(No Model.)

R. T. TORKELSON.

COMBINATION TOOL.

No. 391,211. Patented Oct. 16, 1888.

Fig. 1.

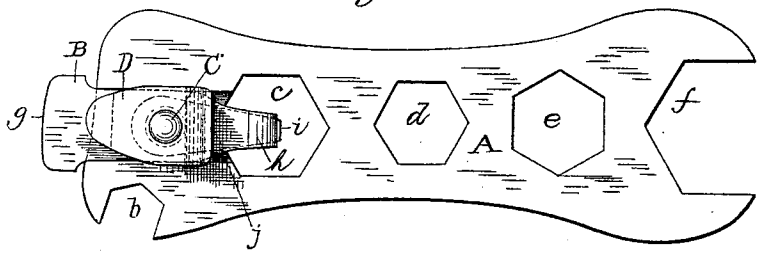


Fig. 2.

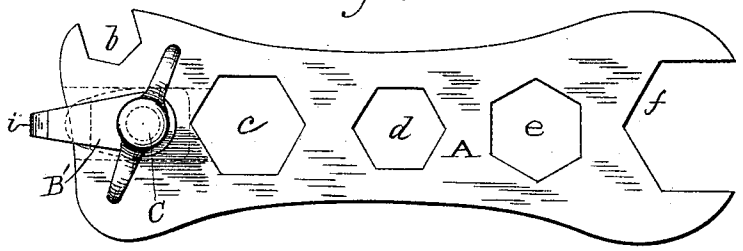


Fig. 3.

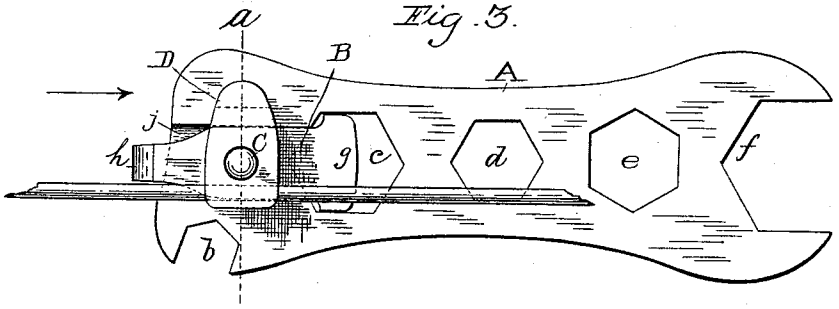
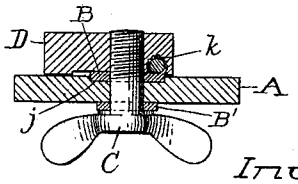


Fig. 4.



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UNITED STATES PATENT OFFICE.

REINHARD T. TORKELSON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO IVER JOHNSON, OF SAME PLACE.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 391,211, dated October 16, 1888.

Application filed May 18, 1888. Serial No. 274,284. (No model.)

To all whom it may concern:

Be it known that I, REINHARD T. TORKELSON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Combination-Tools for Velocipedes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents one side of my said improved combination-tool. Fig. 2 is an opposite side view thereof. Fig. 3 is a similar view to Fig. 1, showing the manner of applying the said tool to one of the spokes of a velocipede, as and for the purpose hereinafter more fully specified; and Fig. 4 represents a transverse section through the tool, taken on line *a*, Fig. 3, looking in the direction indicated by the arrrow, same figure.

My invention is designed more especially for use on bicycles, but may be employed as well on other vehicles, if desired.

Said invention consists of a tool adapted for use as a wrench to turn different sizes of bolts, as a screw-driver, and as a clamp to turn and tighten up the spokes of the bicycle, as hereinafter more fully set forth.

In order that others may better understand the nature and purpose of my invention, I will now proceed to describe it more in detail.

In the drawings, the part A represents the body or main part of the tool, which serves as a wrench, being cut out as shown at *b*, *c*, *d*, *e*, and *f*, of different sizes to fit the various bolts of the bicycle.

The wrench herein shown is designed in practice to fit the bolts of a particular make of bicycle; but as other bicycles, tricycles, and similar vehicles are made with different sizes and numbers of bolts, I do not limit myself to the particular construction shown in said drawings, said wrench being in practice made to conform to the particular style of velocipede upon which it is designed to be used.

