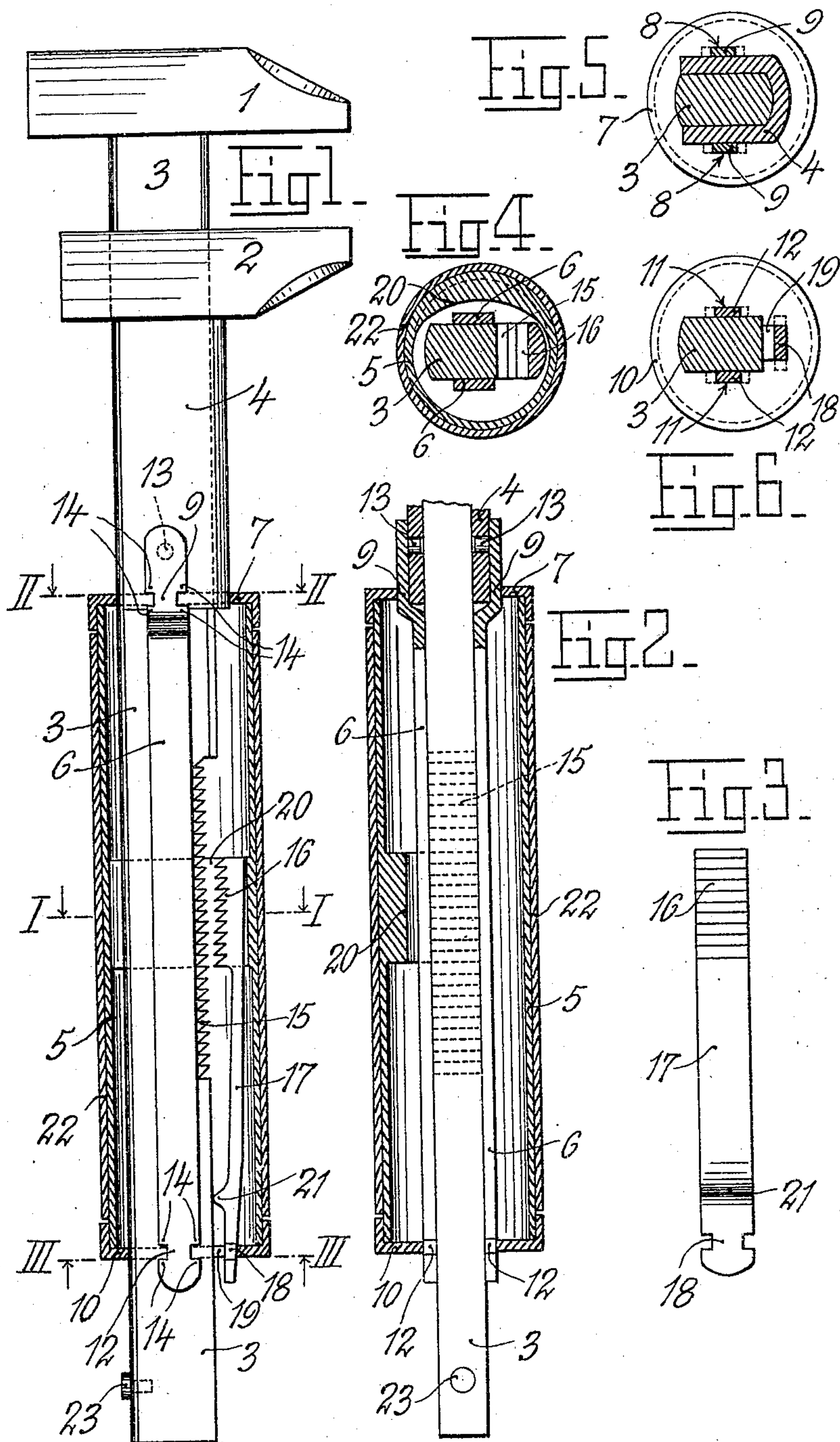


P. P. STRÖMBERG.
ADJUSTABLE SPANNER.
APPLICATION FILED JUNE 26, 1908.

940,625.

Patented Nov. 16, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

PEDER PEDERSEN STRÖMBERG, OF GJESAASEN, NORWAY, ASSIGNOR OF ONE-HALF TO
OLAF OSTBY, OF GJESAASEN, NORWAY.

ADJUSTABLE SPANNER.

940,625.

Specification of Letters Patent.

Patented Nov. 16, 1909.

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To all whom it may concern:

Be it known that I, PEDER PEDERSEN STRÖMBERG, mechanician, a citizen of the Kingdom of Norway, residing at Gjeseasen, Elisen Station, Norway, have invented a new and useful Improvement in Adjustable Spanners; and I do hereby declare the following to be a full, clear, and exact description of the same.

10 The present invention has for its object to provide an adjustable spanner or wrench which is characterized substantially by a device whereby the jaws may be adjusted at small steps within wide limits by a single
15 manipulation.

