F. MUNGER.

CUTTING TOOL.

APPLICATION FILED JUNE 1, 1920.

1,382,219. Patented June 21, 1921.

Fig. 1

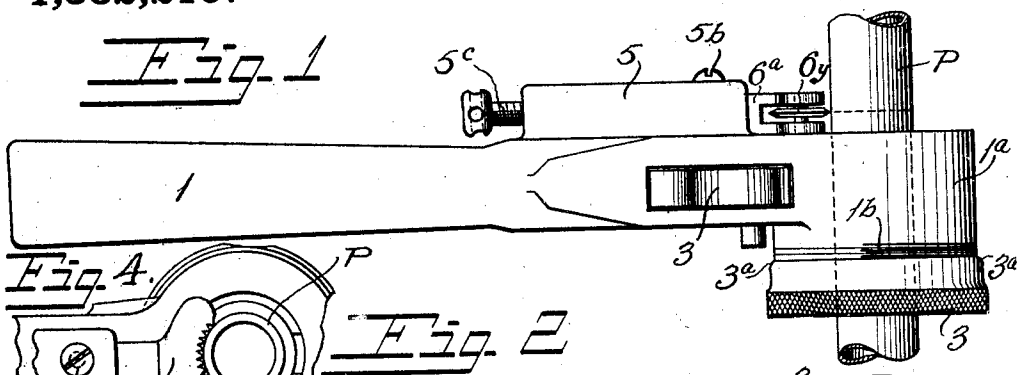
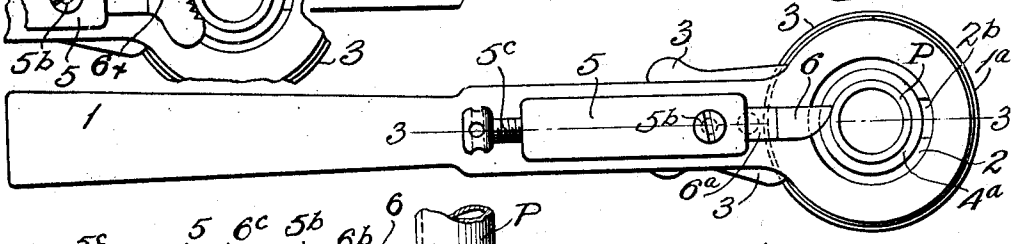


Fig. 4.

Fig. 2



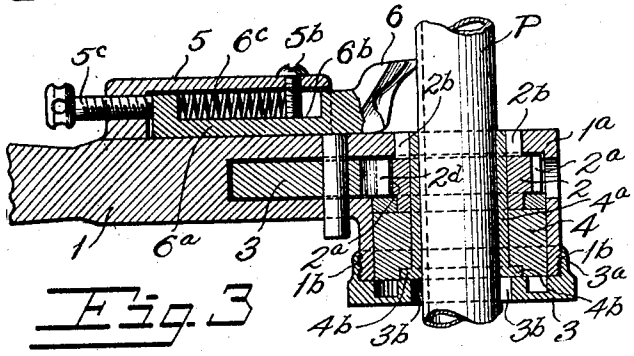


Fig. 3

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FREDERICK MUNGER, OF ELLSWORTH, NEBRASKA, ASSIGNOR OF ONE-HALF TO C. VON WOEHRMAN, OF HILL CITY, SOUTH DAKOTA.

CUTTING-TOOL.

1,382,219. Specification of Letters Patent. Patented June 21, 1921.

Application filed June 1, 1920. Serial No. 385,649.

To all whom it may concern:

Be it known that I, FREDERICK MUNGER, a citizen of the United States, residing at Ellsworth, in the county of Sheridan and State of Nebraska, have invented certain new and useful Improvements in Cutting-Tools; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is a novel machine adaptable for cutting rods or pipes.

I will explain the invention with reference to the accompanying drawings and summarize in the claims the novel features of construction and combinations of parts for which protection is desired.

In said drawings, Figure 1 is a side view of the machine arranged as a pipe or rod cutter.

Fig. 2 is a plan view of Fig. 1.

Fig. 3 is a section on the line 3—3, Fig. 2.

Fig. 4 is a detail view showing a tool whereby the machine can be adapted for use either as a pipe wrench or as a pipe or rod holder.

The machine has an operative handle 1 provided with a hollow cylindric head 1^a on one end, which may be formed integral therewith, the axis of the head being at right angles to the handle 1.

In this head 1^a is an annular ratchet disk 2, which is provided with external teeth 2^a for the engagement of a dog 3 pivoted in the handle, and which is shiftable right or left so that it can be caused to turn member 2 when the handle is swung in either direction as desired. The ratchet connection between the handle and the disk 2 is well known and is not *per se* part of the present invention and therefore detailed explanation or illustration thereof is unnecessary.

The disk 2 is provided on its upper outer face with a transversely disposed slot 2^b for a purpose hereinafter explained.

The head 1^a is externally threaded as at 1^b for the engagement of the flange 3^a of a cap 3 which is screwed on to the head 1^a, which cap has a central opening 3^b.

An annular filler ring 4 (Fig. 3) is placed in the head 1^a between the cap and the ratchet disk 2, so as to hold the latter in place. A removable tubular bushing 4^a may be placed in the head 1^a and extend through the ring 4 and the opening in the disk 2. The bushings 4^a are removable and interchangeable and in using the machine for cutting a rod or pipe a bushing 4^a having an internal bore corresponding to the exterior diameter of the pipe or rod to be cut should be placed in the head.

The bushing 4^a may have a flange 4^b on its outer or lower end engaging a corresponding shoulder in the lower end of the ring 4, and the bushing is held in place by such flange engaged between the ring 4 and the cap 3.

