C. E. TOWNSEND.

WRENCH.

APPLICATION FILED MAR. 16, 1911.

1,040,464.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.

Fig. 1

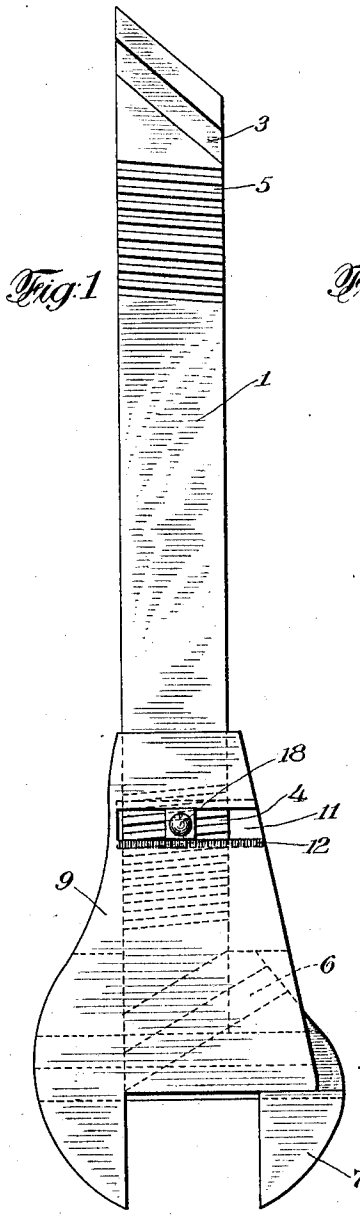


Fig. 2

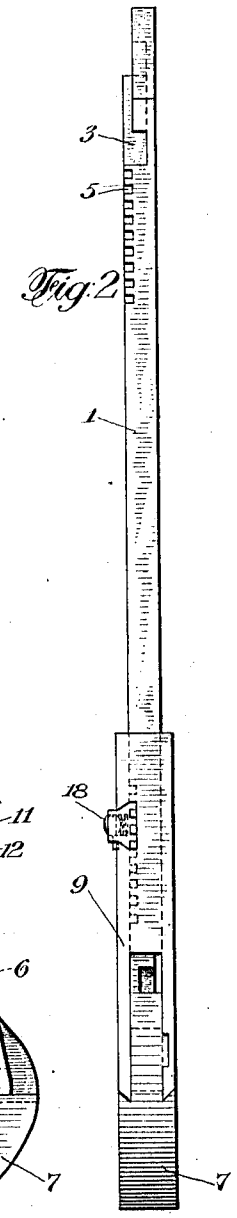
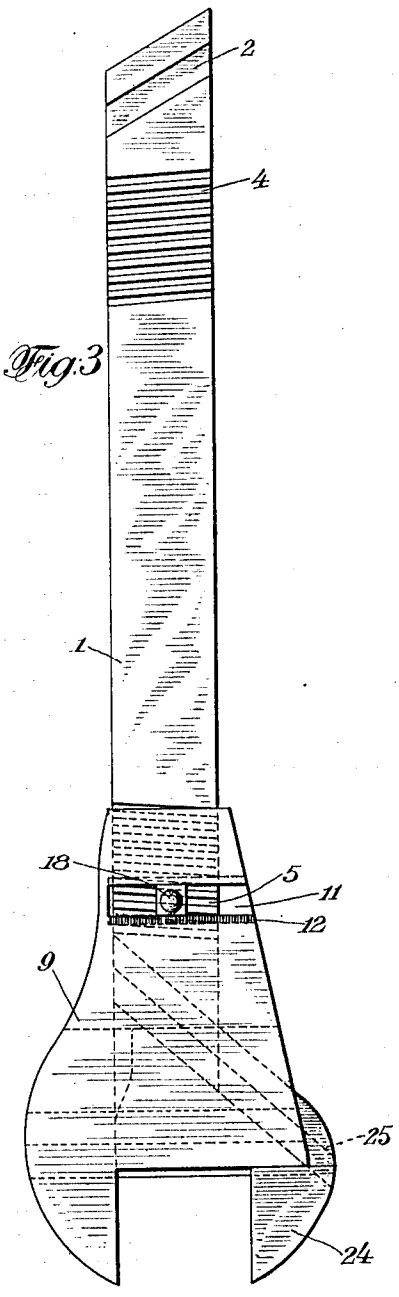


