

No. 748,035.

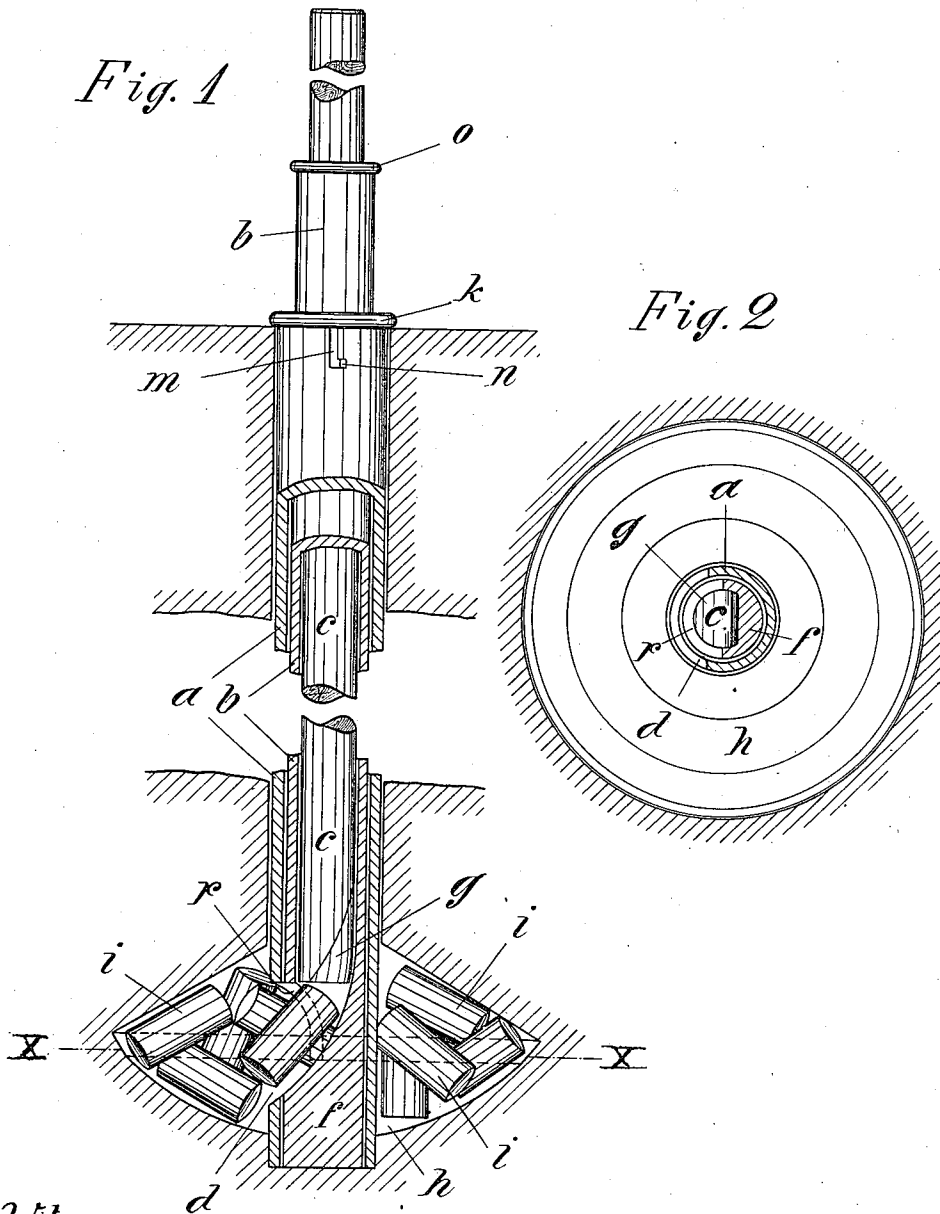
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F. ANSCHUTZ.

APPARATUS FOR THE LOADING OF EXPLOSION CHAMBERS.

APPLICATION FILED APR. 6, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

FRIEDRICH ANSCHÜTZ, OF NEUNKIRCHEN, GERMANY.

APPARATUS FOR THE LOADING OF EXPLOSION-CHAMBERS.

SPECIFICATION forming part of Letters Patent No. 748,035, dated December 29, 1903.

