

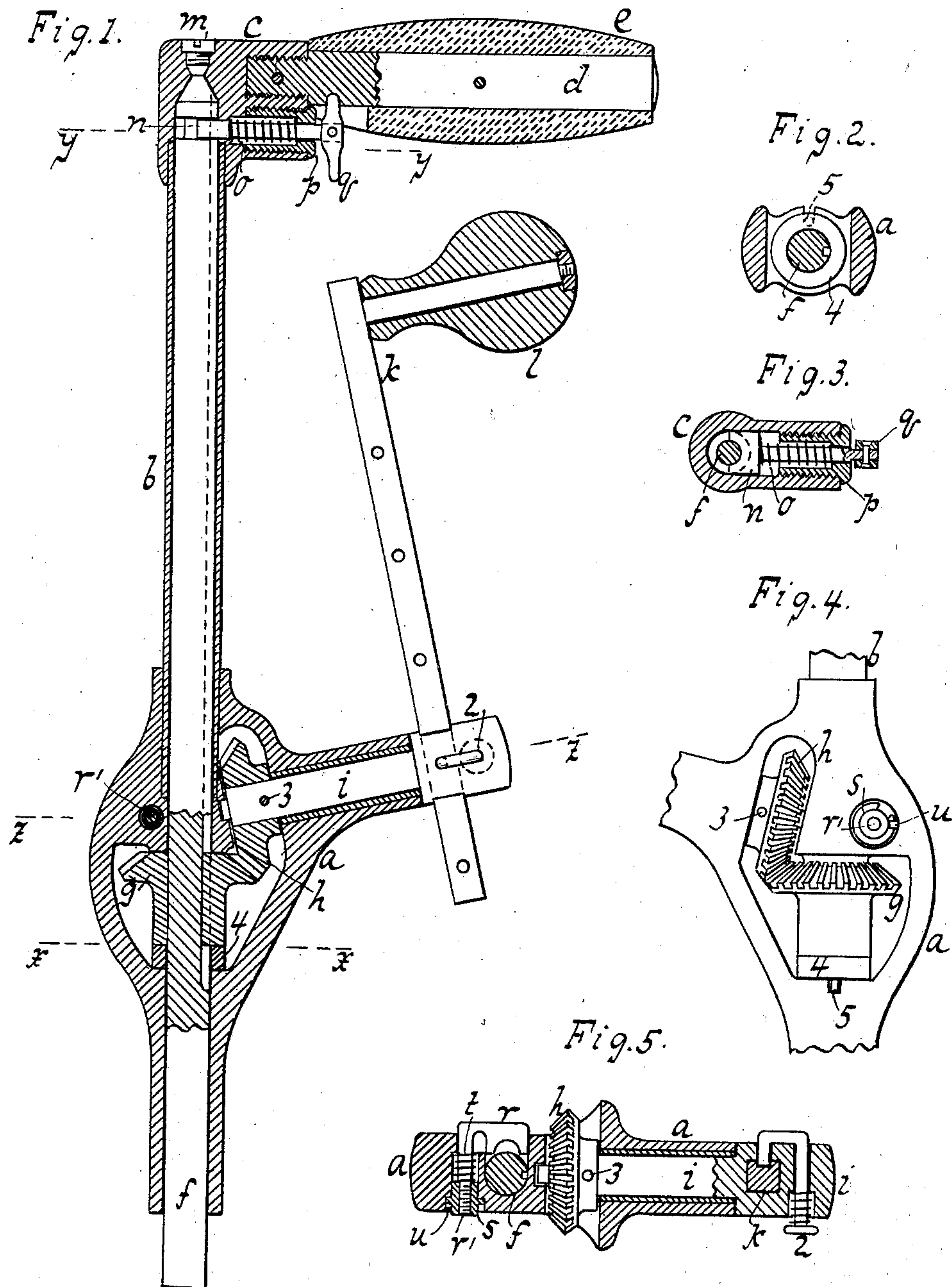
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PATENTED JAN. 27, 1903.

J. H. RUSBY.
EXTENSIBLE OR EXTENSION ANGLE BRACE.

APPLICATION FILED JAN. 24, 1902.

NO MODEL.



WITNESSES:

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JOSEPH H. RUSBY, OF NUTLEY, NEW JERSEY.

EXTENSIBLE OR EXTENSION ANGLE-BRACE.

SPECIFICATION forming part of Letters Patent No. 719,050, dated January 27, 1903.

Application filed January 24, 1902. Serial No. 91,127. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. RUSBY, a citizen of the United States, residing at Nutley, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Extensible or Extension Angle-Braces, of which the following is a specification.

This invention resides in certain novel features or details of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a sectional side elevation of an angle or bit brace embodying this invention. Fig. 2 is a section along $x x$, Fig. 1. Fig. 3 is a section along $y y$, Fig. 1. Fig. 4 is a detail view showing gears and the head or button of a latch. Fig. 5 is a section along $z z$, Fig. 1.

