(No Model.)

2 Sheets—Sheet 1.

F. A. ERRINGTON.

DRILLING AND TAPPING ATTACHMENT.

No. 578,486. Patented Mar. 9, 1897.

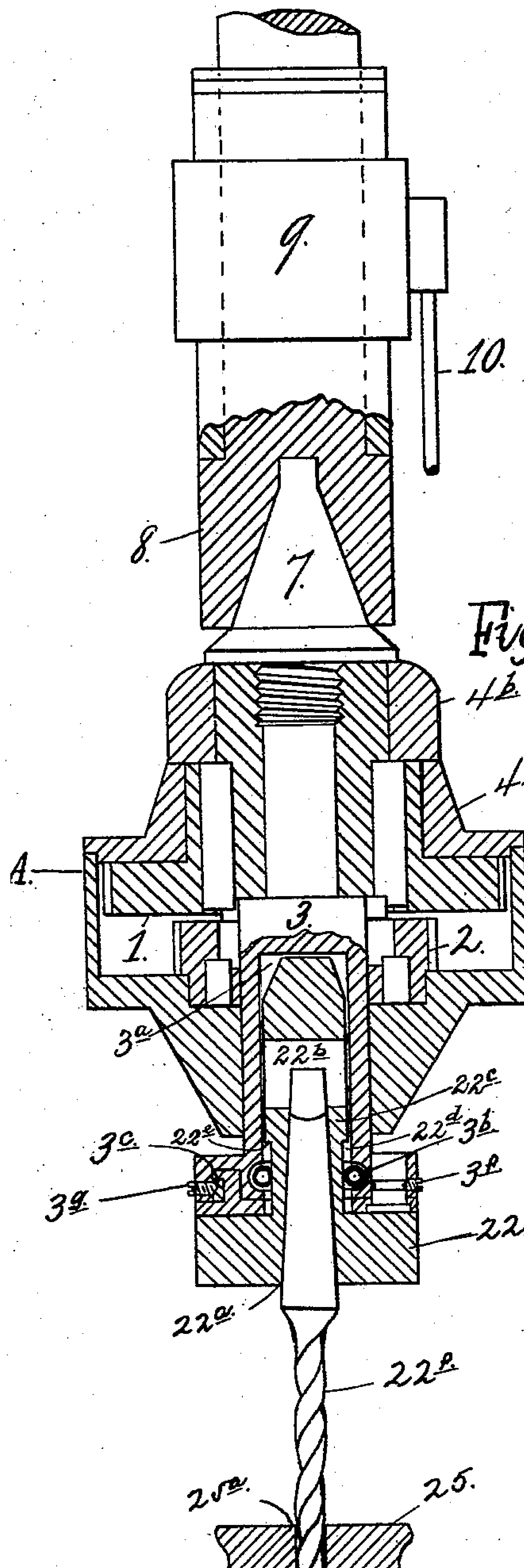

Fig. 1.

