No. 895,713. PATENTED AUG. 11, 1908.

C. M. ANDERSEN.

TURNING DEVICE.

APPLICATION FILED MAY 15, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

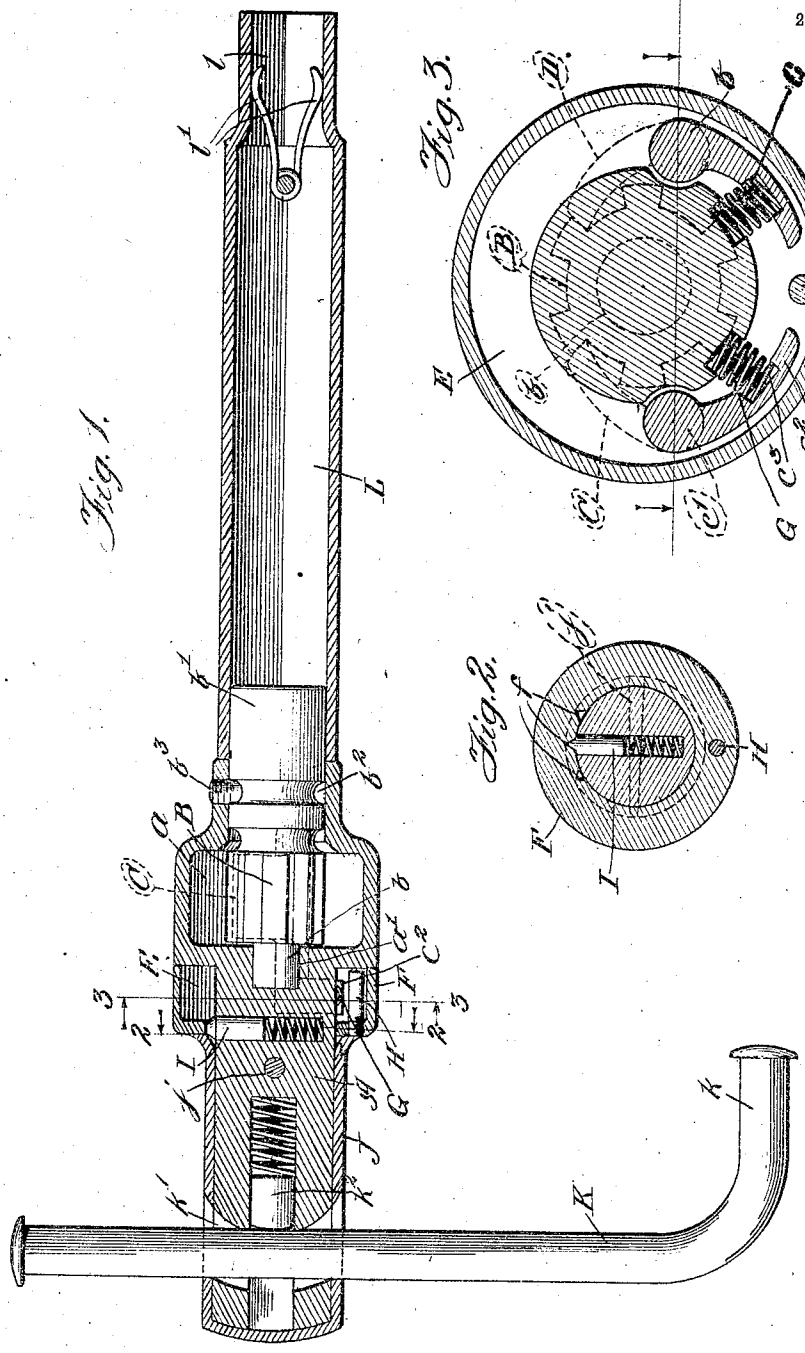


Fig. 3.

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

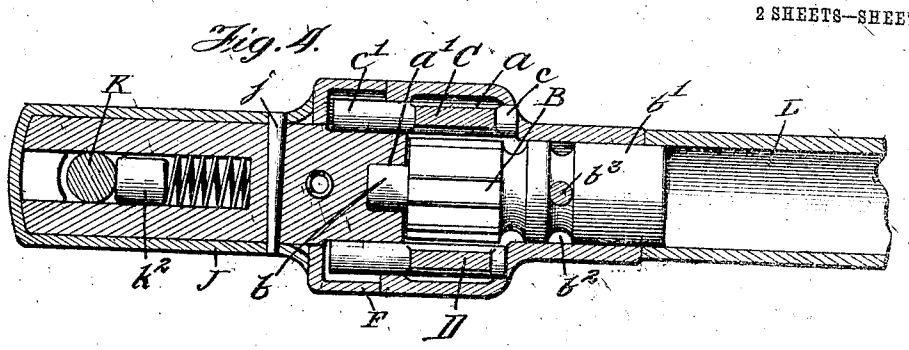


Fig. 5.