Application filed April 6, 1903. Serial No. 151,332. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH ANSCHÜTZ, mechanical engineer, a subject of the German Emperor, and a resident of Neunkirchen, Germany, have invented new and useful Improvements in Apparatus for the Loading of Explosion-Chambers at the Ends of Blast-Holes, of which the following is a specification.

10 This invention relates to an apparatus for the loading of explosion-chambers at the ends of blast-holes with cartridges. Such apparatus is destined to be used particularly in coal-mines where the use of blast-powder is prohibited or loose explosives, it being particularly difficult to well pack cartridges in explosion-chambers.

15 In the accompanying drawings the apparatus is shown in Figure 1 in a side view, partly in section, inserted into the bore-hole. Fig. 2 is a cross-section on line X X of Fig. 1.

20 The apparatus consists of two tubes *a* *b*, one of which, *b*, is of smaller diameter than the other, so that it can be inserted into tube *a*, and of a rod *c*. The outer tube *a* is open at the bottom and part of its wall is cut away at the bottom, so that an opening *d* is formed which must be large enough to allow the passage of a cartridge in inclined position. The tube *b* is closed at the bottom by a metal piece *f*, the upper surface of which is curved. The bottom end *g* of the rod *c* is curved corresponding to the curvature of the bottom piece *f* of the inner tube.

35 The inner tube *b* is equally provided with an opening *r* above the lower edge of curvature of the bottom piece, the opening *r* corresponding to the opening *d* of outer tube *a*.

40 At the upper end of the outer tube *a* a ring *k* is provided which has a slot *m*, which is continued in the wall of tube *a*.

The inner tube *b* is provided with a corresponding nipple *n*, adapted to enter said slot *m*.

45 At the upper end of the inner tube *b* a ring *o* is provided to limit the insertion of tube *b* into tube *a*.

50 The apparatus is used as follows: First the tube *a* is inserted into the bore-hole down to the bottom of the same, whereupon the cartridge *i*, which may be of any suitable shape

and dimension, is inserted into the inner tube *b* by means of the rod *c*. Tube *b* with cartridge *i* and rod *c* are now inserted into the outer tube *a*, which latter tube is suitably placed in such a manner that its opening *d* is turned upward. When the tube *b* has been inserted into the tube *a* to its limit, the opening *r* coincides with the opening *d* of the outer tube *a*, and the cartridge *i* is pushed out of this opening into the explosion-chamber *h* by the curved bottom end *g* of rod *c*. When the upper part of the explosion-chamber has been completely packed with cartridges in the manner hereinbefore described, the outer tube *a* is rotated, so that the opening *d* is turned toward the bottom of the explosion-chamber. Now the bottom part of the chamber is packed, whereupon the tube *a* is turned to the right and then to the left to pack cartridges at the right and left part of the explosion-chamber in the manner hereinbefore described. Now the tube *b* with rod *c* are drawn out of the outer tube *a* and the primer-cartridge is inserted by means of a separate rod which is somewhat longer than rod *c*. Thus the primer-cartridge is pushed to the bottom end of the outer tube *a*, which tube is now withdrawn from the explosion-chamber, whereupon the rod, which up to this has held in place the primer-cartridge, is withdrawn, together with tube *a*. The explosion-chamber can thus be completely filled with cartridges.

55 The advantage of this apparatus is that one can tightly pack with cartridges an explosion-chamber situated at the end of a bore-hole wherefrom results a considerable saving in explosives.

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

Apparatus for loading with cartridges the explosion-chambers at the ends of bore-holes, comprising in combination, a tube of a diameter to fit the bore-hole, a lateral opening at the bottom end of said tube, a flange at the upper end of said tube, a longitudinal slot through said flange and the upper end of the tube-wall, a second tube of a diameter to fit the outer tube, a metal piece closing the inner tube at the bottom end, a curved upper surface of said metal piece, a lateral open-

ing in the wall of the inner tube close to the
lower edge of the curved upper surface of the
metal piece, a nipple at the upper end of the
inner tube adapted to engage with the longi-
tudinal slot of the outer tube, a flange at the
5 upper end of the inner tube, a rod fitting said
inner tube, a curved surface at the bottom
end of said rod corresponding to the curved
surface of the metal piece in the inner tube,

substantially as described and shown and for the purpose set forth.

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

FRIEDRICH ANSCHÜTZ.

Witnesses:

JACOB ADRAIN,
H. W. HARRIS.