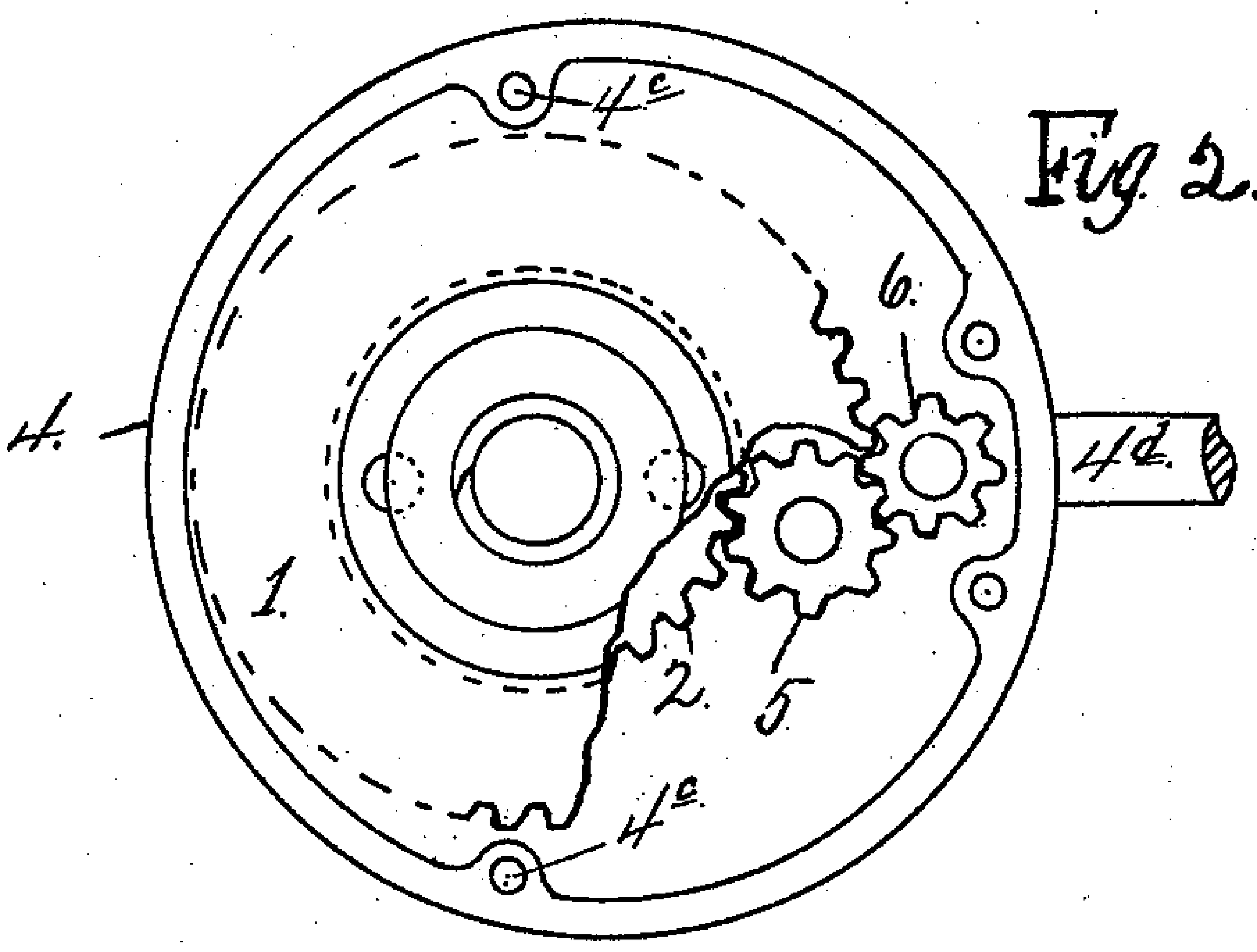

Fig. 2.

