

C. M. CONRADSON.  
ROD GRIPPING DEVICE.

No. 489,936.

Patented Jan. 17, 1893.

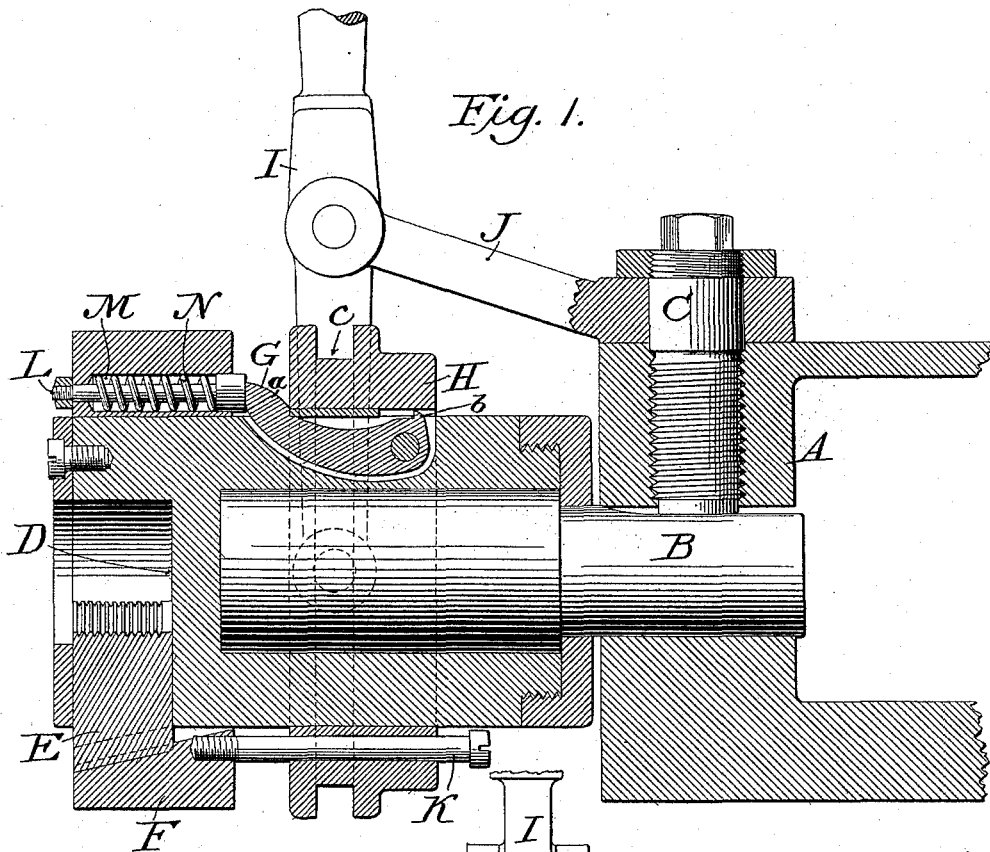
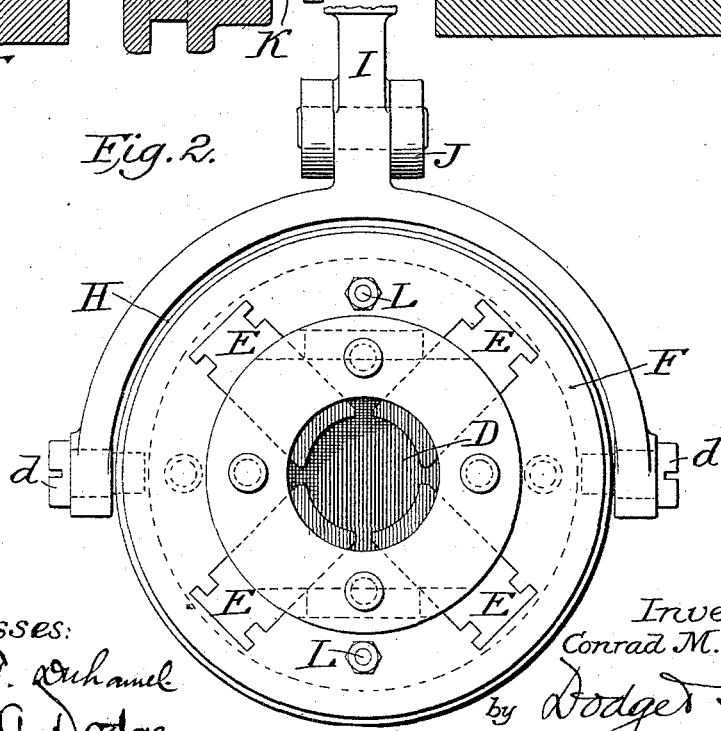


Fig. 2.



