

(No Model.)

P. COSSETTE.
RATCHET WRENCH.

No. 481,690.

Patented Aug. 30, 1892.

Fig. 1.

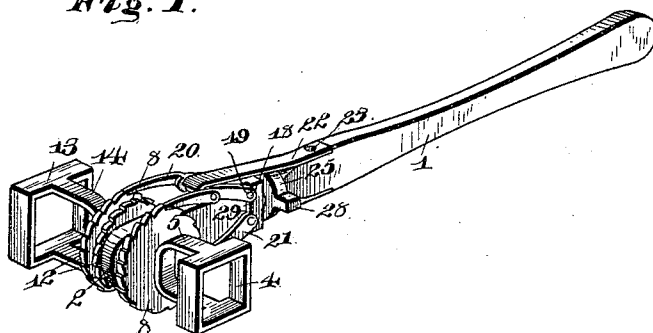


Fig. 2.

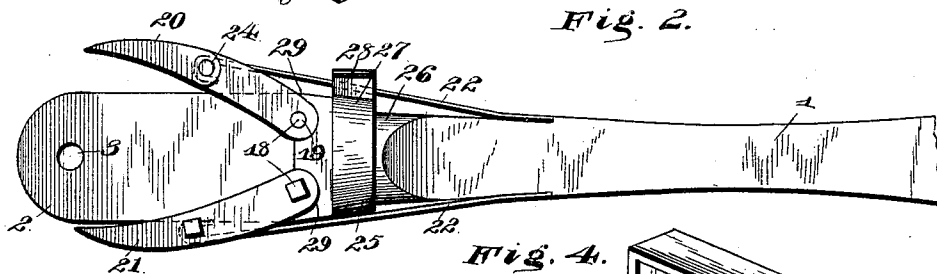


Fig. 4.

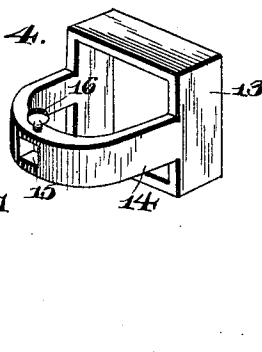


Fig. 3.

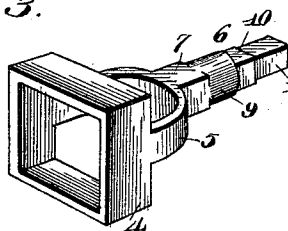


Fig. 5.

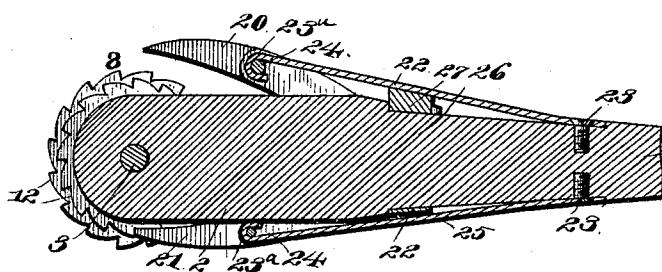
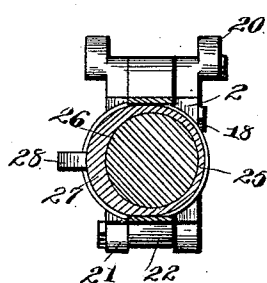


Fig. 6.



Witnesses

Chas. C. Ford.
N. P. Wiley

Inventor

Pierre Cossette

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

PITRE COSSETTE, OF CRYSTAL FALLS, MICHIGAN, ASSIGNOR OF ONE-THIRD
TO CLIFFORD TERRIAN, OF SAME PLACE.

RATCHET-WRENCH.

SPECIFICATION forming part of Letters Patent No. 481,690, dated August 30, 1892.

Application filed June 3, 1892. Serial No. 435,413. (No model.)

To all whom it may concern:

Be it known that I, PITRE COSSETTE, a citizen of the United States, residing at Crystal Falls, in the county of Iron and State of Michigan, have invented a new and useful Ratchet-Wrench, of which the following is a specification.

This invention has relation to nut-wrenches of that class known as "ratchet-wheels."

10 The object of the present invention is to improve the construction shown in Patent No. 416,154, granted me December 3, 1889.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective of a wrench constructed in accordance with my invention. Fig. 2 is a side elevation, the sockets and ratchet-wheel removed. Fig. 3 is a detail of the shank-socket. Fig. 4 is a similar view of its companion socket. Fig. 5 is a longitudinal section of Fig. 1. Fig. 6 is a 25 transverse sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

30 1 represents the shank or handle of the wrench, and the same terminates in an upper head 2, having a perforation 3 extending transversely therethrough.

