

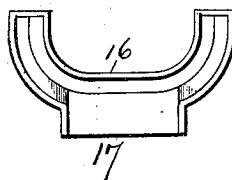
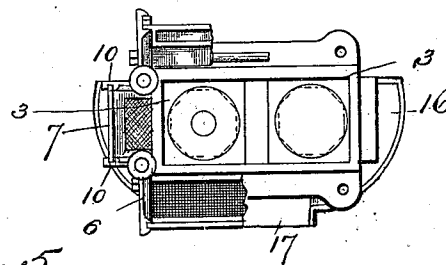
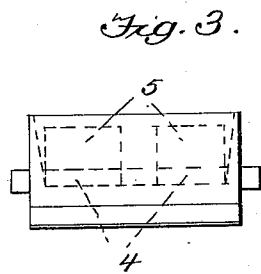
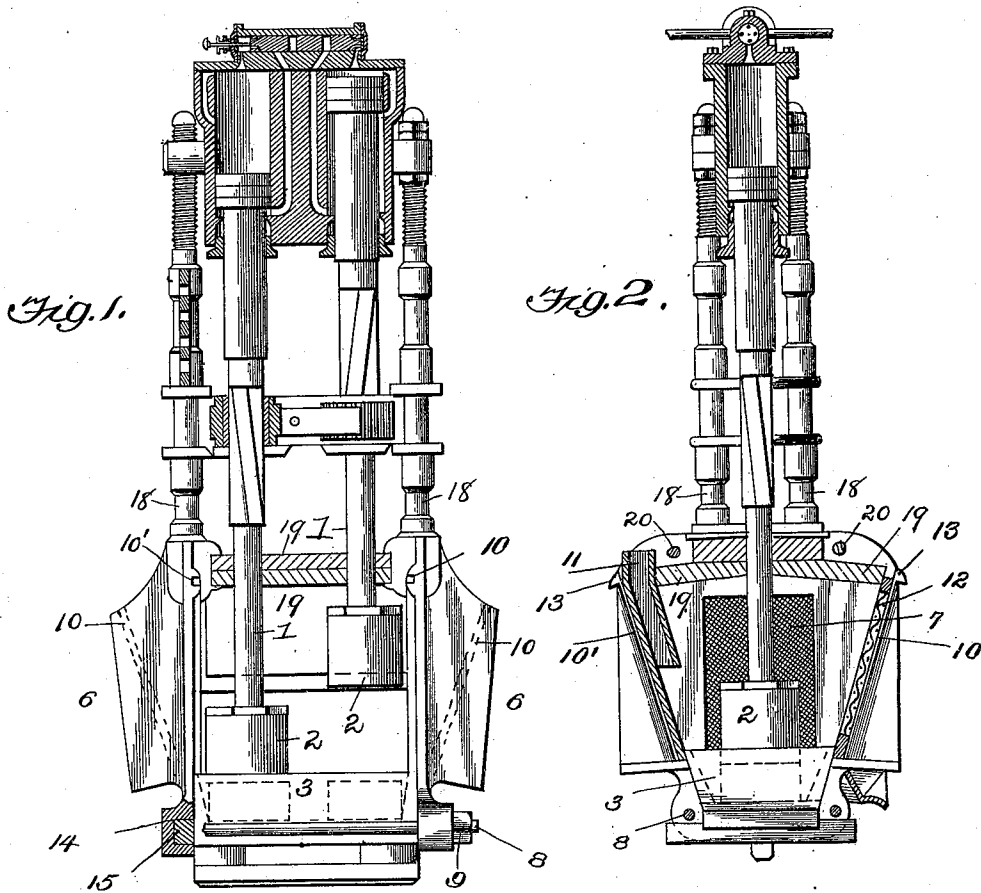
(No Model.)

2 Sheets—Sheet 1.

C. W. TREMAIN.  
STAMP.

No. 502,839.

Patented Aug. 8, 1893.



Witnesses  
*John E. Davis*  
*Geo. S. Robertson*

Inventor  
*Charles W. Tremain,*  
By *J. H. Robertson,*  
Attorney

(No Model.)

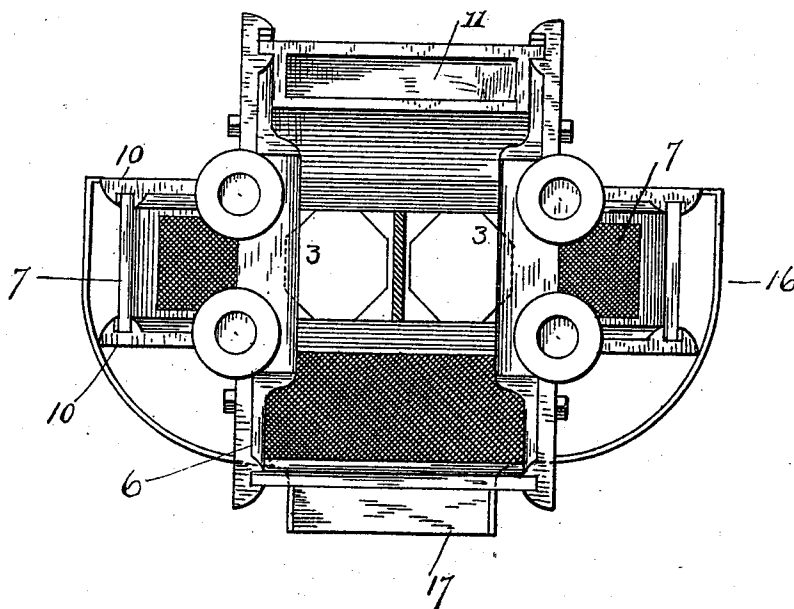
2 Sheets—Sheet 2.

