

E. L. TROUP.

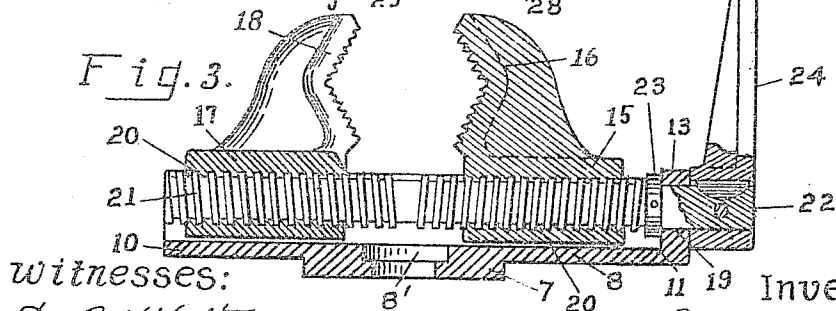
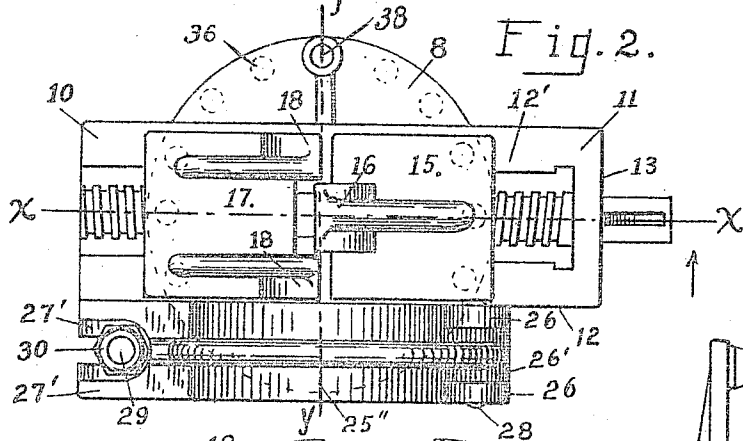
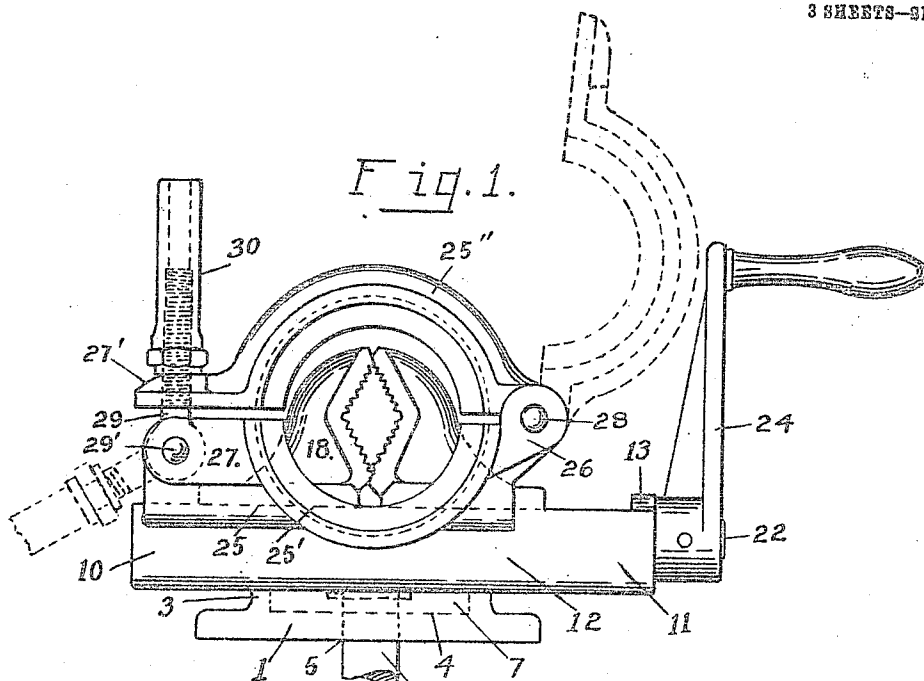
SELF CENTERING WORK AND DIE HOLDER FOR PIPE THREADING DIES.

APPLICATION FILED JUNE 21, 1909.

957,721.

Patented May 10, 1910.

3 SHEETS—SHEET 1.



witnesses:

D. C. Walter
M. S. Smith

Inventor.