In the drawings is shown a frame, various parts of which can for convenient description be called the gear-bearing part a , the shank b , with butt c , and the handle-support d . A handle is shown at e . A chuck or bit shaft f has a feather connection with a gear g . The feathering through the gear can be secured by the customary groove and tongue, so that the parts turn together; but the shaft can be set or adjusted longitudinally independent of the gear. The gear g , with shaft f , can be rotated by gear h , driven by shaft i and crank k , the latter being shown with a suitable handle l . When pushed the full extent into frame b , the end of shaft f is made to rest or rotate against a hardened or steel seat or end screw m in butt c . This shaft has a circumferential groove for engagement by latches. A rear latch is shown at n and engages the shaft when the latter is to be held to rotate in its contracted position—that is, in or but slightly projecting beyond the frame. This latch n is shown arranged as a spring-plunger, the spring o being braced against a shouldered tube or hollow screw p , run into the frame or butt c . The plunger suitably projects, so that it can be pivoted or pinned to a trigger or handle q , fulcrumed in handle-support d , so that the latch can be pulled or moved to release the shaft, the spring o returning or normally holding the latch to engaging position. The fulcrum of handle q is practically formed by a recess or seat, into which an end of the

handle q is loosely placed, so that the free end of the handle can swing from and to frame part b or shaft f . Other latches can be arranged along frame b to hold the shaft at various points of extension or projection beyond the frame; but in the drawings it was not considered necessary to show more than one latch in addition to latch n . The two latches shown can be distinguished as rear latch n and front latch r , Fig. 5. The front latch can also be compared to a spring-plunger. It is placed in a suitable cut or seat in frame or bearing a , and its screw-stem r' is adapted for the engagement of nut or head s , against which presses spring t for normally moving the latch to the shaft. On suitably pressing this button s the latch r is moved away from or clears the shaft. This nut or button s has a rim with a cut or mutilated portion, allowing the button to be depressed for bringing the rim inside or below the line of a pin or projecting lug u , Fig. 5, and by then giving the nut a twist or partial turn to bring a full part of its rim under the pin u the nut and latch r will be held clear—that is, out of engagement with or not rubbing or exerting friction against the shaft.

The crank k is adjustably connected to shaft i or can be slid back and forth therein to vary the throw or leverage of the handle, and a latch or spring-plunger 2, adapted to engage seats or dents in the crank-stem k , will hold the latter in required adjustment.

The shaft i is suitably connected or pinned to gear h , a pin being indicated at 3.

A hardened or steel washer 4 can be interposed between the gear g and the bearing a to prevent the gear wearing the bearing and also to enable ready separation of the parts. When the shaft f is removed and washer or ring 4 taken out, the gear g is loose or free for removal. By providing the washer with a pin or shoulder 5, Figs. 2 and 4, to drop or engage into a suitable seat in bearing a the washer will be held against rotation.

The handles, as e and l , are made of suitable material. Rubber can be suggested, as in case the tool falls on a soft handle the fall is more or less broken and danger of damage correspondingly avoided. The handle e can be secured to its support by any suitable fastening or pin, and the seat for crank-shaft i

can be suitably hardened or formed of a steel tube secured in frame *a*.

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

- 5 1. A frame or support having an extensible or adjustable shaft, a latch for the shaft, a button or rotary nut on the latch, and a pin on the frame, the nut having a broken rim to enable the latter to be turned under the pin
10 on the frame for holding the latch clear or unlocked.
2. In combination, a frame or support, an adjustable shaft arranged therein, means connected with the frame and engaging the shaft
15 for securing it in its adjusted position, a gear arranged in the frame, means for connecting said shaft to said gear to permit of a longitudinal movement of the shaft, a second gear carried within the frame and engaging with
20 the first gear for operating it, and an adjustable means for operating the second gear causing thereby the operation of the first gear and imparting suitable movement to the said shaft.
- 25 3. In combination, a frame comprising in its construction a gear-bearing part, a shank, a butt and a handle-support, an adjustable shaft mounted in said frame, a gearing in said frame, means for connecting said shaft to said gear-

ing to permit of a longitudinal movement of 30 said shaft, means connected with the gear-bearing portion of the said frame for operating the said gears, means carried by the butt-end of the said frame and engaging said shaft for securing it in its retracted position, and 35 means carried by the gear-bearing portion of said frame and engaging with the shaft for securing it in its adjusted position.

4. In combination, a frame, an adjustable shaft mounted therein, a gearing in said frame, 40 means for connecting said shaft to said gearing so as to permit a longitudinal movement of said shaft, a handle secured to the top of said frame, means carried by the top of the frame and below the handle for securing the shaft 45 within the frame in its retracted position, means carried by the frame at a point in close proximity to the said gearing for securing the shaft in its adjusted position, and an adjustable means connected with the gearing for 50 operating it.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH H. RUSBY.

Witnesses:

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