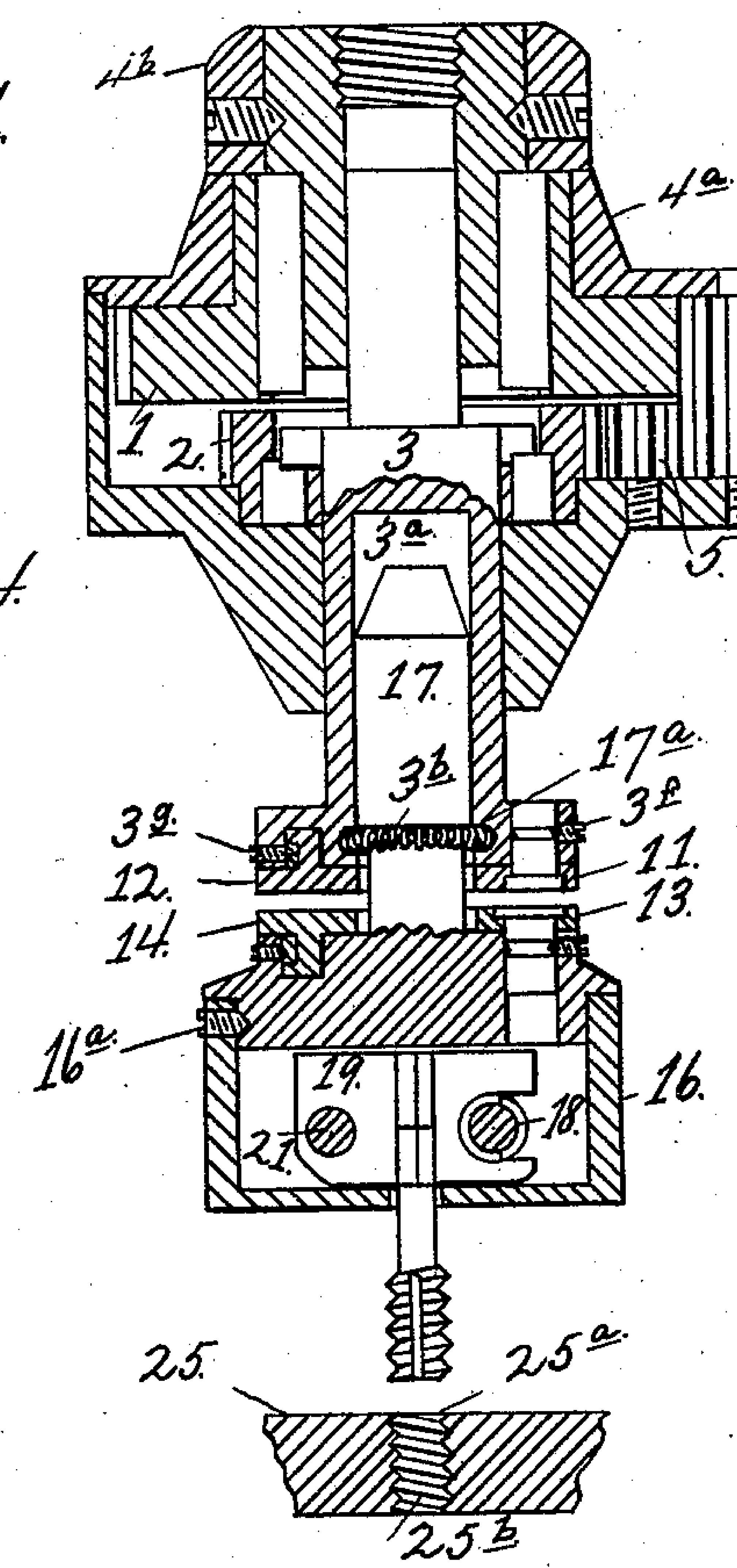

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

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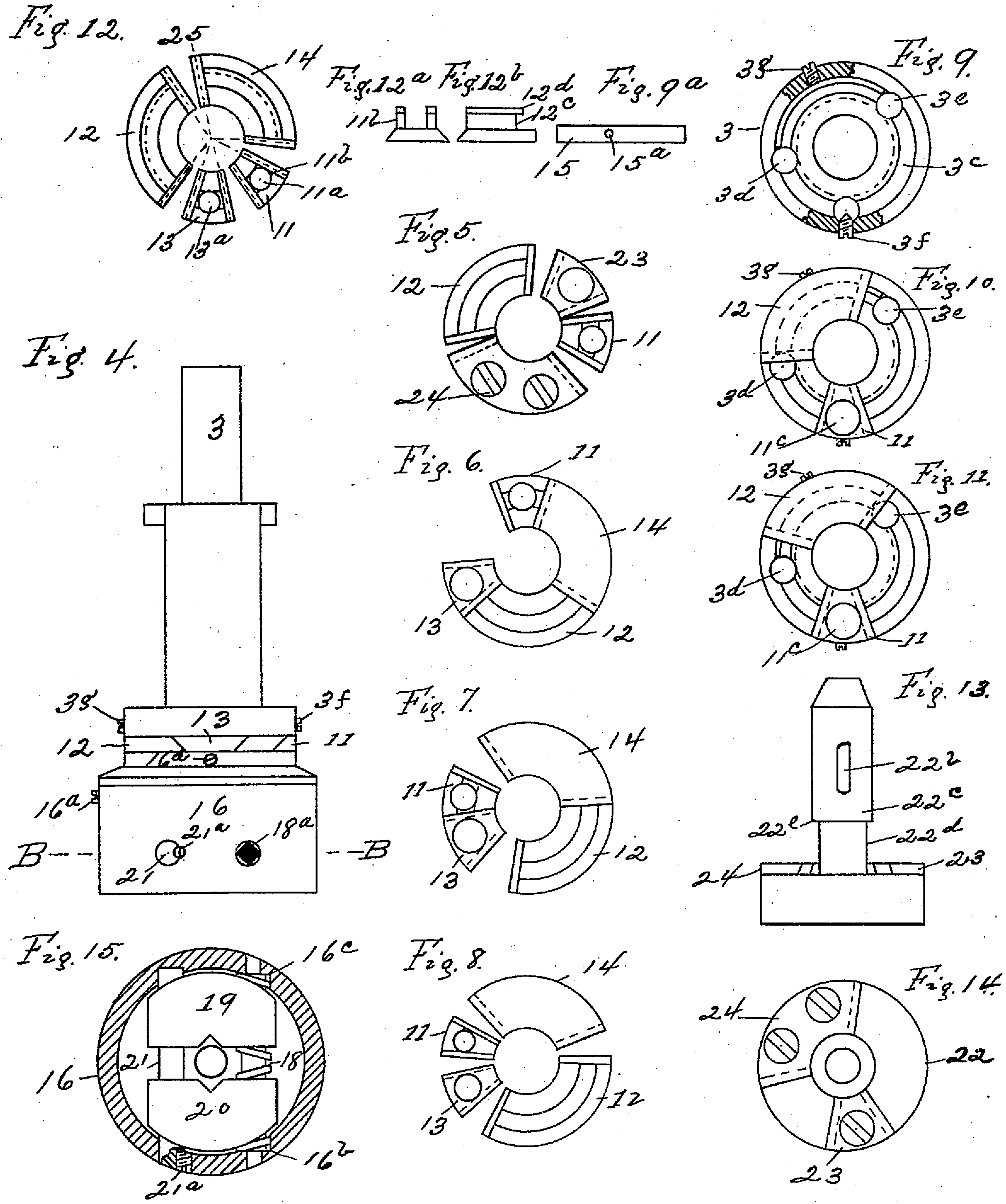

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UNITED STATES PATENT OFFICE.

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DRILLING AND TAPPING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 578,486, dated March 9, 1897.

Application filed July 24, 1896. Serial No. 600,360. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN ALFRED ERRINGTON, a citizen of the United States, residing in the village of Edgewater, (post-office, Stapleton,) county of Richmond, State of New York, have invented certain new and useful Improvements in Drilling and Tapping Attachments, which I desire to secure by Letters Patent of the United States, as shown and described in the following specification and drawings.

