

No. 834,152.

PATENTED OCT. 23, 1906.

J. MURPHY.
PERCUSSIVE DEVICE.
APPLICATION FILED SEPT. 26, 1906.

Fig. 1.

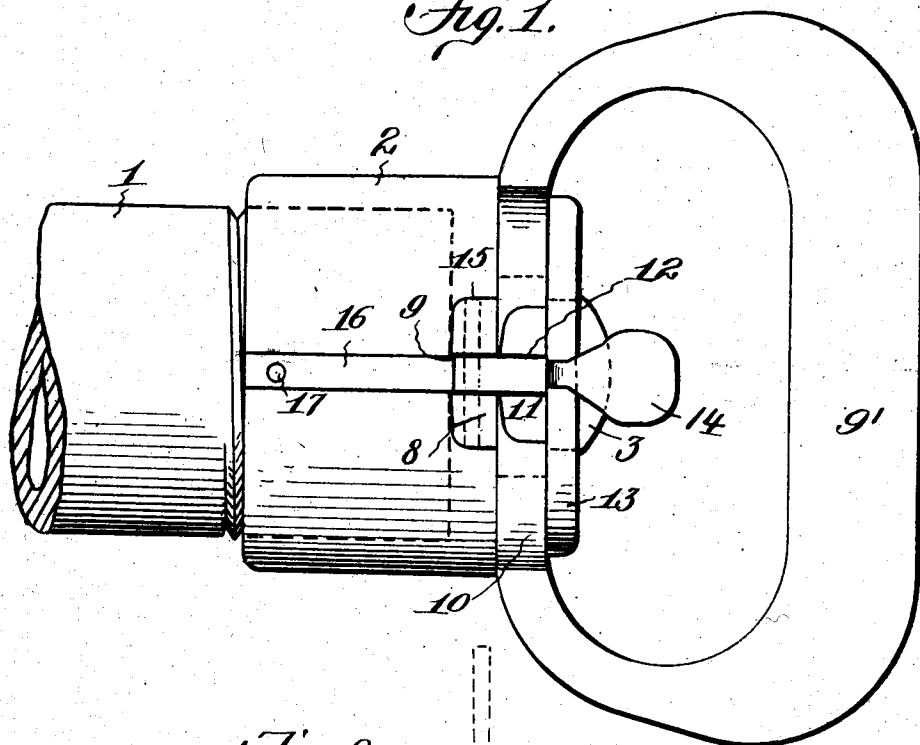
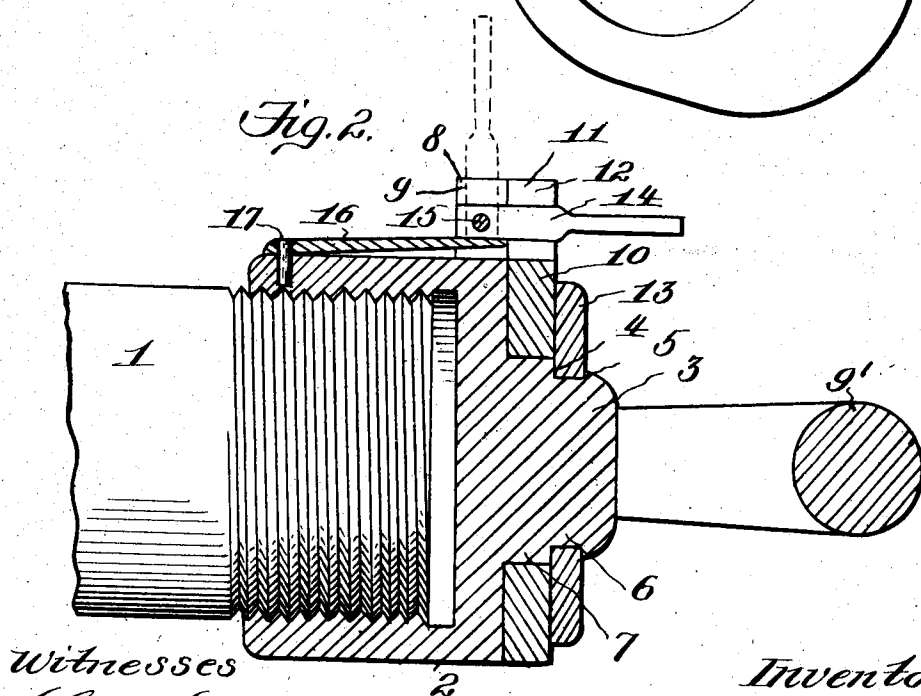


Fig. 2.



Witnesses

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PERCUSSIVE DEVICE.

No. 834,152.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JEREMIAH MURPHY, a citizen of the United States, residing at Leadville, in the county of Lake and State of Colorado, have invented new and useful Improvements in Percussive Devices, of which the following is a specification.

This invention relates to percussive devices—for example, hand portable pneumatic hammers used for drilling and boring purposes, more especially rock-drilling in mining; and the object thereof is to provide a percussive device with means, hereinafter more specifically referred to, which will enable the rotating or turning of the cylinder of the device independently of the handle and which will also permit of the handle and cylinder being rotated or turned in unison.