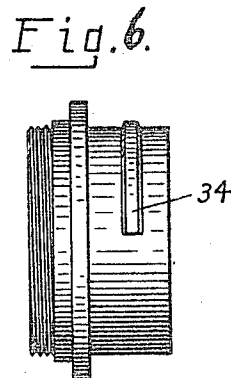
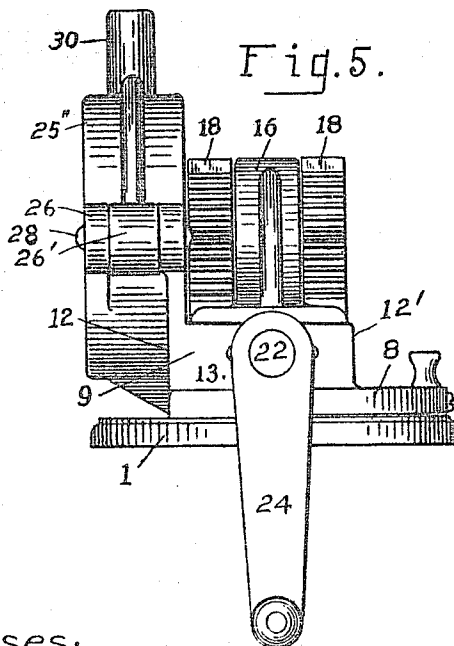
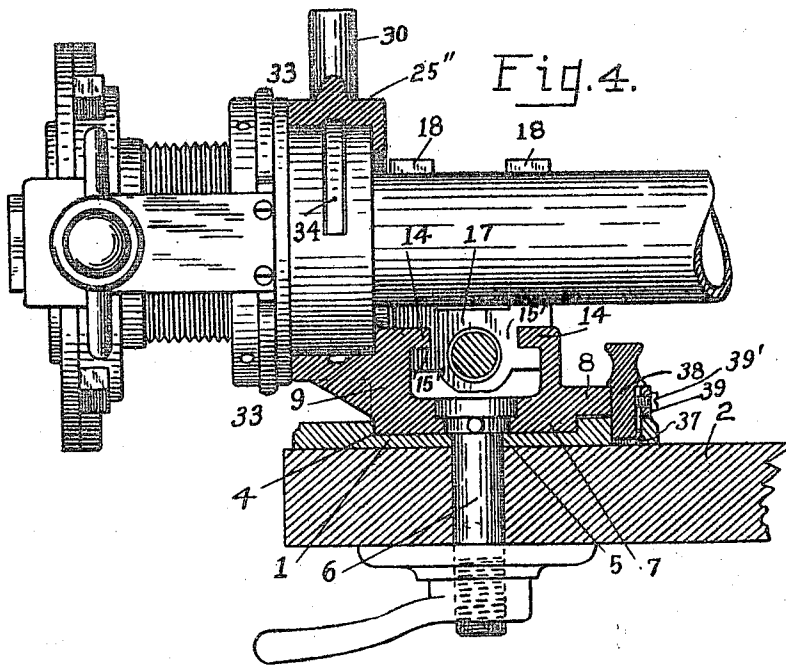
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3 SHEETS—SHEET 2.



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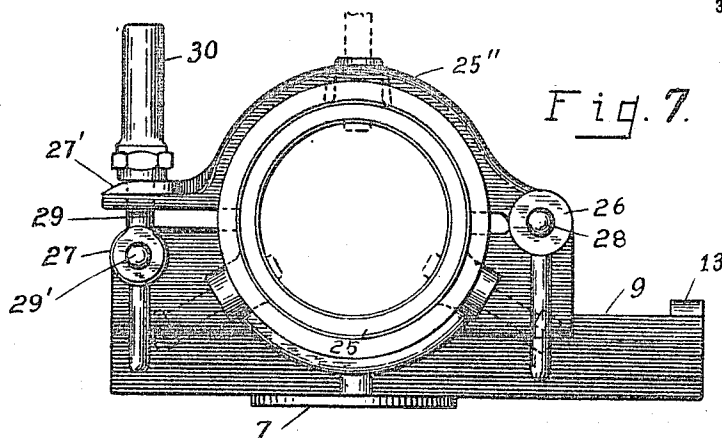


Fig. 7.

