

976,835.

R. E. NOBLE.
MINING MACHINE BIT.
APPLICATION FILED MAR. 18, 1909.

Patented Nov. 22, 1910.

Fig. 1

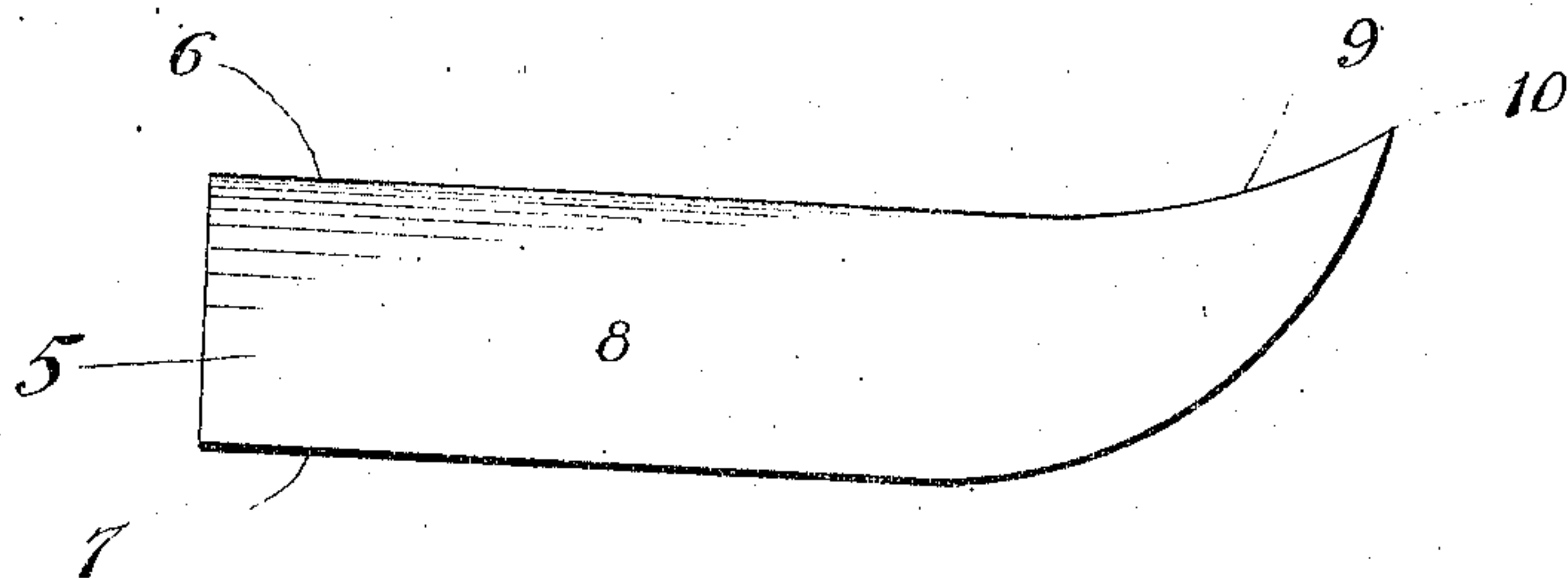