My invention relates, broadly, to means for connecting and disconnecting an independent shaft or tool-holder with and from a driving-spindle or the like, and more particularly to means for successively drilling and tapping from a driving-spindle without interrupting the rotation of said spindle, and other detail improvements in drilling and tapping attachments; and to these ends the invention consists in the novel combination of parts described in this specification, illustrated in the drawings forming part hereof, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, wherein—

Figure 1 is a vertical cross-section of a reversing mechanism or tapping attachment embodying my invention shown attached to the longitudinally-movable rotative spindle of a drill-press or similar tool, the parts being illustrated in the "driving position." Fig. 2 is a plan view of Fig. 1 on the line A A, the cover being removed and the driving-gear being partly broken to show the connection of the members of the gear-train with each other. Fig. 3 is a vertical cross-section of the parts in the "idle position." Fig. 4 is a view of the oppositely-rotative spindle of the tapping attachment and the tap-holder with their coupler-clutches in the reversing position. Fig. 5 illustrates the coupler-clutches in the engaging position. Figs. 6, 7, and 8 show the coupler-clutches of the tap-holder and tapping-spindle in the driving, reversing, and disengaging positions, respectively. Fig. 9 is a partly-broken view of the lower face of the tapping-spindle, the spindle coupler-clutches being removed to show the friction adjusting mechanism, &c. Fig. 9^a is a view of the friction-band. Figs. 10 and 11 are end views of the lower face of the tapping-spindle, showing its sliding coupler-clutches in the reversing engaging position and in the driving position, respectively. Fig. 12 is a plan view of the inner side of a turned ring after it has been cut into sectors to form the coupler-clutches for the spindle and for the tap-holder, the sectors 13 and 14 being shown inverted in Figs. 5, 6, and 7, showing the plane surface of the outer face. Figs. 12^a and 12^b are side views of the spindle and tap-holder coupler-clutches, showing the projection of the flange and its shouldered groove that receives the friction piece or band 15. Fig. 13 is a side elevation of the drill-holder. Fig. 14 is a top view of Fig. 13, showing the rigidly-connected coupler-clutches of the drill-holder, whose function does not require a flange, such as is provided for the sliding coupler-clutches of the spindle and tap-holder. Fig. 15 is a horizontal cross-sectional view of the tap-holder on the line B B of Fig. 4.

I have preferably illustrated my invention as applied to a reversing mechanism in which gear-wheels 1 2 are provided with opposing clutches adapted to engage an intermediate spindle clutch-bar carried by a tapping or oppositely-rotative spindle 3, journaled concentrically in said wheels, all of said parts being contained in a supporting-case 4, having a cover 4^a and carrying a reversing-pinion 5, meshing with the wheel 2, and a double-depth transmitting-pinion 6, meshing with the reversing-pinion 5 and with the driving-wheel 1. A shank 7 connects the wheel 1 with a longitudinally-movable rotative spindle 8 of a drill-press or similar tool having a frame 9 and a lever 10, said parts being arranged in any usual or approved manner that enables the lever 10 to raise and lower the spindle 8, and with it the case 4 and its parts, said case 4 being prevented from rotating with the spindle 8 by a rod 4^d, projecting therefrom. A collar 4^b is shown connected to the hub of wheel 1 to confine the wheel 1 and cover 4^a together, and said cover and case 4 may be secured together by screws, as indicated by screw-holes 4^c. (See Fig. 2.)

The spindle 3 has an easy fit in its bearings to assume the driving position shown in Fig. 1 when pressure is brought upon its end, or to freely drop into the idle position (shown in Fig. 3,) the spindle cross-bar engaging the clutches of the wheels 1 and 2, respectively, said spindle cross-bar being preferably small enough to avoid the clutches of both wheels when midway between them. The lower end of the spindle 3 is flanged to form a support for the coupler-clutches and is shown provided with an axial socket 3^a, the walls of said socket being indented by a concentric groove containing a spiral retaining spring or catch 3^b, the ends of said spring being preferably joined together. A concentric groove or slideway 3^c is shown in the face of spindle 3, with three pin-holes located therein at certain distances apart, the diameter of said pin-holes being greater than the width of said concentric slideway 3^c, whereby upon inserting pins 3^d 3^e therein the peripheries of said pins are partly embedded in the side walls of said concentric slideway to support said pins along their whole length. The ends of the pins 3^d 3^e are preferably flush with the face of spindle 3. (See Figs. 9, 10, and 11.) To provide the spindle 3 with means to impart rotary motion to another shaft or tool-holder, I preferably cut sectors 11 12 13 14, having opposite radial sides beveled in opposite directions or oppositely undercut from a flanged and grooved ring, (see Figs. 12, 12^a, and 12^b,) and drill holes 11^a 13^a in the two smaller sectors 11 13. To enable the beveled sides of the sectoral coupler-clutches to mesh evenly, the center lines 25 (shown dotted in Fig. 12) are radial and the top and bottom edges are parallel therewith. The flange 11^b of the stationary coupler-clutch 11 is inserted in the concentric slideway 3^c, its pin-hole 11^a registering with one of the above-mentioned pin-holes in said concentric slideway. A pin 11^c is then driven into said pin-hole and fastens the coupler-clutch 11 rigidly to the spindle 3. As a precaution against said pin being pulled out I have shown said pin grooved to mesh with a set-screw 3^f, carried by spindle 3.

