J. J. SMIDDY.

CRUSHING MACHINE.

APPLICATION FILED AUG. 5, 1910.

990,018. Patented Apr. 18, 1911.

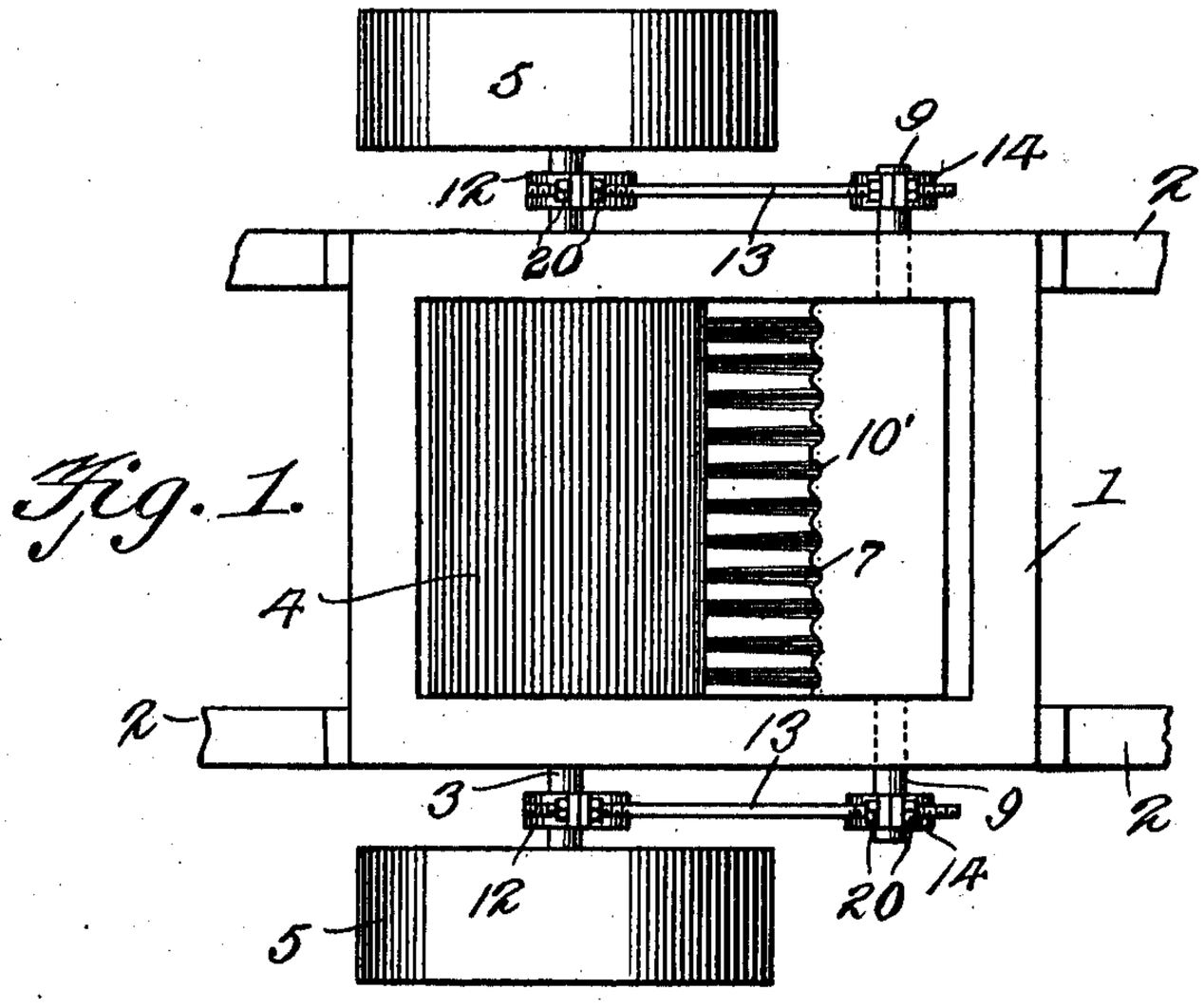


Fig. 1.