Fig. 2

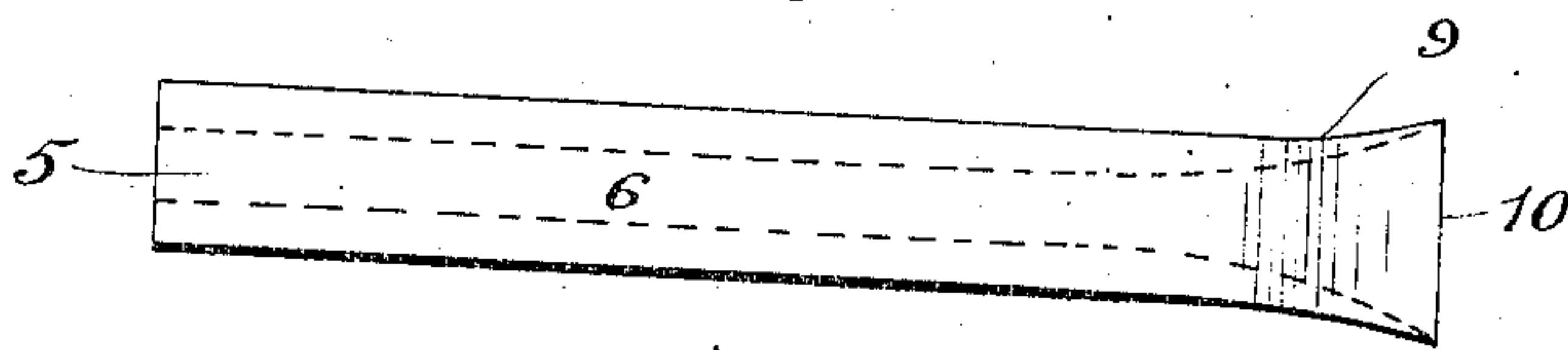


Fig. 3.

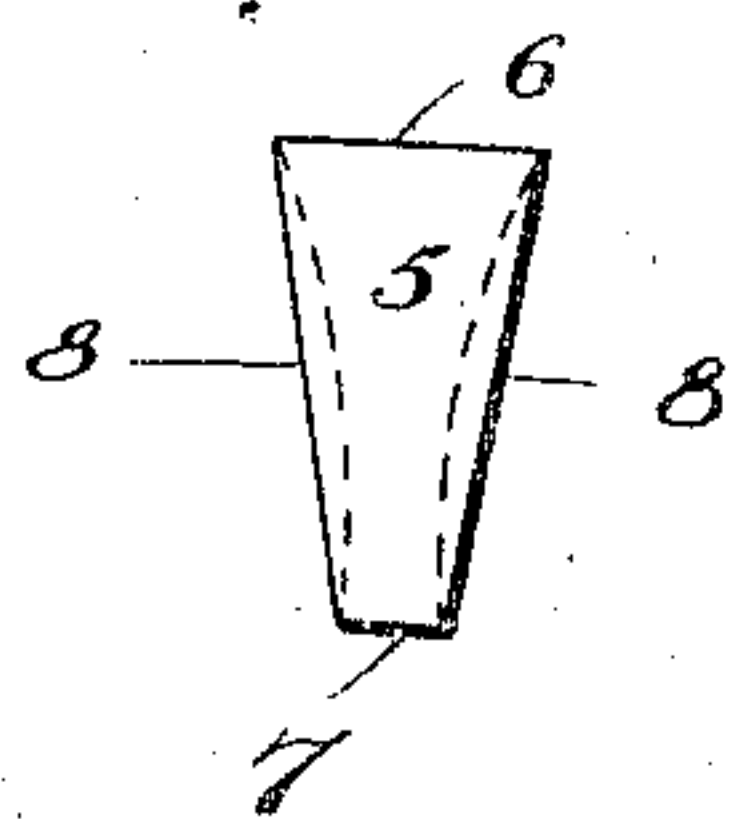
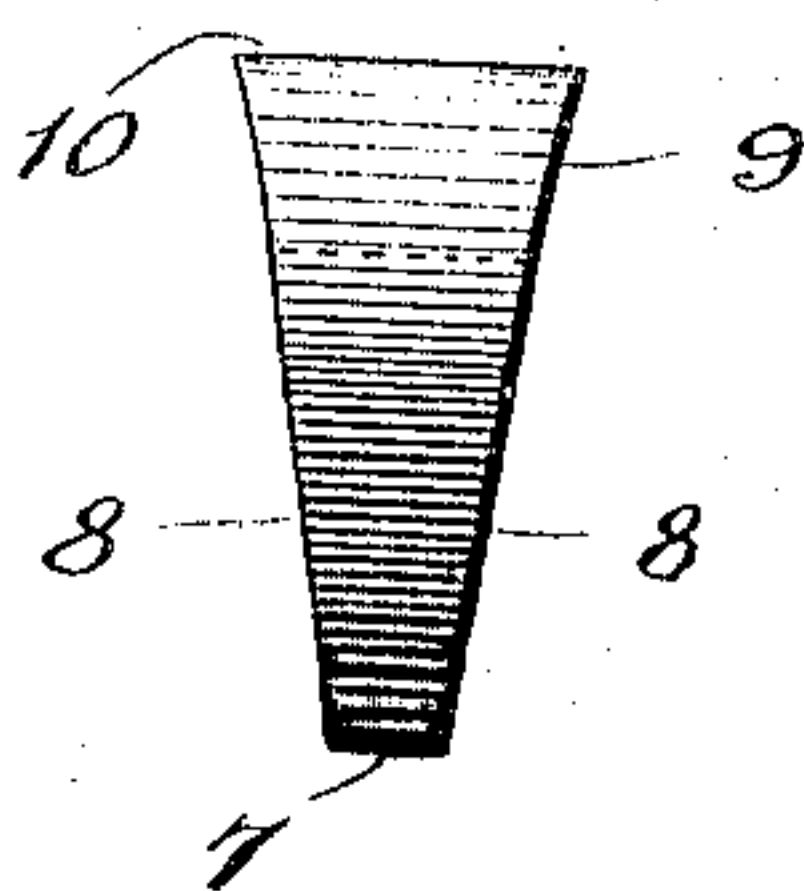


