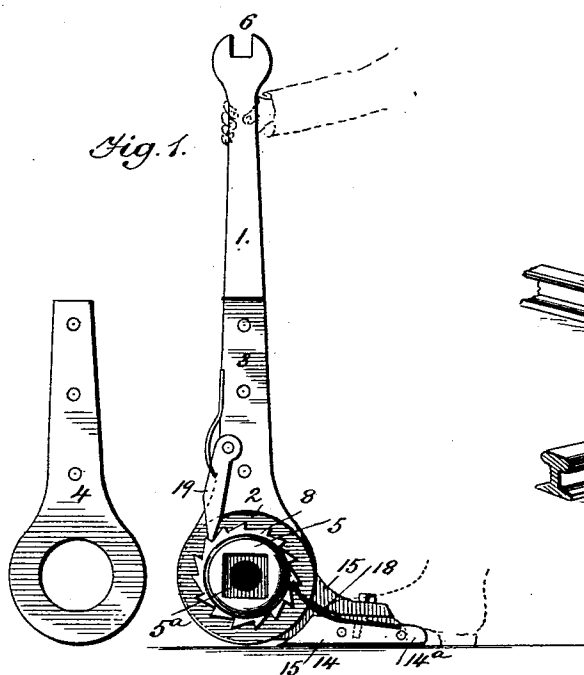
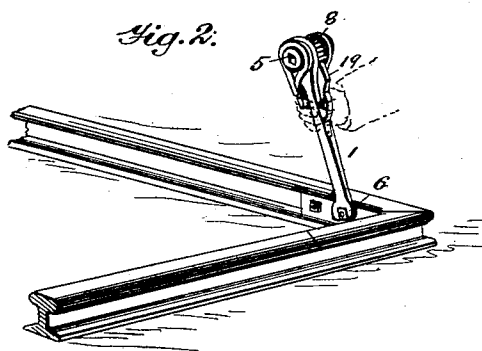
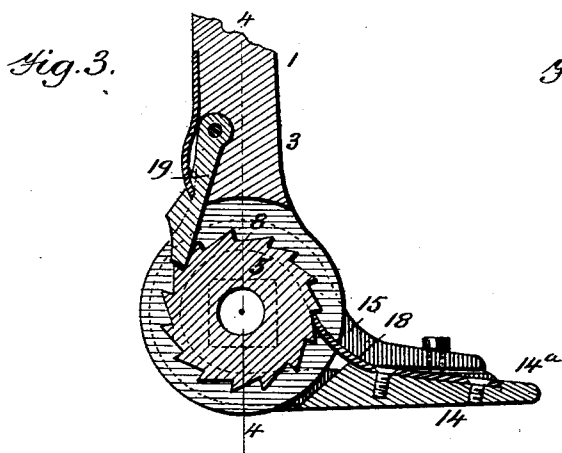
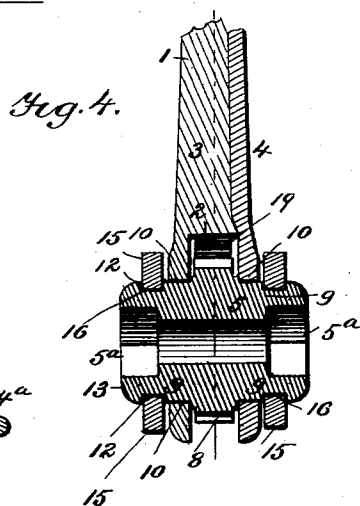


(No Model.)

R. HAGSTROM.
WRENCH.

No. 591,779.

Patented Oct. 12, 1897.



WITNESSES :

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 591,779, dated October 12, 1897.

Application filed February 3, 1897. Serial No. 621,847. (No model.)

To all whom it may concern:

Be it known that I, RANDALL HAGSTROM, of Wataga, in the county of Knox and State of Illinois, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to improvements in ratchet-wrenches more specially adapted for use for railroad purposes to tighten and untighten nuts in removing and replacing old and new rails, and it has for its object to provide a wrench of this character of a very simple but strong construction, which can be easily manipulated and which will effectively serve for its intended purposes.