The flange of the larger sector or sliding coupler-clutch 12 is provided with a groove 12^c and a shoulder 12^d to receive a friction-band 15, having an indenture 15^a, and said flange and friction-band are inserted in the concentric slideway 3^c between the pins 3^d 3^e, the length of said flange being less than the distance between the peripheries of said pins to enable said sliding coupler-clutch to move independently of the spindle, or vice versa, along the slideway 3^c. Said friction band or piece 15 is shown long enough to permit its ends to bear upon both of the pins 3^d 3^e when pressed against flange 12^c by a set-screw 3^g, carried by spindle 3, said set-screw meshing with the indenture 15^a of said friction-band and thereby positively connecting the clutch 12 longitudinally to the spindle 3 by a slip-joint which permits said clutch to move along the slideway 3^c, subject to the tension of the frictional contact of said friction-band 15, as regulated by the set-screw 3^g.

It is evident that the coupler-clutch-supporting flange of the spindle need not be integral with the spindle, but may be a disk of any desired construction that serves to support the coupler-clutches.

A tap-holder or chuck is shown composed, essentially, of a ring 16, carrying gripping means, and a shank or shaft 17, provided with means upon its flanged surface to connect said tap-holder with the spindle 3. The upper surface of the flange of the shank 17 for convenience in manufacture is grooved concentrically, and the coupler-clutches 13 14 are attached thereto in the same manner (see Fig. 3) as above described for the spindle coupler-clutches 11 12, the coupler-clutch 13 being rigidly connected to said tap-holder and the clutch 14 allowed to slide in said concentric groove, &c. The ring 16 has a concentric bore in its bottom or face plate and two sets of opposing transverse bores in its sides. One of said sets of transverse bores is internally couterbored to form thrust-plates 16^b 16^c, preferably located within or on a line perpendicular to the extremities of the greatest parallel diameter of said ring. A right and left hand screw 18 is inserted in said counterbores, its ends being adapted to engage said thrust-plates, one of said ends being preferably provided with a square hole 18^a, opening upon the outlet of its respective counterbore to permit said screw to be turned by a wrench of any usual design. Jaws 19 20 are shown provided with centering V's and with screw-threads on one side thereof and a smooth bore or slideway on the other side. Said jaws mesh with said screw 18 and their smooth bores register with the second set of transverse ring-bores. To facilitate getting said jaws fully into mesh with said screw 18, their bottom corners may be chamfered, as shown, when said jaws, extending over and under and beyond the periphery of said screw, cause any difficulty in getting them into place in the ring 16. A smooth rod 21 is inserted in the second set of transverse ring-bores and through said smooth bores in said jaws, one of said transverse rod-bores being preferably cut only part way through the side of the ring 16 to form a thrust-plate for the rod 21 and the other thereof being drilled and tapped mutually with the end of said rod to receive a set-screw 21^a, which meshes with both said rod and said ring to hold said rod rigidly in place.

The lower surface of the flange of the shank 17 is turned down to fit into the ring 16 and to form a shoulder to abut against the top of said ring. Said ring and said flange may be fastened together in any usual manner, as the ring 16 is complete in itself; but I preferably show them tightly fitted, and a set-screw 16^a tapped into said ring and extending into the reduced portion of said flange.

The principle of continuing the body of a chuck entirely around the jaws in the form of a ring, in which the right and left threaded screw is journaled and the jaws supported, is obviously superior in strength, lightness, and economy of manufacture to any construction where the screw-threaded portions of the jaws slide beyond the chuck-body, even when the solid sides of such a construction are tied together by a solid or removable faceplate. The internal counterbores that hold the screw in place not only give the advantages of a smooth periphery, but assist in securing a much better balanced chuck, which is an important consideration.

A drill-holder 22 is shown provided with any standard taper-socket 22^a, terminating in a transverse slot 22^b, and consists of a shank 22^c, having a concentric variation in its diameter, forming a cylindrical slideway or groove 22^d of reduced diameter, terminating in a shoulder 22^e, and a flange projecting beyond the periphery of said shank, upon the upper surface of which the coupler-clutches 23 24 are rigidly fastened. The peripheries of the shanks of the drill and tap holders are seen to be alike, but there is the difference in the arrangement of their coupler-clutches that one of those of the tap-holder is independently movable, while both of those of the drill-holder are fixed rigidly in the engaging position. Both shanks are shown tapered at their tops.

