

No. 852,169.

PATENTED APR. 30, 1907.

H. DETAR & W. SCHOONOVER.

AXLE STUB.

APPLICATION FILED FEB. 20, 1906.

Fig. 1.

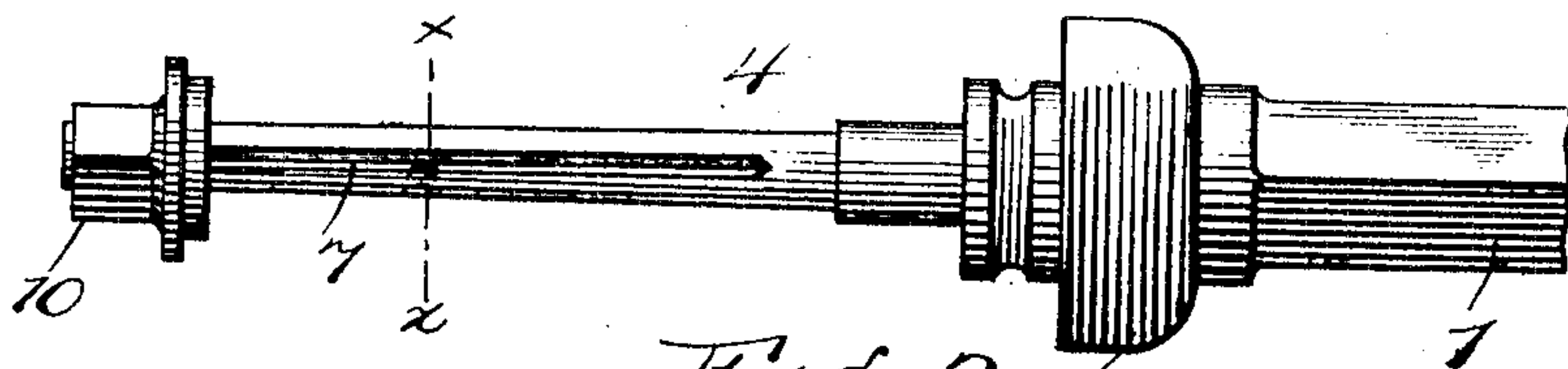


Fig. 2.

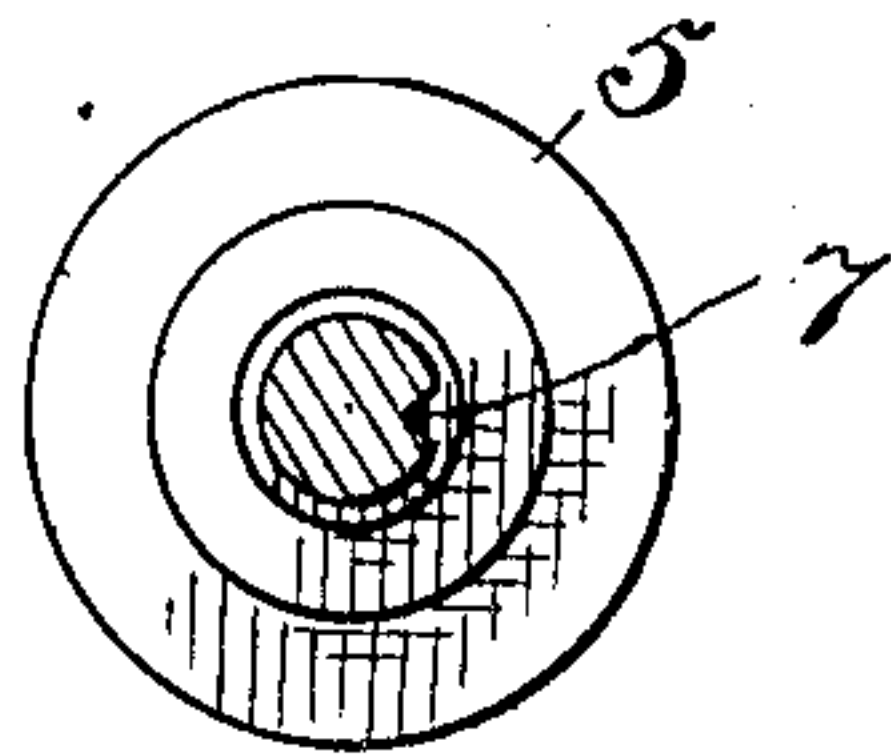


Fig. 3.