With other objects in view the invention consists in a wrench combining the peculiar combination and novel features of construction, such as will be first described and then pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a view illustrating my invention as in use, the side plate being shown detached. Fig. 2 illustrates my wrench as applied for use to remove nuts in the angle of frog-rails. Fig. 3 is a vertical section of the same, and Fig. 4 is a transverse section taken on the line 4 4 of Fig. 3.

Referring now to the accompanying drawings, in which like numerals indicate like parts in all the views, 1 indicates the ratchet-lever proper, which in practice is of such a length to be conveniently grasped at the upper end by the hand when the lower end is fitted onto a rail-nut, as shown in Fig. 1.

The lower end of the lever is bifurcated, as at 2, one jaw of which, 3, is made integral with the body portion, while the other jaw is formed by a removable side plate 4, which is screwed onto the body portion and adapted to be readily disconnected therefrom when it is desired to insert the different-sized rotary-nut-engaging member 5.

The upper end of the lever-handle has an ordinary wrench portion 6, the purpose of which will be hereinafter set out.

The nut-engaging member 5 consists of a central ratchet portion 8 and lateral extensions or hubs 9, which pass through the open-

ings 10 in the bifurcated portions of the lever and terminate in bearing portions 12, which in turn terminate in annular enlargements 13.

By reference to Fig. 4 it will be observed the openings in the bifurcated end of the lever are of a diameter sufficiently large to admit of the ready passage of the ends of the nut-holder 5 being passed through, the ratchet portion 8 being, however, of a larger diameter.

By providing a detachable side plate and making the openings in the bifurcated ends of the lever large enough to allow for the passage of the ends of the member 5 it is obvious that such member can be readily detached and another set in place thereof when desired.

14 indicates a base portion which is in the nature of a folding member, it being capable of being folded up on the lever, as shown in Fig. 2. This base portion has detachable side members 15, which have bearings or openings 16 to receive the bearing portions of the member 5.

To admit of the easy withdrawal of the rotary hub or nut-holder, the sides 15 are formed of spring-steel straps bent upon themselves, one end being secured to the base 14, while the other is removably secured to its mate, as shown, such construction allowing for the said side members being clamped down on the ends of the nut-holder 5 back of its annular ends, as clearly shown in Fig. 4, and thereby hold the said holder in place and relieve the ratchet portion of any unnecessary side friction on the bifurcated ends of the lever, such arrangement of the side members allowing for the free interchanging of the nut-holders having different-sized bur-sockets.

The holder 5 has at each end a nut-socket 5^a, both sockets being of the same size. The base 14 has an extension or foot portion 14^a and a ratchet-spring 18. The lever has a ratchet-pawl 19 to engage the ratchet, as shown.

So far as described it will be readily seen that when it is desired to remove a nut from the rail the base is held down by the foot, as shown in Fig. 1, and the lever swung to turn off the nut, it being obvious that by turning the base around and manipulating the lever

as before the nut can be screwed on, the same at this operation engaging the socket in the opposite end of the nut-holder. When it is desired to remove a nut from such point
5 where the folding-base cannot be applied—as, for example, between the frog-rails and the like—the lever is turned, the base folded up against the same, and the nut engaged by the ordinary wrench member at the upper
10 end of the lever.

From the foregoing it is thought the advantages of my improved wrench will readily appear.

It will be noticed the same is exceedingly
15 simple in construction and capable of use at all points on the road where a nut-wrench is applicable. By constructing the several parts and connecting them as described the cylinder nut-holder can be quickly disconnected
20 or placed in position, thereby adapting the lever devices for use to manipulate nuts of different sizes.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. The combination with the base, the side bearings held thereon, and the rotary nut-holder journaled in the side bearings, said holder having a central ratchet member, of the lever having its lower end bifurcated and
30 journaled on the holder and having a detachable side portion, said lever having a wrench portion in its upper end and a ratchet-pawl all arranged substantially as shown and described.

2. The combination with the lever having a pawl, and the rotary nut-holder, having a ratchet member, said holder being detachably held to rotate in the lower end of the lever, of the base pivotally hung on the nut-holder,
40 said base having a foot-engaging portion and a ratchet-detent as specified.

RANDALL HAGSTROM.

Witnesses:

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