

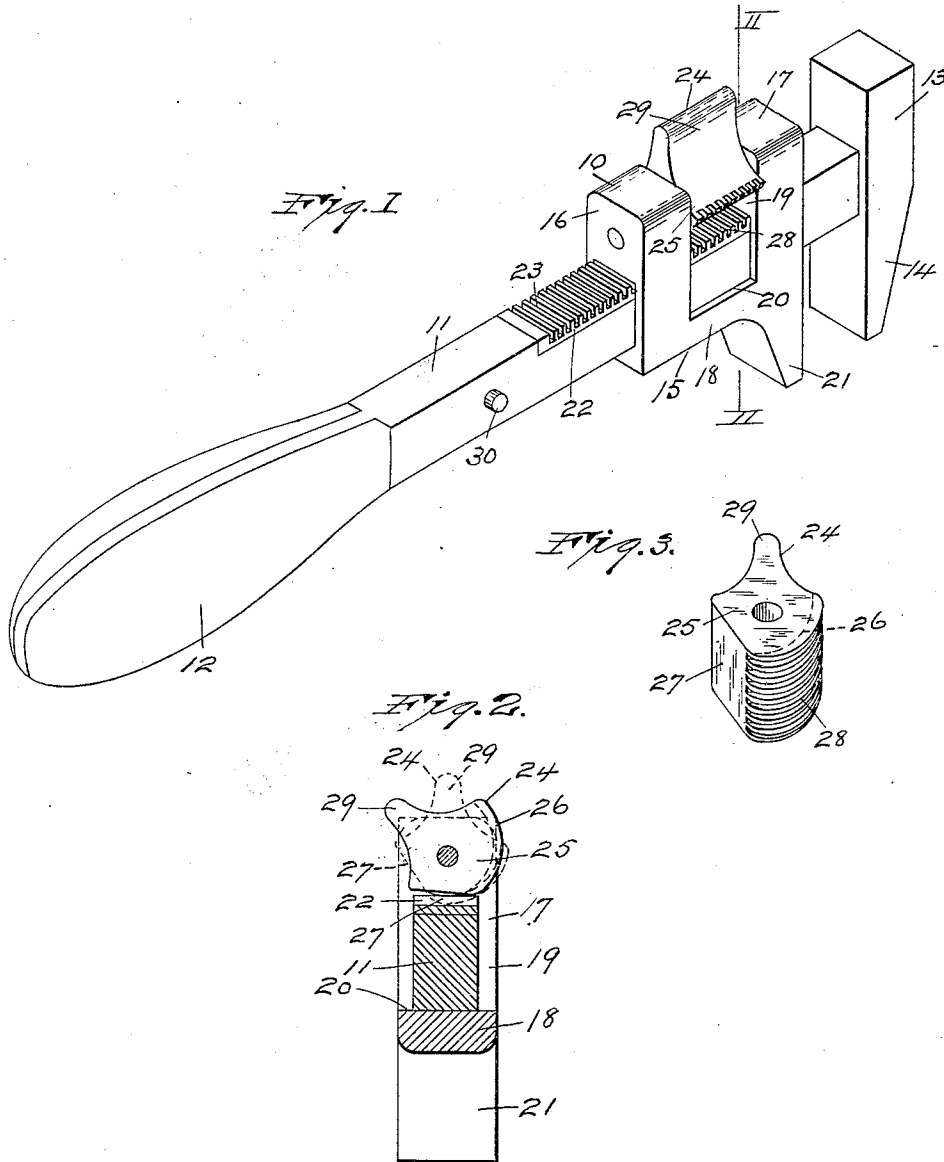
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WRENCH.

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WRENCH.

1,042,762.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ELROY B. BRINK, a citizen of the United States, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact specification.

This invention relates to a class of implements adapted for various kinds of uses in mechanical work.

My invention has for its object primarily to provide a form of wrench or implement designed to be employed in various classes of mechanical or structural work, such as screwing or unscrewing nuts upon bolts, connecting caps or unions upon pipes and for like purposes, and which is adapted to be applied with unusual facility and held very firmly to the articles to be connected or disconnected, thereby overcoming the objections incident to wrenches in ordinary use.

