

W. BRINTON.  
CRUSHING JAW.  
APPLICATION FILED FEB. 29, 1908.

945,372.

Patented Jan. 4, 1910.

FIG. 1.

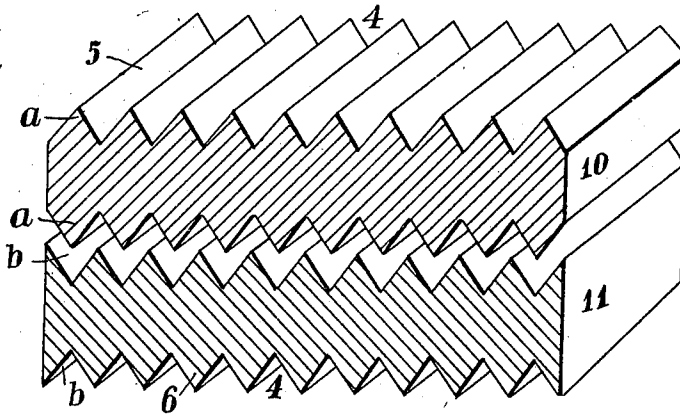


FIG. 2.

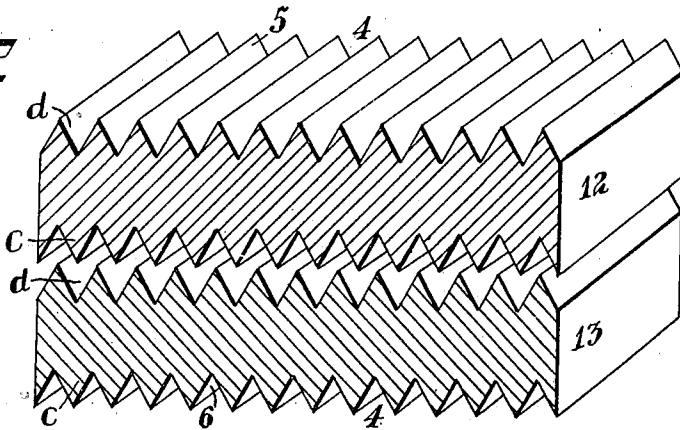


FIG. 3.

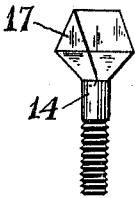


FIG. 4.

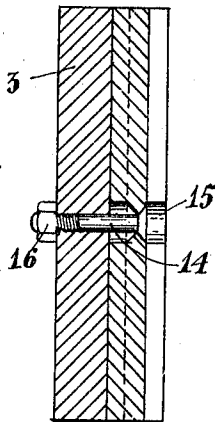
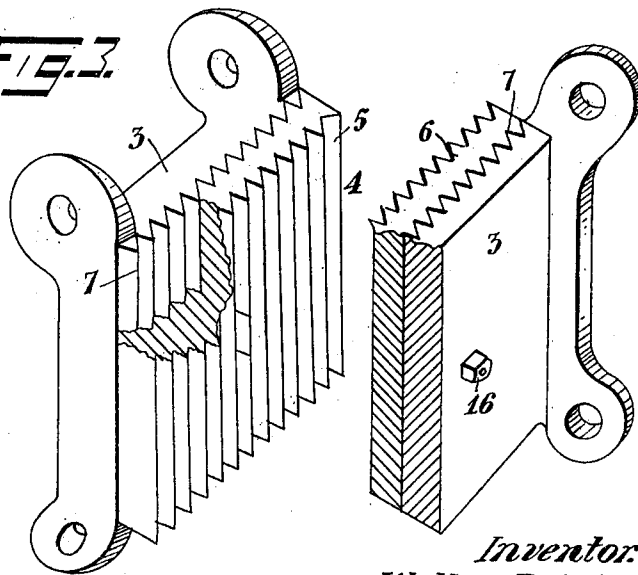


FIG. 5.