The operation of the above-described device is as follows: A drill 22^f being inserted in the socket 22^a of the drill-holder 22, the shank 22^c is pushed up into the socket 3^a of spindle 3 until the retaining-spring 3^b contracts into the concentric groove 22^d and thereby connects the drill-holder longitudinally with the spindle 3. The shoulder 22^e is so located along the periphery of the shank 22^c that said shoulder, the spring 3^b, and the concentric groove in the socket of spindle 3 are in coöperative position before the coupler-clutches of the spindle 3 and of the drill-holder 22 enter into rotary engagement with one another, and the drill-holder, while supported by its shoulder 22^e, resting upon the retaining-spring 3^b of spindle 3, can stand still in the hand of the operator, while the spindle 3 continues to rotate independently. While the shoulder 22^e is shown and claimed above the spring 3^b, it will be understood that this word is used relatively to the device when used in a vertical position, and that if the device is placed in other positions said shoulder will not necessarily be above the spring, but it will always be in a corresponding position relative thereto. The drill-holder and the parts of the tapping attachment are now in the position corresponding to that illustrated with regard to the tap-holder shank in Fig. 3, which I preferably term the "idle position."

To drill a hole 25^a in a piece of work 25, the operator lowers the lever 10, whereupon the spindle 8 and case 4 are simultaneously lowered, as above described. The cylindrical slideway 22^d preferably extends below the shoulder 22^e for a distance greater than the depth to which the faces of the coupler-clutches of the spindle and drill-holder mesh when in rotary driving engagement, so that when the point of the drill 22^f encounters the work 25 the shank 22^c rises in the socket 3^a and the spring 3^b slides along the reduced portion 22^d of said shank until the opposing surfaces of the flange of the drill-holder and the face of spindle 3 meet, when a continued lowering of the case 4 about the spindle 3 engages the clutches of wheel 1 with the cross-bar of the spindle 3, and the spindle 3 is thereby rotated to the right. The opposing surfaces of the coupler-clutches slip over one another until they reach the position shown in Fig. 5, which I preferably call the "engaging position," and the continued pressure exerted by the operator through the lever 10 causes said coupler-clutches to drop into mesh with one another. As it will be seen that the distance between the clutch-faces of the coupler-clutches of the drill-holder is greater than the width of the projecting coupler-clutch sector of the spindle, the latter can pass freely between the former. The drill-holder 22 being now positively rotated by the spindle 3, the drill 22^f cuts the hole 25^a in the work 25. The lever 10 being now raised, the case 4 rises, the clutches of the wheel 1 are thereby disengaged from the cross-bar of the spindle 3, and the spindle 3 ceases to rotate until the continued rising of case 4 engages the clutches of wheel 2 with the cross-bar of spindle 3, whereupon the spindle 3 is rotated to the left as the wheel 2 meshes with pinion 5, which in turn meshes with pinion 6, which meshes with driving-wheel 1, said pinions thereby transmitting and reversing motion from said wheel 1 to wheel 2. The friction of the spindle 3 in its bearings while raising the case 4 during the period when the cross-bar of said spindle is out of engagement with either of the wheel-clutches combined with the reversal of the direction of rotation of said spindle will disengage the coupler-clutches of the spindle 3 from those of the drill-holder 22. The shank 22^c will slip down the socket 3^a during the continued rising of the spindle 3 until the retaining-spring 3^b engages its shoulder 22^e, when the resistance of said spring will enable said drill to be withdrawn from the work and the parts will again be in the idle position. (See Fig. 3.) The operator may retain his right hand on the lever 10 and with his left pull the drill-holder 22 out of the socket 3^a. Even should the retaining-spring 3^b not be sufficiently powerful to pull large drills out of the hole, (in order to make it easier to insert and withdraw the shank of the tool-holder from engagement with said spring,) the work of drilling the hole having been completed, the raising of the drill out of the hole is not an essential feature, as said spring performs its chief function in supporting the drill-holder when out of rotary engagement with spindle 3 before the drill is pressed against the work.