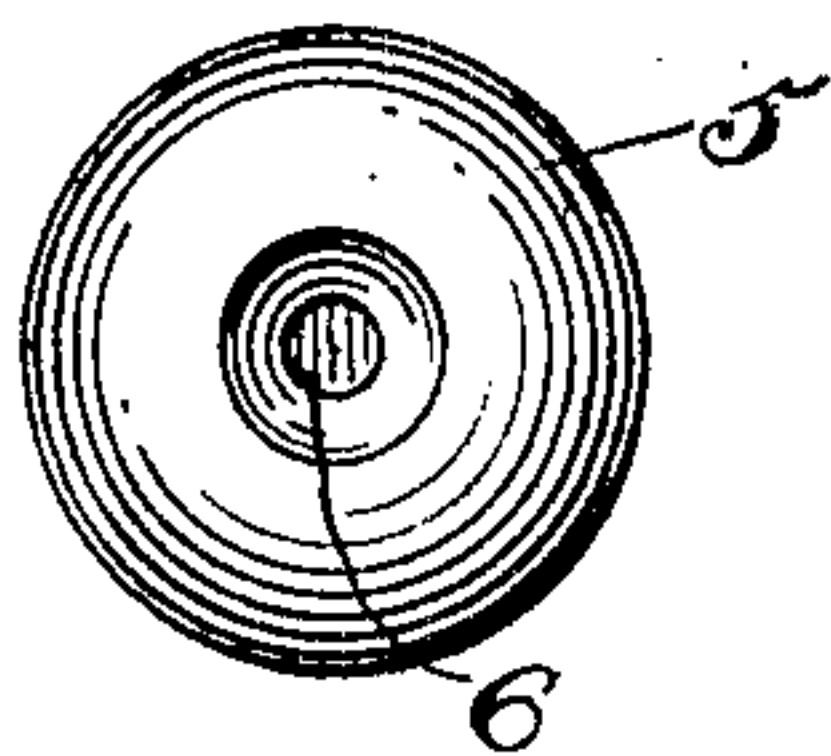


Fig. 4.

