

(No Model.)

J. D. HUNTINGTON.

ORE CRUSHER.

No. 302,566.

Patented July 29, 1884.

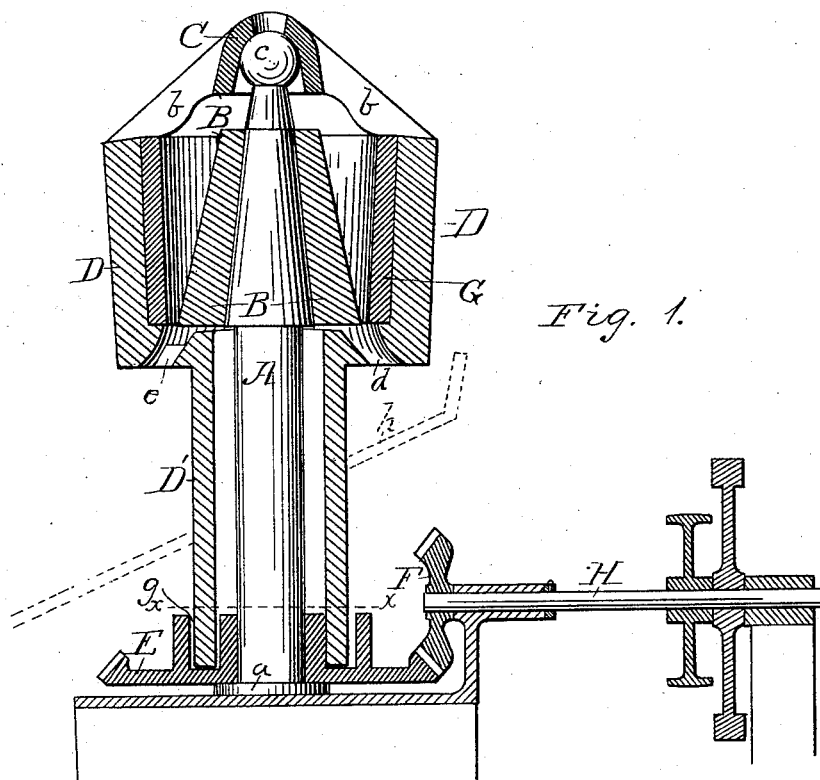
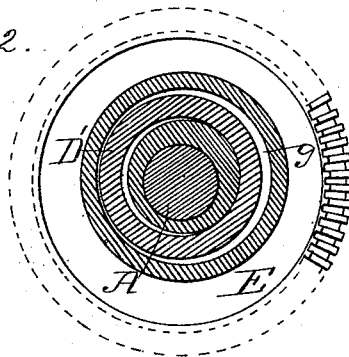


Fig. 2.



WITNESSES:

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## ORE-CRUSHER.

SPECIFICATION forming part of Letters Patent No. 302,566, dated July 29, 1884.

Application filed December 21, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH D. HUNTINGTON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stone and Ore Crushers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to furnish a rock and ore crusher which is thorough and effective in its work, and which is simple in construction. This I accomplish by means of a stationary upright post having on its upper portion a conical crushing-head, a revolving and gyrating case or frame, and the means for producing the gyrations of said case.

In the drawings, Figure 1 is a vertical longitudinal section of my invention. Fig. 2 is a transverse horizontal section taken below the line *x x*, Fig. 1.

Reference being had to the drawings, A represents a solid stationary upright post, resting on a stepped bearing-surface, *a*, and having its upper portion slightly conical, so as to accommodate and hold a truncated cone-shaped head, B. This post is provided with a spherical top, *c*, which is separated from said conical portion by a suitable neck. Fitting over said top *c*, and having a corresponding concavity, is a socket-bearing, C, connected to and supporting the case D through the medium of the arms *b b*. This case is provided with an inner chilled crushing-surface, G, the relative incline of which to the angle of the crushing-surface of the head B is such that it is farthest separated from the same at the top, and graduated from there to the bottom, at which point it is nearest the said head. Immediately below the plane of the base of said conical head the case D is provided with openings *d*, and connected to the lower portion, D', (which is cylindrical and of a less diameter,) by bridges *e*.

The lower end edges of the cylindrical por-

tion D' of the case enters loosely into an annular groove, *g*, which latter is eccentric to the center of the post A, and is made in a suitable boss or stepped portion of the large beveled gear E. This gear is loosely journaled on said post, and bears upon the stepped bearing-surface *a* thereof. Thus as said gear E revolves the eccentric groove will give the case D a gyrating motion, which the spherical top *c* of the post A and bearing C of the case D will permit, and which will grind and crush the rock or ore between the inner chilled crushing-surface, G, of the case and the conical crushing-head B. The crushed particles of rock or ore will fall through the openings *d*, and, dropping onto the incline *h*, arranged beneath the upper portion of the case, as shown in dotted lines in Fig. 1, will gravitate down the same to a suitable receptacle, from whence they can be taken and utilized.

Meshing with the beveled gear E is the beveled pinion F, arranged on the contiguous end of a horizontal shaft, H, driven by suitable means.

I do not, considering the state of the art, wish to be confined to the exact means shown for producing the gyratory motion of the case, as various modifications can be made and used instead.

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

1. An ore-crusher consisting of a stationary upright post, a crushing-head on said post below the top thereof, and a case journaled on the top of said post, and having its grinding-surface adjacent and opposite said crusher-head of a diameter greater than the same, substantially as set forth.

2. The combination, in an ore-crusher, of a stationary upright post and a crushing-head arranged on and surrounding said post, with a gyrating-case having suitable crushing-surfaces, openings below said crushing-surfaces, and having a lower cylindrical portion of a less diameter than the upper portion, substantially as set forth.

3. The combination, with a gyrating case surrounding and hung upon a stationary post,

and having its lower portion cylindrical and  
of a less diameter than the upper portion,  
and said stationary post, of a beveled gear  
having a suitable boss or stepped portion in  
5 which is an eccentric groove, into which the  
lower end edges of the cylindrical portion of  
said case enters, substantially as described.

In testimony that I claim the foregoing as  
my own I hereunto affix my signature in pres-  
ence of two witnesses.

JOSEPH D. HUNTINGTON.

Witnesses:

JAMES H. COYNE,

FRANK D. THOMASON.