No. 848,489. PATENTED MAR. 26, 1907.

T. W. NURSE.

THREADING TOOL.

APPLICATION FILED JUNE 9, 1906.

Fig. 1.

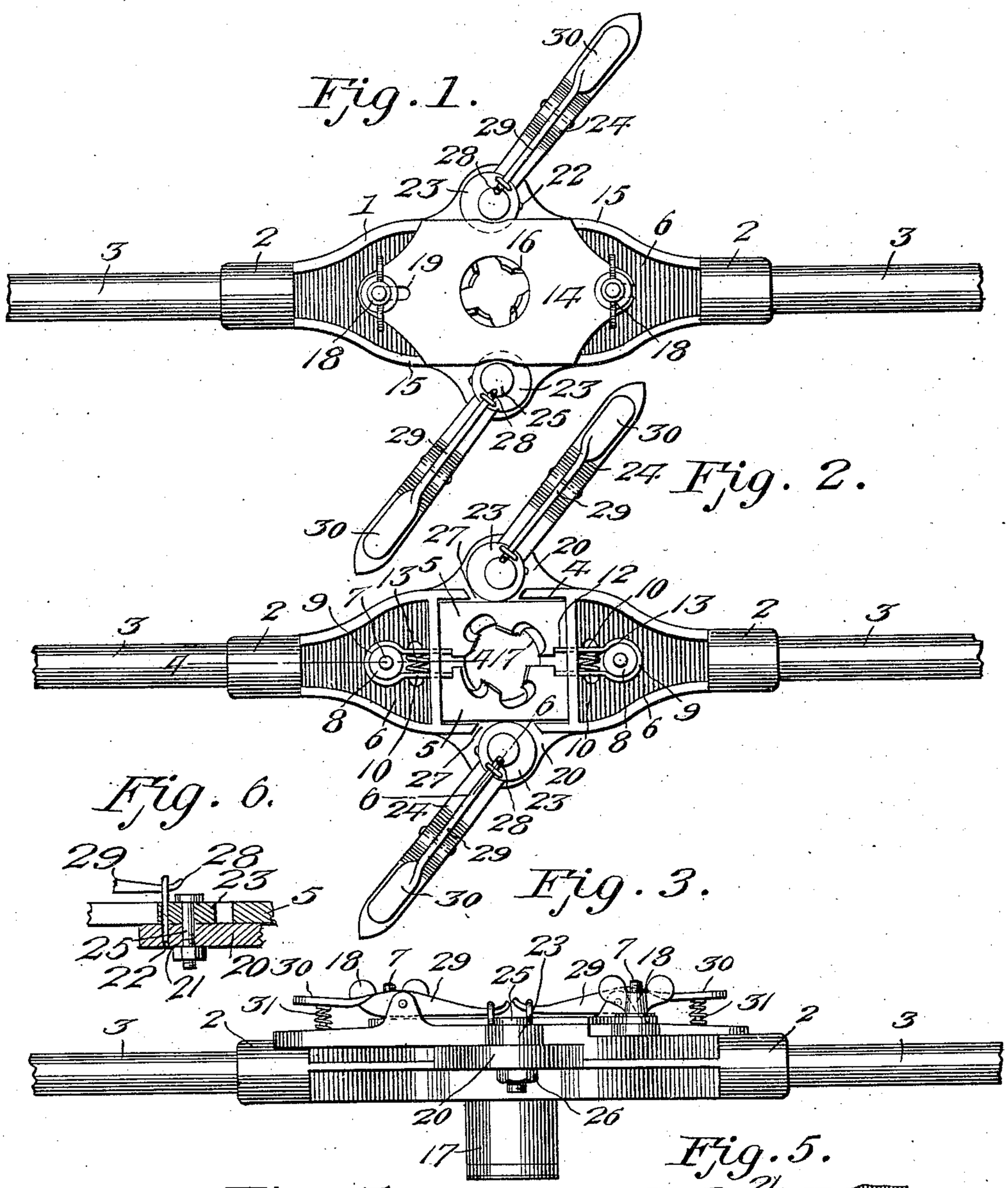

Fig. 2.

Fig. 6.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses

Frank B. Hoffman.

C. C. Hines.

Inventor

Thomas W. Nurse

By Victor J. Evans.

Attorney

UNITED STATES PATENT OFFICE.

THOMAS W. NURSE, OF DERBY, VERMONT.

THREADING-TOOL.

No. 848,489. Specification of Letters Patent. Patented March 26, 1907.

Application filed June 9, 1906. Serial No. 321,062.

To all whom it may concern:

Be it known that I, THOMAS W. NURSE, a citizen of the United States of America, residing at Derby, in the county of Orleans and State of Vermont, have invented new and useful Improvements in Threading-Tools, of which the following is a specification.

This invention relates to improvements in screw-threading stocks and dies, the object of the invention being to provide dies adjustable into and out of threading position, in connection with means for projecting and locking the dies in projected position, and means for retracting the dies upon their release, whereby the device may be readily removed from the pipe or object to be threaded at the end of the threading operation without resorting to the troublesome and tedious practice of "returning" or running the threader back upon the pipe.

A further object of the invention is to provide a construction which will permit of convenient access being had to the operating parts for repairs, renewal of parts, lubrication, and other like purposes.

In the accompanying drawings, Figure 1 is a face view of a threading-tool embodying my invention. Fig. 2 is a similar view with the face-plate removed. Fig. 3 is a view in side elevation of the tool. Fig. 4 is a fragmentary longitudinal section taken on line 4 4 of Fig. 2. Fig. 5 is a fragmentary face view of the stock, showing one of the pivot lugs or ears. Fig. 6 is a detail section through one of the adjusting-cams.