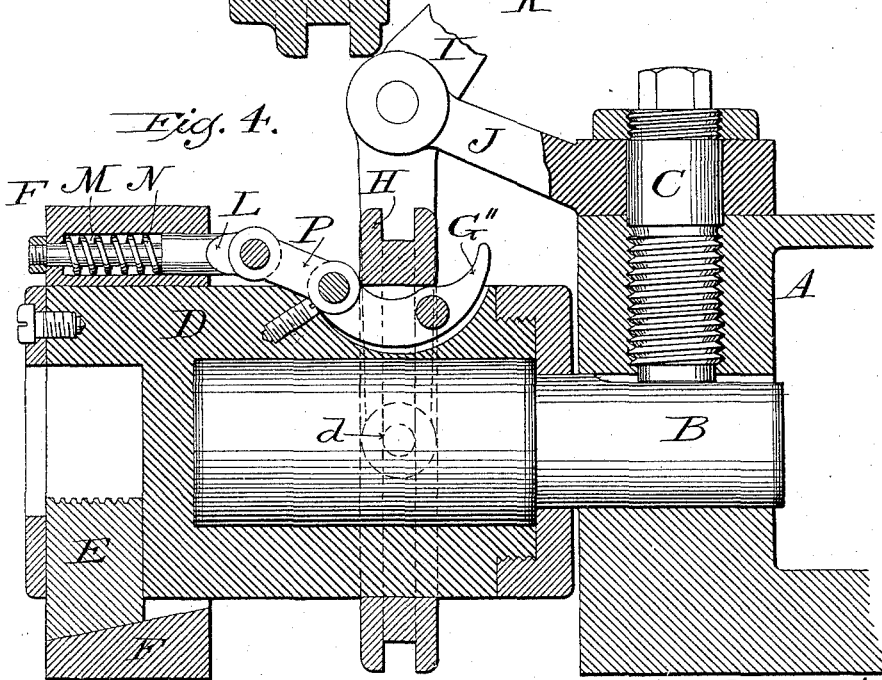
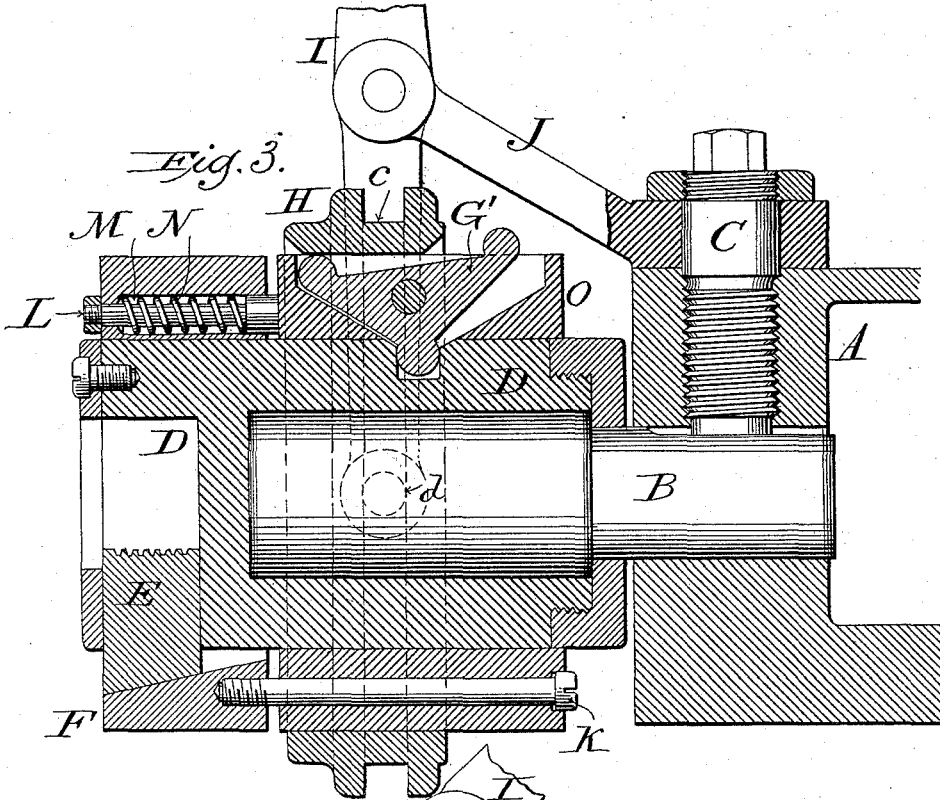
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# UNITED STATES PATENT OFFICE.

CONRAD M. CONRADSON, OF MADISON, WISCONSIN.

## ROD-GRIPPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 489,936, dated January 17, 1893.

Application filed July 12, 1892. Serial No. 439,801. (No model.)

*To all whom it may concern:*

Be it known that I, CONRAD M. CONRADSON, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Rod-Gripping Devices, of which the following is a specification.

My invention relates to rod gripping devices for screw making and analogous machines, and has reference more particularly to that class of devices represented in Letters Patent No. 477,513, issued to me June 21, 1892.

The present invention comprises the combination with the stock or body of radially moving jaws, a sliding collar for actuating the jaws, one or more levers pivoted in the stock and serving to actuate the collar, and a sliding ring, which in turn serves to actuate the lever or levers.

The invention further comprises certain other features, details and combinations hereinafter shown, described and claimed.

In the drawings,—Figure 1 is a vertical longitudinal sectional view of my chuck or rod gripping device applied to the turret of a lathe; Fig. 2, a front face view of the same; and Figs. 3 and 4, longitudinal sectional views showing modified arrangements of the levers and attendant parts.