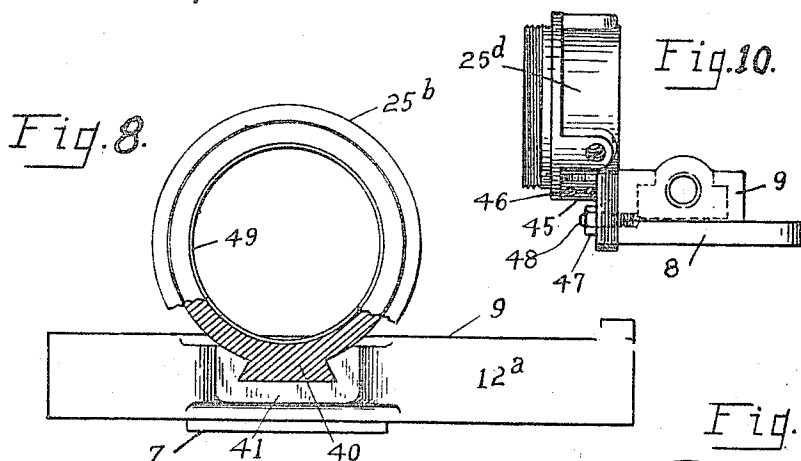


Fig. 8.

Fig. 10.

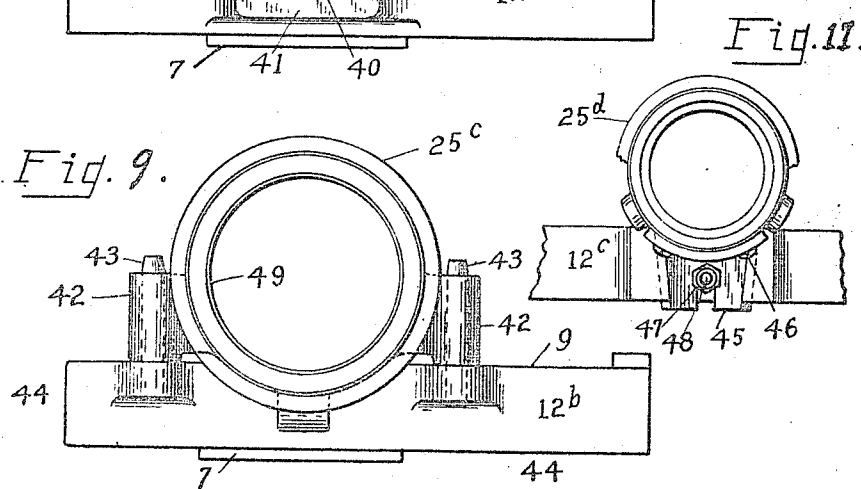


Fig. 9.

Fig. 11.

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UNITED STATES PATENT OFFICE.

EDWARD L. TROUP, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO DAVID C. WALTER,
OF TOLEDO, OHIO.

SELF-CENTERING WORK AND DIE HOLDER FOR PIPE-THREADING DIES.

957,721.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed June 21, 1909. Serial No. 503,375.

To all whom it may concern:

Be it known that I, EDWARD L. TROUP, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Self-Centering Work and Die Holders for Pipe-Threading Dies, of which the following is a specification.

My invention relates to a self-centering work and die lead holder for pipe threading dies, and has for its object to provide a simple, convenient and efficient apparatus of the kind, whereby the lead of a die may be firmly secured for the operation of the die, and the end portions of pipes of different diameters may be readily and automatically centered in the lead of the die in axial coincidence with the axis of the lead and firmly secured in such position independently of the lead, and whereby the use of bushings and set screws for the lead is avoided.

A further object is to provide a holder of the kind, wherein the work and the die are independently mounted and secured, and from which either may be readily removed without removing the other.

I accomplish these objects by the construction, arrangement and combination of parts, as hereinafter described, claimed and illustrated in the drawings, in which—

Figure 1 is a front elevation of a holder constructed in accordance with my invention. Fig. 2 is a top view of the same. Fig. 3 is a vertical cross section of the same on line $x-x$ of Fig. 2. Fig. 4 is a similar section of the same on line $y-y$ of Fig. 2 showing a die and a pipe mounted therein in position for the operation of threading and the holder mounted on a support. Fig. 5 is a side elevation of a holder, with the die and pipe removed. Fig. 6 is a side view of a die lead detached from the die head and the holder. Fig. 7 is a front elevation of my holder made adapted to receive therein the lead of a die head of the type commonly used wherein the lead is provided with set screws for holding the work. Fig. 8 is a front elevation partly in section of a modified form of my invention wherein a combined die holder and lead that is readily attachable to and detachable from the holder base, is substituted for the holder shown in Fig. 7. Fig. 9 is a similar view of a modified form of a combined die holder and lead that is also readily attachable to

and detachable from the base. Fig. 10 is a side elevation of a modified form of my holder base which is made adapted for the attachment and detachment of the lead and work holder of any of the forms of dies commonly used, by attaching to the lead a support complementary to the modification of the base, and Fig. 11 is a front elevation of the same.

