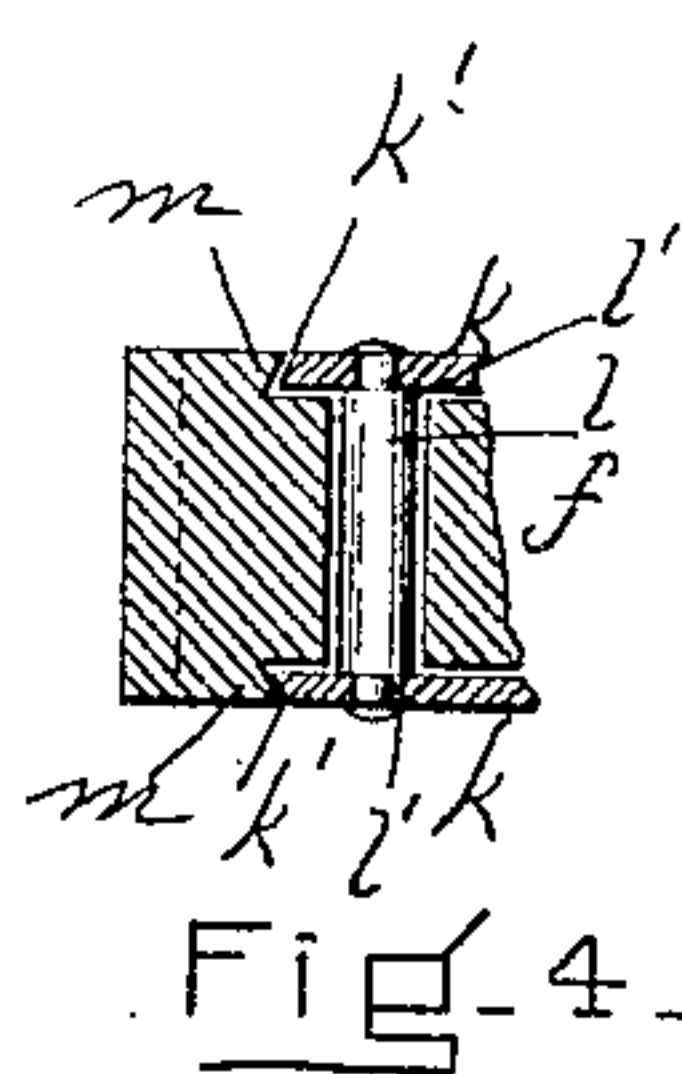