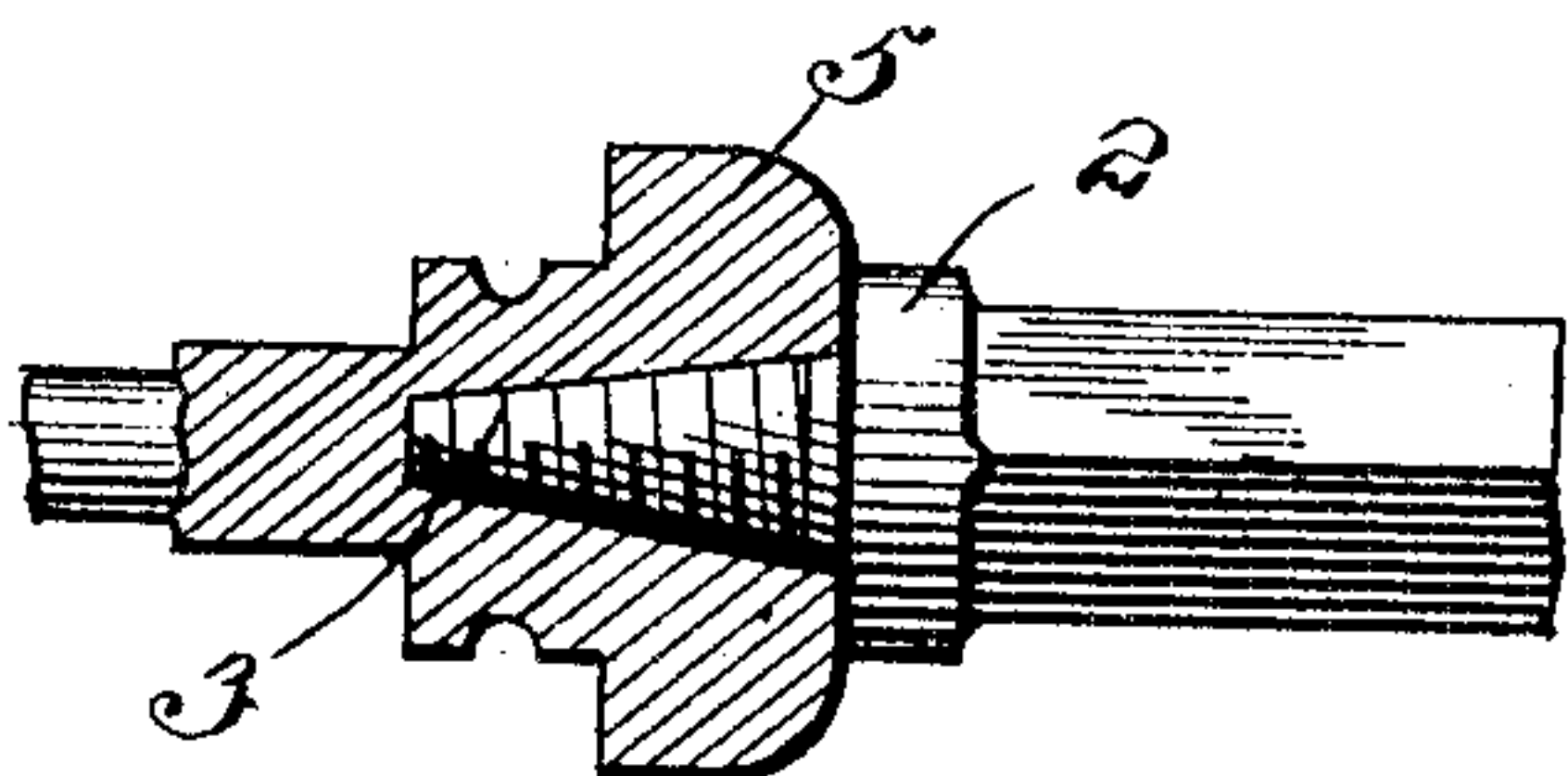


Fig. 6.