Another object of the invention is to apply a new and novel form of locking element adapted to positively hold the jaws of the wrench against movement when adjusted at various spaced distances; and to further provide a simple and efficient form of wrench susceptible of being made in any desired size and having jaws of different shapes so as to be adapted for various classes of work.

A practical embodiment of the invention is represented in the accompanying drawing forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views, the said invention being more fully described hereinafter and then pointed out in the appended claims.

In the drawing, Figure 1 is a perspective view of one form of wrench embodying my invention. Fig. 2 is a section taken on the line II—II of Fig. 1, and Fig. 3 is a perspective view of the locking element employed in the wrench.

The wrench 10 has an angular bar 11 which may be substantially rectangular or square in shape, and upon one end of said bar is provided a handle 12. Upon the opposite end of the bar 11 is rigidly held a head, as 13, and projecting from the head 13 is a jaw 14 which is disposed at an angle with respect to the bar 12, as is usual with the ordinary form of wrench.

Upon the angular bar 11 is loosely held a

guide 15 composed of two spaced collars, 16 and 17, each having an opening therein through which is directed the bar 11, and one end of said collars is bridged by a plate 18. By this formation the guide 15 has a recess 19 in one part thereof, and the plate 18 has a flat surface 20 conforming with the opposed surface of the angular bar 11, in order to obviate any lateral movement of the guide 15 when moved back and forth upon said bar. Projecting from the bridge-plate 18 is a second jaw 21, and said jaw is disposed in a similar direction to the jaw 14.

For the purpose of holding the guide 15 upon the bar 11 when adjusted so that the jaws 14 and 21 are spaced apart at a desired distance I provide a tempered plate 22 upon the bar 11 preferably opposite to the bridge-plate 18, and upon the exposed face of said plate 22 are formed teeth 23. The teeth 23 of the plate 22 are adapted to be engaged by a cam-shaped locking element 24 of tempered metal which is eccentrically pivoted in the recess 19 between the spaced collars 16 and 17 of the guide 15. The locking element 24 has a tapered body 25, one face of which is curved, as at 26, and the opposite face 27 thereof is straight or flattened. Upon the curved face 26 of the tapered body 25 are formed teeth 28, and said teeth extend around the apex of said tapered body where they are graduated to nothing so that the straight face 27 of the body is entirely smooth. By this formation the teeth 28 will mesh with the teeth 23 of the plate 22 when the tapered body 25 is moved in a direction to lock the guide 15 to the bar 11, and said teeth will be entirely freed from the teeth 23 of said plate when the body 25 is swung in an opposite direction to release said guide from the bar 11. In order to permit the cam-shaped locking element 24 to be conveniently moved by the finger of a person, upon the tapered body 25 and opposite to the apex thereof is provided a narrow projecting part or handle as 29, and by directing said handle transversely of the wrench the cam-shaped locking element 24 will engage with or be disengaged from the plate 22 for locking together or releasing the guide 15 from the bar 11 and in order to limit the movement of the guide 15 on the bar 11, upon said bar is provided a stop 30.

In the foregoing description I have embodied the preferred form of my invention, but I do not wish to be understood as lim-

iting myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages of this invention therefore I reserve to myself the right to make such changes as fairly fall within the scope thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a wrench, the combination of a bar, having a head and an extended jaw, and a rack upon said bar; with a mating jaw slidably mounted upon said bar, said sliding jaw having an extended head, and a bridge connecting with a similar head, bearings in said heads for a pawl, and a rocking pawl mounted in said bearings between said heads, said pawl being mounted in said bearings between said heads independently of said head on said bar, and the said bar, and having at its outer side a flange adapted to serve as a lever, and on one side a segmental eccentric cam, provided with a rack comprising a series of teeth, graduated in depth, adapted to form a locking grip, to engage said rack on said bar, and on the opposite side a flat surface to provide for releasing the grip by a rocking movement substantially as shown and described.
2. In a wrench, the combination, with a rectangular bar, having a head and an opposing extended jaw, and a rack of transverse teeth on the outer surface of said rectangular bar, comprising a renewable plate; of a bridge connecting two heads having rectangular journals to admit the said rectangular bar, one of said heads having an extended jaw integrally formed therewith, adapted to engage the jaw on said rectangular bar as a mating jaw, said integral bridge and heads and mating jaw being slidably mounted on said rectangular bar, and said heads having bearings therein adapted to admit a shaft rigidly mounted therein, said shaft having a rocking pawl rotatably mounted thereon, and a rocking pawl, rotatably mounted on said shaft between said heads having an extended central blade, or flange, adapted to serve as a lever, and on one side a segmental eccentric cam having a rack comprising transverse teeth of graduated depth, being of the full depth of teeth in the rack on said rectangular bar at the outer extreme, or longer radius of said eccentric and decreasing to nothing at the shorter radius thereof or the central portion of said pawl, said teeth being adapted to engage the rack on said rectangular bar, and a flat surface on the opposite side of said rocking pawl, to provide for disengaging the said pawl by a rocking movement of said pawl, substantially as shown and described.

