

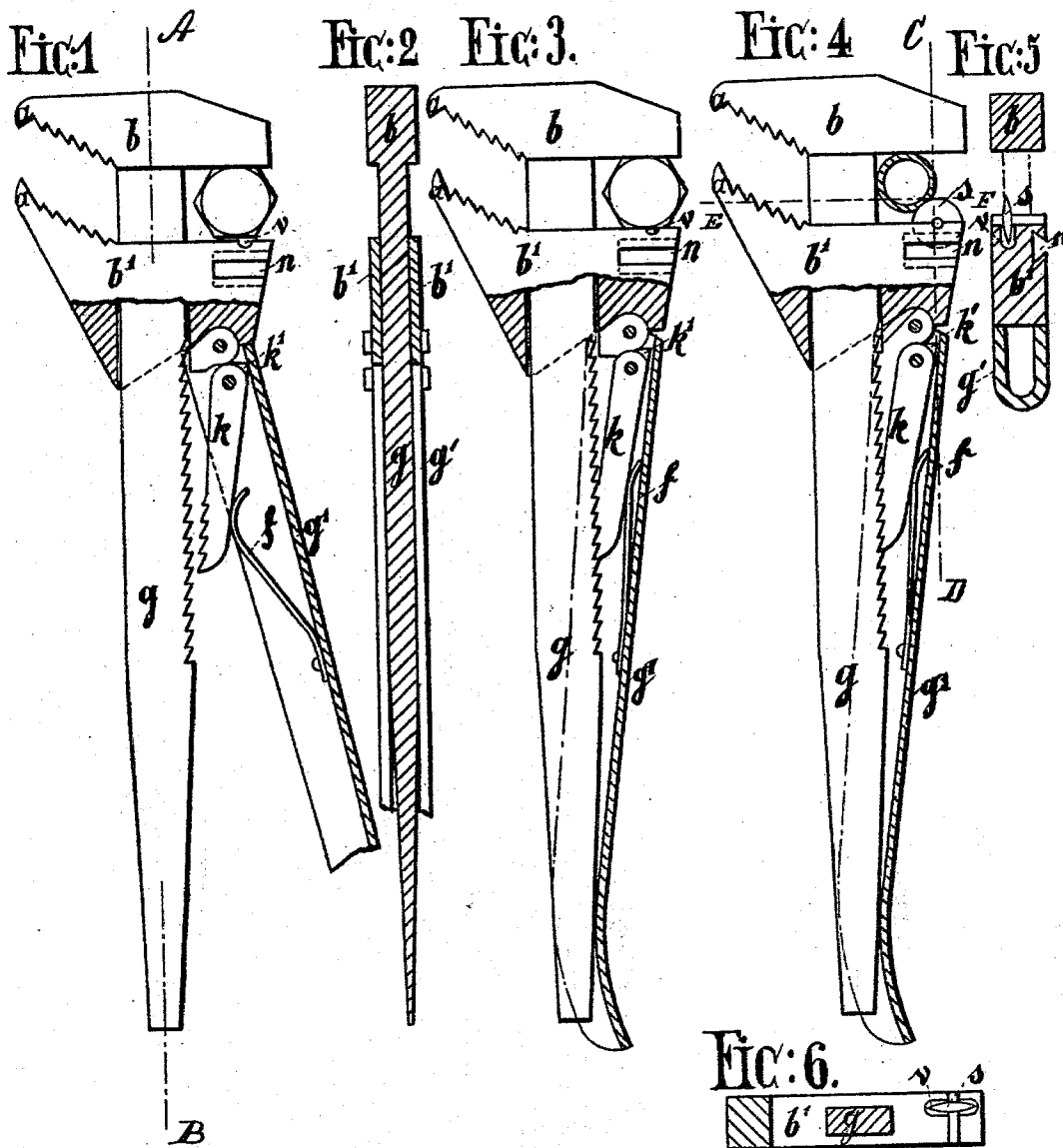
(No Model.)

2 Sheets—Sheet 1.

H. MORK.
UNIVERSAL TOOL.

No. 515,498.

Patented Feb. 27, 1894.



Witnesses:
A. Joughmans
Jm. Schulz.

Inventor:
Heinrich Mork, per
Roeder & Briesew, attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 7.

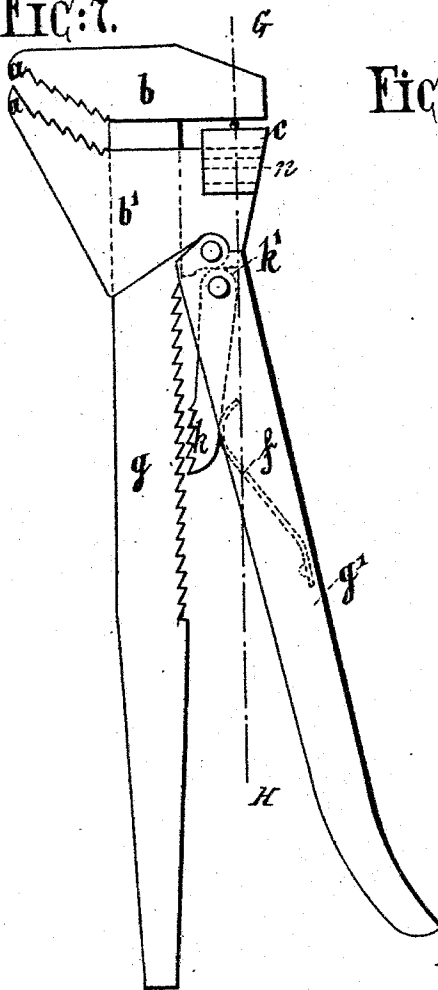


Fig: 8.