4 represents a nut-socket, which is provided at one side with converging bails 5, from which there projects a shank 6, which adjacent to the bails is provided with an angular portion 7, on which is mounted a double oppositely-disposed ratchet 8, and next is a cylindrical portion 9, which is journaled in the bearing 3, formed in the handle, and then in a reduced angular portion 10 to receive a similar companion ratchet 8, and finally terminating in the still further reduced angular portion 11. Upon the angular portion 7 is mounted the 45 ratchet-wheel 8, and the latter is provided at its periphery with oppositely-disposed ratchet-teeth 12. Upon the square portion 10, at the opposite side of the handle 1, is mounted the opposite and similarly-formed ratchet-wheel 50 8, and finally upon the extreme reduced an-

gular portion 11 there is mounted the larger nut-receiving socket 13, the bail 14 of which is provided with a square opening 15, and a set-screw 16, adapted to bear upon the shank and secure the socket in position. Upon opposite pins 18, inserted through bearings 19, formed near the opposite edges and near the upper end of the handle 1, are journaled double pawls 20 and 21, the pawls 20 being arranged farther apart than the pawls 21, and the first-mentioned adapted to operate upon the outer ratchet-wheel and the last-mentioned pawls being adapted to operate upon the inner wheels. Flat springs 22 are secured, as at 23, to the opposite edges of the handle 1, and extend 65 intermediate the pawls and terminate in eyes or hooks 23^a, through which there pass pins 24, connecting each pair of pair of pawls with their respective springs, the tendency of said springs being to maintain the pawls in working contact with their respective ratchet-teeth.

The above construction forms a part of that disclosed in the patent above referred to, and the present invention resides in the specific 75 means for reversing the wrench and throwing the two sets of pawls into and out of mesh with the ratchet-wheels. The pawls are thrown into and out of mesh with their respective ratchet-wheels to reverse the operation of the 80 wrench by a ring 25, arranged on a round portion 26 of the shank or handle, and interposed between the same and the springs and having one-half thickened or enlarged to form cams 27, and it is provided between the 85 cams with a lug or finger-piece 28, by means of which the ring may be readily rotated to carry a cam beneath one of the springs to throw the pawls at that side of the shank or handle out of engagement with the ratchet- 90 wheels. The inner ends of the double pawls are pivoted in curved recesses 29, formed in a shoulder integral with the shank or handle and arranged on opposite sides thereof. The rotating ring is adapted to be readily turned to 95 throw either set of the pawls out of engagement with the ratchet-wheel.

It will be seen that the means for throwing the pawl out of engagement with the ratchet-wheels to reverse the operation of the wrench 100

are simple and comparatively inexpensive in construction, are strong and durable, and are readily operated.

What I claim is—

5 1. In a wrench, the combination, with a handle, the nut-socket having a shank, and the ratchet-wheels arranged on the shank and provided with the oppositely-disposed teeth 12, of the two sets of pawls pivotally mounted on
10 the handle, springs arranged at opposite sides of the handle and engaging the pawls and adapted to hold them in operative position, and a rotating ring mounted on the handle
15 and adapted to engage the springs to throw the pawls out of mesh to reverse the wrench, substantially as described.

2. In a wrench, the combination, with a handle, a nut-socket having a shank, and the ratchet-wheels mounted on the shank and provided with oppositely-disposed teeth, of the
20 two sets of pawls pivotally mounted on the same, the oppositely-disposed springs secured to the handle and engaging the pawls, and a rotating ring mounted on the handle and provided with enlargements forming cams to en-

gage the springs and having a lug arranged between the cams, substantially as and for the purpose described.

3. In a wrench, the combination of a handle having a rounded portion and provided 30 with a shoulder having curved recesses, a nut-socket having a shank, the ratchet-wheels mounted on the shank and provided with oppositely-disposed teeth, the two sets of pawls pivotally mounted on the handle and having 35 their inner ends arranged in the curved recesses, springs secured to the handle and engaging the pawls, and a rotating ring mounted on the round portion of the handle and having one-half of it enlarged to form cams 40 adapted to throw the springs outward to reverse the wrench, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PITRE COSSETTE.

Witnesses:

M. H. MORIARTY,
J. E. BOWER.