3. In an adjustable wrench, having a rectangular bar, a head, and an extended jaw and a rack on the outer surface of said bar; said rack comprising a renewable plate of tempered metal having transverse teeth thereon; with a slidably mounted adjustable part, comprising a mating jaw adapted to engage the said jaw on said rectangular bar, integrally formed with an opposing extended head, and a bridge on the inner side of said rectangular bar, integrally formed with said mating jaw and opposing head, connecting with a corresponding extended head integrally formed therewith, said extended heads being journaled to provide means for mounting said integrally formed part slidably upon said rectangular bar, said extended heads being opposed to the extended jaw on said sliding member, and being provided with bearings adapted to rigidly engage a bearing shaft for a pawl, and a rocking pawl reciprocally mounted on a shaft, rigidly mounted in said bearings in said heads and between said heads, said pawl having an outwardly extended longitudinal blade or flange, adapted to serve as a lever, and a segmental eccentric cam on one side thereof, with a rack thereon comprising graduated teeth varying in depth from the maximum depth of the teeth on the rack on said rectangular bar at the outer extreme of the eccentric, to a minimum depth, or to nothing, at the central portion of said pawl, a flat plane surface on the opposite side of said pawl, at substantially a right angle to a chord of said segmental eccentric cam, to provide means whereby the said pawl may be disengaged from said rack on said rectangular bar, by a rocking movement of said pawl, said rectangular bar having a lug to limit the longitudinal movement of said slidably mounted member, and said sliding member and said bearings for said pawl in said heads thereof being opposed to said extended jaws, and independent of the head on said rectangular bar and the head thereof, substantially as shown and described.
4. In a wrench, having a rectangular shank or bar, and a head and an extended jaw opposed to said head, the combination, of a rack on said rectangular bar, comprising a removable tempered plate having transverse parallel teeth, in a horizontal plane on the back surface of said bar; with a sliding bridge journaled upon said rectangular bar by means of rectangular bearings or bores through upwardly extended heads, integrally formed therewith, and extending above said rack on the back or upper surface of said rectangular bar, to provide bearings for a suitable pawl, and having opposed to said extended journaled heads, an extended jaw adapted to mate with the said jaw on the head of said rec-

5 tangular bar, said extended heads having bores to admit and rigidly retain a bearing shaft for a rocking pawl, whereby a suitable bearing is provided a pawl independent
10 of said head on said rectangular bar, and a rocking pawl mounted rotatably upon a bearing shaft, rigidly seated in said heads whereby said pawl and sliding support therefor may be moved independently of
15 said rectangular bar, and said head thereof, said pawl having a longitudinal flange extending the whole length of said pawl between said bearings, adapted to serve as a lever, and a segmental eccentric cam having a series of transverse teeth forming a rack adapted to engage said rack on said rectan-

gular bar, said teeth being graduated from the depth of the teeth on the rack on said bar at the outer extreme of said segmental eccentric cam, to nothing at the central part 20 of said pawl and a flat plane adapted to disengage said pawl, on the opposite side of said pawl, when said plane is brought into engagement with said bar, by the rocking movement of said pawl, substantially as 25 shown and described.

This specification signed and witnessed this thirtieth day of March A. D. 1911.

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Witnesses:

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