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Fig. 6.



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# UNITED STATES PATENT OFFICE.

CHARLES W. TREMAIN, OF PORTLAND, OREGON.

## STAMP.

SPECIFICATION forming part of Letters Patent No. 502,839, dated August 8, 1893.

Application filed July 14, 1892. Serial No. 440,054. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. TREMAIN, a citizen of the United States, residing at Portland, Multnomah county, Oregon, have invented certain new and useful Improvements in Stamps, of which the following is a specification, reference being had therein to the accompanying drawings.

My present invention relates to the lower or battery part of a steam ore stamp, and the principal objects thereof are to provide a battery of simple construction and which is adapted to afford convenient and economic use while in operation, and to be easy of transportation, these features being likewise more especially designed to be used in combination with the upper or engine part of a steam ore stamp of my invention, and for which several Letters Patent of the United States were granted to me heretofore, most of the improvements herein described being also shown but not claimed in my application for Letters Patent, Serial No. 419,062, filed January 23, 1892.

The views shown in the accompanying drawings represent as follows:

Figure 1 is an elevation of a stamp constructed according to my improvement with the engine part in section, and other parts removed or represented as broken away. Fig. 2 is a side view with one side of the frame removed and with the cylinder, hopper and front screen in section. Fig. 3 is a side view of the mortar detached. Fig. 4 is a plan of the battery with parts removed and broken away. Fig. 5 is a plan of a trough detached. Fig. 6 is a plan on a larger scale of the battery with the engine and cross piece removed.

Referring now to the details of the drawings by figures—1 represents the piston stems to the ends of which are secured in any convenient manner the stamp heads 2. The battery in which said stamp heads work, consists of a mortar 3, having recesses or die sockets in its bottom, as 4 to receive respectively a die 5, the bottom of which is adapted to fit in between the walls of such recesses or sockets 4, but leaving a remaining space in the corners or elsewhere, as found convenient, to admit a tool to pry out the dies when worn and desiring to replace them by others, or for other

purposes. In this connection I have also contrived to make a double use of the stamp heads 2, the top of the latter being adapted to set in the die sockets 4, so that when such stamp heads are worn away to about one half their depth, the same can be taken off and reversed, and used in place of worn out dies, and thus save the cost of new ones.

To the mortar are attached the end pieces 6, which practically constitute the frames for holding the screens and hopper hereinafter again referred to, and with these form the sides of the trough in which the ore crushing is done.

To facilitate the putting together of the above named parts, the mortar and end-pieces or frames 6 are respectively provided with means, as the ribs 15 on the ends of the mortar and grooves 14 near the bottom of such end-pieces, for locking such parts together and firmly securing the same by bolts and nuts 8—9, or other suitable contrivances. The end-pieces 6 are respectively provided with grooves 10 for receiving and holding the smaller end-screens 7 and grooves 10' for receiving and holding the hopper 11 and larger screen 12 interchangeably, such hopper and screen 12 being interchangeable in order that the hopper may be placed in the side more convenient for operation. The screen and hopper after being set in place are secured there by the keys 13 set in the grooves 10'. I thus obtain screens on three sides and a consequential increased facility for discharging the water and crushed material out of the battery; and to catch the water and crushed material as discharged through the said screens I provide an exterior trough or attachment 16 (see Figs. 4 and 5) having a lip 17 for emptying the contents of such trough into a desired receptacle. The battery or lower part described, constitutes in the whole the foundation of my ore-stamp, the end-pieces 6 being adapted to have the standards 18 supporting the engine part affixed therein. Between the end pieces 6 there are placed cross pieces 19 preferably of wood so as to be cheaply replaced when worn by the motion of the stamps, and long bolts or tie rods 20 pass through the end pieces and clamp them against said cross pieces. This,

and the bolts 8, make a steady and stiff frame for the battery.

What I claim as my invention is—

1. The combination in a battery of a mortar adapted to receive a die or dies in its bottom, and end pieces or frame sections 6 adapted to be affixed to said mortars, and when affixed to constitute a frame adapted to receive and hold screens on three sides thereof and a hopper in the remaining side, one or more of such screens being interchangeable with the hopper for the purposes specified, substantially as described.

2. In a stamp-battery in combination, a mortar adapted to receive the die or dies in its bottom, end-pieces or frame-sections 6 adapted to be affixed to said mortar, and when affixed to constitute a frame adapted to receive and hold screens on three sides thereof, and a hopper on the remaining side, one or more of such screens being interchangeable with the

hopper, suitable screens and hopper, and means for securing said parts in place, all substantially as and for the purposes set forth.

3. The combination in a stamp battery, of the mortar 3 having projecting end ribs 15, the end-plates 6 having grooves 14 to receive the ribs 15, the bolts 8, and nuts 9, substantially as described.

4. In a battery, the end-plates 6, provided with grooves 11, in combination with the interchangeable hopper and screen secured in said grooves, substantially as and for the purpose specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 28th day of June, 1892.

CHARLES W. TREMAIN.

Witnesses:

W. F. BRUCKNER,  
T. N. HUGHES.