

No. 675,720.

Patented June 4, 1901.

J. DEEMER.

MINER'S AUGER.

(Application filed Sept. 2, 1899.)

(No Model.)

Fig. 1. Fig. 2. Fig. 3. Fig. 4.

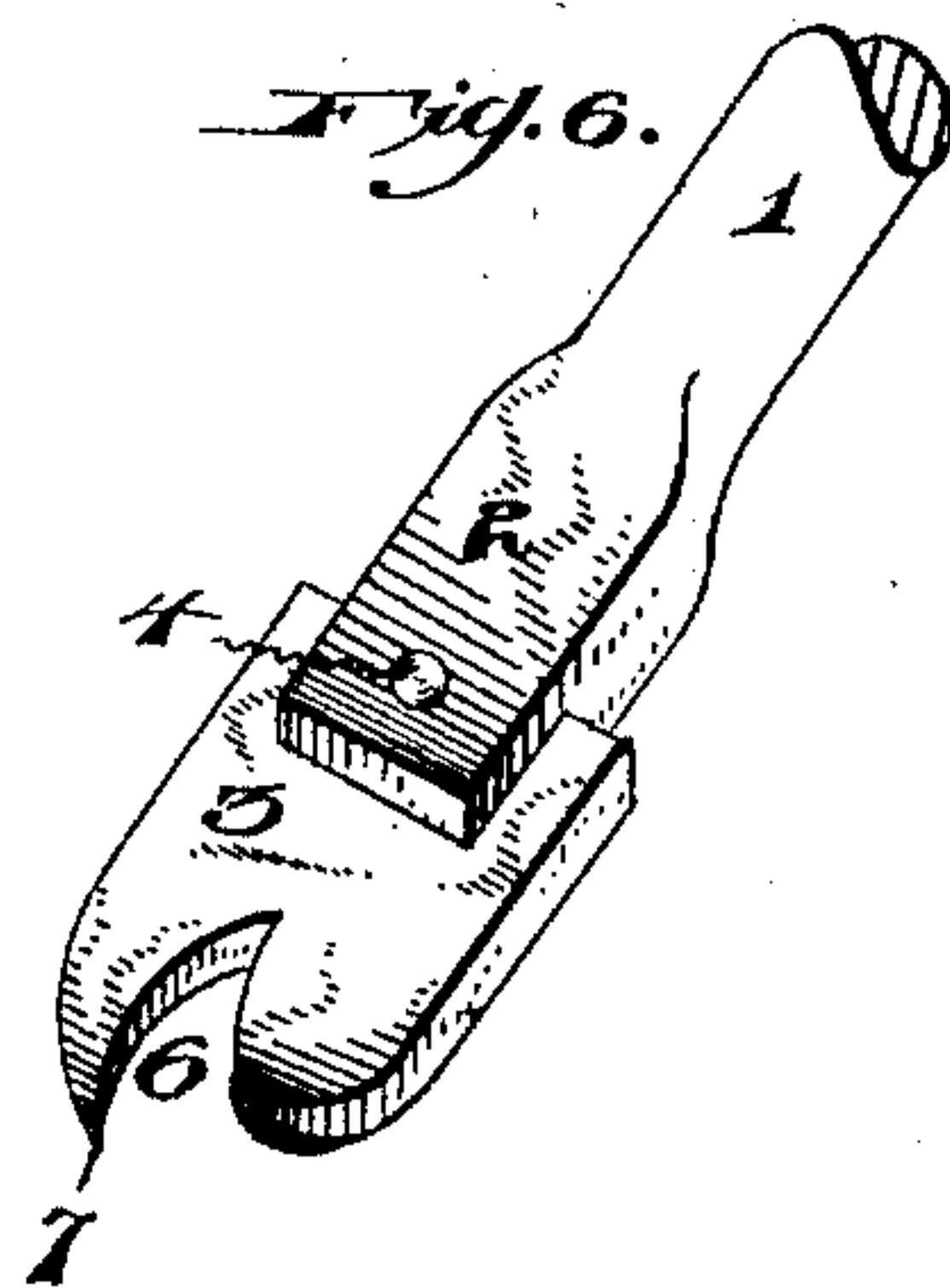
