W. KÖLLERMEYER.

SOCKET WRENCH FOR HEADLESS SCREWS.

APPLICATION FILED AUG. 8, 1911.

1,048,178. Patented Dec. 24, 1912.

Fig. 1.

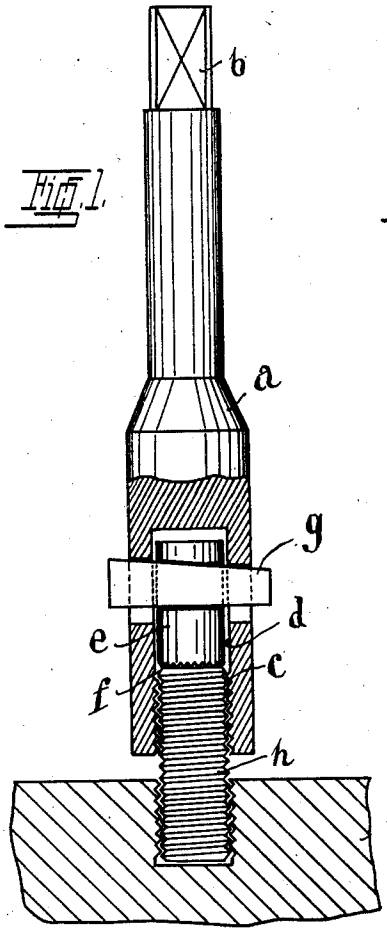


Fig. 3.

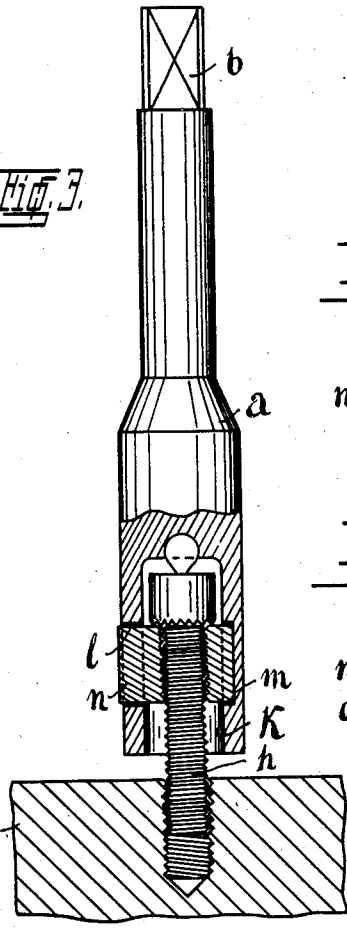


Fig. 5.

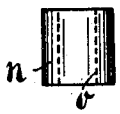


Fig. 6.

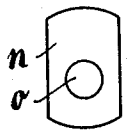


Fig. 2.

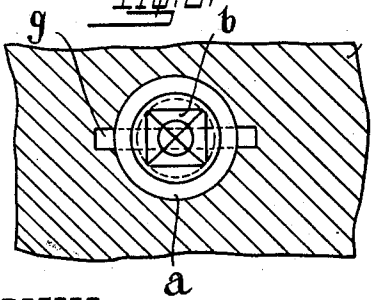
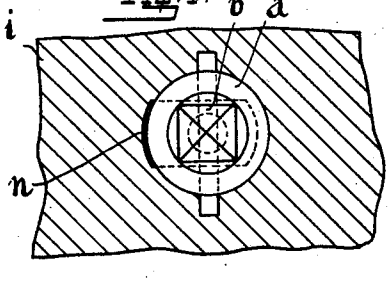


Fig. 4.



Witnesses.

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SOCKET-WRENCH FOR HEADLESS SCREWS.

1,048,178. Specification of Letters Patent. Patented Dec. 24, 1912.

