I. W. FORBES.

Improvement in Stamp Batteries.

No. 115,295. Patented May 30, 1871.

FIGURE 1.

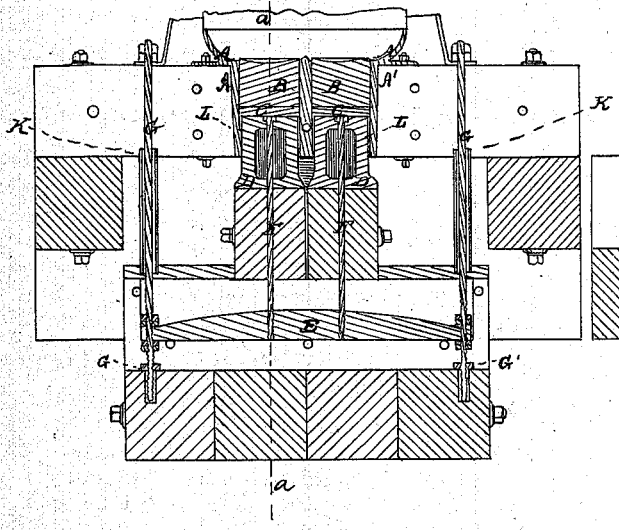


FIGURE 2.

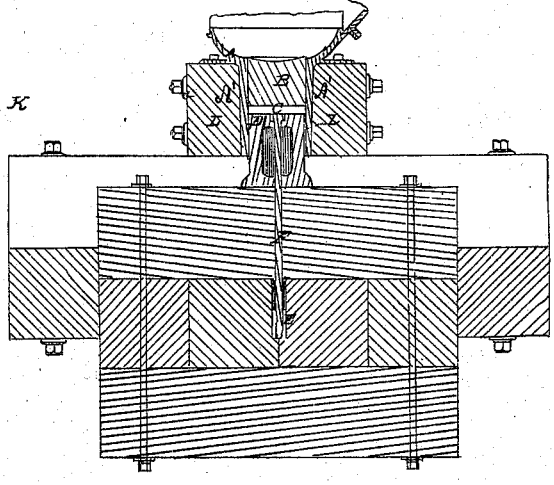


FIGURE 3

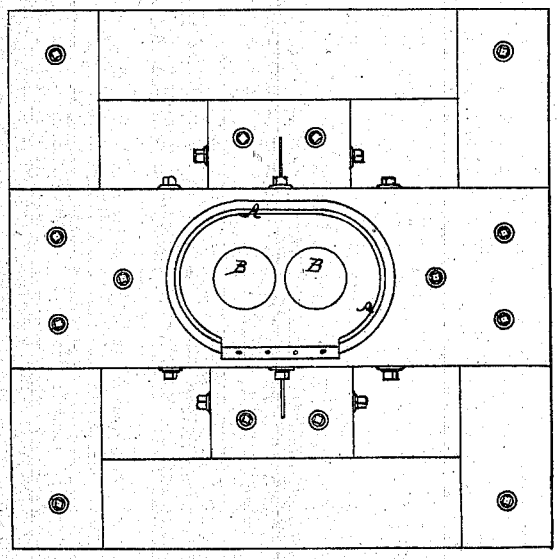


FIGURE 4.

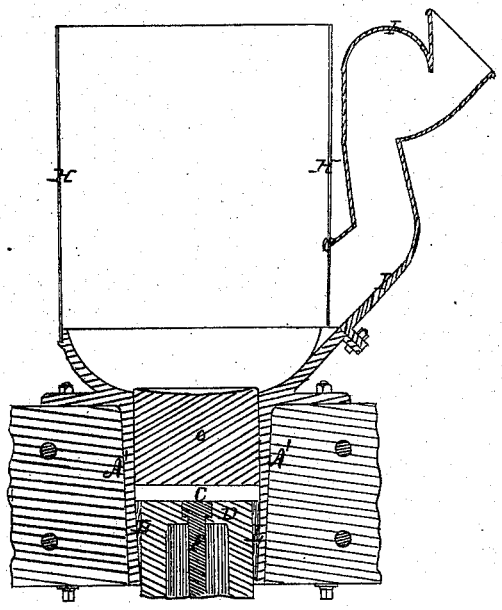
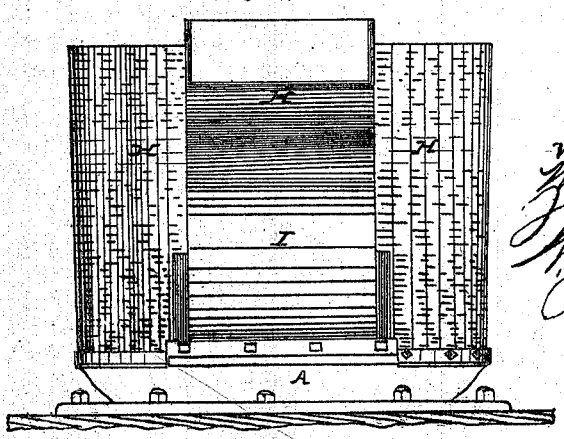


FIGURE 5.



