

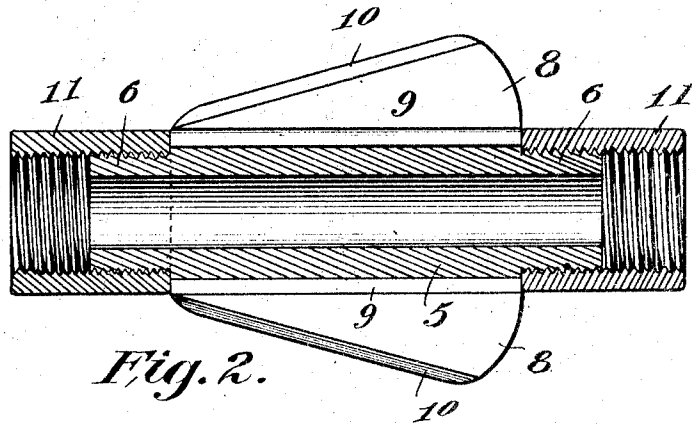
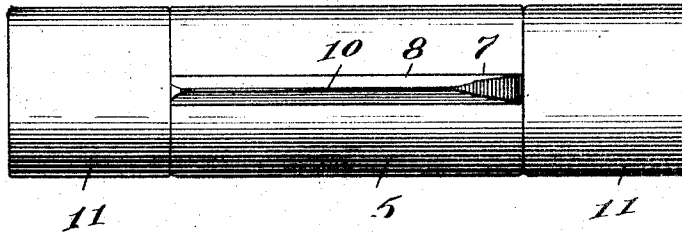
W. McCOLGAN.  
REAMER.

APPLICATION FILED JUNE 23, 1911.

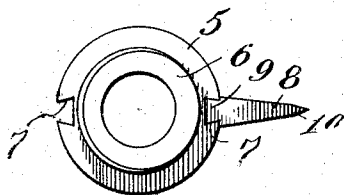
1,019,679.

Patented Mar. 5, 1912.

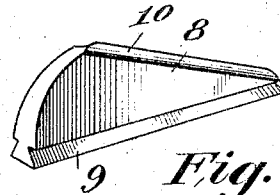
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM McCOLGAN, OF MARSHALL, MINNESOTA.

## REAMER.

1,019,679.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed June 23, 1911. Serial No. 634,844.

*To all whom it may concern:*

Be it known that I, WILLIAM McCOLGAN, a citizen of the United States, residing at Marshall, in the county of Lyon and State of Minnesota, have invented new and useful Improvements in Reamers, of which the following is a specification:

The invention relates to a reamer, and more particularly to the class of reamers having removable wings or blades.

The primary object of the invention is the provision of a reamer for use in a drill, whereby holes may be cut in the ground, rock, or other substance, and is especially useful in drilling wells or the like.

Another object of the invention is the provision of a reamer in which the blades thereof may be readily and easily removed, when it is desired to sharpen the same, or in event that either blade becomes broken or otherwise injured a new one may be substituted.

A further object of the invention is the provision of a reamer which is simple in construction, thoroughly reliable and efficient in its purpose, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a side elevation of a reamer constructed in accordance with the invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is an end elevation of the hub, showing one of the blades removed. Fig. 4 is a perspective view of one of the blades removed from the hub of the reamer.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, the reamer comprises a cylindrical hub 5, the same being formed with reduced externally threaded ends 6, and provided in the outer face of the said hub 5, at diametrically opposite points, are dove-tail shaped grooves 7, the same being longitudinally disposed and extend throughout the length of the said

hub for the detachable connection of cutting members, presently described.

The cutting members each comprise a tapering blade 8, the same being formed at one longitudinal edge with a dove-tail shaped tongue 9, the same being of a size corresponding to the grooves 7, and is adapted to snugly fit within the same, thus detachably connecting the said blade to the hub. Each blade 8 is of a length corresponding to the length of the hub 5, and its outer remaining longitudinal edge is beveled to provide a cutting edge 10.

Removably fitted on the reduced ends 6 of the hub are coupling sleeves 11, the same being internally threaded to engage the external threads on the said reduced ends 6 of the hub, and when these coupling sleeves 11 are mounted upon the latter, the same will lock the blades 8 in the hub and against displacement relative thereto, when the reamer is in operation. The coupling sleeves 11 permit the reamer to be connected to a drill shaft (not shown), in the ordinary well-known manner.

What is claimed is:

1. A reamer, comprising a hub having reduced externally threaded opposite ends and also provided with substantially dove-tail shaped grooves in diametrically opposite sides thereof, cutting blades having dove-tail shaped tongues detachably engaged in the grooves in said hub, and means detachably engaging opposite reduced ends of the hub for locking the blades fixed thereto.

2. A reamer, comprising a hub having reduced externally threaded opposite ends and also provided with substantially dove-tail shaped grooves in diametrically opposite sides thereof, cutting blades having dove-tail shaped tongues detachably engaged in the grooves in said hub, and coupling sleeves engaging the reduced externally threaded opposite ends of the hub for locking the blades connected to the latter.

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

WILLIAM McCOLGAN.

Witnesses:

M. W. E. DRAKE,  
A. E. BINNFORD.