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To all whom it may concern:

Be it known that I, WILHELM KÖLLERMEYER, a subject of the German Emperor, and residing at Hörde, in Westphalia, Germany, have invented certain new and useful Improvements in Socket-Wrenches for Headless Screws, of which the following is a specification.

The subject-matter of my invention is a socket-wrench which admits of grub or headless screws being rapidly screwed outward or inward without the usual employment of lock nuts.

One illustrative embodiment of the invention and a modification thereof are represented by way of example in the accompanying drawing, wherein:—

Figure 1 is an elevation, partly in section, showing my socket-wrench and a headless screw partly screwed into a workpiece, and Fig. 2 is a top plan view of the same; Fig. 3 is an elevation, partly in section, showing a modified form of wrench, Fig. 4 a plan view of the modified form and Figs. 5 and 6 show details of the latter form.

Referring firstly to Figs. 1 and 2, my socket-wrench comprises the holder or handle *a* having a square head *b* and a socket *c* provided with an internal thread adapted to the headless screw which is to be screwed outward or inward. Above the screwed portion of the socket is a chamber *d* containing a hard steel, cylindrical pressure member *e* having a ribbed bottom face *f*.

My wrench is used as follows:—The holder *a* is screwed onto the screw *h* which is to be screwed into the workpiece for example. By means of a light blow on the wedge *g* the member *e* is placed firmly on the top end of the screw *h* so that when the holder *a* is turned by means of a key placed on the head *b* the screw can be certainly and tightly screwed into the workpiece *i*. As soon as the screw *h* is fast, the wedge *g* is loosened from the member *e* by a slight blow and the holder *a* is screwed back. The screw is screwed out of the workpiece by the holder *a* and its member *e* being screwed lightly on the screw *h* to be withdrawn, whereupon the wedge *g* is tightened and the holder is turned in the opposite direction.

The member *e* will be kept in stock in various lengths corresponding to the lengths of the screws to be employed. When the member *e* is a suitable length quite short and broken screws which otherwise had to be drilled out can be seized and screwed out by means of my improved wrench.

The above described form of wrench is particularly suitable for use in works for building steam engines, motors and the like, and will preferably be kept in stock in various sizes adapted to the diameters of the headless screws which are employed. For those cases, on the other hand, when it is desirable that only one single wrench or a small number of wrenches is requisite, for example for fitters, in tool-boxes for motor-cars, and so on, I preferably employ the form represented in Figs. 3 to 6 which admits of one single wrench being employed for various diameters of screws.

Referring to Figs. 3 to 6, in this form the lower part *k* of the socket of the holder *a* is smooth and provided with a slot *l* whose inner end forms a shoulder *m*. This slot contains a nut *n*, its outer edge preferably terminating flush with the outside of the holder. The nut *n* is approximately rectangular in shape, as clearly shown in Figs. 5 and 6, and has an internally-threaded hole *o* into which the headless screw *h* is screwed. For each customary diameter of headless screw a special nut having a suitable screw thread will be kept in stock and inserted in or removed from the wrench as required. Instead of the flat wedge in the form described with reference to Figs. 1 and 2, I here employ a round wedge *p* for pressing the ribbed pressure member *e* against the screw. This wrench is used in the same manner as that described above with reference to Figs. 1 and 2.

Headless screws of any desired size can be screwed in by means of the wrench according to Figs. 3 to 6 which is preferably made in, say, two to three sizes and with nuts for every stock screw-thread so that only one single wrench in about two to three sizes is requisite for all general requirements.

The tensioning between the headless screw and the holder *a* may also be brought about

by the pressure member *e* being pressed by another member, *e. g.*, a screw, against the headless screw *h*.

I claim:—

A socket wrench for headless screws comprising in combination, a handle having a socket provided with a slot at one side, said socket being adapted to be placed over a headless screw, an exchangeable nut in said socket and said slot, a pressure member located in the socket and having a ribbed bottom face in contact with the end of the screw, and a wedge passing through the holder immediately above said member.

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Witnesses:

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