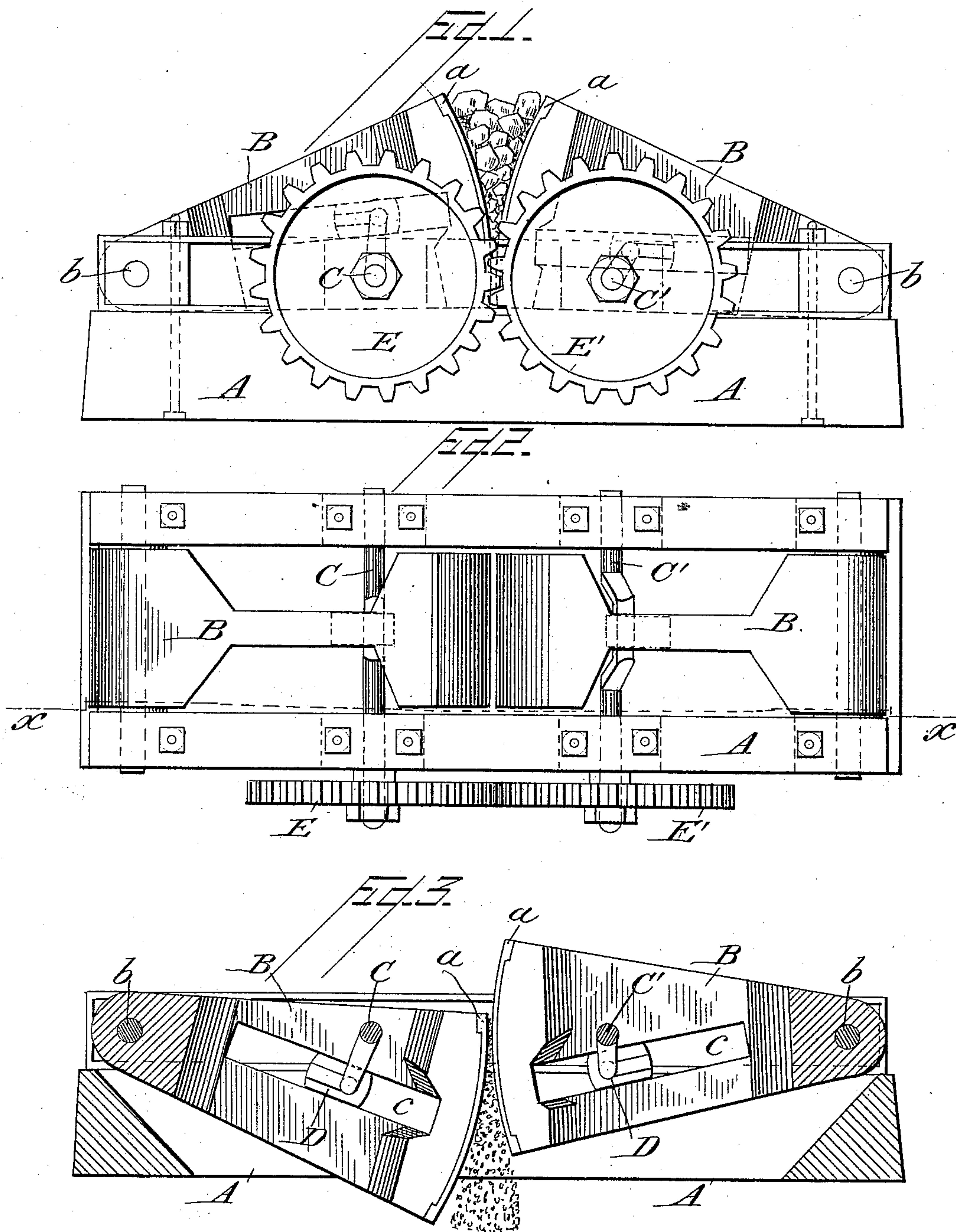


(No Model.)

G. W. WELLER.  
ORE CRUSHER.

No. 430,049.

Patented June 10, 1890.



Attest:

H. H. Schott  
H. L. Joyden

Inventor

Giles W. Weller  
per John C. Parker  
Atty



# UNITED STATES PATENT OFFICE.

GILES WALTING WELLER, OF BAKER CITY, OREGON.