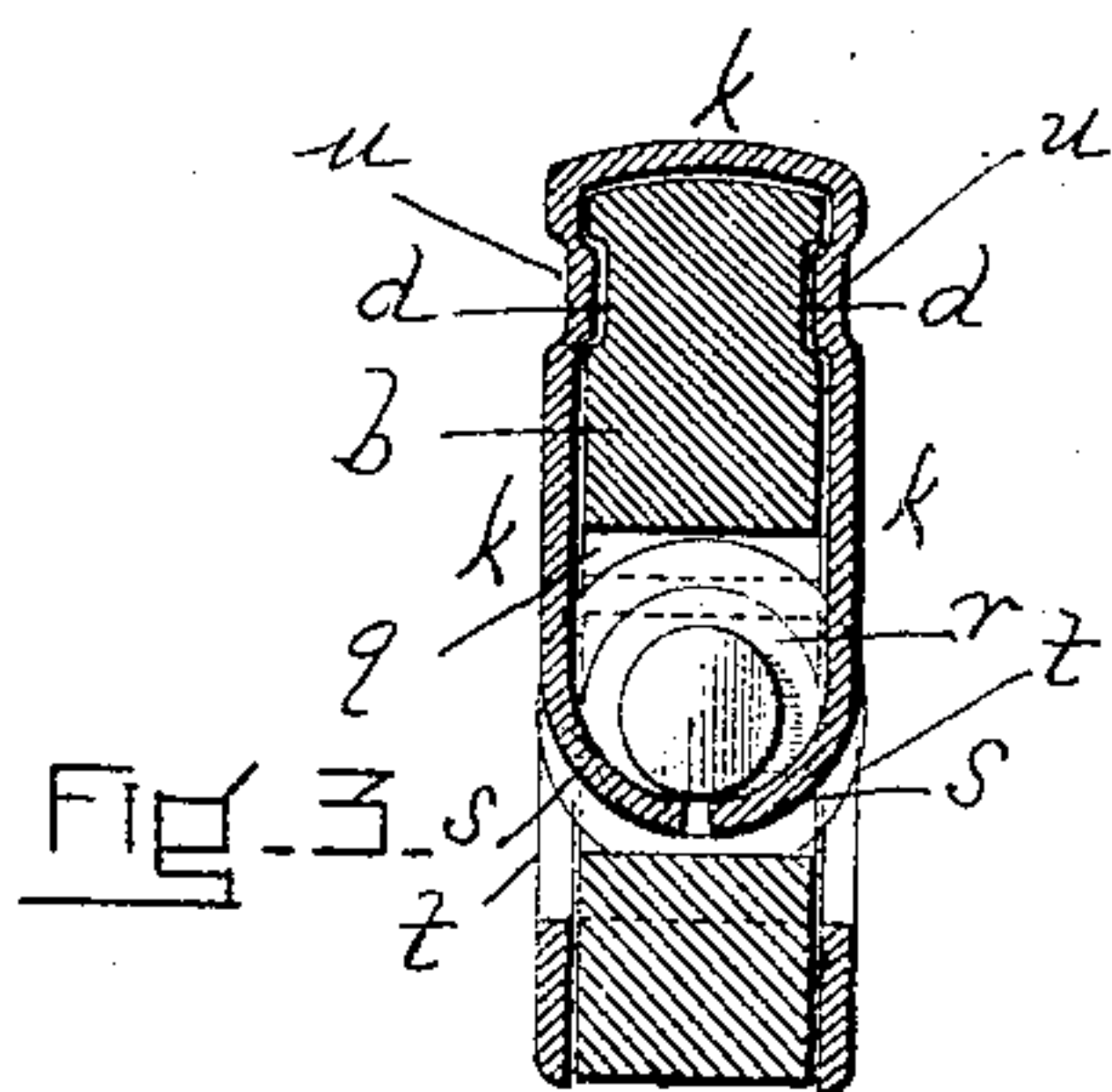
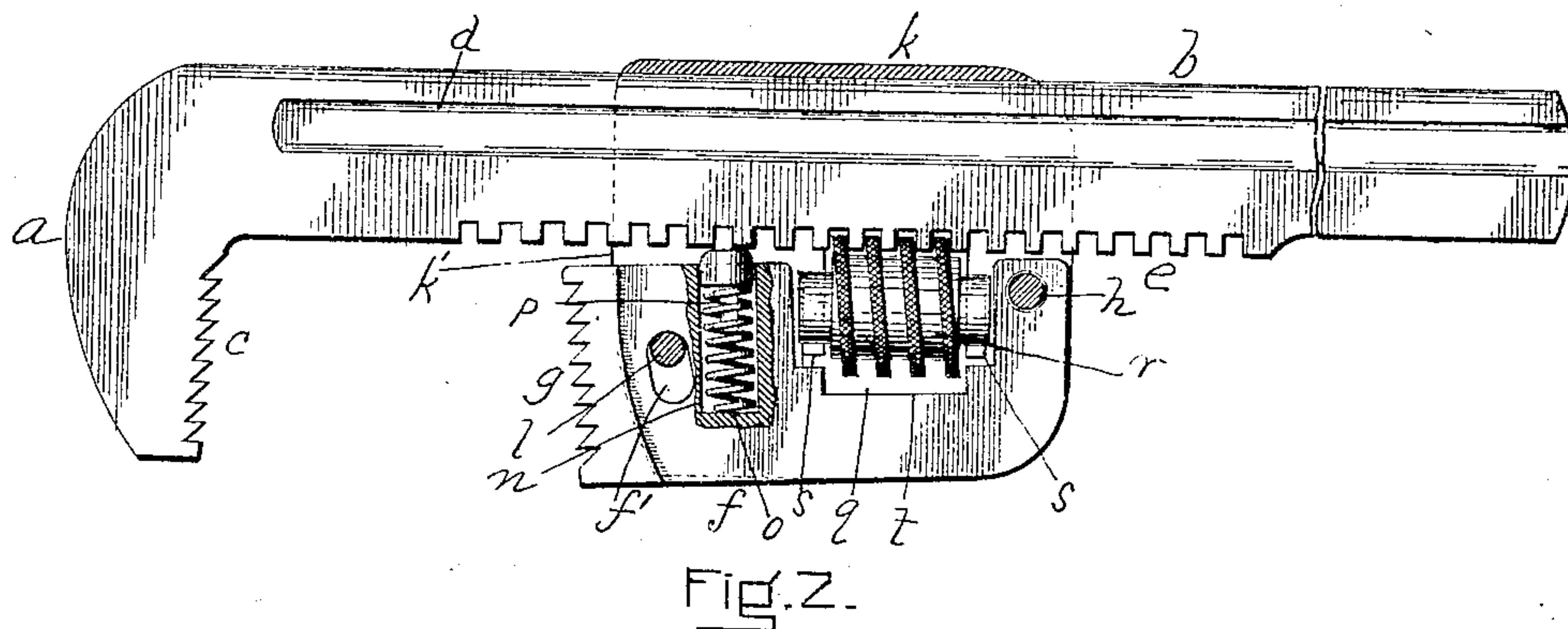