Fig. 3



Witnesses:
Arthur Knight
Minerva Dakel

Inventor
Charles Elmer Townsend
By his Attorneys
Prindle & Knight

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2 SHEETS—SHEET 2.

Fig. 4

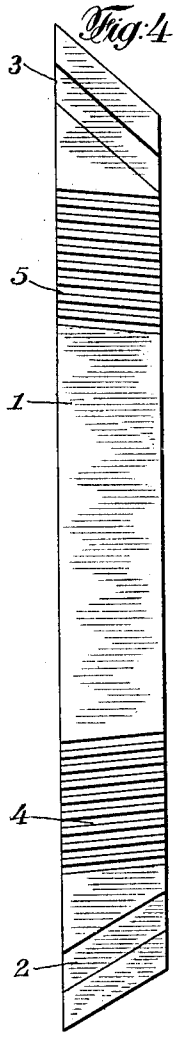


Fig. 5

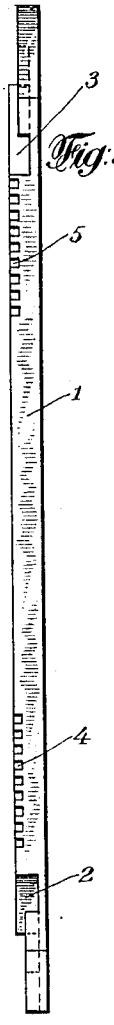


Fig. 6

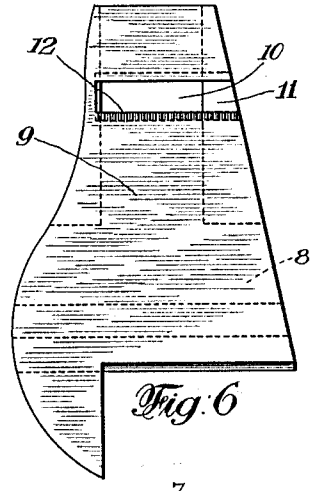


Fig. 7

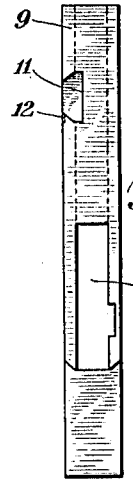


Fig. 10

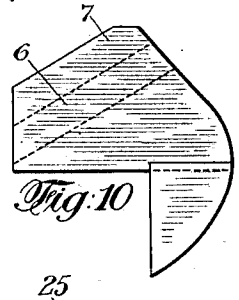


Fig. 11

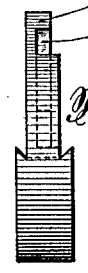


Fig. 8

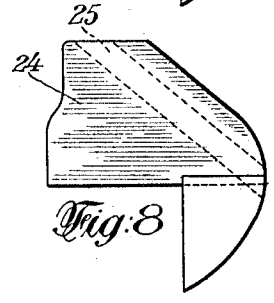


Fig. 9

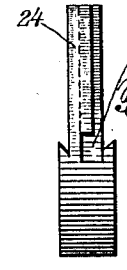


Fig. 12

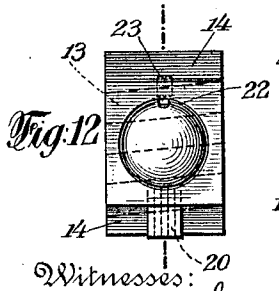


Fig. 13

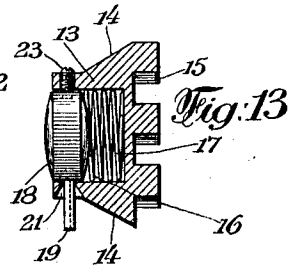
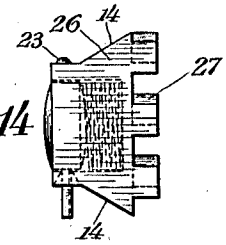


