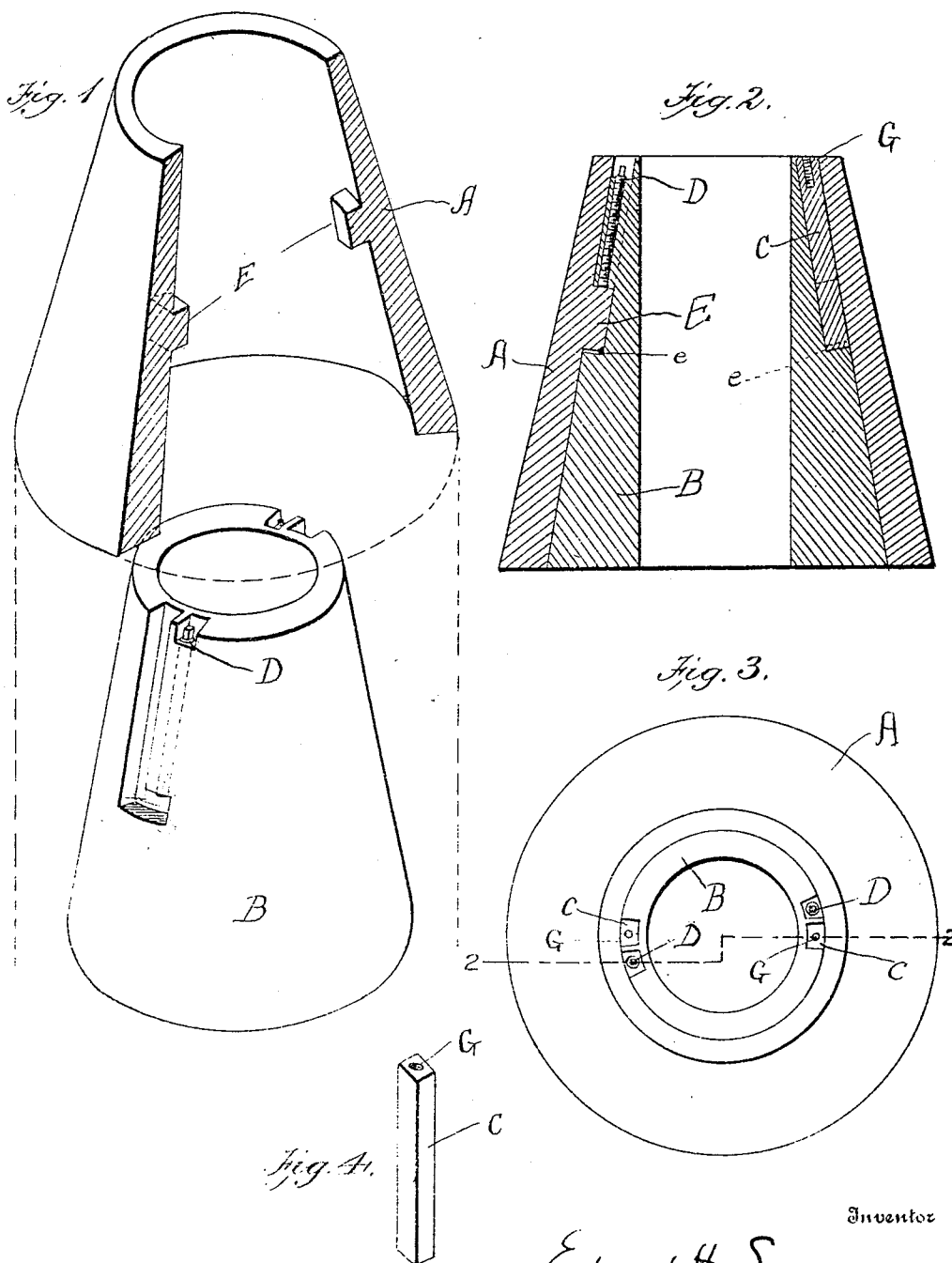


No. 817,672.

PATENTED APR. 10, 1906.

E. H. SANSOM.
ROCK AND ORE BREAKING MACHINE.
APPLICATION FILED MAY 14, 1904.



Witnesses
F. L. Girard
W. C. Lawson

Inventor
Edward H. Sansom
By
James S. Appleman
Attorney



UNITED STATES PATENT OFFICE.

