

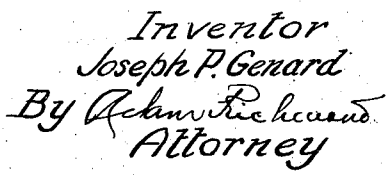
June 20, 1939.

J. P. GENARD

2,162,708

WRENCH

Filed April 20, 1938



UNITED STATES PATENT OFFICE

2,162,708

WRENCH

Joseph P. Genard, Fort Stevens, Oreg.

Application April 20, 1938, Serial No. 203,080

2 Claims. (Cl. 81—94)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

5 This invention relates generally to wrenches, but more particularly to a wrench provided with a gripping and releasing mechanism.

One object of the invention is to provide a wrench which will engage and disengage a nut or bolt without changing the setting with respect to the spread of its jaws.

Another object of the invention is to provide a wrench which can be used in small spaces where a complete rotation of its handle is impossible.

15 It is also an object of the invention to provide a wrench of the above indicated character, which is simple and substantial in construction, can be manufactured economically and will be thoroughly efficient and practical in use.

20 Other objects of the invention consist of certain novel details of construction and arrangement of parts as hereinafter shown in the drawing, described in the specification and more particularly defined in the accompanying claims.

25 In the description which follows reference may be had to the accompanying drawing in which the various parts are indicated by suitable reference characters and in which—

Fig. 1 is a side elevation of a monkey wrench provided with a hingeably mounted releasing jaw;

Fig. 2 is a front elevation of the wrench illustrated in Fig. 1;

Fig. 3 is a top plan view of the jaw carriage illustrated in Fig. 1, with movable jaw and sliding lugs but with spring removed;

Fig. 4 is a side elevation of a modified form of jaw carriage, with movable jaw and sliding lugs, but with releasing spring and screw member removed;

Fig. 5 is a top plan view of the carriage assembly as illustrated in Fig. 4;

Fig. 6 is a side elevation of a non-adjustable hand wrench provided with a hingeably mounted releasing jaw; and

Fig. 7 is a front elevation of the wrench shown in Fig. 6.

Briefly stated, the invention relates to a wrench construction in which the jaws of the wrench may be instantaneously released from and returned to their position of engagement, with the nut or other object to be turned, without altering the degree of separation thereof.

Referring now to Figs. 1 and 2, the numeral 10 indicates the crank handle of an adjustable

wrench, which is provided with a longitudinally

extending rack 11, and a stationary jaw 12. A carriage 13, which is slidably mounted on the crank arm 10, is provided with a screw member 14 which engages the teeth of rack 11, and is utilized to move the carriage 13 along the longitudinal extent of the crank handle 10 to adjust the spread of the jaws 12 and 15.

Adjacent the upper extremity of the carriage 13 and projecting laterally from the opposite sides thereof are trunnions 16 and 17 on which are pivotally mounted the parallel rearwardly extending ears 18 and 19 of the arcuately movable jaw 15. Slotted passages 20 and 21 are provided within the body of the carriage 13, for the slidable movement therein of the parallelly connected lugs 22 and 23 which may be formed integral with the head 24 to which a releasing spring 25 is slidably connected by means of a screw 26. The spring which is rigidly attached to the carriage 13 by a screw 27, is provided with a slotted opening 28 which slidably engages the screw 26, to permit relative longitudinal movement between the lug head 24 and the spring 25. The spring 25 is adapted to retain the lugs 22 and 23 out of engagement with the pivotally mounted jaw 15, so that the latter may move out of engagement with a nut or any object which is engaged by the jaws of the wrench. When the spring 25 is pressed inward toward the carriage 13 by the thumb of the operator the lugs 22 and 23 force the arcuately movable jaw 15 into a position of engagement, as indicated by the solid outline of the jaw as shown in Figs. 1 and 2.

The carriage 13, shown in Fig. 1, is provided with laterally extending trunnions 16 and 17 for the hingeable attachment of the jaw 15. In a modified form of carriage 29, shown in Figs. 4 and 5, the extending ears 30 and 31 are drilled for the reception of a pin 32, which forms a hingeable mounting for an arcuately movable jaw 32, of similar construction to that illustrated in Fig. 1.

Another type of wrench on which the arcuately movable releasing jaw may be used to great advantage is the ordinary type of non-adjustable hand wrench, as illustrated in Figs. 6 and 7. The wrench shown in these illustrations comprises a crank handle 33 which is provided with a stationary jaw 34 and a movable jaw 41. The crank handle 33 is formed with a transverse slotted opening 35 to slidably accommodate a movable lug 36 which is retained in outward or disengaged position by a spring 37, rigidly attached to the lower portion of the handle 33 by means of the screw 38, the spring being provided with a slot-

ted opening 39 at its upper extremity for slidable engagement with the screw 40 which connects it to the lug 36 in the same manner as spring 25, shown in Fig. 1.

5 The movable jaw 41 is pivotally mounted for arcuate movement on a pin 42. This jaw 41 is moved into a position of engagement with a nut or bolt, and released therefrom by the slidable movement of the lug 36 in a similar manner as
10 explained with respect to the monkey wrench, illustrated in Figs. 1, 2 and 3.

Although in the foregoing certain elements have been described as best adapted to perform the functions allotted to them, nevertheless it is
15 to be understood that certain changes may be resorted to within the scope of the appended claims, without departing from or sacrificing any of the principles of this invention.

Having described my invention, what I claim as
20 new and wish to secure by Letters Patent is:

1. A wrench including a stationary jaw and a crank arm, a carriage adjustable on the crank arm and provided with transversely extending passages, a jaw pivotally attached to the forward
25 portion of the carriage, said jaw being formed with a cam surface, camming and supporting means associated with the carriage and coacting

with the movable jaw, said means comprising parallel laterally spaced interconnected lug members slidable within said passages and spring means mounted on the rearward portion of said carriage and engaging said lug members to nor- 5 mally retain the latter in a retracted position, said spring means functioning when depressed to extend the lug members into camming and supporting relation with respect to said pivoted jaw and when released to return said lug members to 10 their normal positions.

2. A wrench including a stationary jaw and a crank arm provided with a transversely extending passage, a jaw pivotally attached to the forward portion of the crank arm, said jaw being 15 formed with a cam surface, camming and supporting means associated with the crank arm and coacting with the movable jaw, said means comprising a lug slidable within said passage and spring means mounted on the rearward portion of 20 said crank arm and engaging said lug to normally retain the latter in a retracted position, said spring means functioning when depressed to extend the lug into camming and supporting relation with respect to said pivoted jaw and when 25 released to return said lug to its normal position.

JOSEPH P. GENARD.