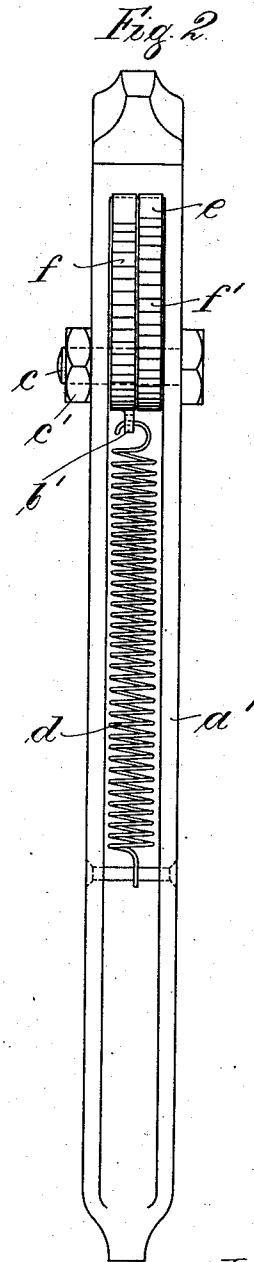
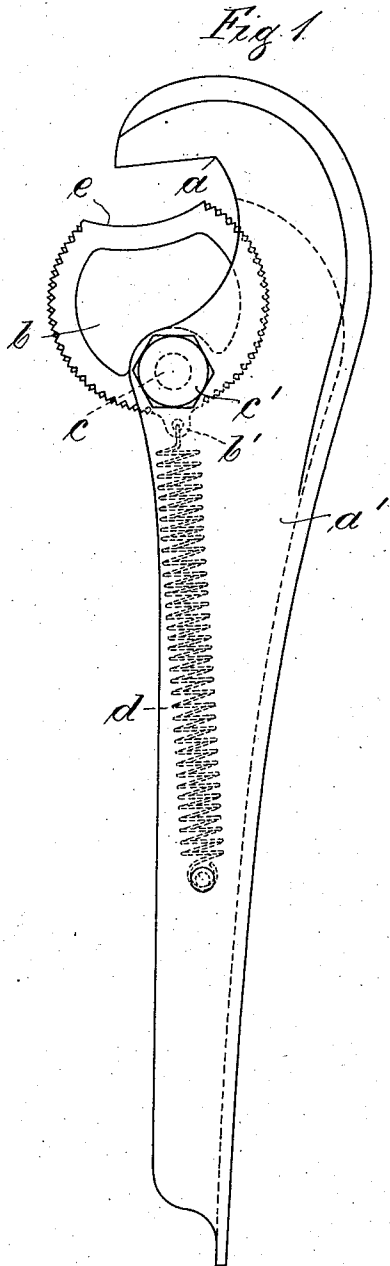


A. VIETOR.
GRIPPING DEVICE.
APPLICATION FILED OCT. 20, 1910.

1,027,161.

Patented May 21, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

ADOLF VIETOR, OF SCHMALKALDEN, GERMANY.

GRIPPING DEVICE.

1,027,161.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed October 20, 1910. Serial No. 588,050.

To all whom it may concern:

Be it known that I, ADOLF VIETOR, a subject of the King of Prussia, and resident of Schmalkalden, in the Province of Hessen-Nassau, Kingdom of Prussia, German Empire, have invented a certain new and Improved Gripping Device, of which the following is a specification.

This invention relates to an improved gripping device, more especially applicable to tongs, wrenches for pipes, rods or the like for use in drawing, stretching or handling wire and as a coupling device.

In the known tools of the kind referred to the gripping surfaces are usually grooved or provided with teeth extending across the entire gripping surface, that is to say the teeth are cut or milled into the surface from the one end to the other. Since, however, the teeth cannot for practical reasons be made sufficiently fine so that always a tooth is presented in the correct position for gripping for every size of object within the limits of the tool slipping often takes place owing to a faulty grip.