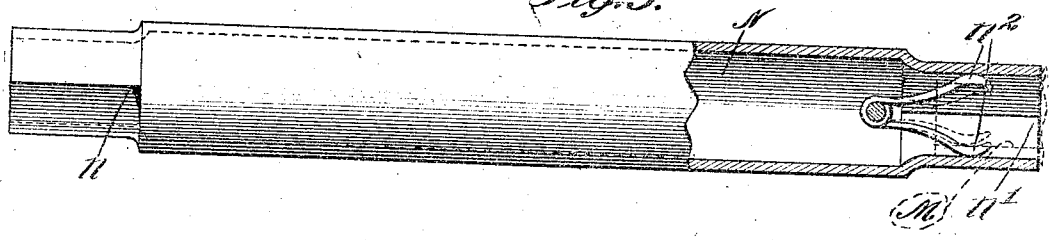


Fig. 6.

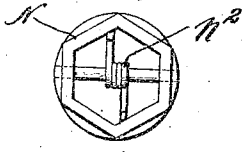


Fig. 7.

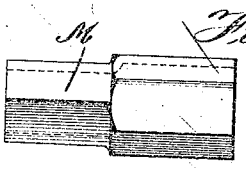
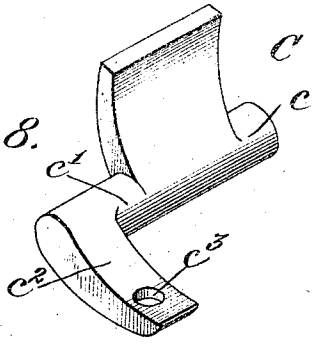


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES M. ANDERSEN, OF CHICAGO HEIGHTS, ILLINOIS.

TURNING DEVICE.

No. 895,713. Specification of Letters Patent. Patented Aug. 11, 1908.

Application filed May 15, 1907. Serial No. 373,786.

To all whom it may concern:

Be it known that I, CHARLES M. ANDERSEN, a citizen of the United States of America, and resident of Chicago Heights, Cook county, Illinois, have invented a certain new and useful Improvement in Turning Devices, of which the following is a specification.

My invention relates to wrenches or turning devices of the character set forth in my prior application Serial Number 364,136.

Objects of my present invention are to improve the ratchet mechanism; to improve the reversing mechanism; to improve the folding handle or cross bar; to improve the means for coupling tools of different kinds to the device; and to improve the general construction.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings,—Figure 1 is a longitudinal section of a turning device embodying the principles of my invention. Fig. 2 is a cross section on line 2—2 in Fig. 1. Fig. 3 is a cross section, on an enlarged scale, on line 3—3 in Fig. 1. Fig. 4 is a longitudinal section of the said device, in a plane at right angles to the plane in which the section is taken in Fig. 1. Fig. 5 shows an extension member, partly in longitudinal section. Fig. 6 is an end elevation of said member. Fig. 7 is a detail side elevation of a tool for turning nuts or hexagonal bolts, adapted to be inserted in the end of the device shown in Fig. 1. Fig. 8 is a perspective of one of the ratchet dogs.

As thus illustrated, my invention comprises a body A provided with a chamber a for inclosing the square toothed ratchet wheel B, which latter has a portion b adapted to rotate in a socket a^1 in the said body. The oppositely acting dogs C and D are inclosed in the chamber a and pivoted on the said body. For example, the dog C has pivots c and c^1, the latter provided with an arm c^2 having a socket c^3. The said pivots are mounted in openings or bearings in the body A, and the arm c^2 is inclosed in the chamber E formed inside of the rotatable ring F. Springs G engage the sockets on the arms of said dogs, and tend to press the dogs into engagement with the ratchet wheel. A pin H is carried by the ring F, and is adapted to engage the arm of either dog, when the ring is rotated to throw the dog out of engagement with the ratchet wheel. The spring pressed plunger I, carried in the body A, engages notches f in said ring, to hold the latter in any one of three positions. With this arrangement, said ring F can be used for reversing the motion by throwing out either dog, or for disengaging the dogs and locking the ratchet wheel and body together. Said ring is held in place by a sleeve J, which sleeve is held in place by a pin j. The folding handle or cross bar K has a curved end k, and extends through the curved opening k^1 in the said body. A spring pressed plunger k^2, carried in the body, holds the handle in any position. Said ratchet wheel has a shank b^1 which is provided with an annular groove b^2 engaged by a screw b^3, whereby the ratchet wheel and the body are connected for rotary movement relatively to each other. A tubular shank L is fixed upon the shank b^1, and has a polygonal end l for securing various kinds of tools, for example, the nut wrench M shown in Fig. 7. The smaller end of said nut wrench slips into the end l, and is practically held thereon by the springs l^1. These springs are forced together and enter the end of said nut wrench M. If the said shank L is not long enough, it can be extended by the tubular extension N shown in Fig. 5. This extension has an end n which corresponds to the smaller end of the wrench M. It also has another end n^1 which is equipped with springs n^2 similar to the springs l^1. The end n^1 is, therefore, adapted to receive the tools of various kinds.