Witnesses.  
*Shuman*  
*H. D. Penney*

Inventor:  
*Walter Brinton,*  
By his Attorney, *F. H. Richards,*

# UNITED STATES PATENT OFFICE.

WALTER BRINTON, OF HIGH BRIDGE, NEW JERSEY.

## CRUSHING-JAW.

945,372.

Specification of Letters Patent.

Patented Jan. 4, 1910.

Application filed February 29, 1908. Serial No. 418,484.

*To all whom it may concern:*

Be it known that I, WALTER BRINTON, a citizen of the United States, residing in High Bridge, in the county of Hunterdon and State of New Jersey, have invented certain new and useful Improvements in Crushing-Jaws, of which the following is a specification.

The present improvement relates to stone and ore crushers, but more particularly to the jaws thereof, the object of the invention being to provide an improved stone or ore crushing jaw which is reversible and interchangeable, whereby both sides of the jaw may be used, so that the life of the jaw is materially prolonged, in fact, is double that of the ordinary jaw now in use, while also the face plate thereof will have an increased bearing upon the supporting means or jaw body, thereby more effectively to retain such face plates in position, and to accomplish this by providing jaws which are comparatively simple in construction and mode of assemblage and in which the face plates thereof may be readily and quickly assembled, and which jaws may also be used, if desired, with the ordinary stone or ore crushers now in use.

In the drawings accompanying and forming part of this specification, Figure 1 is a perspective sectional view showing one form of a pair of face plates; Fig. 2 is a similar view, but illustrating a different form of plates; Fig. 3 is a perspective view illustrating a pair of jaws, one in section and the face plate of the other partly broken away; Fig. 4 is a sectional view taken in line *a-a* of the left hand jaw shown in Fig. 3; and Fig. 5 is a view of one form of fastening means for attaching the face plates to the jaw body.

Similar characters of reference indicate corresponding parts throughout the figures of the drawings.

Crushing jaws as ordinarily made comprise a movable and a fixed jaw, each provided with a face plate having teeth or crushing faces on one side thereof, the rear sides of the plates frequently being provided with openings to lessen the weight of the plate. When the crushing faces wear out, however, it has been necessary to supply a new set of plates to the jaw bodies.

The object of the present improvement is, as stated, to prolong the life of the face plates, and to this end I provide face plates

which are furnished with crushing faces or teeth on both sides thereof, whereby they are reversible so that when the crushing faces of one plate have been worn out, or for any other cause it is desirable to remove the plate, the same may be reversed and the crushing faces on its opposite side brought into position for use. In the present embodiment I have shown two forms of crushing teeth, in one form of which the teeth of both face plates may be located in the same position relatively to each other, while in another form thereof each face plate has the teeth on one side opposite the spaces between the teeth on the other side.

In the present improvement the jaw comprises the jaw body or support or back member 3 and the face plate 4, which latter may be secured to its body in any suitable manner. This face plate 4 is provided on both sides thereof with crushing faces or teeth 5 and 6, the jaw body being also provided with similarly formed faces 7 adapted to mesh with the teeth of its face plate. In practice each face plate may have the teeth at both sides thereof opposite each other, as shown in Fig. 1, whereby when the crushing faces on one side have been worn out on either or both of the jaws it is merely necessary to reverse the face plates to bring the unused crushing faces into position. In this form of face plates it will be observed that the crushing faces or teeth *a* which constitute, for instance, one member 10 of the pair of plates, project into the recesses *b* of its companion face plate, which latter thus constitutes the other member 11, both sides of such member having similarly formed and located recesses. In another form of the jaw, as for instance shown in Fig. 2, each face plate may have the crushing faces on one side located differently from those on the other. For instance, the crushing faces *c* of one face plate 12 on one side thereof may be opposite the recesses *d*, in which case, however, when one face plate is reversed the other, as 13, must also be reversed, since otherwise they would not properly coöperate; whereas in the construction shown in Fig. 1 either face plate may be reversed without the necessity of reversing the other, since the crushing faces *a* on either side of the member 10 will always coöperate with the recesses *b* of either side of the member 11, whereas in the form shown in Fig. 2, if one only of the face

plates were reversed it would bring the recesses *d* or projections *c* into position to co-operate with the similar recesses or projections of its companion member, which, of course, would not produce the desired crushing action.