The object of the present invention is to avoid this unfavorable effect. To this end a plurality of sets of teeth are provided on the gripping surfaces, each set being in staggered relation with the other or remaining sets. Thus by increasing the number of sets the distance between one tooth in a set and the next circumferentially adjacent tooth in another set may be reduced to a minimum and the adaptability of the tool to perfectly grip any sized object within the limits of the tool correspondingly increased so that slipping in any case is practically avoided.

The present invention is illustrated in the accompanying drawing as applied to a pipe wrench, Figure 1 being a side view, and Fig. 2 an edge view.

Referring to the drawings the gripping device comprises a disk *b* eccentrically mounted so as to be capable of rotation about an axis *c* in a cooperating jaw *a*. In order that the disk *b* shall automatically grip the pipe, rod, wire or other object until released a tension spring *d* is provided, connected at one end to an extension *a'* of the jaw *a* and at the other end to the disk *b* so that normally a line passing through the axis *c* and the center of the disk *b* is normal to the main cooperating surface of the jaw *a'* that is to say so that when the device is not in use the distance between the periphery of

the disk *b* and the most adjacent part of the jaw *a* is at a minimum. The spring *d* may be secured to the disk *b* in any suitable manner but as shown the spring *d* is secured to a lug *b'* formed on the disk *b*. When it is desired to insert an object between the disk *b* and cooperating jaw *a* it is necessary to rotate the disk *b* against the influence of the spring *d*. To this object the periphery of the disk *b* is conveniently provided with a flat which may be hollowed out to form a rest *e* for the thumb so that the disk may be rotated by gripping the tool with one hand, the thumb resting at *e* and the fingers of the same hand behind the extension *a'*.

Obviously the form of the jaw *a* and the relative position of the jaw and disk *b* depend upon the purpose for which the gripping device is intended.

In the drawing two sets of teeth are shown relatively staggered. The number of sets may be increased as desired. The forming of the sets of teeth is most easily effected by constructing the disk of as many plates as there may be sets of teeth forming like teeth in each plate and connecting the plates together with the teeth in staggered relation to form the disk.

In the drawing one plate is indicated by *f* and the other by *f'*.

I claim:

1. In combination with a gripping device having a fixed jaw, an extension thereon forming a handle, and a plurality of rotatable disks eccentrically mounted on said handle and forming the movable jaw; approximately V-shaped teeth cut in the periphery of said disks, said disks being secured together side by side in fixed relation with the teeth of one disk alternating with the teeth of the adjacent disk, so as to provide a movable jaw having approximately V-shaped teeth in staggered relation to each other.

2. In combination with a gripping device having a fixed jaw, an extension thereon forming a handle, and a plurality of circular disks eccentrically mounted on said handle and forming the movable jaw; approximately V-shaped teeth cut in the periphery of said disks and a cut-away part in the periphery of each disk, said disks being secured together side by side in fixed relation with the teeth of one disk, alternating with the teeth of the adjacent disk so as to provide a movable jaw having approximately

V-shaped teeth in staggered relation to each other, and the cut-away parts in the peripheries of the disks coinciding with one another, so as to form a thumb rest for the purpose of facilitating the rotation of said disks.

3. In combination with a gripping device having a fixed jaw, an extension thereon forming a handle, and a plurality of circular disks eccentrically mounted on said handle and forming the movable jaw; approximately V-shaped teeth cut in the periphery of each disk, said disks being secured together side by side in fixed relation with the teeth of one disk, alternating with the teeth of the adjacent disk so as to provide a movable jaw having approximately V-shaped

teeth in staggered relation to each other, and the cut-away parts in the peripheries of the disks coinciding with one another, so as to form a thumb rest for the purpose of facilitating the rotation of said disks, and a spring tending to rotate said disks into closer relation with said fixed jaw, said spring being connected at one end to the handle and at the other end to the disks at a point diametrically opposite said thumb rest.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ADOLF VIETOR.

Witnesses:

I. HINZE,
CURT WAGNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."