H. E. DERBYSHIRE.

STONE BREAKING MACHINE.

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1,162,685.

Fig. 1.

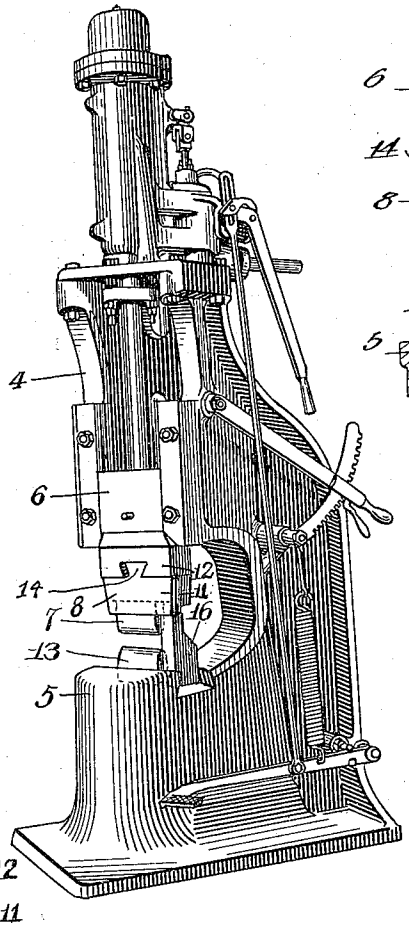


Fig. 4.

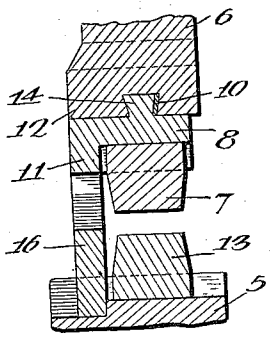


Fig. 5.

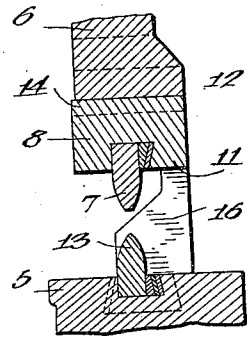


Fig. 2.

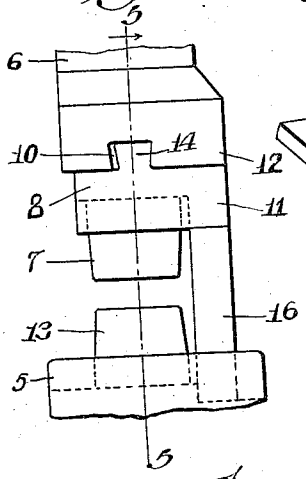
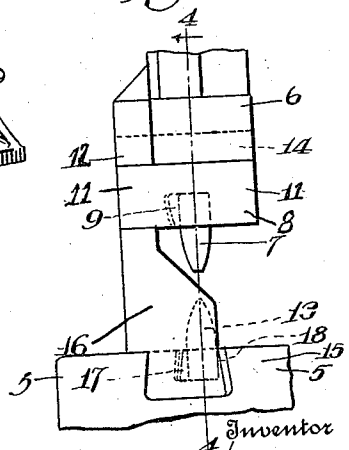


Fig. 3.



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HENRY E. DERBYSHIRE, OF CHAMBERSBURG, PENNSYLVANIA, ASSIGNOR TO CHAMBERSBURG ENGINEERING COMPANY, OF CHAMBERSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

STONE-BREAKING MACHINE.

1,162,685. Specification of Letters Patent. Patented Nov. 30, 1915.

Application filed April 30, 1915. Serial No. 24,903.

To all whom it may concern:

Be it known that I, HENRY E. DERBYSHIRE, a citizen of the United States, and a resident of Chambersburg, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Stone-Breaking Machines, of which the following is a specification.

My invention relates to improvements in means for breaking stones, and more particularly to improvements in means for breaking so called "Belgian blocks" into blocks of smaller size.

My invention consists in furnishing the top die and anvil of a steam hammer with suitable bits adapted to engage and break the block but so disposed that they never engage one another, a stop carried by the anvil of the hammer and an overhung projection carried by the top die, and reinforced by a lug carried by the ram of the hammer, being employed to limit the downward movement of the ram.

My invention is illustrated in the accompanying drawings forming part of this specification and in which:—

Figure 1, is a perspective view of a steam hammer embodying my invention: Fig. 2, a front elevation of part of the anvil and part of the ram of a hammer fitted with my stone breaking parts: Fig. 3, a side elevation of Fig. 2. Fig. 4 a vertical section on line 4—4 of Fig. 3 looking toward the left. Fig. 5 a vertical section on line 5—5 of Fig. 2 looking toward the right.

4 is the frame of the hammer, 5 the anvil, 6 the ram: all of these parts are so well known that detailed description of them will be unnecessary.

7 is the top bit of my breaking die which is inserted in the top die 8 of the hammer and held therein by a key 9, Fig. 3, in a well known manner. The bit 7 is formed substantially as shown in Figs. 2 and 3.

The top die 8 is furnished with a tongue 14 and is secured to the ram 6 by a key 10, in the usual well known manner, and carries an overhung projection 11 which is reinforced above by a projecting lug 12 forming part of the ram 6.

The lower bit 13 is held in the notch 18 in the anvil 5 by a key 17 in a manner usual in constructions of this nature, and the anvil 5 carries a stop 16, best shown in Figs. 2 and 3, which engages the bottom of projection 11 to limit the downward movement of the ram 6 and connected moving parts.

The top and bottom bits 7—13, between which the stone is broken, are substantially of a wedge shape as shown in the drawings, their cutting edges being both sharp, both blunt, or one sharp and one blunt as illustrated in the bits 7 and 13 shown in Fig. 3.

Having thus described my invention I claim as new and desire to secure by Letters Patent:—

1. A stone breaking machine comprising a ram carrying a projecting lug, a top die carried by said ram and having an overhanging portion adapted to be engaged by the lug on said ram, a bit carried by said die, an anvil carrying a stop adapted to engage the overhanging portion of said top die, and a bit carried by said anvil, said stop in normal operative position permitting said ram die to complete its breaking stroke in connection with the die of said anvil and serving to arrest said die after the completion of said stroke and before contact of said bits.

2. A stone breaking machine comprising an anvil provided with a recess, a detachable bit fixed in said recess, a stop block also fixed in said recess adjacent to the end of said bit and projecting above the edge thereof, a reciprocating ram having an overhung projection, a die secured to said ram, and a bit secured in said die in alinement with said anvil bit, said die having an overhung projection in contact with said ram projection and adapted after the breaking operation to engage the outer end of said stop block to prevent contact of said bits.

HENRY E. DERBYSHIRE.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."