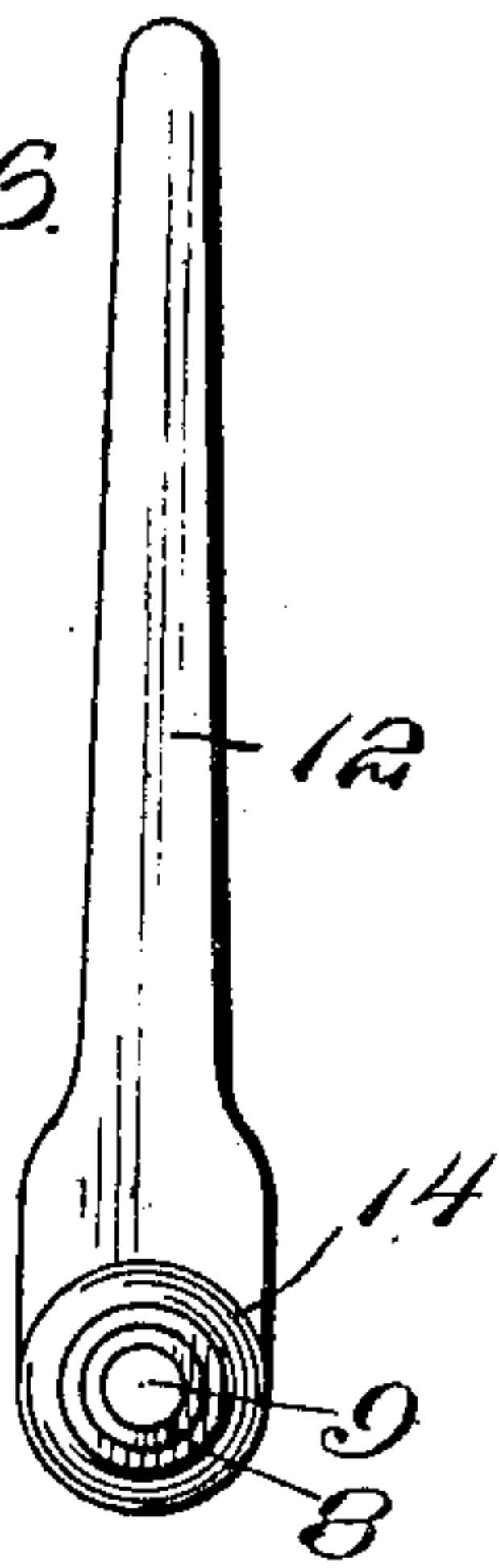


Fig. 5.