Fig. 2.

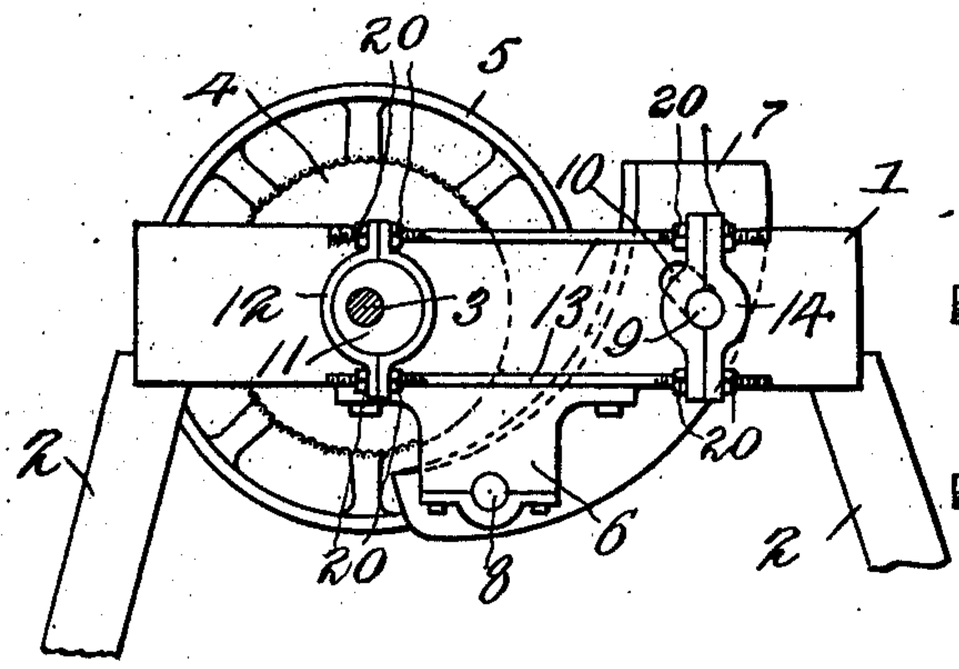
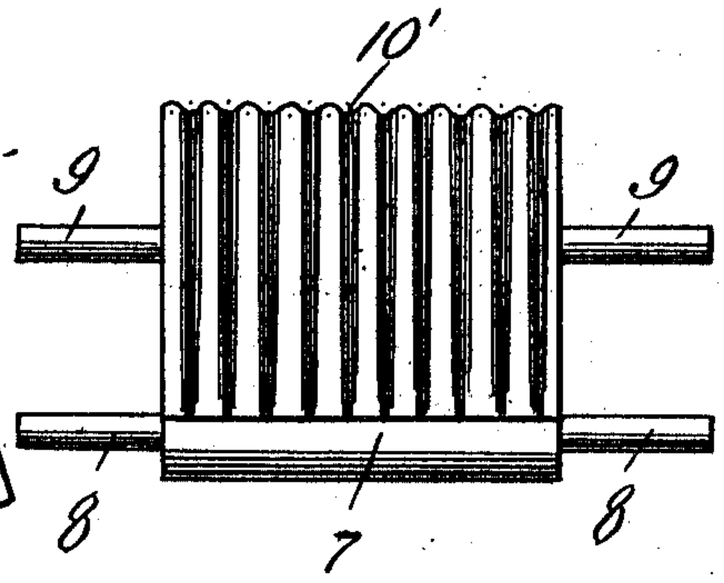


Fig. 3.



Witnesses

Frank B Hoffman

Wm. Bagger

Inventor

Jerome J. Smiddy

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

JEROME JOSEPH SMIDDY, OF HONOLULU, TERRITORY OF HAWAII.

CRUSHING-MACHINE.

990,013. Specification of Letters Patent. **Patented Apr. 18, 1911.**

Application filed August 5, 1910. Serial No. 575,752.

To all whom it may concern:

Be it known that I, JEROME J. SMIDDY, a citizen of the United States of America, residing at Honolulu, in the county of Honolulu and Territory of Hawaii, have invented new and useful Improvements in Crushing-Machines, of which the following is a specification.

