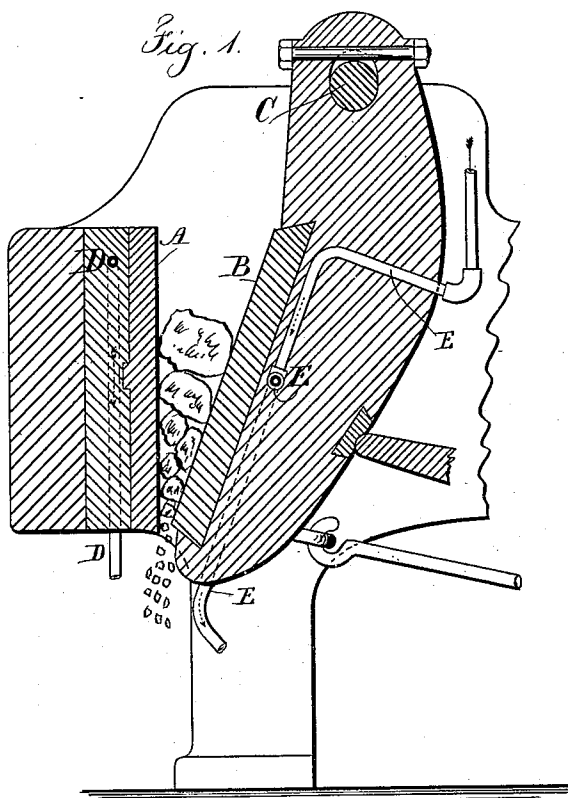
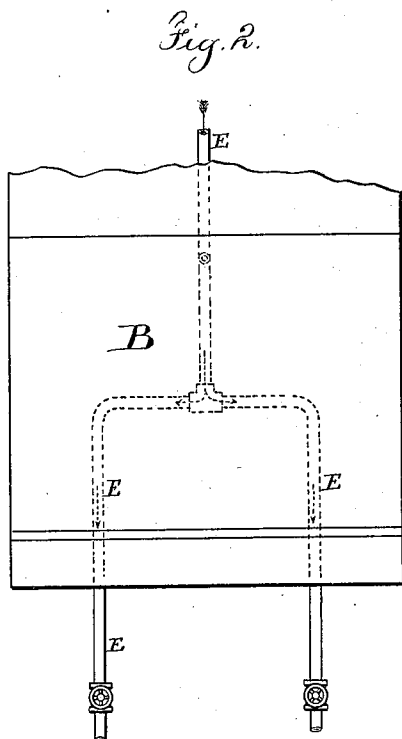


(No Model.)

W. A. MILES.
STONE AND ORE CRUSHER.

No. 319,741.

Patented June 9, 1885.



Witnesses

Chas. A. Smith
J. Stair

Inventor

William A. Miles

for Samuel W. Serrell atty

UNITED STATES PATENT OFFICE.

WILLIAM A. MILES, OF COPAKE IRON WORKS, NEW YORK.

STONE AND ORE CRUSHER.

SPECIFICATION forming part of Letters Patent No. 319,741, dated June 9, 1885.

Application filed March 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MILES, of Copake Iron Works, in the county of Columbia and State of New York, have invented an
5 Improvement in Stone and Ore Crushers, of which the following is a specification.

In operating stone and ore crushers in cold weather, especially an ore-crusher of the Blake pattern, in which there is a stationary jaw and
10 a reciprocating jaw, the ore as it slides down is crushed by a progressive operation, and adheres to the inner surfaces of the jaws in consequence of the presence of sufficient moisture to freeze fast upon the cold metal of the jaws.
15 In this manner the crushing operations are interfered with, and the material does not slide freely through the crusher, and the amount crushed is very materially lessened.

The object of my invention is to prevent the
20 adhesion of the crushed material to the inner surfaces of the jaws, and thereby to insure as large a production of crushed material in cold weather as in warm weather. To effect this object, I provide for heating the metal of the
25 jaws sufficiently to prevent the ore freezing upon and adhering to the inner surfaces of each jaw.

In the drawings, Figure 1 is a vertical section illustrating a stone or ore crusher with
30 the heating device applied thereto, and Fig. 2 represents the surface of the moving jaw.

The jaws A and B are of ordinary construc-

tion, the jaw A being stationary, and the jaw B swinging upon the pivot C, and the devices for moving the jaw B are to be of any usual
35 character. I apply heat to these jaws A and B in any desired or convenient manner. Where the jaws are provided with movable face-plates, the body of the jaw behind the face-plate may be recessed with channels, through
40 which steam, hot air, or hot water is caused to circulate. A convenient mode, however, of applying heat to these jaws is to introduce U-shaped or bent pipes into the molds, and cast the iron of the jaws around these pipes,
45 and then to couple up the projecting ends in such a manner as to allow for steam, hot water, or hot air to circulate through such pipes to add to the jaws sufficient heat to prevent the moisture in the stone or ore freezing upon
50 or adhering to the inner surfaces of the jaws. I have shown such pipes at D D and E E.

I claim as my invention—

The stone - crushing jaws provided with tubes through which a heated fluid is caused
55 to circulate for maintaining a sufficient temperature in the jaws to prevent moisture freezing upon such jaws, substantially as set forth.

Signed by me this 11th day of March, A. D. 1885.

WILLIAM A. MILES.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.