To tap the hole 25^a, the square head of a tap 26 is inserted between the V's of the jaws 19 20 of tap-holder 16. A wrench is applied to the square hole 18^a of the screw 18, and said screw is thereby turned, sliding the jaws 19 20 along the supporting and alining guide-rod 21 until they firmly grip the head of said tap 26 in said V's. The shank 17 is inserted in the socket 3^a of spindle 3. The retaining-spring 3^b contracts under the shoulder 17^a, and the tap-holder is thereby connected longitudinally with and supported by the spindle 3 while still out of rotary engagement therewith. The lowering of the lever 10 and the pressure of the tap upon the work 25 engages the coupler-clutches of the tap-holder and spindle, as previously explained with reference to the drill-holder 22. The operation of tapping, however, requires that the tap not only be driven to the right, but it must be reversed without disengaging the coupler-clutches of said tap-holder and spindle, as considerable force must be exerted to back the tap out of the hole after the threads 25^b have been cut therein, yet said coupler-clutches must automatically disengage themselves as soon as said tap has been backed out of the hole. As above described, the conditions are met by arranging one of the spindle coupler-clutches 12 and one of the tap-holder coupler-clutches 14 to slide in its respective concentric slideway, so that from the "engaging" position shown in Figs. 10 and 5 the sliding spindle coupler-clutch 12 stands still upon meeting the rigidly-connected coupler-clutch 13 of the tap-holder, (the strain of the cutting of the tap 26 in the hole 25^a holding the tap-holder from turning sufficiently to overcome the frictional pressure of friction-band 15 upon the sliding coupler-clutch 12,) and the rigidly-connected coupler-clutch 11 of the spindle continues to press upon the sliding coupler-clutch 14 of the tap-holder and slides it along until the driving beveled or undercut face of said coupler-clutch 14 meshes with and overlaps the backing beveled or undercut face of the spindle coupler-clutch 12. (See Fig. 6.) The spindle coupler-clutch 12 is thus shut in while in the driving position (see Figs. 6 and 11) between the oppositely-undercut faces of the tap-holder coupler-clutches 13 14. When the lever 10 is raised and the clutches of the wheel 1 are thereby pulled out of engagement with the cross-bar of spindle 3 under strain, as they must be, the beveled faces of the coupler-clutches will remain in engagement as long as the strain is rotary as well as longitudinal, as the straight faces of the wheel-clutches and spindle cross-bar will slide before the beveled or undercut faces of the coupler-clutches of the spindle and tap-holder will unlock; but as the cross-bar of the spindle is relieved from the strain of the clutches of wheel 1 the spindle coupler-clutches are liable to be released by the friction of the spindle 3 in its bearings during the raising of the case 4, together with the reversal of the direction of rotation of said spindle during said upward movement of case 4, as we have seen in the case of the stationary coupler-clutches 23 24 of the drill-holder 22; but, as above described, the sliding spindle coupler-clutch 12 being shut in by the overlapping beveled faces of the tap-holder clutches 13 14 said sliding spindle coupler-clutch 12 cannot get out of engagement with said tap-holder coupler-clutches unless said sliding coupler-clutches 12 14, one or both, slacked back under the strain of the longitudinal pull and reversal of the spindle 3 when raising case 4. The frictional pressure of the friction-band 15 against the grooved flange 12^c of the sliding spindle coupler-clutch 12 prevents said slacking back of said coupler-clutch 12 under said longitudinal pull and reversal of said spindle while raising said case, and the tension of said frictional adjustment is so regulated by the set-screw 3^g that it requires the direct strain of reversing the tap and backing it out to throw back said sliding coupler-clutches 12 14 to the "reversing position." (Shown in Figs. 7 and 10.) The beveled or undercut faces of the coupler-clutches of the spindle and tap-holder under the strain of backing out the tap will resist any upward movement of the case 4 until the tap clears the hole 25^a, when upon the further raising of case 4 said coupler-clutches will automatically drop apart by the action of gravity upon the weight of the tap-holder, and the parts of the device will be in the position shown in Fig. 3, ready for the operator to take hold of the tap-holder and pull it out, to insert the drill-holder for the next hole, and so on. It will be seen that in the reversing position the pin 3^d prevents the sliding spindle coupler-clutch 12 slacking back beyond the original engaging position, Fig. 10, while in the driving position the pin 3^e is in engagement with the grooved flange of sliding spindle coupler-clutch 12. (See Fig. 11.) The relative positions of the tap-holder coupler-clutches 13 14 and their pins are the same as those shown in the views of the corresponding spindle parts, and avoids duplication of illustration.

The construction as detailed above may be varied without departing from the spirit of the invention above described.

Having now described my invention, what I claim is—

1. A spindle having one of its ends provided with an axial socket and a coupler-clutch having opposite sides oppositely undercut, combined with a shaft adapted to enter said socket and provided with a coupler-clutch having opposite sides oppositely undercut to engage said spindle coupler-clutch, substantially as described.

2. The combination of a spindle having an axial socket opening on its face, said face being provided with a coupler-clutch, the walls of said socket being indented by a concentric groove, and a spring extending along said

groove and extensible into said socket, with a shaft adapted to enter said socket and provided with a shoulder to coact with said spring and a coupler-clutch to engage said spindle coupler-clutch, substantially as described.

3. The combination of two disks provided with coupler-clutches, the coupler-clutch of one of said disks having opposite sides oppositely undercut, the coupler-clutch of the other disk having clutch-faces adapted to engage with said undercut coupler-clutch, the distance between the clutch-faces of the second-mentioned coupler-clutch being greater than the distance between the undercut edges of the first-mentioned coupler-clutch, to enable the latter to pass between said clutch-faces, substantially as described.