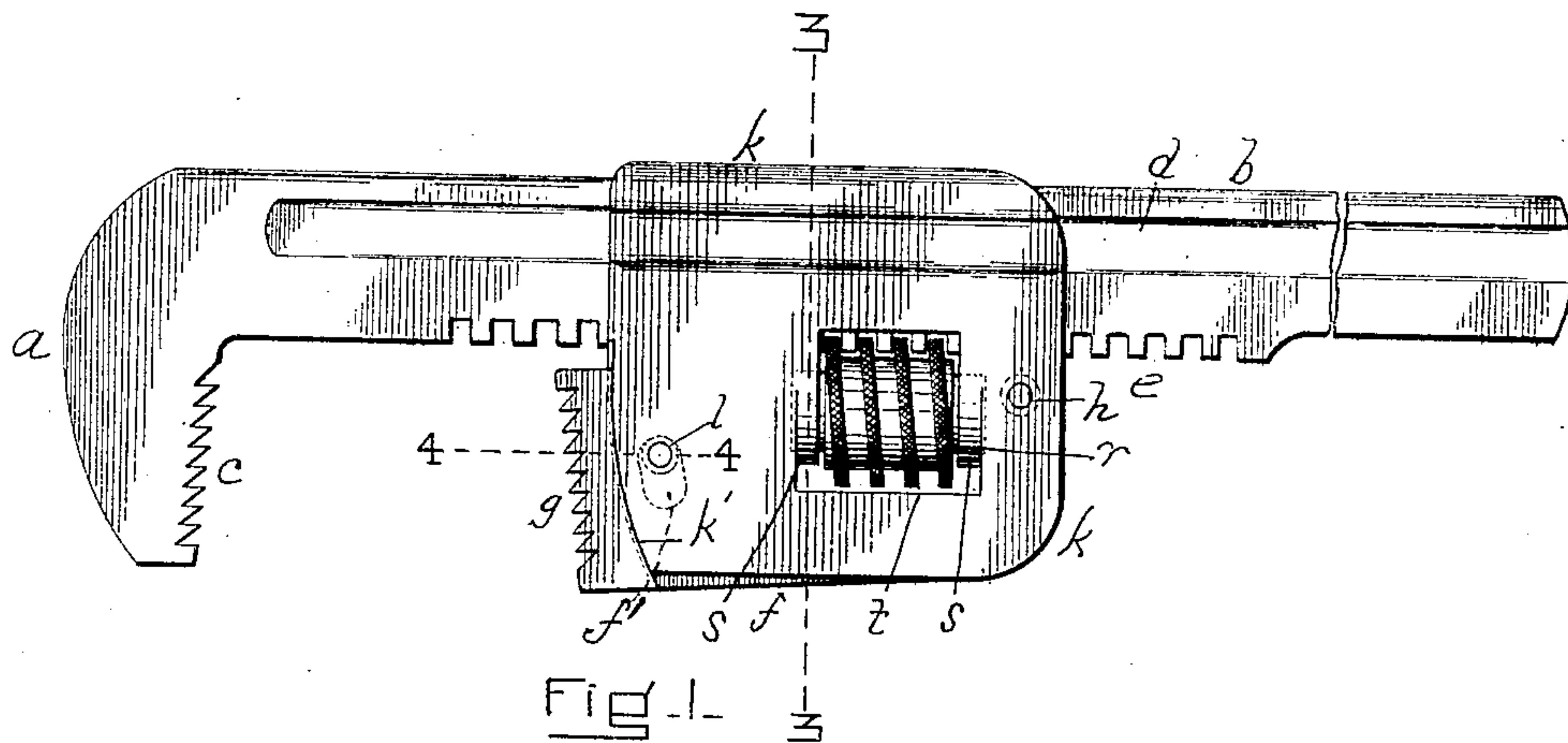