This invention relates to grinding and crushing machines in general, and it has particular reference to a crusher embodying in its construction a corrugated roller supported for rotation and a pivotally supported jaw, together with means for moving or reciprocating the jaw in the direction of the roller.

The invention has for its object to produce a crushing device which shall possess superior advantages in point of simplicity, durability and general efficiency.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings,—Figure 1 is a top plan view of a crushing machine constructed in accordance with the invention. Fig. 2 is a side elevation, the inner driving wheel having been removed. Fig. 3 is a face view showing the jaw detached.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame 1 of the improved machine which is preferably of rectangular shape may be supported upon legs 2, as seen in Fig. 2, or in any other suitable and convenient manner, and the said frame may be of any suitable and appropriate construction. The frame is provided with bearings for a shaft 3 carrying the crushing roller 4 which is grooved or corrugated longitudinally, as shown, it being, however, understood that the form and dimensions of the corrugations, as well as the precise arrangement of said corrugations, may be varied when desired. The shaft 3 also carries driving wheels or band pulleys 5 for the transmission of power from any suitable source.

The frame 1 is provided with bearings 6 to support the jaw 7 which is provided with pintles or trunnions 8, whereby it is supported in said bearings. The jaw is also provided with pintles 9 extending through arcuate slots in the sides of the frame, one of said slots being shown at 10 in Fig. 2, and said slots being concentric with the trunnions 8 in order to enable the jaw to swing upon the axis of said trunnions, the movement of the upper end of the jaw being in the direction of the crushing roller or cylinder, as will be well understood. The working face of the jaw which is opposed to the cylinder is provided with longitudinal grooves or corrugations 10′ disposed at right angles to the axis of the trunnions 8. Said grooves or corrugations are relatively deep adjacent to the upper edge of the jaw from which they gradually decrease in depth until they vanish adjacent to the lower edge of the jaw which is supported at a relatively short distance from the face of the cylinder or crushing roller.

The shaft 3 is equipped with eccentric disks 11 surrounded by bands 12 which are connected by links 13 with boxes 14 mounted upon the projecting ends of the pintles 9 of the jaw. It follows that when the shaft 3 rotates, the upper or free end of the jaw will be reciprocated in the direction of the crushing roller.

In practice, a hopper of suitable construction may be provided through which material may be fed between the crushing roller and the upper end of the jaw. When the machine is in motion, the jaw will be reciprocated in the direction of the roller and will coöperate with the latter to crush the material which is gradually reduced as it passes to the lower end of the jaw over which it is discharged.

It is obvious that by regulating the distance between the discharge end of the jaw and the crushing roller, the fineness of the crushed material may be regulated. Regulation may also be effected by adjustment of the links or rods 13 which connect the bands 12 upon the eccentrics 11 with the boxes 14 upon the pintles 9, it being obvious that by shortening said rods the free end of the jaw will move more closely toward the crushing roll. The rods or links 13 are provided with

nuts 20 whereby the desired adjustment may be effected.

Having thus described the invention, what is claimed as new, is:—

1. In a crushing machine, a frame structure, a corrugated crushing roller supported for rotation, bearings upon the frame, a jaw having trunnions supported in the bearings, said jaw being also provided with pintles spaced from the trunnions, eccentric disks upon the roller carrying shaft, bands upon said disks, boxes upon the pintles of the jaw, and link rods connecting the boxes with the eccentric bands and having adjusting nuts to regulate the spacing of the jaw with reference to the crushing roller.

2. In a crushing machine, a frame structure, a corrugated crushing roller supported for rotation, bearings upon the frame, a jaw having trunnions supported in the bearings, said jaw being also provided with pintles spaced from the trunnions and guided through slots in the frame structure, eccentric disks upon the roller carrying shaft, bands upon said disks, boxes upon the pintles of the jaw, and links connecting the boxes with the eccentric bands.

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

JEROME JOSEPH SMIDDY.

Witnesses:
FRANK HUSTACE,
A. F. CLARK.