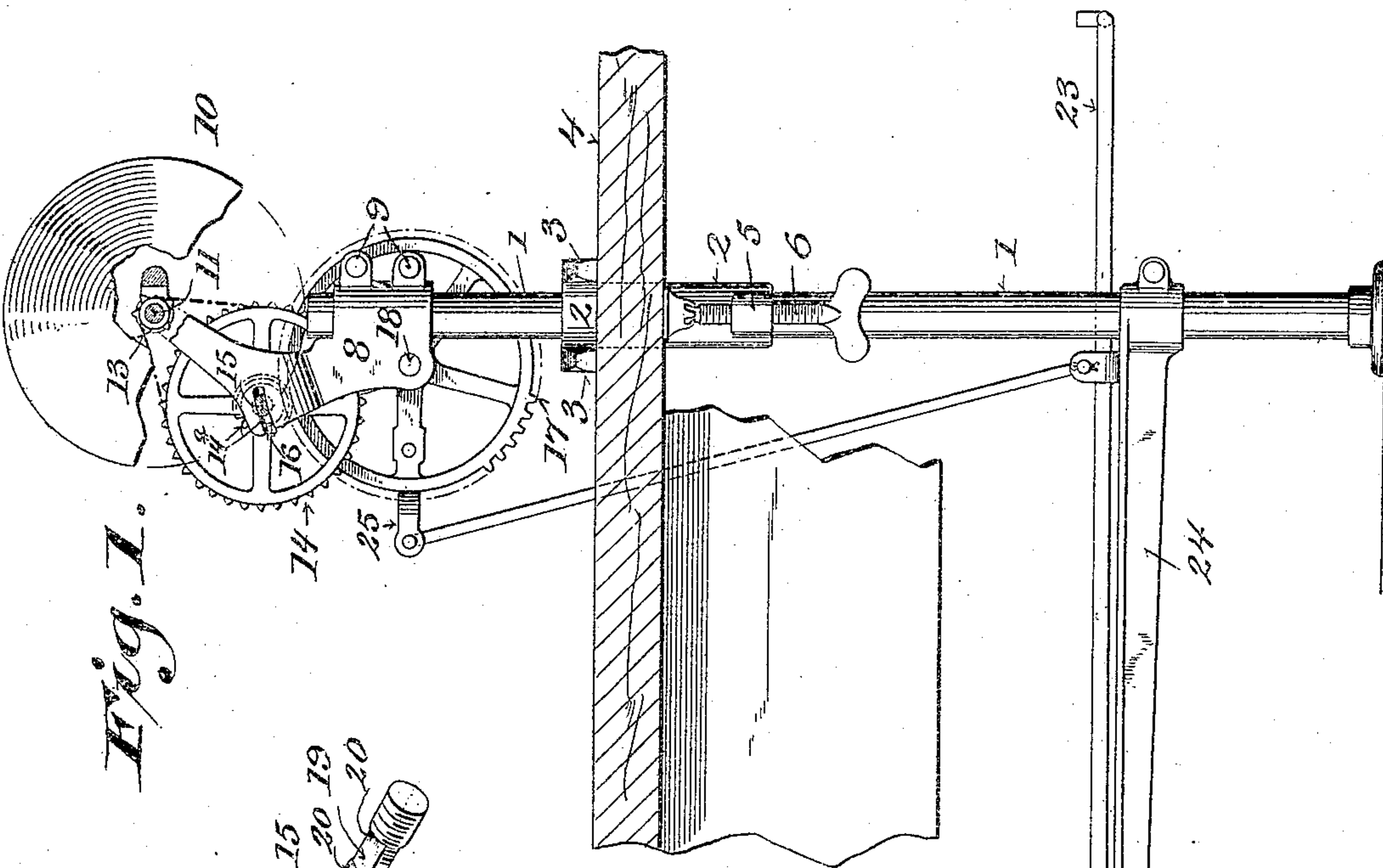
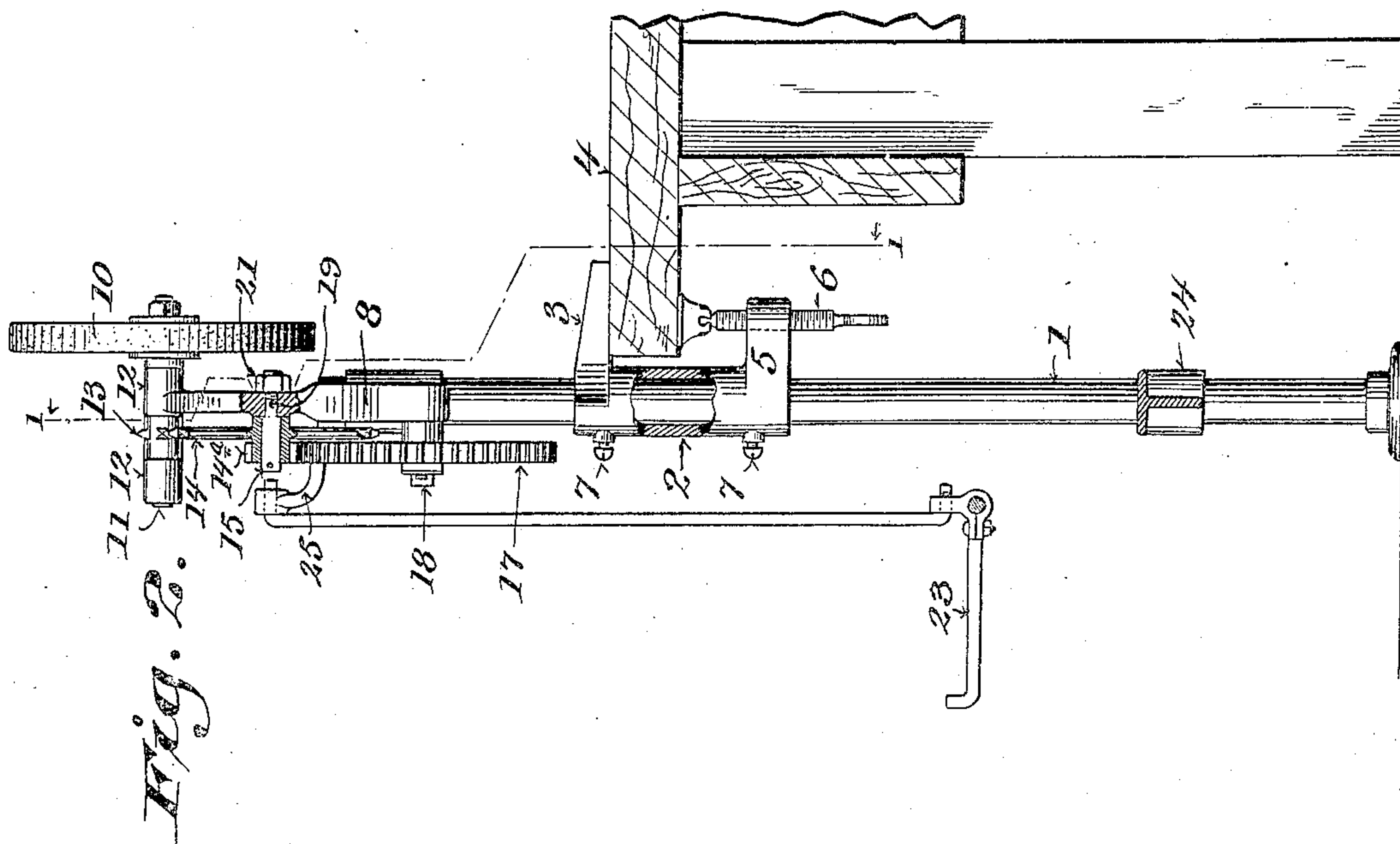


