I. DAVIS.

Triturating-Machine.

No. 227,498. Patented May 11, 1880.

Fig. 1

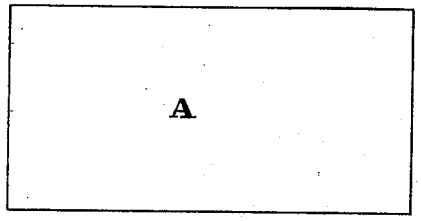


Fig. 2

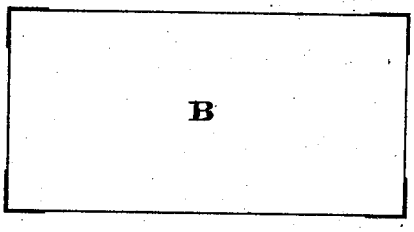


Fig. 3

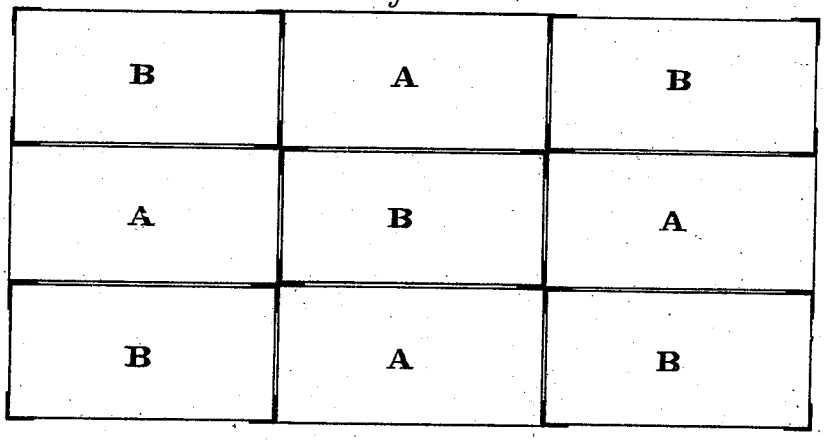
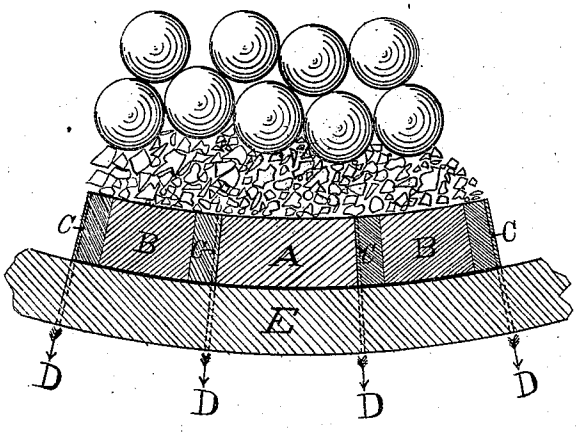


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

ISAAC DAVIS, OF TRENTON, NEW JERSEY.

TRITURATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 227,498, dated May 11, 1880.

Application filed January 13, 1880.

To all whom it may concern:

Be it known that I, ISAAC DAVIS, of the city of Trenton, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Triturators, or machines for pulverizing or crushing quartz, spar, flint, or other rock or hard substance, of which the following is a specification.

The invention relates to the construction and lining of the drum or cylinder of a triturator or pulverizer in which the substance or material to be crushed or pulverized is placed within such drum or cylinder, together with balls of metal or other hard substance, and the cylinder or drum is rotated. Heretofore, in such drums, as constructed, it has been impossible to remove the pulverized substance from such drum or cylinder save by stopping the motion and opening a door in the side or end, or by blowing the pulverized material out through a hollow journal by means of a strong blast of air, necessitating additional machinery and extra power, and such drums have heretofore been lined with substances which have been subject to rapid deterioration from abrasion when in use.

The object of my invention is to provide a lining that will withstand the severest amount of use without abrasion, and the blocks of which are so shaped and arranged, in combination with each other and with the other parts of the drum or cylinder of the triturator or pulverizer, as to provide small slots or interstices between portions of the ends and sides of such blocks and perforations or openings in the outer case of such drum or cylinder, through which slots and openings the crushed material, when sufficiently pulverized, will drop into a receptacle or trough placed below such drum or cylinder.

To effect this purpose I make my lining of blocks of glass or other vitreous substance, and mold these blocks with slightly-recessed sides and ends, or, indifferently, I employ in building up my lining such shaped blocks alternating with plain-sided blocks, or all the blocks may be plain-sided, and the slits or interstices may be cast in the body of such blocks. These blocks may be the same width as their length, or they may, indifferently, be longer than their width. The sides of the blocks are slightly wedge-shaped, so that in building up the lining within the drum or cylinder they will hold each other in position like the staves of a barrel. I also provide perforations or openings in the outer case or shell of the drum or cylinder.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a view of one of my plain-sided blocks. Fig. 2 is a view of one of my blocks with slightly-recessed sides and ends. Fig. 3 is a view of a portion of my lining viewed from directly above, wherein plain-sided blocks A A A alternate with recessed blocks B B B, thus leaving slight interstices or slits between portions of the ends and sides of the blocks. These interstices or slits extend the whole thickness of the block and serve as outlets for the crushed materials. Fig. 4 is a sectional view of a segment of such drum or cylinder, showing, in an end view, the blocks A A and B B in position within the cylinder.

The dotted lines C C C C show the slits or interstices, and the perforations or openings in the outer case, E, of the drum or cylinder are shown by the dotted lines D D D D.

I am aware that linings for such drums composed of plain-sided slabs of glass or vitreous earthenware are not new. Such plain-sided slabs I do not use. They are with difficulty fastened to the interior of the drum, and they make a tight lining. The different form, construction, and arrangement of my blocks enable me to secure them within the drum without any difficulty, and at the same time to provide openings in the lining.

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

1. As an improved article of manufacture, a block for lining drums or cylinders of triturators or pulverizers, such block being composed of glass or other vitreous substance, and having wedge-shaped sides, a smooth inner surface, and corners slightly projecting at the ends and sides, to afford slightly-recessed sides and ends to such block, substantially as shown and described.

2. In a cylinder or drum of a triturator or pulverizer, a lining composed of blocks of glass

or other vitreous substance, the said blocks being wedge-shaped and constructed with slightly-recessed sides and ends, and arranged and combined substantially as shown and described.

3. A triturating cylinder or drum consisting of the outer shell, E, having openings D, and an inner shell or lining composed of blocks which are smooth upon their inner surface, wedge-shaped upon their sides, and having their corners slightly projecting at their ends and sides, all combined and arranged substantially as shown, and for the purpose set forth.

ISAAC DAVIS.

Witnesses:
CHARLES W. STREET,
SAMUEL WALKER, Jr.