Referring to the drawings, 1 designates the stock of the tool, which is provided, as usual, with terminal threaded sockets 2 for the reception of the threaded ends of operating bars or handles 3. The stock is provided on its face side with a chamber 4, open at its outer side and of suitable form to receive a pair of oppositely-disposed threading-dies 5. Between the chamber and threaded sockets the stock is reduced to form thin plates or webs 6, through each of which projects a screw post or stem 7, having arranged thereon a cylindrical binding head or nut 8. A die-retracting device is associated with each screw-post and comprises a spring-metal strap bent to form a looped body 9, embracing the nut or head 8, and a pair of arms or fingers 10. The arms or fingers 10 of the two retracting devices project through slots 11 in the end walls of the chamber 4 into said chamber, and engage notches or recesses 12, formed in the meeting face of the dies 5, beyond the threading cutters thereon. An expansion-spring 13 is arranged between the fingers of each retracting device and tends to force the fingers 10 apart, the outward pressure of the fingers serving to move the threading-dies 5 away from each other.

A face plate or cover 14 is provided to close the open side of the chamber 4 and to rest upon the longitudinal side flanges or rim edges 15 of the stock. This plate is provided with a pipe-receiving opening 16, conforming in size with a centering sleeve 17, projecting from the rear wall of the chamber 4. The ends of the plate 14 are apertured or slotted for engagement with the screw-posts 7, which extend therethrough beyond the plates and receive clamping or wing nuts 18, by which the plate when applied in position is clamped securely against the heads or nuts 8 and rim-flanges 15. The slots 19, through which the screw-posts pass, are made of sufficient length to permit the plate to be adjusted longitudinally of the stock, so that it may be set accurately into position. It will be observed that the screw-posts not only form supports for the cover-plate but also act as the stationary fastening members for said plate, thus simplifying the construction, and it will be further observed that by this mode of applying the cover-plate the latter may be conveniently removed when it is desired to secure access to the threading-dies or other interior parts of the tool.

Extending from opposite sides of the stock are lugs or ears 20, each of which is provided with a main opening 21 and a plurality or row of openings or recesses 22, arranged concentric therewith. Each lug supports a die-projecting device comprising a cam or eccentric disk 23, having an operating-handle 24. The disk 23 is eccentrically mounted upon a pivot-bolt 25, extending downwardly through the opening 21 and secured in position by a retaining-nut 26. The two cam heads or disks 23 project into the chamber 4 through apertures 27, formed in the side walls thereof, and bear upon the outer surfaces of the threading-dies 5, so that upon turning said disks in one direction the dies will be forced together or in operative position against the resistance of the retracting device, while a reverse movement of the disks will cause them to recede and permit the dies to be retracted by the retracting devices. Each projecting device is provided with

means for locking it at any point in its path of adjustment, the means shown in the present instance comprising a plunger or locking-dog 28, slidably mounted in an opening in the cam-disk and adapted to engage either one of the locking-openings 22 in the adjacent lug 20. The dog is suitably connected at its outer end with a centrally-pivoted operating-lever 29, having a depressible finger-piece 30, normally held upward by a spring 31, which forces the handle end of the lever upward and the operating end thereof downward to project the dog. By depressing the handle 30 the lever may be rocked on its fulcrum to withdraw the dog from engagement with the opening 22 in which it is inserted, thus allowing the eccentric to be operated.

The mode of employing the device for threading a pipe or other object will be apparent to those versed in the art, and it will be seen that at the completion of the threading operation the dies will be automatically retracted by the retracting devices when the cams are moved to release position, thus enabling the tool to be conveniently removed from the pipe or the latter withdrawn therefrom without the necessity of reversely rotating or returning the tool about and along the pipe, as is necessary with threading devices of ordinary construction. It will be further apparent that the construction of the device is such as to permit of the ready removal of the parts for repairs or replacement when occasion requires.

Having thus described the invention, what is claimed as new is—

1. In a threading-tool, the combination of a stock having a chamber, dies movably mounted in the chamber, supporting-posts having threaded portions, spring-actuated retracting devices associated with said posts and arranged to act upon the dies, means for projecting the dies against the resistance of said retracting devices, a cover-plate having openings for the passage of the threaded portions of the posts, and nuts engaging the posts and clamping the cover-plate in position.

2. A threading-tool comprising a stock having a chamber, dies movably mounted therein, the inner faces of the dies being notched at the outer side edges thereof, supporting-posts upon the stock beyond the ends of the chamber, retracting devices carried by said posts and each provided with a pair of fingers projecting into the chamber and notches in the dies, springs between the pairs of fingers to spread them apart and retract the dies, and means for projecting the dies against the pressure of said springs.

3. A threading-tool comprising a stock, dies movably mounted thereon, means for projecting the dies, supporting-posts, retracting members mounted on the posts and provided with fingers engaging the dies, and a spring interposed between the fingers of each retracting device to normally force the same apart to retract the dies.

4. A threading-tool comprising a stock having a casing provided with slots in opposite side walls thereof, dies movably mounted in the casing, means for projecting the dies, supports upon the stock outside of the chamber, retracting devices held by said supports and having fingers projecting through the slots into the chamber and engaging the dies, and springs for spreading said fingers.

5. A threading-tool comprising a stock having a chamber, a closure for the chamber, dies mounted in the chamber, spring-actuated retracting devices operating on the opposing faces of the dies, and fastening devices forming common supports for the retracting devices and securing means for holding the cover-plate in position.

6. A threading device comprising a stock provided with supporting-lugs, dies movably mounted on the stock, cams mounted on the lugs and provided with operating-handles, said cams being adapted to engage and project the dies, and locking means carried by the cams to engage the lugs and secure said cams in adjusted position.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS W. NURSE.

Witnesses:
M. A. ADAMS,
H. H. WILDER.