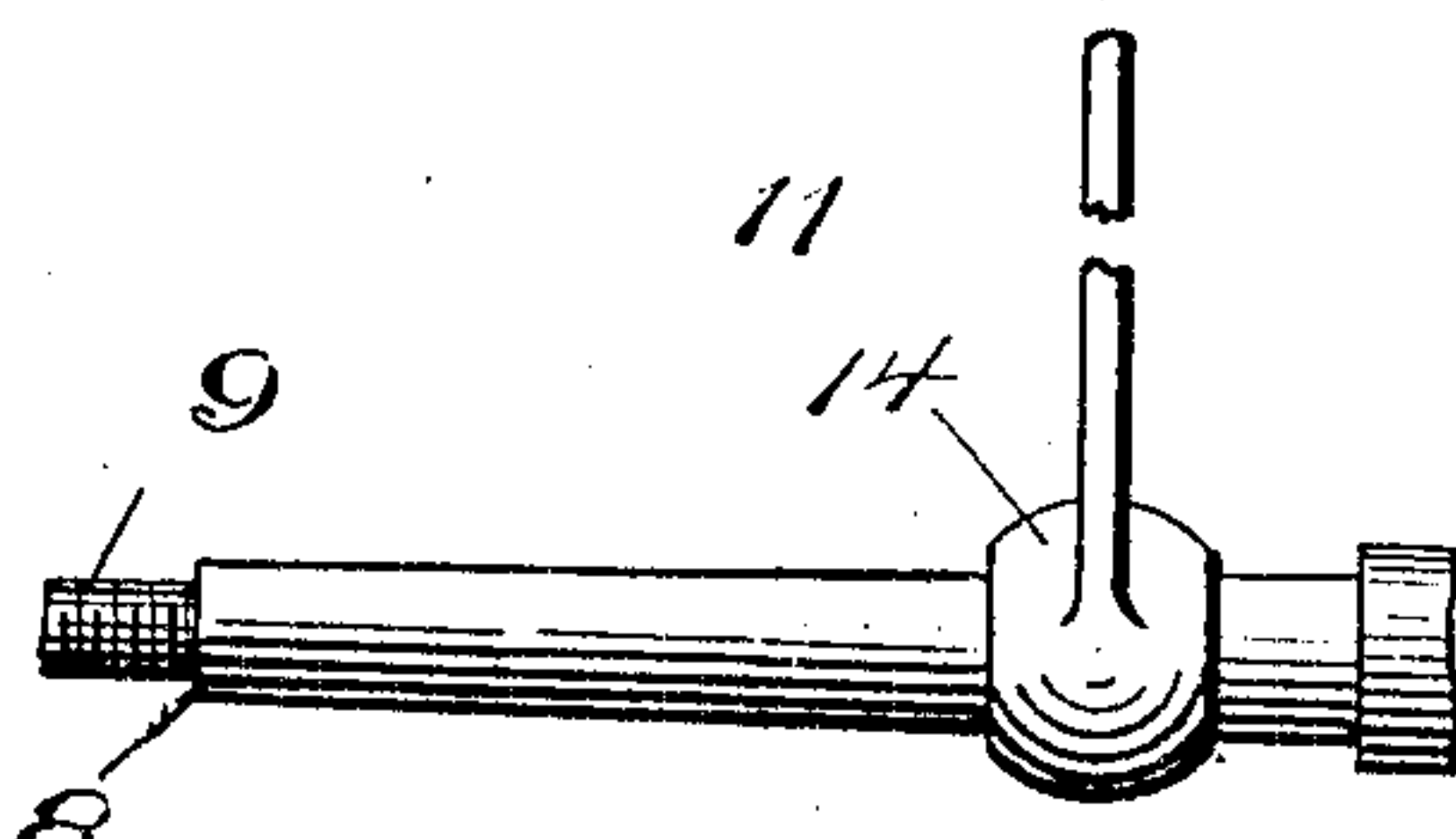
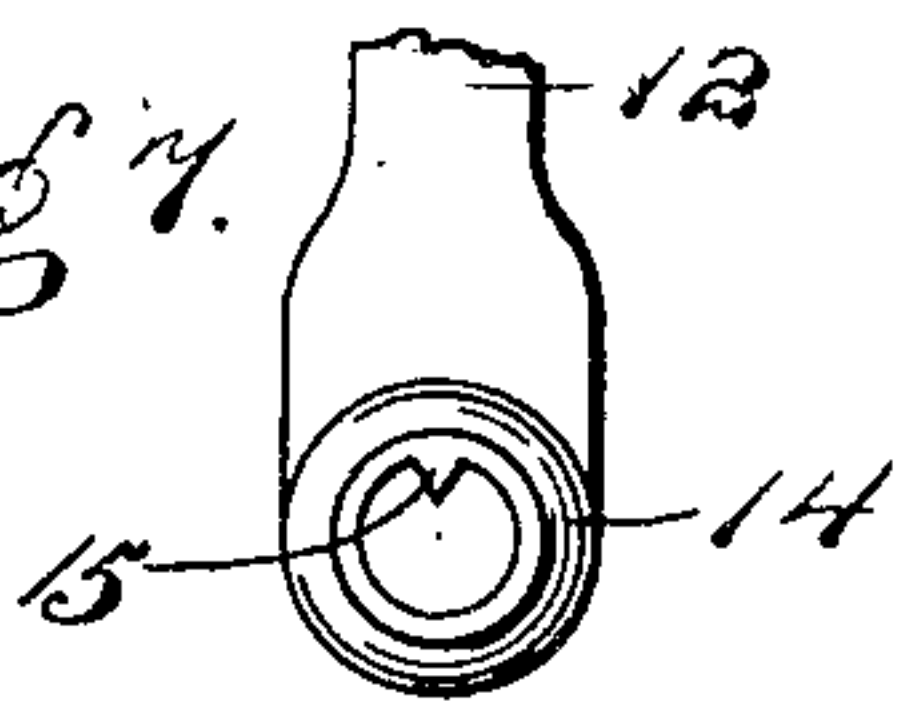


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

HOMER DETAR AND WILLIAM SCHOONOVER, OF FRYBURG, PENNSYLVANIA.

AXLE-STUB.

No. 852,169.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed February 20, 1906. Serial No. 302,134.

To all whom it may concern:

Be it known that we, HOMER DETAR and WILLIAM SCHOONOVER, citizens of the United States of America, residing at Fryburg, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Axle-Stubs, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in axle stubs, and the invention relates more particularly to a detachable axle stub or spindle.