It will be readily understood that any suitable provision or construction can be employed for enabling the dogs C and D to be adjusted in place, as shown. When properly adjusted in place, as illustrated, they are adapted for rotating the ratchet wheel and shank L, which are rigidly connected, in either direction, as may be desired.

What I claim as my invention is:

1. A turning device comprising a body and shank, means for connecting the body and shank for relative rotation, but adapted to hold the same against relative endwise movement, a ratchet wheel rigid with the shank, a pair of dogs mounted on the body adapted to engage said ratchet wheel, a rotatable ring on the body, and means on said ring for disengaging either of said dogs from the ratchet wheel.

2. A turning device comprising a body and shank, a ratchet wheel rigid with the shank,

a pair of dogs mounted on the body adapted to engage said ratchet wheel, a rotatable ring on the body, means on said ring for disengaging either of said dogs from the ratchet wheel, and a spring pressed plunger adapted to engage notches in said ring to hold the latter in any one of a plurality of positions.

3. A turning device comprising a body and shank, ratchet mechanism intermediate the body and shank, a curved opening in the body, a folding handle inserted in said body, and a spring pressed plunger for holding the handle in different positions.

4. A turning device comprising a body, a ratchet, a tubular shank fixed on the ratchet and provided with a polygonal end portion adapted to receive correspondingly shaped tools, means for connecting the body and shank for relative rotation, but adapted to hold the same against relative endwise movement, and a spring inside of said polygonal end portion.

5. A turning device comprising a body, a ratchet, a tubular shank fixed on the ratchet and provided with a polygonal end portion adapted to receive correspondingly shaped tools, means for connecting the body and shank for relative rotation, but adapted to hold the same against relative endwise movement, and a spring inside of said polygonal end portion, said spring adapted to enter the said tool.

6. A turning device comprising a body, a rotary ring on said body, a sleeve holding the ring in place, a shank provided with a ratchet wheel, a pair of dogs for operating said ratchet wheel, means for connecting the body and shank for relative rotation, but adapted to hold the same against relative endwise movement, and means on said ring for disengaging either dog from the ratchet wheel.

7. In a turning device, the combination of a body, a tubular shank rotatably connected with the body, means for connecting the body and shank for relative rotation, but adapted to hold the same against relative endwise movement, a ratchet wheel on said shank, a pair of dogs carried by the body and adapted to operate said ratchet wheel, a rotatable ring provided with means for disengaging either dog from the ratchet wheel, means for holding said ring in different positions, a sleeve holding the ring in place, a folding handle, means on the body for holding the handle in various positions, and a spring in the end of the shank for effectually holding various kinds of tools in place thereon.

8. The improved turning device comprising the tubular extension N having reduced and similarly formed polygonal ends n and n^1, for the purpose set forth, and a tubular shank L having one end adapted to secure said extension, substantially as shown and described.

9. In a device of the class specified, a tubular shank, a ratchet wheel having a portion secured in one end of said tubular shank, a body telescoped over said ratchet wheel, said body and shank disposed end to end, means for holding the body and shank against relative endwise movement, but permitting relative rotation between the same, a pair of dogs engaging said ratchet wheel, means for throwing either dog out of engagement with the ratchet wheel, a folding handle for the end of the body, and means at the end of the tubular shank for engaging either a tool or extension member, substantially as set forth.

10. In a device of the class specified, a tubular shank and a ratchet mechanism for rotating the same in either direction, a body telescoped over the ratchet mechanism, a tubular extension member having a polygonal end portion adapted to removably engage the end of said tubular shank, and having another polygonal end portion adapted to engage either a tool or another extension member, the said body being endwise separable from the said shank, substantially as set forth.

Signed by me at Chicago, Cook county, Illinois, this 13th day of May, 1907.

CHARLES M. ANDERSEN.

Witnesses:
F. H. DRURY,
J. NORBY.