A indicates the turret, tool post, or other moving part of the lathe, which is designed to be moved toward and from the face of the chuck secured upon the hollow arbor, as is customary in this class of machines and as shown in my patent No. 477,513, above referred to. Secured to an opening in the turret, in line with the hollow arbor, is a stud shaft B which, while capable of a slight longitudinal movement, is held against rotation relatively to the turret by means of the screw bolt C, as clearly shown in Fig. 1. Mounted upon the shaft B so as to turn or rotate thereon, but not to move lengthwise thereof, is the stock, body, or shell D which is provided at its forward end with radial seats or grooves to receive the sliding jaws E, whose outer ends are beveled or inclined as shown in Fig. 1.

F indicates a collar which encircles the outer end of the stock or body B, and projects over

the outer ends of the radial jaws, said collar being adapted to slide lengthwise of the body, and in thus moving or sliding actuate the radial jaws, as will be clearly understood upon reference to Fig. 1.

Journalled or pivoted in the stock or body D is a lever G,—one or more,—which has a nose *a* which is designed to project upward behind the rear face of the sliding collar F and prevent said collar from moving rearwardly relatively to the body or stock of the chuck. The lever G is further provided with a heel or projection *b*, which is designed to be struck or engaged by a sliding ring H which encircles the stock or body D in rear of the sliding ring F, as shown in Fig. 1. This ring is grooved circumferentially as at *c* to receive the inwardly projecting lugs or pins *d* carried at the lower ends of the forked lever I, which latter is in turn pivoted in a bracket J secured to the turret. By rocking the lever I, the ring H will be moved backward and forward lengthwise of the stock or body D. When the ring is moved forward it bears upon the upwardly projecting nose of the lever G, thereby locking the lever against movement, it being understood of course that when the lever is locked in the position shown in Fig. 1, rearward movement of the collar will also be prevented. When the ring H is moved in the opposite direction or rearwardly, it strikes the tail or lug of the lever G, rocks the lever upon its pivot, and throws its nose *a* up out of the way so as to permit the sliding collar F to be retracted by reason of the ring striking against the head of a bolt K secured to the collar and passing through the ring, as clearly shown in Fig. 1. Of course as soon as the ring strikes the head of the bolt K, the sliding collar F will be moved backward so as to allow the jaws to release their hold upon the rod or stock to be grasped.

In Fig. 2, I have shown in dotted lines only two levers G, but I do not wish to be restricted to this or any special number. It will be found advisable in all cases, however, to employ at least two levers, as otherwise there would be a tendency of the collar to bind upon the stock or body D.

In order to adapt the device to the various inequalities in the rod or body to be grasped,

it will be found advisable to provide a yielding contact between the collar F and the lever G, as shown in Fig. 1, such yielding contact comprising merely a bolt L seated in a socket M formed in the collar and encircled by a coiled spring N which bears at one end against the head of the bolt and at the opposite end against the base of the socket. From this construction it will be seen that as the lever G is pressed against the head of the bolt L by means of the ring H, the contact or connection between the lever and the collar will yield slightly and relieve the parts of the strain to which they would be subjected were there no yielding contact.

In the construction shown in Fig. 3 the lever G' is made in the form of a triangular block seated or journaled at the apex in the stock or body G. Under this arrangement the lever does not make contact with the collar F, as in the previous arrangement, but is pivoted in a ring O in such manner that when the sliding ring H is moved so as to tip or rock the lever, the sliding ring or block O in which said lever is pivoted is caused to act upon the collar, or more properly speaking, upon the head of the bolt L. The action of the two devices is the same.

In the construction shown in Fig. 4, I employ a curved lever G'', and pivot said lever directly in the stock or body D as in the arrangement shown in Fig. 1, and in order to retract the sliding collar F positively, I connect the said lever G'' with the bolt L by means of a link P, thus forming a toggle connection between the lever and the collar and dispensing with the use of the long separate

bolts K which are employed in the constructions shown in Figs. 1 and 3.

The yielding contact or connection between the sliding collar that actuates the jaws and the lever or levers that actuate the collar, may be omitted if desired, and the levers arranged to bear directly against the rear face of the collar.

Having thus described my invention, what I claim is:—

1. In a rod gripping device or chuck, the combination with the stock or body, of radially-moving jaws, a sliding collar for actuating the latter, levers having a yielding contact or connection with the collar, and a sliding ring for actuating the levers.

2. In combination with support A shaft B and shell or body D, the radial jaws E, the sliding collar F beveled to conform to the beveled ends of the jaws, levers G mounted in the shell or body to force the collar F outward, a ring for actuating the levers, and a bolt K secured to the collar and provided with a head to be struck by the ring.

3. In combination with support A, shaft B and shell D, the radial jaws, the sliding collar F provided with sockets M, bolts L and springs N, the levers G pivoted to the shell or body and adapted to bear upon the bolts, and the sliding ring for actuating the levers.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CONRAD M. CONRADSON.

Witnesses:

W. R. BAGLEY,  
J. I. RUDD.