In the drawings 1 designates a circular disk base, adapted to be mounted on a table or other suitable support 2, and having its top provided with a concentric flange 3 forming a shallow bearing socket 4. Central of the socket the base is provided with an axial bore 5, to receive a pivot bolt 6.

In the socket bearing 4 is seated the cylindrical bearing boss 7 of the base 8 of a holder body 9. The base 8 of the holder body is integral with the body 9, and is in the form of a disk which corresponds in diameter with the base 1, but has a segment cut away in line with the front side of the body 9, which is elongated and rectangular and has end portions 10 and 11 overhanging the base 8. The base is provided with a central counterbored orifice 8' to receive the pivot bolt 6.

The body 9 is a hollow box having the parallel sides 12 and 12' and the end 13 at the end portion 11, and the slotted top, forming guide ways 14 on which are movably mounted the jaw head 15, having the jaw 16, and the jaw head 17, having a pair of jaws 18, complementary to the jaw 16. The jaw heads 15 and 17 are provided with slide grooves 15' to receive the guides 14. The end 13 is provided with a bore 19 in axial alinement with bores 20 in the jaw heads which are interiorly threaded respectively to receive a right and left threaded shaft 21, having an unthreaded end extension 22 journaled in the bore 19 and having the fixed collar 23 shouldered against the inner side of the end 13 and the crank 24 detachably mounted on the portion extending outside the end 13.

The front side 12 of the body 9 has integral therewith as a bracket, the lower half 25' of a die lead holder head 25. The integral portion 25' of the holder head 25 is semi-cylindrical, and is provided with the bifurcated hinge ears 26 projecting on one side, and the bifurcated latch ears 27 projecting diametrically oppositely thereto from the other

side, and to the ears 26 is hinged, by a hinge pin 28 the upper semi-cylindrical half 25' of the holder head, having the hinge ear 26' on one side complementary to the ears 26, and the bifurcated latch ears 27' extending oppositely to the ear 26' and complementary to the latch ears 27. The latch ears 27 are perforated and have mounted therein a pivot pin 29' upon which is pivotally mounted between the ears a latch bolt 29, the body of which is threaded and has adjustably threaded thereon a hollow interiorly threaded handle 30. The bolt 29 is of a diameter to pass between the ears 27' of the upper half 25' of the holder head, and when the handle 30 is run down on the bolt against the ears the hinged upper half 25' of the holder head is locked down upon the lower half 25'. The axis of the holder head is at right angles to the vertical plane of the axis of the screw 21, and the vertical plane of the holder head intersects the screw shaft 21 at right angles central between the inner ends of the right and left threads.

The jaws 16 and 18 have serrated V shaped grip faces the angles of which are equal, and are at equal distance from the axis of the holder head extended, and are bisected by the horizontal plane of that axis, so that when a pipe is gripped by the jaws, whatever the diameter of the pipe may be, it is automatically centered with the axis in line with the axis of the holder head.

The holder head 25 has an inner diameter adapting it to closely receive the cylindrical lead 31 of a die head 32, and if the die lead has any special outer construction the inner wall of the holder is made complementary thereto. In Fig. 4 I have shown the lead holder adapted to the lead of a die head, wherein the lead holder is provided with an inner circumferential groove 33 to receive a complementary bead 34 on the die head. But the holder may be made to receive any special form of die lead, and in Fig. 7 is shown a lead holder adapted to receive a die lead of the class of dies commonly used, wherein the lead is also the work holder and is provided with set screws for centering and securing the die on the pipe, the set screws being shown in that figure in dotted lines. When this form of die is used in my device, the set screws may be removed.