Fig. 14



Witnesses:
Arthur Wright
Minerva Lobel

Inventor
Charles Elmer Townsend
By his Attorneys
Prindle & Wright

UNITED STATES PATENT OFFICE.

CHARLES ELMER TOWNSEND, OF BILLINGS, MONTANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO SAID TOWNSEND AND O. L. JARRELL, TRUSTEES, BOTH OF BILLINGS, MONTANA.

WRENCH.

1,040,464. Specification of Letters Patent. Patented Oct. 8, 1912.

Application filed March 15, 1911. Serial No. 614,626.

To all whom it may concern:

Be it known that I, CHARLES E. TOWNSEND, of Billings, in the county of Yellowstone, and in the State of Montana, have invented a certain new and useful Improvement in Wrenches, and do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an improvement in wrenches.

The object of my invention is to provide a wrench which may be very easily and quickly adjusted to a nut of any size within the range of movement of the wrench jaws.

A further object of my invention is to so construct the wrench that it is capable of a very accurate adjustment of the wrench jaws.

I have shown an embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a plan view of a wrench showing the jaws in their adjusted position. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the same wrench showing a different jaw and with the wrench handle in reversed position as will be more fully described hereinafter. Fig. 4 is a plan view of the wrench handle. Fig. 5 is a side elevation of the same. Fig. 6 is a plan view of the wrench jaw which is provided with a socket to receive the handle of the wrench. Fig. 7 is a side elevation of the same. Fig. 8 is a plan view of the removable wrench jaw which is illustrated in Fig. 1. Fig. 9 is a side elevation of the same. Fig. 10 is a plan view of the removable wrench jaw which is shown in Fig. 3. Fig. 11 is a side elevation of the same. Fig. 12 is a plan view of the catch illustrated in Figs. 1 and 2. Fig. 13 is a longitudinal cross-section of the same, and Fig. 14 is a side elevation of the form of catch used in the construction shown in Fig. 3.

In the form of my invention illustrated in Figs. 1, 2, 4, 5, 6, 7, 10, 11, 12 and 13, a wrench handle 1 is provided having in its two opposite ends inclined slots 2 and 3. Near the slots 2 and 3 there are located two series of screw threads 4 and 5 which are inclined in opposite directions. The slot 2 in the wrench handle 1 is designed to cooperate with a similarly located slot 6 in a transversely movable jaw 7 which is designed to slide within a slot 8 in a longitudinally movable jaw 9, the jaw 9 being provided with a recess 10 to receive the end of the handle 1. Upon one face of the jaw 9 as shown in Fig. 6 there is a transverse dovetail slot 11 which connects with the recess 10. At one side of the slot 11 there is located a rack 12. A catch 13 having inclined side faces 14 is designed to slide within the slot 11 and a screw thread 15 is provided upon the under face of the catch to coöperate with the screw thread 4. In the center of the catch 13 there is provided a recess 16 to receive a coil spring 17 upon which is located a button 18 having an arm 19 with teeth 20 located upon its under side, said arm projecting outwardly through an aperture 21 in the side of the catch 13. The button 18 has a slot 22 which extends from the top thereof to a point near the bottom thereof to receive the end of a screw 23 which projects latterly through the side of the catch 13 into said slot.