E. G. BUCHMANN.
SUPPORT AND DRIVING MECHANISM FOR ROTARY TOOLS.
APPLICATION FILED OCT. 17, 1908.

929,282.

Patented July 27, 1909.



Witnesses:
Geo. G. Felber
Frank H. Rogers
Fig. 3.

Inventor:
Edward G. Buchmann
By *Clarence Young*
Attorney.

UNITED STATES PATENT OFFICE.

EDWARD G. BUCHMANN, OF MILWAUKEE, WISCONSIN.

SUPPORT AND DRIVING MECHANISM FOR ROTARY TOOLS.

No. 929,282.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed October 17, 1908. Serial No. 458,250.

To all whom it may concern:

Be it known that I, EDWARD G. BUCHMANN, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Supports and Driving Mechanism for Rotary Tools; and I do hereby declare that the following is a full, clear, and exact description thereof.

The primary object of my invention is to provide simple, economical, and effective supports for rotary tools or the like, the construction and arrangement being such that the tool supported may be quickly and firmly attached to a permanent rest.

Another object of my invention is to provide means whereby a chain and sprocket wheel driving mechanism for the rotary tool may be adjusted in a simple and effective manner.

The invention therefore consists in various structural details and combination of parts as hereinafter fully set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a side elevation of a rotary tool and its support embodying the features of my invention, the support being shown as attached to a portion of a work-bench or table, with parts broken away and parts in section, as indicated by line 1—1 of Fig. 2; Fig. 2, an end elevation of the same with a portion broken away and in section to better illustrate various structural features, and Fig. 3, a perspective view of an adjustable bearing stud of the rotary tool.

