No. 845,716. PATENTED FEB. 26, 1907.

C. MILLER.

RATCHET WRENCH.

APPLICATION FILED OCT. 13, 1905.

Fig. 1

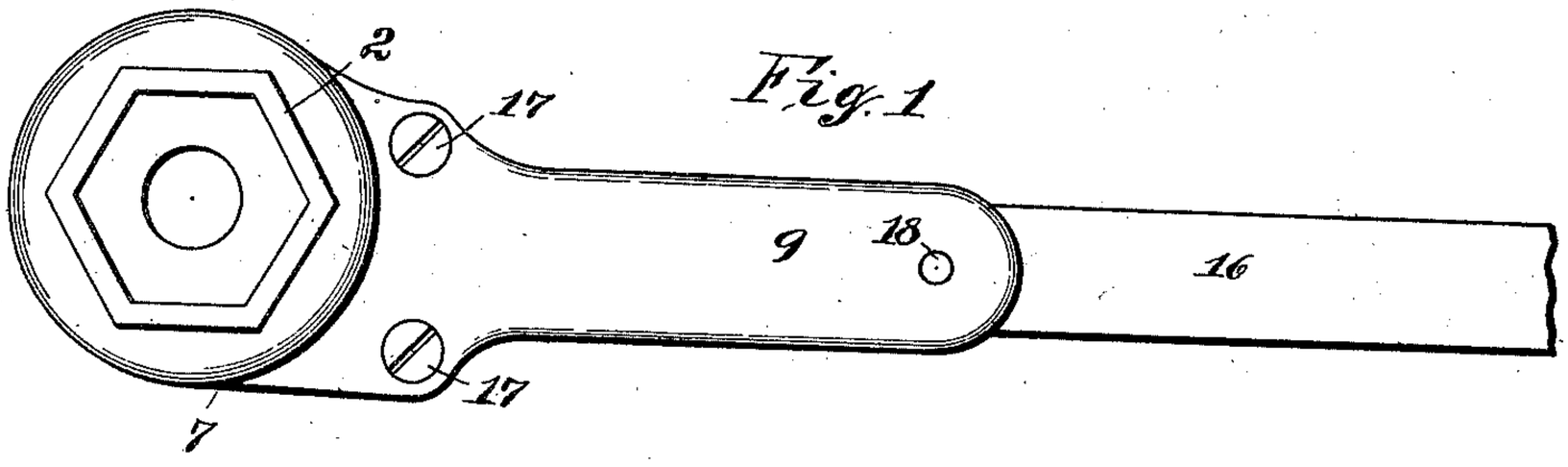


Fig. 2

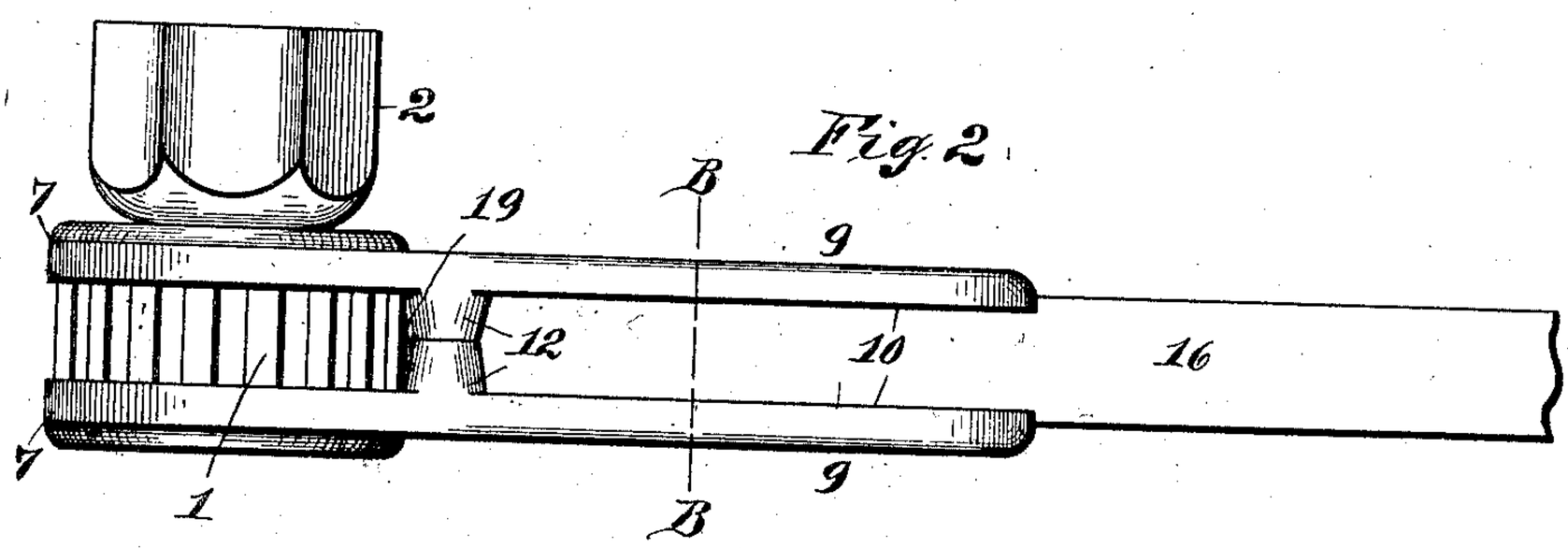


Fig. 3

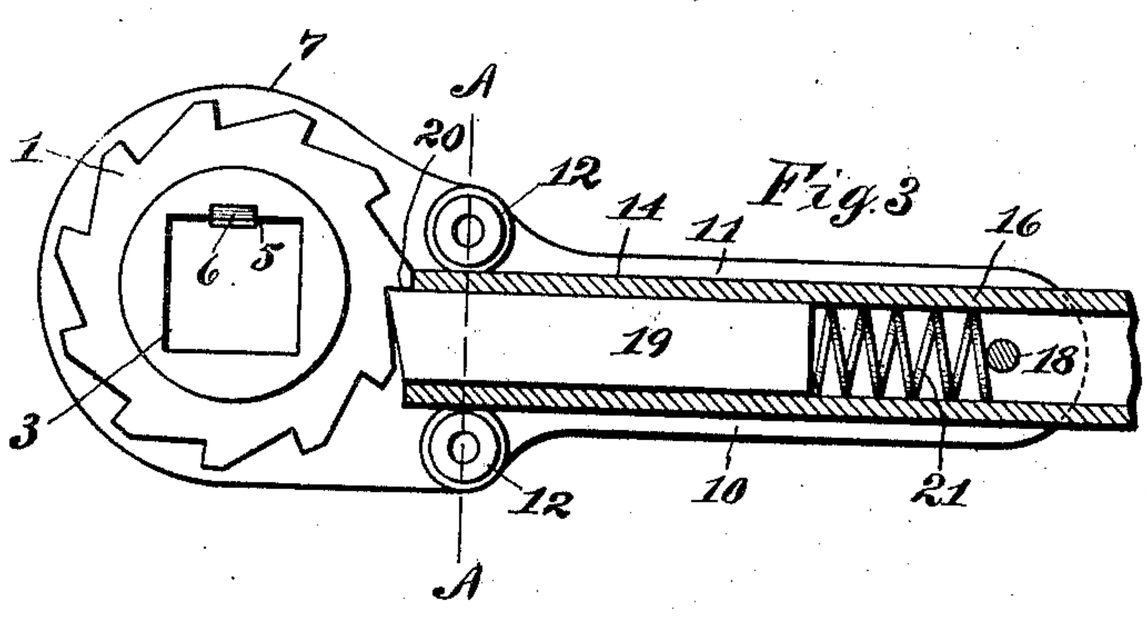


Fig. 4

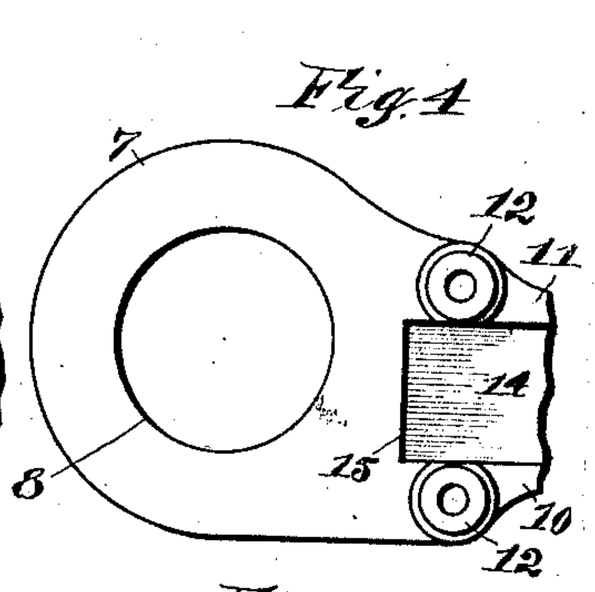


Fig. 5

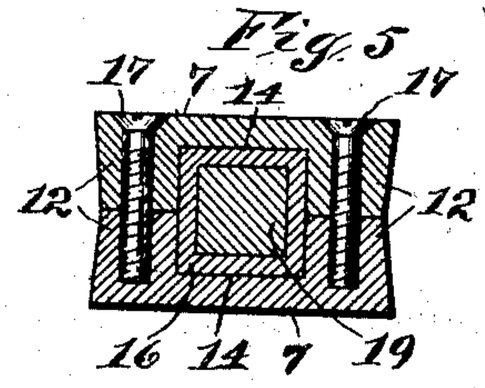


Fig. 6

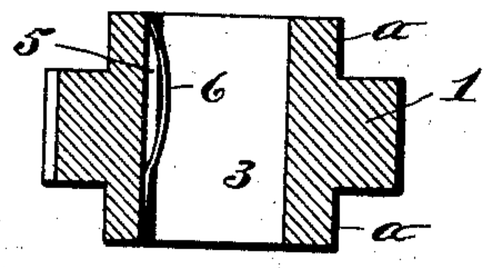


Fig. 7

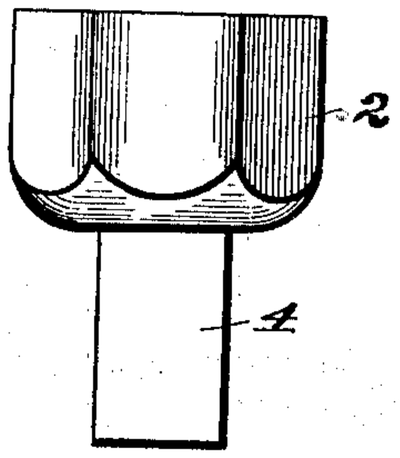
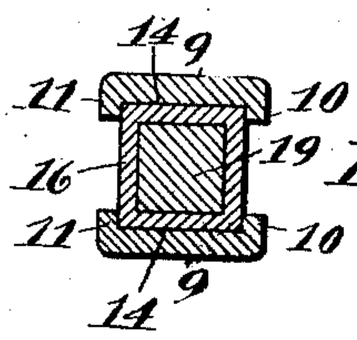


Fig. 8



WITNESSES:

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UNITED STATES PATENT OFFICE.

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RATCHET-WRENCH.

No. 845,716. Specification of Letters Patent. Patented Feb. 26, 1907.

Application filed October 13, 1905. Serial No. 282,533.

To all whom it may concern:

Be it known that I, CHARLES MILLER, of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Ratchet-Wrench, of which the following is a specification.

My invention has for its object the production of a ratchet-wrench which is particularly simple and cheap in construction and highly effective in use; and to this end it consists in the combinations and means hereinafter fully pointed out and claimed.

In describing this invention reference is had to the accompanying drawing, in which like characters designate corresponding parts in all the views.