The invention is illustrated in the accompanying drawing, in which:—

20 Figure 1 is a side view of the spanner partly in section, Fig. 2 is a portion of a longitudinal section on a plane perpendicular to the section-plan in Fig. 1. Fig. 3 is a side view of the toothed arm. Figs. 4, 5 and 6 are cross sections respectively on the lines I—I, II—II and III—III in Fig. 1, seen
25 in the direction of the arrows at said lines.

The outer jaw —1— is fastened to a bar —3— which is inserted in the carrying part —4— of the inner jaw —2—. Said part has a U-shaped section (see Fig. 5) and surrounds the bar —3— on its three sides so that the parts —3— and —4— may slide longitudinally in relation to each other during the adjustment of the spanner. The said parts —3, 4— are held together by
35 means of the handle —5— and the two lateral bands —6—. For this purpose the one end plate —7— of the handle surrounds tightly the outer part —4— and is provided with two side openings —8— (Fig. 5) surrounding the upper reduced parts or recesses —9— of the bands —6— while the
40 other end plate —10— of the handle surrounds tightly the bar —3— (Fig. 6) and is provided with similar side openings —11— surrounding the lower reduced part or recesses —12— of the bands —6—. The latter project out through the handle and their upper ends which are extended toward the jaw —2— are provided with pins —13—
45 projecting through side holes in the part —4— (see Fig. 2). In this manner the parts —2— and —4— are connected with the handle through the bands —6— which at the same time hold together the several parts
55 constituting the handle viz: the sleeve —5—

and the end plates —7— and —10—, by means of the noses —14— formed by the off-sets at both sides of the reduced parts —9— and —12—.

On the part of the bar —3— located within the handle —5— are arranged lateral teeth —15— and adjacent to the same is a correspondingly toothed part —16— forming a part of an arm —17— projecting out through the plate —10— which prevents the
60 arm from moving longitudinally by its reduced part —18— (Fig. 3) being tightly surrounded by the opening —19— in said plate (see Fig. 6).

The arm —17— is provided with a nose —21— engaging the side of the bar —3— and normally holding the teeth —16— out of mesh with the teeth —15—. The mesh of both tooth sets is effected by turning the handle —5— which preferably is provided with
75 an outer cover —22— and which has inwardly an eccentric or curved face —20— engaging the back side of the toothed part —16— and pressing the latter gradually toward the teeth —15— when the handle is
80 turned so that finally the parts —15— and —16— are locked rigidly together. As now the part —15— is connected with the jaw —1— through the bar —3— and as further the toothed bar —16— is connected with the
85 jaw —2— through the parts —17, 18, 10, 6, 13— and —4—, also the jaws —1— and —2— are rigidly locked together or loosened from each other, respectively, according as the handle —5— is rotated in one direction
90 or the other. As the arm —17— is somewhat springy the nose —21— and the part —18— constantly tend to hold both toothed parts —15— and —16— out of mesh with each other.
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A removable pin —23— normally prevents the handle with its parts —4— and —2— from sliding off from the bar —3—. When this pin is screwed out, the bar —3— may be pulled out whereafter the remaining
100 parts of the spanner freely may be separated. When the outer jaw —1— as shown in Fig. 1, is made somewhat longer than the inner one the device also may serve as a hammer.
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Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In an adjustable spanner or wrench, a bar provided with a wrench-jaw and also
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having a toothed portion, a second wrench-jaw, two plates connected with the second wrench-jaw and slidably and non-rotatably connected with the bar, an arm having teeth
 5 for engagement with those of the bar, a handle rotatably supported between said plates and inclosing the arm aforesaid and the toothed portion of the bar, said handle being provided with a portion which, upon
 10 its rotation, moves teeth of said arm into engagement with teeth of the bar.

2. In an adjustable spanner or wrench, a bar provided with a wrench-jaw and also having a toothed portion, a second wrench-jaw and a part for carrying the same and slidably engaging the bar, side straps connected with said carrying part and having reduced end portions, two plates slidably and non-rotatably connected with the bar and
 20 formed to engage with the reduced end portions of the bands, an arm having teeth for engagement with those of the bar, a handle rotatably supported between said plates and inclosing the arm aforesaid and the toothed
 25 portion of the bar, and means for normally holding said arm out of engagement with the bar, said handle being provided with a

portion which, upon its rotation, moves teeth of said arm into engagement with teeth of the bar.

3. In an adjustable spanner or wrench, a bar provided with a wrench-jaw and also having a toothed portion, a second wrench-jaw, two plates connected with the second wrench-jaw and slidably and non-rotatably
 35 connected with the bar, a spring arm having teeth for engagement with those of the bar and also formed with a nose for engagement with the bar to hold the teeth away from those of said bar, and having a portion in
 40 engagement with one of said plates, a handle rotatably supported between said plates and inclosing the arm aforesaid and the toothed portion of the arm, and means capable, upon
 45 rotation of the handle, for moving the teeth of said arm into engagement with those of the bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PEDER PEDERSEN STRÖMBERG.

Witnesses:

AXU LAUER,
 RICHARD STOKKE.