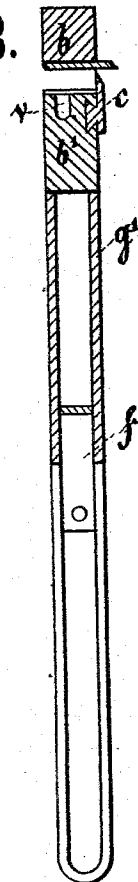


Fig: 9.

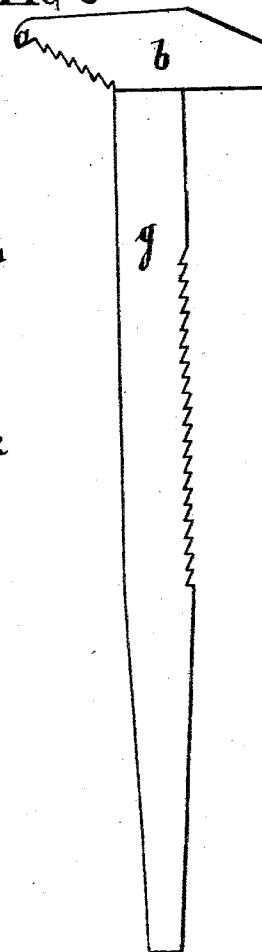
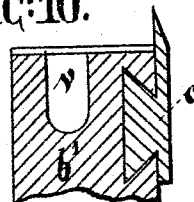


Fig: 10.



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Wm. Schulz.

Inventor:
Heinrich Mork, per
Roeder & Briesewitz, attys.

UNITED STATES PATENT OFFICE.

HEINRICH MORK, OF DUISBURG, GERMANY.

UNIVERSAL TOOL.

SPECIFICATION forming part of Letters Patent No. 515,498, dated February 27, 1894.

Application filed August 8, 1893. Serial No. 432,645. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH MORK, a subject of the German Emperor, residing at Duisburg, Germany, have invented certain new and useful Improvements in Universal Tools, with description as follows.

This invention relates to a universal tool which can be used as a pipe wrench, nut wrench, tongs, hammer, pipe cutter, wire nippers and screw driver.

In the accompanying drawings: Figure 1 is an elevation partly in section of the tool with the movable jaw unlocked. Fig. 2 is a section on line A, B, Fig. 1; Fig. 3 an elevation partly in section of the tool with the movable jaw locked; Fig. 4 a similar view showing the cutting disk *s*, in place; Fig. 5 a longitudinal section on line C, D, Fig. 4; Fig. 6 a cross section on line E, F, Fig. 4; Fig. 7 an elevation of the tool with the cutter *c*, in place; Fig. 8 a longitudinal section on line G, H, Fig. 7; Fig. 9 an elevation of the upper jaw and shank and Fig. 10 a detail vertical section through part of the lower jaw showing the cutter in place.

The letter *g*, represents the serrated shank of the tool, carrying fixed jaw *b*, and surrounded by movable sliding jaw *b'*. The jaw *b'*, is provided with a pivoted grooved handle *g'*, to which is pivoted a pawl *k*, set at an angle or inclination to shank *g*, and adapted to engage the same. The pawl *k*, is thrown toward the shank *g*, by spring *f*, located, together with the pawl, within the hollow handle *g'*. The inward motion of pawl *k*, is limited by a contact edge *k'*, and thus, when the handle *g'*, is swung outward, the pawl releases the shank *g*, and the jaw *b'*, is free to be moved up or down. After the work is placed between the jaws *b, b'*, the lower jaw is moved upward and the handle *g'*, is pressed inward. Owing to the oblique position of the pawl *k*,

in relation to shank *g*, this inward motion of handle *g'*, will force the jaw *b'*, upward, to tightly clamp or cut the work.

The jaws *b, b'*, are serrated at one end to constitute a pipe wrench and are here provided with inwardly projecting lugs *a*, to form tongues. At the opposite end, the jaws are plain to constitute a nut wrench. Within the plain working surface of the lower jaw *b'*, there is formed a groove that constitutes a bearing for the shaft of a pipe cutting disk *s*, received within a mortise *v*, of the jaw. This jaw *b'*, is provided moreover with a dovetail groove *n*, adapted for the reception of a dovetail projection on a cutter or knife *c*. Thus the knife may be readily attached to the tool and when so attached, serves as a cutter for wire or similar articles. If desired, a counterpart for this knife may be provided in the jaw *b*. If the lower jaw, with its handle, is entirely removed, the upper jaw together with its shank, constitutes a hammer (Fig. 9). The lower end of the shank may be sharpened to form a screw driver.

What I claim is—

The combination of a toothed shank *g*, carrying a fixed jaw *b*, which is serrated at one end, a movable jaw *b'*, serrated at one end and grooved and mortised at the other end, a cutter *c*, adapted to be carried in said groove, a disk *s*, adapted to be secured in said mortise, and a handle *g'*, pivoted to said movable jaw and carrying a pawl *k*, adapted to engage shank *g*, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HEINRICH MORK.

Witnesses:

HANS FRIEDRICK,
OTTO SEITNICK.