EDWARD H. SANSOM, OF GOODWICK, ENGLAND.

ROCK AND ORE BREAKING MACHINE.

No. 817,672.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed May 14, 1904. Serial No. 207,956.

To all whom it may concern:

Be it known that I, EDWARD HENRY SANSOM, a citizen of the United Kingdom of Great Britain and Ireland, residing at Goodwick, England, have invented certain new and useful Improvements in Rock and Ore Breaking Machines, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention refers to rock and ore breaking machines; and it consists in improvements in and connected with the annular cones and shields or mantles used in such machines and which surround the vertical shaft.

The object of the invention is to provide a better method of fixing the steel mantle in place and tightening it on the cone and also preventing it from revolving or rising up when in use and providing facilities for quickly removing the mantle when worn out.

On the interior of the mantle I form one or more lugs or projections, and in the thickness of the metal of the cone, usually cast-iron, I form recesses for the lugs and threads into which I fit screws designed to press against the lugs of the mantle. A space is left underneath the lugs for adjustment. The screw-bolt is made square or shaped at the top so that they can be easily turned by an ordinary spanner or key, so as to tighten them upon the cone. In close proximity to the head of the bolts I place a locking-pin to prevent the mantle from rotating. Two bolts are preferably used, one on each side of the mantle. The usual holding-nuts are employed to prevent the cone from rising up.

I will now describe my invention with reference to the accompanying drawings, in which—

Figure 1 is a view, partly in section and partly in perspective, of the parts of the invention disassembled. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 3. Fig. 3 is a plan view of the narrower end of the cone. Fig. 4 is a perspective view of the rocking pin.

A is the mantle, fitting over cone or core B. C C are locking-pins, and D D the adjusting screw-bolts.

E E are the lugs formed on the mantle A and against which the bolts D D press, spaces e e being left for adjustment.

G G are tapped holes for withdrawing the lock-pins C C.

The cone and mantle may be of any suit-

able size and constructed of any suitable angles, while the lugs, bolts, and other parts of the invention may vary in size and shape as required.

The cone or core B is centrally bored to fit on a driving-shaft and has its external surface turned to form a bevel. Formed within the external surface of the core are two oppositely-disposed downwardly-extending recesses, terminating in recessed portions at right angles thereto, or, in other words, the core has formed in its exterior surface two oppositely-disposed L-shaped recesses.

The mantle A is so bored as to snugly fit over the core B, and the oppositely-disposed lugs or projections E, formed on the internal surface thereof, are adapted to ride in the downwardly-extending recesses formed in the core. By turning the mantle in the required direction the lugs are caused to pass into the recesses extending at right angles to the first-named recess, and thereby preventing any lift of the mantle.

To hold the mantle effectually in position, the bolts D D are threaded through the core and have an end bearing against the lugs of the mantle. To prevent rotation of the mantle, the pins C are dropped in the recesses formed in the external surface of the core, and thereby wedge the mantle against movement.

The bases or rectangular portions of the recesses for the lugs are slightly larger than the lugs in order to allow for any expansion that may occur or to permit of a slight adjustment.

The outer surface of the mantle may be smooth or fluted, according to the necessities or requirements of practice.

To withdraw the pins or wedges, it is only necessary that a suitable implement, preferably an edge-bolt, be threaded in the recesses G.

The core B is generally of cast-iron and the mantle of manganese-steel, but it is to be understood that the material used can be changed without sacrificing the spirit or value of the claims hereinafter annexed.

What I claim, and desire to secure by Letters Patent, is—

1. A device of the character described comprising a cone having recesses in its face, a mantle fitting over said cone, lugs on the mantle adjustably fitting in the recesses of the cone, bolts passing through the cone and bearing against the lugs of the mantle to hold said mantle in its adjusted positions and lock-

ing-pins to hold the mantles, said locking-pins having recesses in their ends, as and for the purpose described.

2. In combination, a hollow core having a
5 plurality of L-shaped recesses, a mantle fitting over the core, lugs on the mantle riding in the L-shaped recesses, pins arranged with a portion of the L-shaped recesses to hold the mantle against movement independent of the

core, and bolts threaded through the core to and bearing against the lugs of the mantle.

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

E. H. SANSOM.

Witnesses:

W. R. HOWELLS,
DAVID MORRIS.