The invention aims to dispense with the welding of axle stubs to an axle, and in this connection we have devised positive and reliable means for detachably connecting a stub or spindle to an axle and without reducing the strength of the axle.

To this end the invention comprises an axle stub having the usual enlargement or collar at the inner end and with a conical-threaded cavity in the end of the stub and within the collar, and a correspondingly conical-threaded stud upon the outer end of the axle adapted to engage the threaded-cavity. We employ in connection with the improved stubs or spindles a novel form of wrench adapted to be employed in connecting the two parts of the device.

The above construction, together with the details of construction, will, be hereinafter more fully described and referring to the drawing accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of one end of an axle equipped with our improved stub, Fig. 2 is a cross sectional view taken on the line $x-x$ of Fig. 1, Fig. 3 is a view of the inner end of the stub, Fig. 4 is a side elevation of one end of the axle, showing stub in section, Fig. 5 is a side elevation of the stub illustrating our improved wrench thereon, Fig. 6 is a plan of the tool by which the stub is attached to the axle, Fig. 7 is a detail view of the end thereof.

In the accompanying drawing, the reference numeral 1 designates a conventional form of axle which in the present illustration is substantially rectangular in cross section. For clearness of illustration, we have simply illustrated one end of the axle which is provided with a collar 2 and a cone shaped screw threaded end 3.

The stub 4, or as it is sometimes known, a spindle is tapering in form and has its one end formed with an enlarged collar 5, having a cone-shaped screwthreaded recess 6 formed therein adapted to receive the cone-shaped screw threaded end 3 of the axle. The stub is provided with a longitudinally disposed groove 7, which may represent an oiling or lubricant by-path for conveying oil or the like to the other end, to insure all surfaces of the spindle or stub being properly lubricated. The smaller end of the stub or spindle is contracted, as at 8 and screw threaded as at 9, to receive a tap or nut 10 employed for retaining a wheel upon the stub or spindle.

In Figs. 5, 6 and 7, of the drawing, we have illustrated a spanner wrench 11 which is employed for securing the stub or spindle in engagement with the end of the axle. The wrench consists of a handle or lever 12 carrying a sleeve 14 at its one end and the bore of the sleeve is provided with a transverse ridge or lug 15 adapted to engage in the groove 7 of the stub or spindle 4, when the wrench is placed thereon.

We believe the operation of securing our improved stub or spindle upon the end of an axle is obvious, it being readily understood that the tap 10 is removed to place the wrench upon the spindle or stub and that the wrench and stub are rotated until the stub has become firmly engaged with the end of the axle.

The presence of the collar 5 upon the axle stub necessarily increases the strength abnormally at that point, and by forming the conical cavity within this abnormally strengthened portion, the strength of the axle stub is not materially reduced, consequently the full required strength of the stub or spindle is retained. This is a very important feature of the invention, and materially increases the efficiency and value of the device. An axle constructed in accordance with this invention therefore is fully as strong and durable as an axle forged from one single piece, while at the same time possessing all the advantages of the two part axle.

The manner in which we secure the stub or spindle to the axle dispenses with the welding of stubs or spindles upon the axle and a great saving is incurred in dispensing with the implements or instruments used by blacksmiths heretofore.

Such changes in the construction and operation, as are permissible by the appended

claims, may be resorted to without departing from the spirit and scope of the invention.

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

- 5 The combination with an axle spindle having an enlarged collar at the inner end and with a tapered threaded cavity within the portion having the collar, of an axle having a tapered threaded stud corresponding to and
10 engaging said threaded cavity and enlarged

into a collar adjacent to the stud to form a shoulder for bearing against the inner end of the spindle.

In testimony whereof we affix our signatures in the presence of two witnesses:

HOMER DETAR.

WILLIAM SCHOONOVER.

Witnesses:

MAURICE SNYDER,
BENJAMINE DETAR.