INVENTOR

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ISAAC WILLIAM FORBES, OF LA PORTE, INDIANA.

IMPROVEMENT IN STAMP-BATTERIES.

Specification forming part of Letters Patent No. 115,295, dated May 30, 1871; antedated May 26, 1871.

To all whom it may concern:

Be it known that I, ISAAC WILLIAM FORBES, of La Porte, in the county of La Porte and State of Indiana, have invented new and useful Improvements in Mortars for Stamp-Batteries; and I do hereby declare the following to be a clear and exact description of the nature thereof sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a central longitudinal section of a mortar, with dies, elastic substance, and standards, and the foundations upon which they rest, for a double stamp-battery, with bridge beneath for holding the standards down and raising the dies when required. Fig. 2 is a sectional view in line *a a*, Fig. 1. Fig. 3 is a top or plan view. Fig. 4 is a sectional view of the mortar portion of the standard, elastic substance, and sill with screen and chute attached, drawn on a larger scale than the preceding figures. Fig. 5 is a view of the upper portion of the mortar complete as bolted upon the sill, with the strainer and chute.

My invention relates to mortars for quartz-batteries or batteries of a like nature; and its objects are to produce a mortar which will be free from injurious effects of the blows dealt on the same, and to prevent the destruction of dies and stamps when blows are delivered with great force by the battery. The first-mentioned object is attained by the mortar having an opening or openings relatively to the number of stamps used, and provided with tubes or thimbles, in which standards are inserted, as hereinafter described. The second object is attained by means of an elastic substance placed between the die and the standard upon which it rests, and which standard is supported and secured upon a bed of timber, as hereinafter described.

In the drawing, A represents the mortar provided with one or more thimbles, A′. B B are the dies. C is the elastic substance; and D D are standards, upon which the dies and elastic substance rest, and which pass up in the thimbles of the mortar. E is the cross or bridge bar, designed to hold the standards down and to raise the dies when they are to be replaced by new ones, or when new elastic substance is required to be placed beneath the same. Bolts F F pass through the iron standards or shafts and the sills on which they rest into the bridge-bar below, to which they are secured, and hold the standards down. G G are long bolts, which pass through the lower flange of the frame of the battery, through the sill and the bed-timbers and bridge-bar E, and secured beneath by nuts G′ G′, which are let in the lower portion of the bed-timber in which the bridge-bar works. These bolts pass a sufficient distance through said nuts, with jam-nuts upon each side of the bridge-bar, for the purpose of raising that bar or screwing it down, as the case may be—bolts G G being screwed up or down, as may be required. These bolts are designed to hold standards D D in their position firmly to their beds, and raise dies B B up out of the thimbles of the mortar when required to replace them with new ones, or to put in new elastic substances or other material for the purpose of raising them to the proper height as they wear away until they are renewed. When they are raised a sufficient height to take them out, then bolts G are screwed down, which hold the standards D D in their proper positions firmly to their bed by means of bolts F, which are screwed in the bridge-bar, as represented in Figs. 1, 2, and 4. H is the strainer; I, the chute; and K are pieces of pipe through which pass bolts G, which are designed to keep the water or dampness from bolts G G and prevent rusting. L is a packing in the thimbles around the standard, which forms a stuffing-box.

In the construction of the mortar the lower part should extend down, forming thimbles or tubes, according to the number of stamps. If a long battery should be used, the mortar may be formed in the shape of a box, with one block fitting in the same for receiving the dies and blows; or holes may extend through the mortar for each stamp to receive the standard which passes in the same, upon which the elastic substance and dies are placed. If a circular battery is used, with a number of stamps, one large hole may be put through the mortar, which will extend down and form a thimble to receive one standard for the dies, or to receive a skeleton frame with holes to receive the standards and dies through the

same, relatively to the number of stamps; or the mortar may extend down and form as many thimbles as there are stamps belonging to the battery, and which thimbles will receive the standards, elastic substances, and dies. But in all cases the thimble or thimbles extending down to receive the standards or their equivalents should be well packed, as with hemp, manila, or something equivalent, for the purpose of preventing the mortar from leakage of water, pulp, or quicksilver. The tubes or boxes should extend down sufficiently from the bottom of the mortar to receive the standards. The standards should rest upon sills or a bed of timbers separate and independent from those upon which rest the battery and mortar. They should extend up a sufficient height in the mortar, tubes, or thimbles to receive the packing.

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

1. The mortar A, formed with one or more open thimbles, A′, in combination with standards D and die B, substantially as and for the purpose described.

2. The bar E and bolts G, in combination with standard D and die B, substantially as and for the purpose described.

3. The combination of the mortar A, constructed as described, elastic substance C, standard D, bolts F G, bar E, packing I, and die B, constructed, arranged, and operating substantially as described.

4. The relative arrangement within the thimble A′ of the elastic substance C, die B, and standard D, substantially as and for the purpose described.

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Witnesses:
W. H. FINCKEL,
W. J. PEYTON.