In the form of my invention shown in Figs. 3, 8, 9 and 14, the other end of the handle 1 is designed to coöperate with a transversely movable jaw 24 having a slot 25 inclined in the opposite direction to the slot 6 and the transversely movable jaw already referred to. In this construction a different catch 26 is designed to be used having a screw 27 inclined oppositely to the screw thread 15 provided upon the catch 13.

In the operation of the form shown in Figs. 1 and 2 when it is desired to apply the wrench to a nut or bolt head the catch 13 is moved outwardly to the end of the slot 11 where it does not contact with the screw thread 4 upon the handle 1. The transversely movable jaw 7 can now be adjusted in its relation to the other jaw 9 by moving the handle 1 longitudinally with respect to the jaw 9. If it is desired to separate the jaws 7 and 9, the handle 1 is pushed farther into the recess 10 in the jaw 9. When the jaws are to be adjusted to the nut or bolt head the handle 1 is pulled outwardly so as to cause said jaws to move together. An approximate adjustment having been made in this manner, the catch 13 is moved along the slot 11 until it registers with the screw thread 4. Upon a further movement along the slot 11 the catch operates in connection with the screw thread 4 to cause the jaws 7 and 9 to be moved together, thus effecting a more accurate adjust-

ment of the jaws to the nut or bolt head being operated upon. During the movement of the catch 13 along the slot 11, the button 18 is depressed against the operation of the coil spring 17. The depression of the button 18 results in releasing the teeth upon the arm 19 from engagement with the rack 12. When, however, the catch has been moved into its final position of adjustment, the releasing of the button 18 causes the teeth upon the arm 19 to engage with the rack 12, thus holding the catch permanently in its adjusted position.

The form of my invention shown in Figs. 3, 8, 9 and 14 operates in a similar manner. In this form of my invention the other end of the handle 1, and the slots 3 upon this end of the handle, coöperate with the transversely movable jaw 24, and the screw thread 5 upon this end of the handle cooperates with the catch 26 having the screw threads running in the opposite direction. When so arranged the wrench operates in exactly the same manner as has been already described except that in order to open the jaws the handle 1 is moved outwardly from the recess 10 in the jaw 9 and in order to bring the jaws closer together the handle 1 is moved farther into the recess 10.

While I have described my invention above in detail, I wish it to be understood that many changes might be made therein without departing from the spirit of the invention.

I claim:

1. In a wrench, a pair of jaws and a bar-shaped handle slidable in a rectangular socket in one of said jaws and adapted to adjust the other jaw relative to the bar by a movement in the first mentioned jaw.

2. In a wrench, a pair of jaws and a bar-shaped handle slidable in one of said jaws and adapted to adjust the other jaw by a movement in the first mentioned jaw, said bar having an inclined slot engaging with said other jaw to effect said adjustment.

3. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto one of said jaws having a slot and a button movable in said slot into engagement with said bar for holding the jaws in their adjusted position.

4. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto, said bar having an inclined slot engaging with one of said jaws and a button for holding the jaws in their adjusted position.

5. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto and a button for holding the jaws in their adjusted position, adapted to engage with a thread upon said bar.

6. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto, said bar having an inclined slot engaging with one of said jaws and a button for holding the jaws in their adjusted position, adapted to engage with a thread upon said bar.

7. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto and a button for holding the jaws in their adjusted position, adapted to engage with an inclined thread upon said bar.

8. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto, said bar having an inclined slot engaging with one of said jaws and a button for holding the jaws in their adjusted position, adapted to engage with an inclined thread upon said bar.

9. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto and an adjustable button for giving a finer adjustment to said jaws.

10. In a wrench, a pair of jaws, a bar adapted to adjust said jaws by a movement relative thereto and an adjustable button for giving a finer adjustment to said jaws and holding the jaws in position.

In testimony that I claim the foregoing I have hereunto set my hand.

CHARLES ELMER TOWNSEND.

Witnesses:

CHARLES REED,

LOUIS A. SPALDING.