An annular washer 2^w may be placed in an annular shoulder on the inner end of the disk 2 and between said disk and ring 4 (as shown in Fig. 3) to assist in centering the disk in the head.

On the side of the handle opposite the cap 3 and adjacent the head 1^a, is a housing 5, in which is detachably confined the shank 6^a of a removable tool which may be of any desired kind or contour. The particular tool shown in Fig. 1 has a disk cutter head 6^y; the particular tool shown in Figs. 2 and 3, has a bevel-cutting head 6 adapted to cut a half round or ball shape bevel; the particular tool shown in Fig. 4 has a concave head 6^x provided with serrations on its inner concave face adapted to bite a pipe or rod and enable the machine to be used as a pipe or rod wrench or as a pipe or rod holder.

Each tool has a shank 6^a provided with a slot 6^b, in which is placed an expansion spring 6^c, and when the shank and spring are inserted into the housing 5 a screw 5^b is tapped through the housing and enters the outer end of the slot 6^b, see Fig. 3, and confines the tool shank in the housing, and at the same time the inner end of the screw forms an abutment for the spring 6^c, which will naturally tend to retract the tool inwardly and away from the head 1^a. The tool however may be projected from the housing by means of a bolt 5^c tapped through the outer end of the housing; which bolt may be turned by any convenient means, and cause the tool to project from the housing the desired extent to operatively engage the pipe or rod P which is being operated upon. The tools are interchangeable and by removing the screw 5^b one tool can be withdrawn and replaced by the desired tool, and then screw 5^b replaced. The

tool will be normally withdrawn out of position to contact with the pipe or rod when applied thereto by means of the spring 6^c.

In operating the machine as a pipe cutter or as a pipe or rod wrench or holder, a bushing 4^a, having a bore corresponding in diameter to the pipe or rod to be cut, is placed in the head and the desired tool is placed in the housing 5.

The pipe or rod to be cut is passed through the opening in the bushing 4^a (see Fig. 3) and the tool (6, 6^x, or 6^y) is moved into forcible contact with the rod, and the tool rotated around the pipe by oscillating the handle 1; and each time the tool makes a complete circuit around the pipe, the tool should be further projected by manipulating the screw 5^c, and these operations continue until the rod or pipe has been cut or threaded in the desired manner; according to the cutter or tool attached to the handle.

Obviously the pipe or rod can be operated upon at any desired point by sliding the same through the head (or the head along the pipe) until the point at which the pipe or rod is to be operated upon is opposite the tool. The bushing 4^a forms a guide to keep the head properly centered around the pipe or rod during the cutting operation.

What I claim is:

1. A machine for the purpose specified; having a handle, a cylindric head, a removable cap on one end of the head, a tool on the handle, a ring fitted in said head, and a bushing extending axially of the ring, substantially as described.

2. A machine for the purpose specified; having a handle, a cylindric head, a removable cap on one end of the head, a disk fitted in said head, a tool member on the handle, a ring fitted in said head beside the disk, and a bushing extending axially of the ring and disk and having a flange confined between the ring and cap, substantially as described.

3. A machine for the purpose specified; having a handle, a cylindric head, and a tool housing on the handle adjacent the head; a disk fitted in said head; a tool having a slotted shank engaging said housing, a screw engaging the slot in the tool shank to confine it in the housing, a spring arranged in the housing for normally retracting the tool, and a bolt tapped through the housing for projecting the tool.

4. A machine for the purpose specified; having a handle, a cylindric head, a removable cap on one end of the head, a disk fitted in said head, a ring fitted in said head beside the disk, and a bushing extending axially of the ring and disk; with a tool adjustably mounted on the handle adjacent the head and adapted to engage a rod or pipe inserted through the bushing.

5. A machine for the purpose specified; having a handle, a cylindric head at one end of the handle, a removable cap on one end of the head, a disk fitted in said head, a ring fitted in said head beside the disk, a bushing extending axially of the ring and disk; and a housing on the handle; with a tool having a shank engaging said housing, means engaging the tool shank to retain it in the housing, a spring for normally retracting the tool; and a bolt for projecting the tool.

6. A machine for the purpose specified; having a handle, a cylindric head at one end of the handle, a removable cap on one end of the head, a disk fitted in said head, a ring fitted in said head beside the disk, and a bushing extending axially of the ring and disk and having a flange confined between the ring and cap; with a cutting tool adjustably mounted on the handle adjacent the head and adapted to engage a rod or pipe inserted through the bushing.

7. A machine for the purpose specified, having a handle, a cylindric head at one end of the handle, a removable cap on one end of the head, a disk fitted in said head, a ring fitted in said head beside the disk, a bushing extending axially of the ring and disk and having a flange confined between the ring and cap; and a housing on the handle; with a tool having a slotted shank engaging said housing, a screw engaging the slot in the tool shank to confine it in the housing, a spring arranged in the slot for normally retracting the tool, and a bolt tapped through the housing for projecting the tool.

8. A machine for the purpose specified; having a handle, a cylindric head, a tool housing adjacent the head; a member fitted in said head, a changeable bushing in said member, a tool having a slotted shank engaging said housing, a screw engaging the slot in the tool shank to confine it in the housing, a spring arranged in the housing for normally retracting the tool, and a bolt tapped through the housing for projecting the tool.

9. A machine for the purpose specified; having a handle, a cylindric head, a removable cap on one end of the head, a ring fitted in said head, and a removable changeable bushing extending axially of the ring; with a tool adjustably mounted on the handle adjacent the head and adapted to engage a rod or pipe inserted through the bushing; a spring for normally retracting the tool, and means for projecting the tool, substantially as described.

In testimony that I claim the foregoing as my own, I affix my signature.

FREDERICK MUNGER.