No. 803,942.

PATENTED NOV. 7, 1905.

J. H. VINTON.
PIPE WRENCH.

APPLICATION FILED APR. 5, 1905.



WITNESSES:
A. F. Ford.
M. A. Atwood.

INVENTOR
John H. Vinton,
By his Atty.
Sherry Williams

UNITED STATES PATENT OFFICE.

JOHN H. VINTON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO LOUIS C. SMITH, OF WINTHROP, MASSACHUSETTS.

PIPE-WRENCH.

No. 803,942.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed April 5, 1905. Serial No. 253,943.

To all whom it may concern:

Be it known that I, JOHN H. VINTON, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention relates particularly to pipe-wrenches adapted for comparatively light work—such, for example, as is required in the care of automobiles; but I propose to employ it in any connection and either in light or heavy work.

The nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a side elevation of the same, the outer or covering portion of the movable jaw being illustrated in longitudinal vertical section. Fig. 3 is a cross vertical section taken on line 3 3, Fig. 1. Fig. 4 is a horizontal section taken on line 4 4, Fig. 1.

Similar letters of reference indicate corresponding parts.

a represents the stationary jaw, made integral with the bar or handle *b*, the engaging face *c* of the jaw being at a slightly-obtuse angle with the bar or handle, and the teeth on said face inclining toward the bar. The bar is, moreover, provided on its opposite sides with longitudinal grooves *d*, extending, preferably, substantially its entire length and registering with each other in location. The under edge of the bar is provided with a row of suitable teeth *e*.

f represents the movable jaw, having downwardly-inclined teeth on its engaging face *g* and pivoted at *h* to the covering or yoke *k*, preferably of sheet-steel, which consists of two folds uniting at the upper edges, embracing the bar *b* and extending down on the opposite sides of the movable jaw *f*, which is pivotally connected with said yoke by said pin or bolt *l*, located near the rear ends of the movable jaw and the yoke or covering. The front edges *k'* of the two parts of the covering *k*, below the bar *b*, are formed on a curve which constitutes an arc of a circle, of which the pivot *h* is the center. A horizontal pin *l* has its opposite ends supported by the two folds of the covering *k* and extends through an elongated slot *f'* in the movable jaw, a line drawn longitudinally through said