Referring by numerals to the drawings, 1 represents a tubular standard, the lower end of which is adapted to rest upon the floor or other suitable support. A slidable gripping device having a sleeve portion 2 is fitted over the standard, being provided with jaw-extensions 3, which jaws constitute a fixed clamping member in connection with the gripping device, and are adapted to engage the upper surface of a work-bench or other suitable rest 4. The sleeve 2 is also provided with a lug-extension 5 located below the jaw-extensions thereof. The lug-system being threaded for the reception of a clamping-screw 6 having a foot for engagement with the lower face of the work-bench or rest, the screw and its foot comprising an adjustable clamping member in opposition to the fixed

member. The sleeve-portion of the gripping-device is held in adjusted position upon the standard by means of set-screws 7 in screw-threaded engagement with said sleeve, the ends of the set-screws being adapted to engage said standard and thereby firmly lock the parts together. A tool-frame 8 is secured to the upper end of the standard 1 by means of clamping-bolts 9, the tool-frame in this instance being shown in connection with a grinding or abrading-wheel 10, which wheel is secured to an arbor 11 mounted in bearing 12 of the tool-frame. The arbor carries a small sprocket-wheel 13 located between the tool-frame bearings, this sprocket-wheel being in chain-belt connection with a larger sprocket-wheel 14, that is loosely mounted upon a stud 15, which stud is fitted into arc-shaped slot 16 of the tool-frame. The hub of the sprocket-wheel 14 is formed with an integral spur-pinion, which pinion is meshed with and driven by a spur-gear wheel 17, that is mounted upon stud 18 carried by the tool-frame. The arc-shaped slot 16 is struck upon the axis of the gear-wheel stud 18 and consequently the stud 15, which carries the sprocket-wheel and its pinion, may be adjusted within said arc-shaped slot to thereby control the slack in the chain-belt, constituting the power-transmission between said sprocket-wheel and the arbor 11, without interfering with the mesh of the pinion and spur-wheel.

As clearly shown in Fig. 3 of the drawings, the stud 15 is threaded at one end and reduced for a portion of its length at this end to form an intermediate two-faced flat section 19, which section is adapted to fit within the arc-shaped slot 16, the abrupt shoulders 20 at either end of the flat section being spaced apart a distance equal to the thickness of the tool-frame, whereby these shoulders engage opposite faces of said tool-frame and prevent end-play of the stud thereon. The stud is held in its adjusted position in connection with the tool-frame by a nut 21 that engages the threaded end of said stud, and owing to the fact that said threads extend partially over the sides of the intermediate flat section, the nut is capable of running over the adjacent shoulder of said stud, whereby the opposite shoulder is drawn tightly against the tool-frame face, the flattened section of the stud thus prevents twisting of same in its seat. The opposite end of the stud 15 is provided with an aperture 22

for the reception of a pin or key, whereby the sprocket-wheel hub is held thereon.

Motion is imparted to the tool by a foot-treadle 23 that is pivoted to an arm 24, which arm is adjustably secured to the standard, the foot-treadle being in link-connection with a crank-extension 25 of the gear-wheel 17. In securing the standard is placed beside a rest or work-bench of any height, the lower end of the standard is first seated upon a fixed base or floor. The gripping device is then adjusted upon the standard, to such elevation that its jaw-extensions will engage the upper side of the rest. The set-screws 7 are then tightened so as to lock the sleeve 2 in position upon the standard, the clamping-screw 6 being then run upward until its foot has engaged the underside of the rest. Now it will be seen that if the clamping-screw is given a further movement in the same direction, the force thereof will tend to draw the standard downward in the opposite direction and thereby cause the lower end of said standard to take a firm hold upon the base or floor, thus firmly gripping the aforesaid standard to the rest and base so as to constitute a rigid structure for the support of the tool thereon.

I claim:

1. A tool-support comprising a standard, one end of which is adapted to rest upon a fixed base, and an adjustable gripping device carried by the standard having a fixed clamping-member for engagement with a rest, the fixed clamping-member being opposed by an adjustable clamping-member in connection with the gripping device.

2. A tool-support comprising a standard, one end of which is adapted to rest upon a fixed base, a sleeve adjustable upon the base, a jaw extending from the sleeve, and a clamping-screw in threaded connection with the sleeve intermediate of the jaw-extension

and standard, and adapted to rest upon the base.

3. A tool-support comprising a standard, one end of which is adapted to rest upon a fixed base, a slidable sleeve carried by the standard, a set-screw in threaded engagement with the sleeve and adapted to engage said standard, a jaw extending from the sleeve, and a clamping-screw in threaded connection with the sleeve intermediate of the jaw-extension and standard, and adapted to rest upon the base.

4. A tool-support comprising a standard, a tool-frame in connection with the upper end of the standard, a rotatory tool carried by the frame, a driving-gear in connection with the tool, a foot-treadle carried by the standard in link-connection with the driving-gear, a sleeve adjustable upon the base, a jaw extending from the sleeve, and a clamping-screw in threaded connection with the sleeve intermediate of the jaw-extension and standard, and adapted to rest upon the base.

5. A rotary tool comprising a tool-frame provided with a tool-carrying arbor, a sprocket-wheel secured to the arbor, a slot in the frame, a stud provided with an intermediate flattened section fitted into the slot, one end of the stud being screw-threaded, a clamping-nut for engagement with the screw-threaded end of said stud, and a sprocket-wheel mounted on the opposite end of the aforesaid stud in chain-belt connection with the sprocket-wheel carried by the arbor.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

EDWARD G. BUCHMANN.

Witnesses:

GEO. G. FELBER,
FRANK H. ROGERS.