4. The combination of two disks, one of said disks being provided with a sectoral coupler-clutch having its radial sides oppositely undercut, and the other of said disks having a coupler-clutch provided with clutch-faces to mesh with said sectoral coupler-clutch, the distance between said clutch-faces of the second-mentioned coupler-clutch being greater than the distance between the undercut edges of said sectoral coupler-clutch, substantially as described.

5. The combination of two disks, one of said disks being provided with a sectoral coupler-clutch having its radial sides oppositely undercut on a bevel, and the other of said disks having a coupler-clutch provided with clutch-faces that are correspondingly beveled to mesh with the radial sides of said sectoral coupler-clutch, the distance between said clutch-faces of the second-mentioned coupler-clutch being greater than the distance between the undercut edges of said sectoral coupler-clutch, substantially as described.

6. The combination of two wheels, each of said wheels being provided with a clutch, means to rotate said wheels in opposite directions, a tool-holder having a coupler-clutch, a spindle having a clutch to connect said spindle with either of said wheels and a coupler-clutch to connect said spindle with said tool-holder, said coupler-clutches being undercut to a greater degree than said wheel-clutches, to enable said coupler-clutches to remain in mesh to draw said spindle-clutch out of engagement with either of said wheel-clutches, substantially as described.

7. The combination of a disk having two coupler-clutches one of said coupler-clutches being rigidly connected to said disk, and the other thereof being connected to said disk by a slip-joint to permit the distance between said coupler-clutches to vary, with another disk having a coupler-clutch to mesh with said first-mentioned coupler-clutches, substantially as described.

8. The combination of a disk having two coupler-clutches one of said coupler-clutches being rigidly connected to said disk and the other thereof being connected to said disk by a slip-joint to permit it to slide independently of said disk, and an adjustable friction mechanism to regulate the action of said sliding coupler-clutch, substantially as described.

9. The combination of a disk having a concentric groove in its face, driving-pins located in said groove, a coupler-clutch rigidly connected with said disk, another coupler-clutch having a grooved flange that is located in the concentric groove of said disk between said driving-pins, the distance between said pins being greater than the length of said clutch-flange to permit one of said coupler-clutches to move independently of the other, a friction-piece located in the groove of said clutch-flange, and means to connect said flanged coupler-clutch longitudinally with said disk, substantially as described.

10. The combination of a disk having a concentric groove the side walls of which have two opposing indentations, a pin located in said concentric groove, the sides of said pin being embedded in said indentations, and a coupler-piece adapted to enter said groove to engage said pin, substantially as described.

11. A disk having an axial shaft projecting from its upper face, said face being provided with a coupler-clutch, said shaft having a shoulder and a cylindrical slideway of reduced diameter extending below said shoulder, and said disk having an axial socket-opening on its lower face, substantially as described.

12. The combination of a spindle provided with a coupler-clutch and having an axial socket, a catch carried by said spindle and extensible into said socket, an independent tool-holder provided with a coupler-clutch and having an axial shaft adapted to be inserted into and removed from said socket during the rotation of said spindle, said shaft having a shoulder that is so located along the periphery of said shaft that said shoulder is above said catch before said coupler-clutches enter into rotary engagement to connect said spindle and shaft longitudinally together, said shaft also having a cylindrical slideway of reduced diameter extending below said shoulder for a distance greater than the depth to which the faces of said coupler-clutches mesh when in rotary engagement to enable said shaft to slide independently of said catch to permit said coupler-clutches to engage and disengage, substantially as described.

13. The combination of a spindle having an axial socket, the walls of said socket being indented by a concentric groove, an independent shaft adapted to be inserted into and removed from said socket during the rotation of said spindle, a spring carried by one of said parts, means to connect said spindle and shaft together in rotary driving engagement, said shaft having a shoulder so located along the portion of said shaft that enters said socket that said spring, said shoulder and said groove

are in coöperative position to connect said spindle and said shaft longitudinally together before said shaft enters into rotary driving engagement with said spindle, substantially as described.

14. The combination of two screw-threaded jaws, a ring surrounding said jaws and having opposing internal counterbores provided with thrust-plates, a right and left threaded screw journaled in said counterbores, its ends being adapted to engage said thrust-plates to prevent end movement of said screw, and means to keep said jaws in mesh with said screw, substantially as described.

15. The combination of two screw-threaded jaws, a ring surrounding said jaws and having opposing transverse bores in its sides, one end of said ring being inclosed to form a face-plate having a concentric opening, a right and left threaded screw journaled in said side bores of said ring, means to prevent end movement of said screw and means to retain said jaws in mesh with said screw, substantially as described.

16. The combination of two screw-threaded jaws, each of said jaws having a smooth slideway on the opposite side of its center to that upon which it is screw-threaded, a ring surrounding said jaws and having two sets of opposing transverse bores in its sides, a right and left threaded screw journaled in one of said sets of transverse bores and meshing with the screw-threaded side of said jaws, a smooth guide-rod located in the other of said sets of transverse bores and meshing with said slideway of said jaws, and means to prevent end movement of said rod and screw, substantially as described.

New York, N. Y., July 23, 1896.

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