During the operation of drilling it is essential that the tool be rotated or turned. This is usually done in hand-tools by the operator rotating or turning the entire device from the handle end thereof, but by the application of the means hereinafter more specifically referred to, whereby it is not necessary to utilize more than one hand when rotating the tool, the other hand, which grasps the handle, remaining stationary, which is not the case when operating the percussive devices now in general use, for the reason that the left hand (or one hand) has to turn when the device is being turned back and forth by the right hand, (or the other hand;) but, as before stated, by the application of a means hereinafter set forth it is not necessary to utilize more than one hand when the device is rotated, that hand being the hand which grips the air-supply pipe or the cylinder, and, furthermore, the operator can press his body against the handle of the device during the rotation thereof, thereby retaining the device in operative position and at the same time permitting of the operator's hands to be free. The operator then, when occasion so requires, can turn the cylinder of the device independently of the handle at the same time that the operator's body is pressed against the handle, so that the device will be retained in operative position when rotating or turning the cylinder. Furthermore, the application of the means hereinafter more specifically referred to in connection with a percussive device makes the use of the said devices much easier for the operator and at

the same time prevents the operator from feeling the jar or vibration of the percussive device to any great extent.

The invention further aims to provide a percussive device with means, hereinafter more specifically described, which will enable the rotating or turning of the cylinder of the device independently of the handle or the cylinder in unison with the handle; said means being simple in its construction, strong, durable, efficient in its use, comparatively inexpensive to manufacture, and readily connected up in operative position.

With the foregoing and other objects in view the invention consists of the novel construction, combination, and arrangement of parts hereinafter more specifically described, and illustrated in the accompanying drawings, which form a part of this specification, and wherein is shown the preferred embodiment of the invention; but it is to be understood that changes, variations, and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, wherein like reference characters denote corresponding parts, Figure 1 is a side elevation of a percussive device in accordance with this invention, the cylinder being broken away at the working end thereof; and Fig. 2 is a side elevation, partly in section.

Referring to the drawings by reference characters, 1 denotes the cylinder of the percussive device, and which has mounted upon the inner end thereof a cap 2, the cap being provided with screw-threads adapted to engage with screw-threads formed upon the periphery of the cylinder. Centrally of the upper face of the cap 1 an extension 3 is provided, which is shouldered, as at 4 5; for a purpose to be hereinafter referred to. By shouldering the extension 3 the latter is formed of two different diameters, as at 6 7, the portion 7 being of larger diameter than the portion 6. The cap 2 is furthermore provided with a lateral extension, as at 8, which is slitted, as at 9', for a purpose to be hereinafter referred to.

The handle of the device is indicated by the reference character 9', and which terminates in an annular base 10, seated upon the cap 2 and surrounding the enlarged portion 7 of the extension 3. The base 10 is formed with a lateral extension 11, which is slitted,

as at 12, and is arranged above the extension 8, so that the slit 12 will be in vertical alinement with the slit 9 of the extension 8. The base 10 loosely surrounds the enlarged portion 7 of the extension 3, is retained in position through the medium of the washer 13, which surrounds the portion 6 of the extension 3, and is retained in position through the medium of the shoulder 5. The washer 13 is seated upon the shoulder 4 and superposed upon the base 10. By such an arrangement it is evident that the cap 2 can be rotated independently of the handle 9. As the cap 2 is fixedly secured to the cylinder 1, it is evident that when the cap 2 is rotated the cylinder 1 will be carried therewith.

To connect the handle 9 with the cap 2, so that the cylinder, cap, and handle will be rotated in unison, the following means, by way of example, is used, yet any other suitable means can be employed: Said means consists of a coupling-lever 14 pivoted, as at 15, to the extension 8. The coupling-lever 14 has its lower end pressed against the upper or free end of a spring 16, the latter being fixedly secured at its lower end, as at 17, to the cap 2, the function of the spring 16 being to retain the coupling-lever 14 in its lowered or inoperative position, the operative position of the coupling-lever 14 being when it is swung upwardly, so as to extend in the slit 12 of the extension 11, thereby coupling the base 10 of the handle 9' with the cap 2. When the lever 14 is swung to operative position, it will be evident that the cylinder 1, cap 2, and handle 9' are coupled, so that the same can be rotated or turned in unison.

From the foregoing description, taken in connection with the accompanying drawings, it is evident that a handle for a percussive device is set up which will permit of the handle being rotated continuously and independently of the cylinder of the device and which will also enable the rotating of the handle and cylinder of the device continuously in unison, and, furthermore, it enables the tool to be continuously rotated with one hand while the other hand remains stationary, thus making it more easy for the operator.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a percussive device, the combination with the cylinder thereof, a handle, a base therefor provided with a lateral extension having a slit, means for swivelly connecting the base with the cylinder, thereby permitting of the cylinder being rotated independently of the handle, means connected with the cylinder and provided with a lateral extension having a slit, and means carried by one of said extensions and engaging in the other of said extensions for coupling the handle with the cylinder, thereby enabling the handle and the cylinder to be rotated in unison.

2. In a portable percussive device, the combination with the cylinder thereof, of a handle swivelly connected upon one end of the cylinder and to permit of the cylinder rotating independently of the handle, and means carried by the cylinder for coupling the handle therewith so as to enable the rotating of the cylinder and the handle in unison.

3. In a portable percussive device, the combination with the cylinder thereof, a cap secured to one end of the cylinder, a handle, a base therefor, means for swivelly connecting the base to the cap to permit of the cylinder being rotated independent of the handle, and means connected to the cap and engaging in the base for coupling the base to the cylinder, thereby enabling the rotation of the cylinder and handle in unison.

4. In a portable percussive device, the combination with the cylinder and handle therefor, of means for connecting the handle to one end of the cylinder to permit of the cylinder being rotated independently of the handle, and means for coupling the handle with the cylinder to enable the cylinder and handle to be rotated in unison.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JEREMIAH MURPHY.

Witnesses:

J. M. SCHUMESER,
J. S. GAY.