## ORE-CRUSHER.

SPECIFICATION forming part of Letters Patent No. 430,049, dated June 10, 1890.

Application filed October 5, 1889. Serial No. 326,074. (No model.)

*To all whom it may concern:*

Be it known that I, GILES WALTING WELLER, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented certain new and useful Improvements in Ore-Crushers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to that class of ore-crushing machinery in which the material is fed and crushed between opposing movable jaws; and the invention consists, essentially, in the construction, arrangement, and combination of parts, substantially as will be hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of my improved ore-crusher. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal sectional side elevation on the line  $xx$  of Fig. 2.

Similar letters of reference designate corresponding parts throughout the different figures.

A represents the main frame of my improved ore-crushing machine. This frame is constructed in any desirable manner to permit the convenient arrangement therewith of the several mechanical parts which constitute my machine. I therefore am confined to no particular form for the main frame, but construct it in the manner that appears best.

B B denote the crushing-jaws. They are are hung or pivoted on horizontal shafts  $b b$ , which are journaled in the opposite ends of the main frame A. The crushing-jaws are thus arranged so as to be susceptible of a vertical vibration or oscillation. The working-faces of these jaws are curved oppositely with respect to each other and are provided with suitably-constructed faces  $a a$ .

C and C' indicate transverse horizontal crank-shafts, which are journaled at their opposite ends in the main frame of the machine. The crank portions of these shafts are pivotally connected to slide-blocks D D, located and operating within longitudinal slots  $c$  in the crushing-jaws B B. The crank portion of one of said crank-shafts is larger or longer than that of the other—for instance, the crank

portion of the shaft C. This construction causes one of the crushing-jaws to have a wider motion and a more extended vertical oscillation than the other, which accomplishes a grinding effect upon the ore which is deposited between the jaws for crushing. One end of the shaft C is provided with a gear-wheel E and one end of the shaft C' is provided with a gear-wheel E', said gears E and E' intermeshing with each other. Any suitable mechanism may be employed to impart a rotary motion to said gears, whereby the crank-shafts will be revolved and the whole machine operated.

From the foregoing description of the construction of the parts of the machine its operation will be manifest without need of much additional description. It is evident that as the gears revolve the crank-shafts will likewise rotate, and this will simultaneously raise and lower the crushing-jaws. As they rise the space between the upper portions of their shoes widens, while the space between the lower portions of said shoes contracts. As they fall the space between their upper portions contracts and the space between their lower portions widens—that is to say, a reverse operation takes place. The ore passes down between the jaws, being received at first into the widened space in the upper portions of their jaws as they rise, as shown in Fig. 1, and being crushed between them as they fall, after which the ore is readily discharged below, as shown in Fig. 3. The provision of crank-shafts of different size makes the operation of the two jaws slightly different to this extent, that one jaw has a greater movement than the other, and this difference of movement causes a grinding effect on the ore.

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

1. In an ore-crusher, the combination of the crushing-jaws pivoted at their rear ends and having oppositely-curved working-faces, said jaws being longitudinally slotted, the transverse crank-shafts carrying intermeshing gears, and the sliding blocks connected to said shafts and moving within the longitudinal slots in the jaws, substantially as specified.

2. In an ore-crusher, the combination of the



main frame, the crushing-jaws pivoted at their rear ends and having oppositely-curved working-faces, said jaws being longitudinally slotted, the transverse crank-shafts, the gears secured on said shafts and intermeshing with each other, and the sliding blocks movably connected to the crank-shafts and operating within the longitudinal slots in the jaws, substantially as described.

3. In an ore-crusher, the combination of the pivoted crushing-jaws having oppositely-curved working-faces, said jaws being longitudinally slotted, the crank-shafts, the crank portion of one of which is greater than that of the other, and the sliding blocks within the jaws pivotally connected to the shafts, substantially as described.

4. In an ore-crusher, the combination of the main frame A, the crushing-jaws B B, having oppositely-curved working-faces, the horizontal shafts *b b*, whereby the crushing-jaws are movably mounted in frames, the crank-shafts C and C', carrying intermeshing gears E and E', and the sliding blocks D D, located in the slotted jaws and movably connected to the crank-shafts, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GILES WALTING WELLER.

Witnesses:

EDWIN W. REYNOLDS,

SAMUEL WARREN EMERSON.