Constructed and mounted as shown and described, and the die lead holder being adapted to the form of the lead of the die to be used therein, the upper half 25' of the lead holder being raised on its hinge as shown in dotted lines in Fig. 1, the head of the die is placed in the lower half 25'. The upper half is then turned over on the lead and clamped thereon by the handle 30 of the latch bolt 29. The die head is then run out in the lead a suitable distance, the pipe 35 to be threaded is then inserted be-

tween the jaws 16 and 18, (first separated a suitable distance by a reverse turning of the crank 24,) with the end portion to be threaded extending into the lead 31 of the die up to the chasers. The crank 24 is then turned forward until the pipe is clamped and firmly held by the jaws 16 and 18, after which the die head may be run on the pipe until the thread is formed. If a second pipe is to be threaded the die head is again run out in the lead, the pipe is released from the jaws by a reverse movement of the crank 34 and the second pipe secured therein and threaded as described. Thus constructed it is manifest that after the operation of threading has been completed, and the chasers are withdrawn from the pipe, that either the pipe may be released from the jaws and withdrawn from the lead without removing the die head from the lead holder, or that the die head may be released and withdrawn from the lead holder, without backing the die head off the pipe.

The base 1 is provided with a series of holes 36 at intervals through its rim and the base 8 is provided with a hole 37 adapted to be brought into register with any one of the holes 36, as the base 8 is revolved on the pivot bolt 6. In the hole 37 is provided a stop pin 38, which is flattened on one side to form a stop shoulder 39 and the pin is prevented from entire withdrawal from the base by a set screw 39' in the periphery of the base 8, opposite the flattened side of the pin. By this construction the base 1 may be mounted on a pedestal support (not shown) and the holder adjusted to receive a pipe from any radial direction. It is manifest also that without departing from the principle of operation of my invention that the functions of the lead holder 25 and the die lead 31 may be combined in one element and in each of Figs. 8, 9 and 10, I have shown a combined die lead and holder. In Fig. 8 a combined lead and holder 25^b is provided with a base projection 40 which is formed complementary to a dovetail groove in an integral projection 41, from the front side 12^a of the body 9. In Fig. 9 a combined holder 25^c is provided with the side bosses 42 which are bored to receive the pins 43 fixed in projections 44 from the front side 12^b of the body 9; and in Figs. 10 and 11 are shown a die lead 25^a made adapted by a bifurcated bracket 45, secured by the screws 46 to the body of the lead and adapted to be secured to the front face 12^c of the body 9 by a nut 47 on a stud bolt 48 projecting from the face 12^c. In each of the combined lead and die holders 25^a, 25^b, 25^c, and 25^d there is provided an interior thread 49 which forms the lead of the die head, and in the integral form 25^a, if desired, the die head may be removed from the fixed holder by detaching the retaining ring 50, and

therefore, in the embodiment of my invention, I do not limit myself to the use of a lead holder that forms an integral part of the main body portion, or that is provided with a hinged section, whereby it may be opened to receive the lead of a die head.

What I claim to be new is—

1. In a self-centering work and die lead holder for threading pipes and the like, a support, a base mounted on the support, a die lead holder fixed on the base and adapted to detachably receive and secure therein the internally threaded lead of an independently usable die head therein, with the head in threaded engagement therewith and revoluble and movable progressively in the lead in line with its axis, and a work holder on the base comprising means independent of the die holder for receiving and automatically securing in fixed relation to the die lead holder cylindrical bodies of different diameters, in axial alinement with the axis of a die secured in the die holder, substantially as set forth.
2. In a self-centering work and die lead holder for threading pipes and the like, a support, a base adjustably mounted on the support, a die lead holder fixed on the base and adapted to detachably receive and secure therein the internally threaded lead of an independently usable die head therein, with the head in threaded engagement therewith and revoluble and movable progressively in the lead in line with its axis, and

a work holder on the base comprising means independent of the die holder for receiving and automatically securing in fixed relation to the die lead holder, cylindrical bodies of different diameters, in axial alinement with the axis of the die secured in the die holder, substantially as set forth.

3. In a self-centering work and die lead holder for threading pipes and the like, the combination of a support, a base mounted on the support, a die lead holder fixed on the base and adapted to detachably receive and secure a die head therein, with the head revoluble and movable progressively in the lead in line with its axis, said die lead holder comprising a semi-cylindrical member integral with the base, a semi-cylindrical member hinged to the integral member and means to clamp the hinge member to the integral member around the lead of a die lead, and a work holder on the base comprising means for receiving and automatically securing pipes and the like to different diameters, in axial alinement with the axis of the die secured in the die lead holder, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD L. TROUP.

In presence of—

WM. J. FRITSCHÉ,
M. S. SMITH.