Figures 1 and 2 are respectively top plan and side elevation of a preferable construction of my wrench, a portion of the handle broken away. Fig. 3 is an elevation, partly in section, of a portion of the wrench, one of the side members being removed. Fig. 4 is an inner face view of part of one of the side members. Fig. 5 is a section on line A A, Fig. 3. Fig. 6 is a sectional view of the detached wrench-head. Fig. 7 is an elevation of the detached socket. Fig. 8 is a transverse section on line B B, Fig. 2.

The illustrated embodiment of my invention comprises a wrench-head, a socket supported by the head, opposite side members for supporting the wrench-head, and a handle secured to the side members.

The wrench-head 1 and the socket 2 are of any desirable form, size, and construction and are preferably formed, respectively, with a perforation 3 and a shank 4 of rectangular cross-section substantially fitting each other. One side of the perforation 3 is provided with a lengthwise groove 5, which receives a flat spring 6, having one end engaged by suitable means for permanently securing the spring to the part, as the wrench-head 1, provided with the perforation 3, and having its other end formed substantially bow-shaped and extended outwardly into the perforation 3 for engaging the shank 4 and frictionally securing the socket 2 to the wrench-head 1.

In the preferable construction of my wrench each side member 7 is formed with a bearing 8 for the hub on the wrench-head and with a cheek-piece 9, provided with front and rear inwardly-projecting shoulders 10 11 and their extensions 12 from the side walls of channels 14 in the opposing faces of the side members 7, these channels being generally arranged with the line of their axes at one side of the axis of the bearings 8, formed with end walls 15 and their other ends open.

The handle 16 is arranged between the cheek-pieces 9 in the channels 14 and is engaged with the inner faces of the shoulders 10 11 and the extensions 12 and with the end walls 15. Suitable fastening means, as screws 17 18, secure the handle 16 to the side members 7, the screws 17 being extended through the cheek-pieces and longitudinally through the extensions 12 and the screw 18 extending through the handle 16, substantially midway between opposite sides thereof. Said handle 16 usually comprises a tube of rectangular cross-section and has one of its inner longitudinal faces arranged substantially radially relatively to the axis of the bearings 8. A pawl 19 is slidably fitted within the tubular handle 16 and its working face 20 movable along said inner longitudinal face of the handle 16 and is also arranged substantially radially relatively to the axis of the bearing 8. A spring 21 is interposed between one end of the pawl 19 and the screw 18 and serves to hold said pawl in operative position.

As will be obvious to those skilled in the art, the parts of my wrench, and particularly the side members 7 and the handle 16, are cheaply manufactured and require a minimum amount of fitting, and the entire wrench is light in weight and strong and durable in use.

The construction and operation of my ratchet-wrench will now be readily understood upon reference to the foregoing description and the accompanying drawing.

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

1. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders, portions of the shoulders of one side member engaging portions of the

shoulders of the other side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose specified.

2. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose described.

3. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, said means including fastening members passed longitudinally through the extensions, substantially as and for the purpose set forth.

4. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders, a handle comprising a tube angular in cross-section engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose specified.

5. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, a handle between the side members comprising a tube angular in cross-section, means for securing the side members and the handle together, and a pawl within the angular handle slidably fitted thereto, substantially as and for the purpose described.

6. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, a handle between the side members comprising a tube angular in cross-section, means for securing the side members and the handle together, said means including a fastening member extending within the handle, a pawl inside the tubular handle, and a spring within the tubular handle between said fastening member and the pawl, substantially as and for the purpose specified.

7. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head and with lengthwise channels, said channels being arranged with the line of their axes at one side of the axis of said bearings, and a handle secured within the channels, substantially as and for the purpose set torth.

8. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head and with cheek-pieces, each cheek-piece being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle between the cheek-pieces engaging the inner faces of the front and rear shoulders, said handle comprising a tube rectangular in cross-section, fastening means passed through the cheek-pieces and said extension, a fastening member passed through the check-pieces and the handle, a pawl within the tubular handle, and a spring between the pawl and the fastening member, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 10th day of October, 1905.

CHARLES MILLER.

Witnesses:
S. DAVIS,
F. G. BODELL.