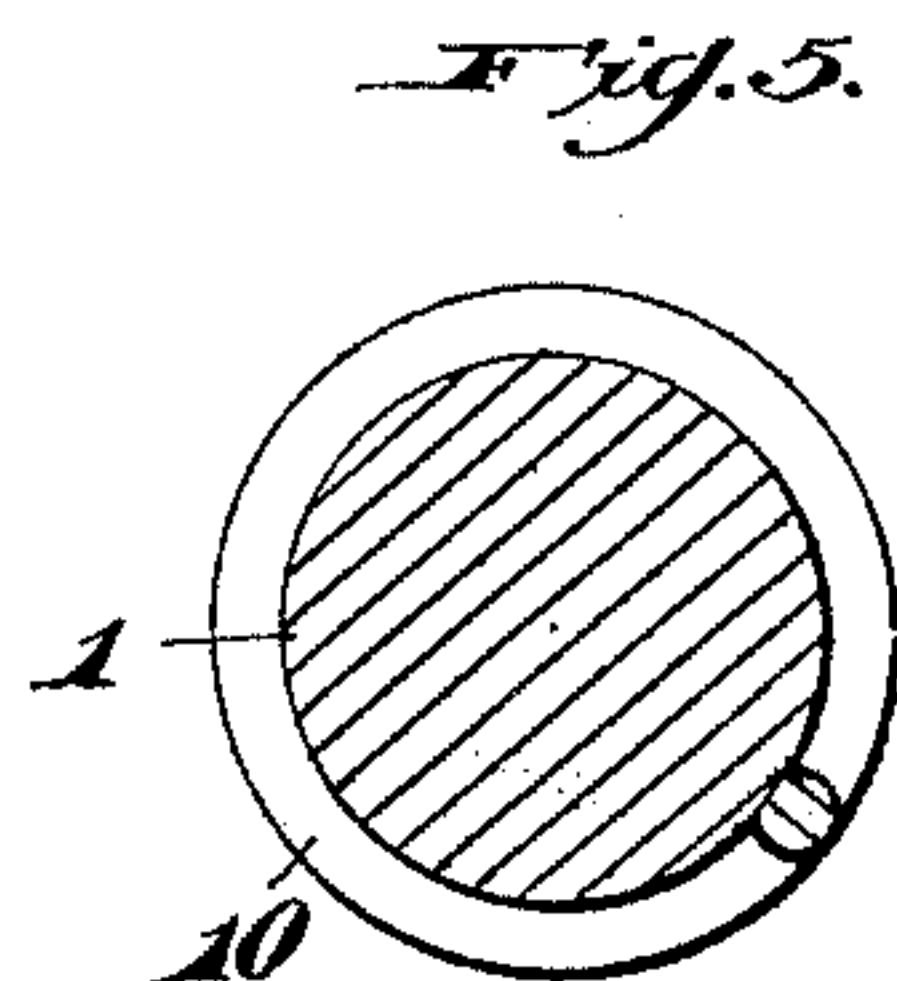
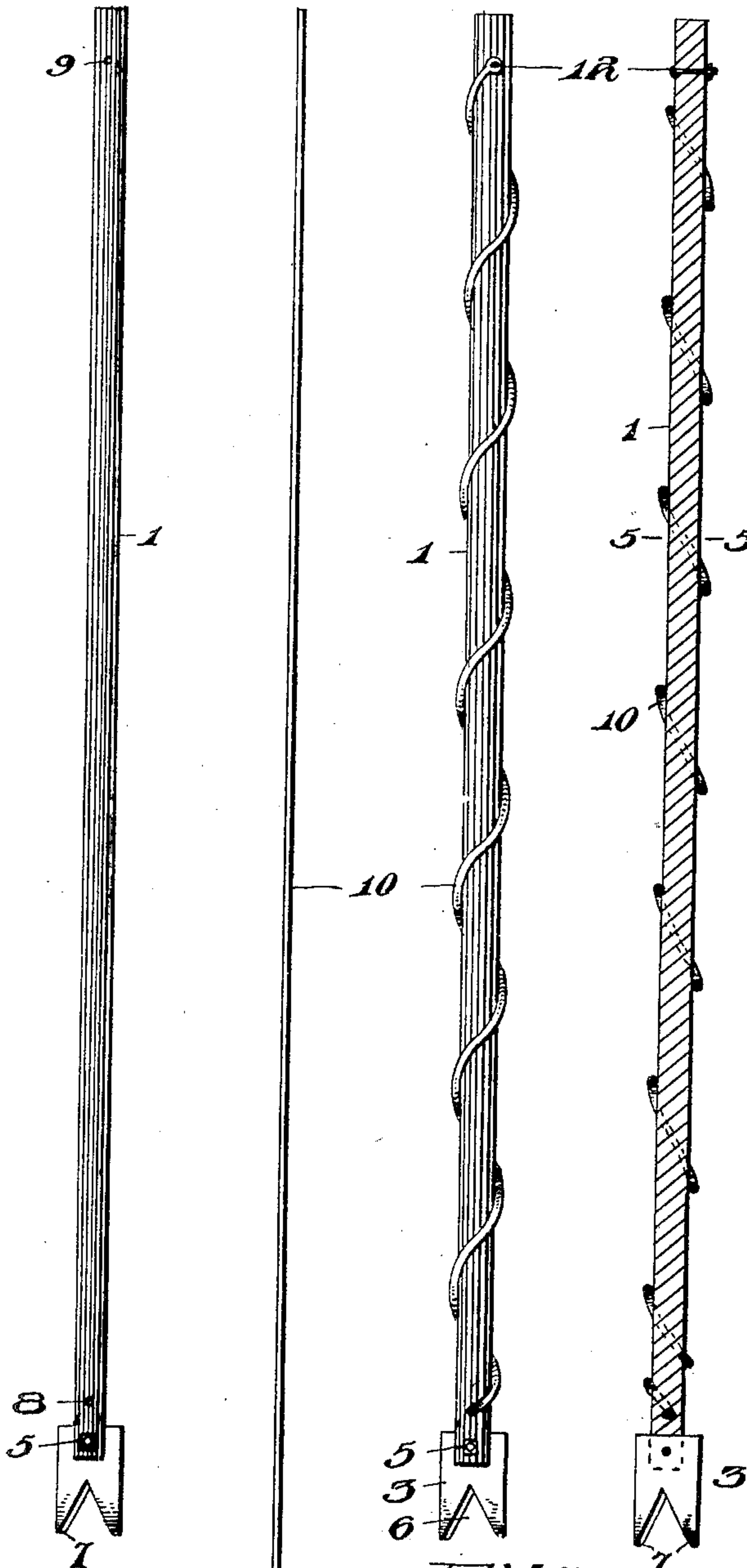
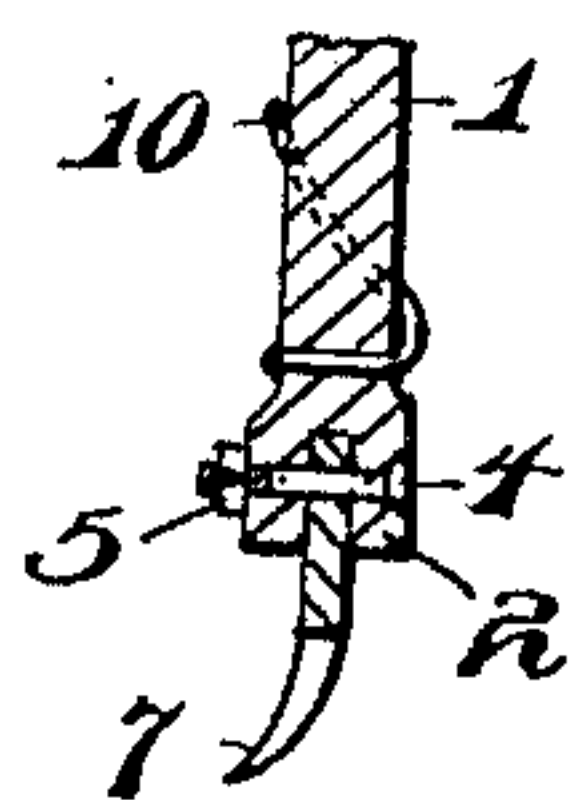