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MINING-MACHINE BIT.

976,835.

Specification of Letters Patent. Patented Nov. 22, 1910.

Original application filed October 14, 1907, Serial No. 397,248. Divided and this application filed March 18, 1909. Serial No. 484,200.

To all whom it may concern:

Be it known that I, RALPH E. NOBLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mining-Machine Bits, of which the following is a specification.

This invention relates to the bits or cutters used in connection with chains on mining machines for cutting coal or the like.

The objects of the present invention are to provide a new and useful form of bit which will be stronger in proportion to the amount of stock used therein than the bits commonly used heretofore; to provide a bit which may be easily formed and readily sharpened; which will be exceedingly effective in operation, being made in such form that there will be a large amount of back clearance, so that there is little or no danger of the sides of the bit rubbing against the sides of the kerf; and also to provide a form of bit in which the shank will be rigidly held in a correspondingly shaped socket in the bit link.

In order that this invention may be readily understood, I have illustrated it in the accompanying drawings, in which—

Figure 1 is a side view of a bit embodying this invention; Fig. 2 is a top plan view of the same; Fig. 3 is an end view as seen from the left-hand end of Fig. 1; and Fig. 4 is an end view as seen from the right-hand end of Fig. 1.

The bit proper has a shank portion 5 which is formed of stock so that the front or cutting face indicated at 6 is wider than the back face or edge indicated at 7, the sides 8 converging backwardly from said front or cutting face. These sides 8 may be straight, as indicated in Fig. 3, or otherwise formed in order to give the desired convergence or clearance. The body portion of the shank 5 is provided with a forwardly curved cutting portion 9 terminating in a chisel-shaped edge 10. It will be understood that the main portion of the shank is inserted in the link, so that substantially only the forwardly curved cutting portion extends out to perform the cutting, so that only a portion of the front or cutting face 6, for instance the right-hand end, as indicated in Fig. 1, comes in actual contact with the coal or other material to cut the same; but

the main cutting effect is secured by means 55 of the chisel-like edge 10.

On account of the wide forward edge or face 6 and narrow rear or back edge 7, the cutting end of the bit is readily bent or curved forward in order to provide the advanced cutting edge, without any considerable tendency toward bulging or thickening of the sides. This is of considerable importance, as, when such thickening or bulging occurs, the sides require considerable grinding or else are apt to rub on the sides of the kerf. Furthermore, these bits may be readily re-sharpened in the mines, without resort to special sharpening apparatus.

This form of bit is especially adapted for use in cutting what is sometimes termed "woody" or "dead" coal, that is, coal which is not of a brittle nature but which is preferably chiseled or scraped out the full width of the kerf in order to make the cut.

The manner in which this bit is secured in the chain links or blocks is clearly shown in my former application filed October 14, 1907, of which this is a division, in which application this form of bit, as well as a pick-point bit, was shown as applied to the chain.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A bit for mining machines having a front or cutting face and having a cutting portion curved forwardly from the body portion and terminating in a relatively wide cutting edge, said body portion being tapered back from the front or cutting face and the cutting portion also converging backwardly from the front or cutting face.

2. A bit for mining machines, comprising a bar of suitable material having a front or cutting face, with sides converging backwardly from said front or cutting face to the back edge thereof, and having one end curved forwardly to form a cutting portion, said cutting portion terminating in a relatively sharp edge, the sides of said cutting portion also converging backwardly from the cutting face.

RALPH E. NOBLE.

Witnesses:

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