The jaw body is preferably formed with surfaces corresponding with the crushing surfaces of the face plates, whereby the teeth of the face plates will project into, that is to say, will mesh with the faces on the jaw body, whereby increased bearing surfaces throughout the face plates is obtained. This formation of face plates also lightens the same, materially decreasing the weight thereof. In jaws as ordinarily made when the face plates are lightened by the formation of openings in the rear of the face plates, the engagement between such face plates and the jaw body is also decreased. In the present instance, however, by forming the crushing faces in the manner shown, not only is the weight of the crushing plate decreased, as hereinbefore stated, but there is a material increase in the bearing surfaces of the face plates upon the jaw body, while they are also interlocked owing to the formation of the surfaces of the jaw body and plates, so that the face plates may be maintained in firm bearing engagement with the jaw bodies by some simple form of clamping or retaining means. In the present instance I have shown the fastening means as consisting of a bolt 14, for the reception of which an opening 15 may be formed in the face plate and jaw body. In the form shown the bolt extends through the face plate and body for the reception of a nut 16 on its threaded end, the head 17 of the bolt being so formed as to conform to the shape of the crushing faces, whereby it will be seated intermediate a pair of such faces.

From the foregoing it will be observed that should it be desirable the face plates could be shifted slightly sidewise, as would be necessary where the jaw body was made to conform to one form of teeth, as for instance those shown in Fig. 1, but was subsequently desired to be used with the form of teeth shown in Fig. 2, and to permit this it would be merely necessary to form the bolt opening in the jaw body of slightly larger diameter than the diameter of the bolt at two opposite sides thereof, in other words, to form such opening of elongated form, with the greater diameter thereof crosswise of the jaw body, since the intermeshing or inter-

penetrating teeth would prevent movement of the face plates on the body in this direction. It will also be seen that by forming the face plates with teeth on opposite sides thereof I am able to prolong the life of such face plates very materially, in fact, I am able to use them twice as long as where crushing faces are formed only on one side thereof, while at the same time, when the plates are made according to one form, I am able to reverse either one of such face plates without reversing the other, while also obtaining decreased weight of the plates and materially increasing the bearing engagement between the plates and the jaw bodies, and in addition, obtaining an interlocking engagement between such members, whereby the face plates are held more rigidly in position on the jaw bodies than would otherwise be possible. It will also be observed that the face plate of either the movable, or the fixed jaw may be interchanged with that of the other jaw, as well as reversed. In practice the jaws may be used with the ordinary stone crusher by merely substituting this form of jaw for those already in use.

The jaws comprising the body and face plates, may be made of any suitable form of metal, the jaw body of one metal and the face plates of another if desired. In the present improvement the jaw bodies may be made of one metal, while the face plates may be made of manganese steel, which is highly resistant to wear. Manganese steel, however, is much more expensive than ordinary steel, and consequently, by making the jaw bodies of a less expensive metal and the face plates of manganese steel a far superior article is obtained, while the cost of the same is not materially increased.

Other means may be used, if preferred, in place of the bolts shown herein for holding the face plates in position.

I claim as my invention:

A crushing jaw comprising a body and a face plate, the face plate being provided with a series of crushing teeth on its opposite faces that are formed identical on the two sides, the body being provided with a grooved face arranged to engage each of the said faces of the face plate and to contact therewith throughout substantially the entire crushing surface, and means for reversibly securing the face plate to the body.

WALTER BRINTON.

Witnesses:

A. L. BEAVERS,  
W. H. LONG.