slot being substantially concentric with the edges *k'*. By means of this slot the swinging movement of the forward end of the jaw *f* on its pivot *h* is limited. The pin *l* (see Fig. 4) and also the pivot *h* are provided with two shoulders *l'*, the distance between said shoulders being equal to the thickness of the movable jaw at those points. By this means the two portions of the yoke or covering *k* rest against said shoulders and are thus prevented from being jammed or warped into injurious contact with the movable jaw and binding it and preventing its relative movement. Moreover, the front curved edges *k'* of the yoke or covering are beveled, as shown in Fig. 4, to fit into dovetailed shoulders *m*, Fig. 4, produced by the thickening of the front or operating end of the movable jaw at that point on an arc concentric with the arc of the edges *k'*, said thickened portions being flush on both sides with the outer surfaces of the two parts of the yoke or covering. The movable jaw is provided with a recess *n*, in which is set a spring *o*, which surrounds a headed pin *p* and lies between the head of the pin and the bottom of the recess for the purpose of holding the front end of the jaw normally down away from the bar *b*. In a larger recess or chamber *q* a worm or nut *r* is supported horizontally and held in engagement with the teeth *e* and is itself engaged by the oppositely and inwardly curved fingers *s*, Fig. 3, which extend down from the opposite upper edges of the two holes or openings *t* in the opposite folds of the covering *k* under the two trunnions of the worm, said openings registering with the recess *q*. The yoke or covering is further provided on its inner surfaces with inwardly-projecting horizontal longitudinal ribs *u*, formed by bending in the sheet metal, said ribs extending into the grooves *d* on the opposite sides of the bar. By means of these guiding-ribs the movement of the yoke is rendered strictly parallel with the bar, the swinging movement being confined wholly to the movable jaw.

When the faces *c g* of the two jaws are brought against the opposite sides of a pipe and the wrench is operated, the movable jaw swings inward on its pivot *h*, and the dovetailed curved edges or shoulders *m* hold the correspondingly-curved edges *k'* of the yoke and prevent the two parts or sides thereof from spreading. Moreover, this construction

provides a bearing, and thereby relieves the pivot-pin h of a portion of the strain. The ribs and grooves prevent any rocking movement of the yoke on the bar and serve to hold
 5 the nut or worm in its proper position with relation to the teeth, the worm being held always parallel with the bar and the thread always in mesh for its entire depth. The curved fingers engage the worm in place of the ordi-
 10 nary pin.

The shoulder-pins l and h enable the sides of the yoke or covering to be riveted tightly against the shoulders, allowing the movable jaw to swing freely and preventing any bind-
 15 ing or jamming.

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

1. In a wrench of the character described,
 20 a bar or shank and a stationary jaw integral or rigid therewith; a yoke or covering k embracing the bar and extending down on opposite sides thereof, and adapted to slide longitudinally on said bar, said yoke or covering hav-
 25 ing openings t in its opposite sides; a movable jaw pivoted near its rear end to said yoke or covering and located between the two folds thereof whereby it swings with relation to the bar and to the yoke; a worm sustained by
 30 the movable jaw; and oppositely-curved fin-

gers extending downward and inward from the upper edges of the openings in the two folds of the yoke under the worm or nut, whereby said worm is held in engagement with suitable teeth on the bar, for the pur- 35
 pose set forth.

2. In a wrench of the character described, a bar or shank and a stationary jaw integral or rigid therewith; a yoke or covering k embracing the bar and extending down on oppo- 40
 site sides thereof, and adapted to slide longitudinally on said bar; a movable jaw f swinging in said yoke or covering and formed near its engaging end with rearwardly-facing dove-
 45 tailed shoulders m on the opposite sides of the jaw, said shoulders being on arcs of circles of which the pivot on which the jaw swings is the center, and the front edges k' of the two portions of the yoke which flank the movable
 50 jaw being beveled to fit said dovetailed edges; and means for limiting the swinging movement of said jaw, for the purpose set forth.

In testimony whereof I hereunto set my hand in the presence of two subscribing wit- 55
 nesses.

JOHN H. VINTON.

Witnesses:

HENRY W. WILLIAMS,
 A. K. HOOD.