Fig. 7.



WITNESSES:

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MINER'S AUGER.

SPECIFICATION forming part of Letters Patent No. 675,720, dated June 4, 1901.

Application filed September 2, 1899. Serial No. 729,315. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEEMER, a citizen of the United States of America, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Miners' Augers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in miners' augers and aims to construct a device of this character that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

20 The objects of the invention are to construct an auger particularly adapted for mining purposes with a removable bit of greater diameter than the stock or stem of the auger, to provide means whereby this bit may be easily removed and a new one inserted in its place, and to provide a removable screw for the stem or stock of the auger.

25 Briefly described, the invention consists in a plain cylindrical stock or stem which is bifurcated at its one end to receive the removable bit. This stock or stem has arranged thereon a spirally-wound rod which acts as the screw of the auger, the said rod, however, being of such a size that the diameter of the same when added to that of the stock or stem will not equal the width of the bit. This rod, which acts as the screw, may be detached from the stock or stem in case it becomes worn and a new one substituted by heating and winding upon the stem.

35 In describing the invention in detail reference will be had to the accompanying drawings, in which I have shown merely the stock or stem complete, as it will readily be observed that the same may be operated either by handles attached thereto, as in an ordinary wood-auger, or by gears or by suitable machinery, as may be desired.

40 Figure 1 is a detail plan view of the stock or stem with the bit secured therein and the spiral rod removed. Fig. 2 is a detail plan view of the rod before being wound upon the stock or stem. Fig. 3 is a detail plan view of the auger complete. Fig. 4 is a vertical sectional view of the same. Fig. 5 is an enlarged

cross-sectional view taken on the line 5 5 of Fig. 4. Fig. 6 is a perspective view of the bit and a portion of the stock or stem. Fig. 55 7 is a vertical sectional view of the bit and a portion of the stem or stock.

Referring now to the drawings by reference-numerals, 1 indicates the stock, which, as shown, consists of a plain cylindrical stem, 60 the one end of which is slightly enlarged and bifurcated, as shown at 2, to receive the removable bit 3. This bit 3 is of a thickness to fit neatly within the jaws formed by bifurcating the end of the stock and is securely fastened 65 in position by means of a bolt 4, passing through an aperture in the stock and through a registering aperture in the bit. The head of this bolt is countersunk into the enlarged portion of the stock, and the bolt is fastened 70 in position by means of a nut 5. The bit is provided in its outer or free end with a substantially V-shaped slot 6, and the portions of the bit on each side of this slot are then bent in opposite directions to form the cutting-points 7 7.

The stock is provided near its bit end with a transverse opening 8 and near its drive end with a like aperture 9 for fastening the spiral screw-rod upon the stock. This spiral 80 screw-rod 10 before being wound upon the stock is in the form shown in Fig. 2, with its one end bent at right angles, as at 11, which is inserted through the aperture 8 and is of a length sufficient to be riveted on the other 85 side of the stock, so as to be firmly held in position. This rod is then wound firmly around the stock and has its other end formed with an eye to register with the aperture 9 and receive either a bolt or rivet 12, which 90 securely holds this end of the spiral rod, the other end in proximity to the bit being held by its passing through the stock. In practice for mining purposes I preferably use a light rod, the thickness of which, together with the 95 diameter of the stock, will not be quite equal to the width of the cutting-bit in order that a slight play for the stock may be permitted. The turning of the cutting-bit with its points in opposite directions serves to cause these 100 points to steady each other during the cutting operation, while the winding of the spiral rod upon the stock forms the grooves to receive the cuttings made by the bit in its passage.

As stated, the auger may be driven by handles secured to the drive end of the stock, or this drive end of the stock may be secured in a tool-holder of a suitable driving mechanism.

5 It will be noted that various changes may be made in the details of my invention without departing from the general spirit of the same.

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

In combination with a cutting-bit, a straight stem of equal diameter throughout, said stem being provided with perforations at its upper

and lower ends, a rod circular in cross-section wound spirally on said stem, one end of said rod being bent at a right angle and secured in the lower perforation, the other end of said rod being flattened and provided with an eye, a bolt passing through said upper 20 perforation and said eye, and a nut secured to said bolt, substantially as described.

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

JOHN DEEMER.

Witnesses:

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E. W. ARTHUR.