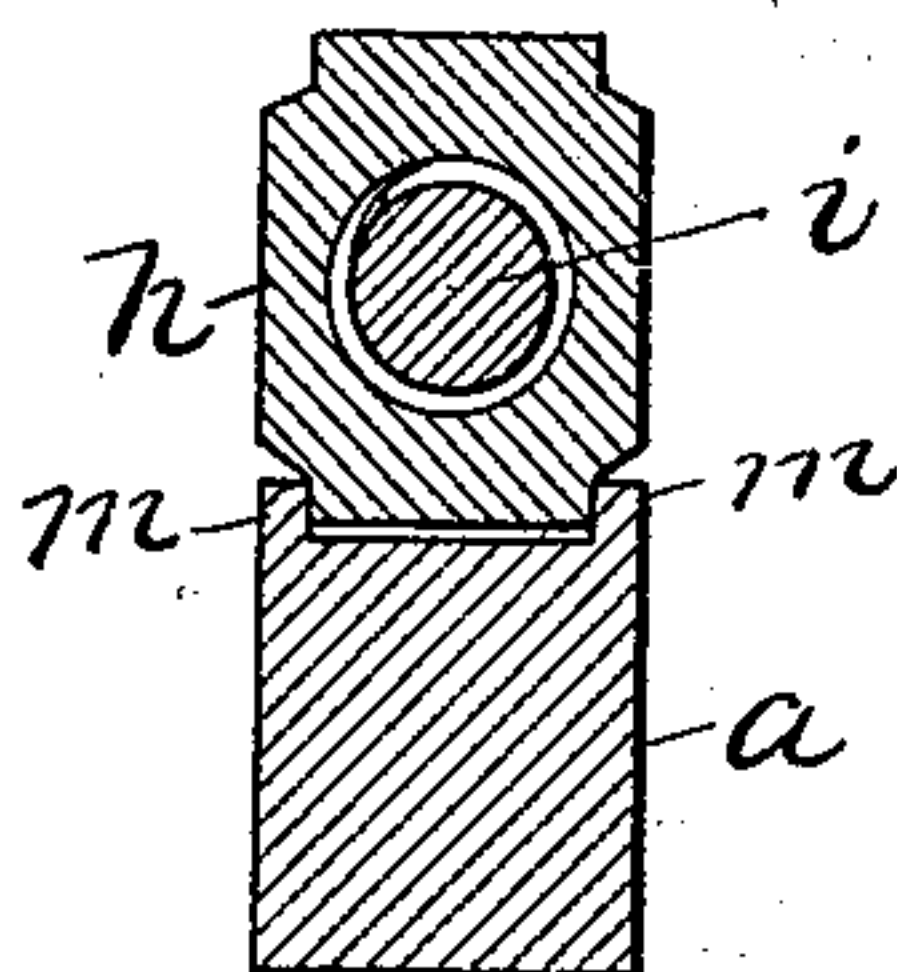


Fig. 4.



WITNESSES.

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WILLIAM E. BADGER, OF QUINCY, MASSACHUSETTS.

MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 502,869, dated August 8, 1893.

Application filed August 22, 1892. Serial No. 443,752. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BADGER, of Quincy, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Monkey-Wrenches, of which the following is a specification.

My invention has relation to that class or kind of tools known as monkey wrenches; and it has for its purpose the provision of such improvements as will enhance the utility of devices of the kind mentioned by causing the jaws to take a firmer hold upon an object to which the tool may be applied than is the case with present constructions, and permit of the ready transformation of an ordinary monkey wrench into a so-called pipe wrench.

To these ends my invention consists in the improved construction and combination of parts hereinafter described and claimed.

Reference is to be had to the annexed drawings and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

In the drawings Figure 1 is a side elevation of my improved tool in condition to be used as a monkey-wrench. Fig. 2 is a longitudinal sectional view of Fig. 1. Fig. 3 is a side elevation of the invention equipped for use as a pipe-wrench. Fig. 4 is a cross sectional view taken on the line 4 4 of Fig. 1.

In the drawings *a* designates the handle of the wrench provided on its forward end with the fixed jaw *b*. From the handle or jaw *b* there extend ears *c* between which is pivoted the shank *d* of the movable jaw *e*. A spring *f* seated in the jaw *b* bears against the lower surface of the shank *a*, with a tendency of separating the jaws. The body of the shank *d* is slotted, as at *g*, the rear end of said shank being constructed as a nut *h*, through which the adjusting screw *i* is tapped, the inner end of said screw being reduced and provided with a groove *j*.

h is a socketed nut arranged in the slot *g* of the shank *d*, through which nut and the ears *c* the pivot pin *l* extends.

The reduced inner end of the adjusting screw *i* is seated in the socket of the nut *h* and a pin extends through the sides of said nut and rests in the groove *j* on the inner end of the screw *i*. With this construction and

arrangement of parts, by turning the screw *i* the jaw *e* can be adjusted longitudinally of the handle, as may be desired. The nut *h* may be made as long as may be necessary to give the screw *i* such extent of bearing therein as may insure it against being stripped.

m m designate flanges formed on the sides of the handle *a* which serve as a lateral guide for the shank *d*; and *n* is a rib formed on the back of said shank for the purpose of strengthening the same.

o designates a toothed jaw, provided with ears *p* constructed so as to fit astride the jaw *e* and be secured thereto by the pin *q* which passes through the said ears and the hole *r* in said jaws.

s is also a toothed jaw provided with the ears *t* which fit astride the jaw *b*, so as to adapt said jaw *s* to be pivotally secured to the jaw *b* by means of the pivot pin *u* which passes through the ears *t* and the elongated hole *v* in the jaw *b*. A spring *w* seated in the jaw *s* and bearing at its upper end against the lower surface of the shank *d* provides a means whereby said jaw may rock on its pivotal bearing so as that with the rocking jaw *b* the wrench may be adapted to take a most firm hold on a pipe or other object to which it may be applied.

I do not limit myself to the precise manner shown for making the jaws *o* and *s* removable from the jaws *b* and *e*, as any other equivalent way will answer as well, it being desirable only that the jaw *s* should have a rocking motion on the jaw *b*.

By my invention I am not only enabled to provide a monkey wrench capable of taking the most firm grip or hold on an object to which it may be applied, but by simply attaching to the jaws of the monkey wrench the removable jaws *o s*, I can most conveniently convert said wrench into a pipe wrench of maximum efficiency.

It will be observed that by these improvements a tool is provided which will be found extremely useful by a large class of persons, who, while frequently using a monkey wrench and occasionally needing a pipe wrench, may have their requirements met in a single tool, at very slight cost above one of common construction.

It is obvious that the spring *f* may be dis-

pensed with and the wrench made to operate in quite a satisfactory manner.

It is to be noted further that the jaws *o* and *s* may be applied to a monkey wrench of any known form, and not confined to wrenches of the particular construction herein represented.

Having thus explained the nature of my invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its employment, I declare that what I claim is—

A monkey wrench having a fixed jaw and handle provided with ears and flanged guideways, a movable jaw and shank having an elongated slot and arranged between said

guideways, a socketed nut pivoted in said ears, and arranged in said elongated slot, a screw permanently and rotatively connected to said socketed nut and adapted to adjust the movable jaw, and a spring interposed between the fixed jaw or handle and the shank of the movable jaw at a point above the pivotal point of connection between said fixed and movable jaws, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of August, A. D. 1892.

WILLIAM E. BADGER.

Witnesses:

ARTHUR W. CROSSLEY,
WALTER S. MCLEOD.