The second feature of my combination-tool consists in arranging one or more detachable and adjustable screw-drivers on one end of said wrench A. In this instance I have shown a double screw-driver, B, upon one side of the wrench and a single one, B′, on the other side. The double one is made with a wide blade, *g*, at one end to fit the larger screws of the bicycle, and its opposite end with a medium-width blade, *h*, while the screw-driver B′ is provided with a still narrower blade, *i*, to fit the smallest screws. The screw-drivers are held in position by means of the set-screw C and clamping-plate D, said screw and plate clamping the same to the sides of the wrench A, as indicated in the drawings.

It is preferable, in practice, to fit the body portion of the double screw-driver B in a longitudinal slot, *j*, formed in one side of the wrench, as said screw-driver is thereby held in a more secure manner; but I do not limit myself thereto or to the particular shape and number of screw-drivers shown.

The third and last feature of my improvements consists of the clamping-plate D previously referred to. Said plate not only serves the office previously described, but also to obtain a grip upon the spokes of the bicycle to turn and tighten up the same when they become loose from use. To accomplish the latter result a groove or recess, *k*, is formed across one end of the plate upon the side next to the wrench, as shown by dotted and full lines in Figs. 3 and 4, of the proper size to receive the spoke, as shown in Fig. 4, and clamp the same between said plate and the screw-driver and wrench when the set-screw C is turned up tight.

To facilitate holding the spokes in the above manner, the aforesaid groove *k* may be roughened or milled, as indicated in Fig. 4, thereby securely holding said spoke against turning in the clamp, even though a severe strain is required to be applied thereto in turning the same to tighten it up, as aforesaid.

In fitting the tool to the spoke it is arranged alongside thereof, as indicated in Fig. 3. The clamping-plate is then fitted over the spoke and the set-screw turned up tight so as to securely clamp said spoke to the tool, as previously described. By now grasping the tool in the hand, also inclosing the spoke, and turning said tool in the right direction to turn its screw end into its bearing, said spoke is tightened up, and that, too, in a very simple and expeditious manner.

If preferred, one or all of the screw-drivers

may be removed from the tool prior to using said tool to tighten up the spokes, although it is not necessary to do so.

It is obvious that, to bring any one of the screw-driver blades in line for use, it is simply necessary to turn back the set screw to loosen the parts, then adjust the screw-driver as required, and finally clamp it in its adjusted position by turning the set-screw up tight again.

Bicyclists will at once understand and appreciate the practical advantages derived from the use of my improved combination-tool. It is simple in construction, as well as durable. It may be conveniently carried in the usual pouch of the bicycle, and, several tools being combined in one, each tool is always at hand, and thus obviates the usual annoyance and delay necessitated when several separate tools are employed for the various purposes hereinbefore specified.

The wrench and screw-drivers are, in practice, cut out from thin metal by means of suitable dies, thus admitting of placing the tool upon the market at a comparatively small expense.

I am aware of the United States Patent to R. P. Pearson, No. 285,304, dated September 18, 1883, in which a detachable screw-driver is shown in connection with a combination-tool, and make no claim to the construction therein set forth.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combination-tool for velocipedes, consisting of the wrench A, having suitable openings adapted to fit the various bolts of said velocipede, one or more screw-drivers arranged on one end of said wrench, a clamping-plate having a slot or groove adapted to fit the spokes of the velocipede, and a clamping or set screw passed transversely through the various parts, and adapted to clamp the same together by turning it up tight, substantially as shown and specified.

2. The combination of a flat wrench having several transverse openings of various sizes to fit the different bolts of a velocipede, with one or more screw-driver blades, a clamping-plate, and a set-screw, said set-screw being passed transversely through the wrench, screw-drivers, and plate, whereby said screw-drivers may be clamped or held against the outside of the wrench, substantially as and for the purpose set forth.

3. The combination of the flat wrench A, having suitable openings adapted to fit the various bolts of a velocipede, with a spoke-clamping plate, having a suitable groove or slot adapted to receive the spokes between said plate and the wrench, and a clamping or set screw passed transversely through said wrench and clamping-plate, and adapted to clamp the two parts together when turned up tight, substantially as and for the purpose set forth.

REINHARD T. TORKELSON.

Witnesses:
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