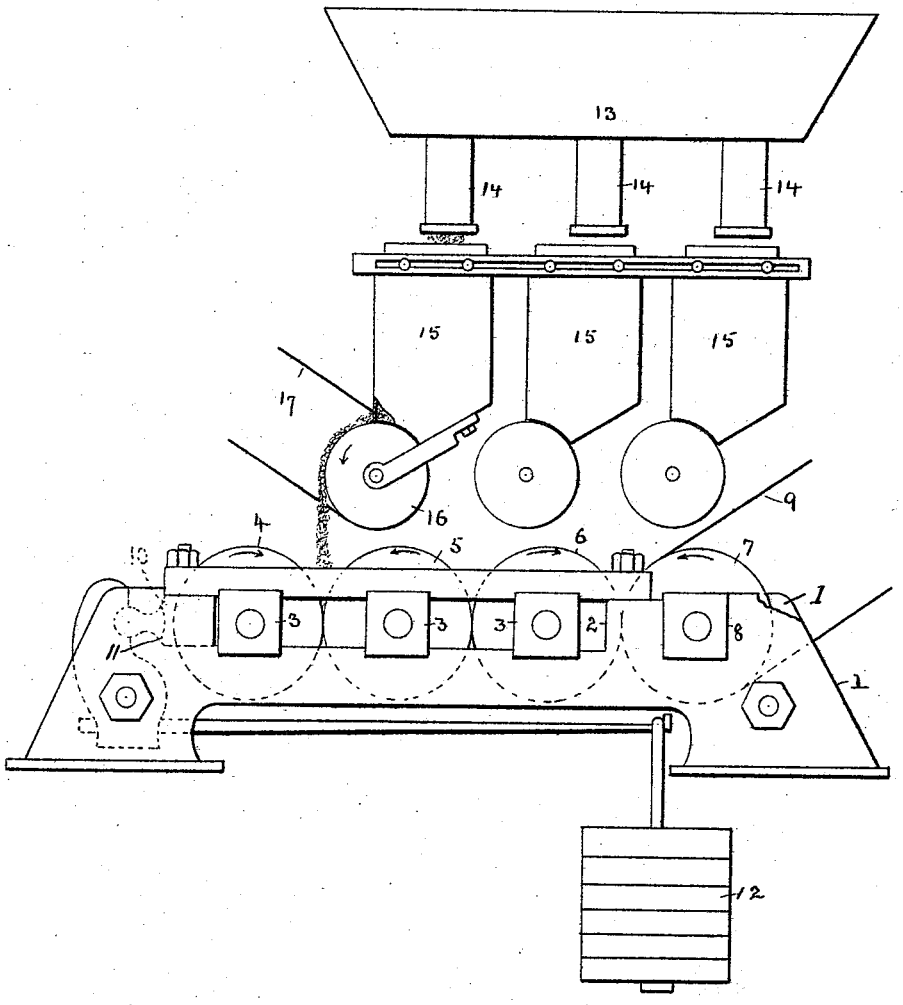
(No Model.)

T. A. EDISON.

ROLLERS FOR CRUSHING ORE OR OTHER MATERIAL.

No. 498,385. Patented May 30, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, NEW JERSEY.

ROLLER FOR CRUSHING ORE OR OTHER MATERIAL.

SPECIFICATION forming part of Letters Patent No. 498,385, dated May 30, 1893.

Application filed October 1, 1891. Serial No. 407,454. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Rollers for Crushing Ore or other Material, (Case No. 933,) of which the following is a specification.

The present invention relates to rollers especially adapted for crushing iron ore, although the mechanism may be applied to other uses. It is usual in ore crushing machines employing rollers to mount them in pairs on suitable supporting frames and to provide means for driving each pair, and for feeding material to be crushed separately to each pair of rollers and to provide separate means for pressing the rollers of each pair together. In the machine to be described, I employ three or more rollers supported side by side in a frame and movable toward or away from each other, instead of using them in pairs, and a single weight and lever serves to press all of said rollers together. Above the rollers is a supply tank with delivery chutes, feed rolls, and means for adjusting the devices, so that the ore will always be fed to the rollers at the proper point.

The accompanying drawing is a side elevation of the apparatus.

1, 1 are heavy castings adapted to stand on a suitable foundation, and having openings or slots 2 extending nearly the whole length of the castings. In these slots are blocks 3, capable of moving longitudinally, and forming bearings for the crushing rollers 4, 5, 6.

7 is a roller with a stationary bearing 8, and to this roller a driving belt 9, or other suitable driving mechanism, is connected.

The rollers 4, 5, 6 may be driven from roller 7 or in any suitable manner.

10 is a cross-bar having arms 11 which rest against the bearings 3 at the two opposite ends of the roller 4.

12 is a weight which through a suitable lever or levers presses said arms against the bearings and strongly forces all of the rolls together. The lever preferably bears against the cross-bar at its center, the pressure being evenly distributed between the two ends of the rollers.

13 is a receptacle containing the ore or material to be crushed. 14 are outlets therefor, and 15 are adjustable chutes below the outlet. At the mouth of each chute is a feed roller 16, driven by a belt 17 or by other suitable means. The several chutes and feed rollers are so adjusted that the ore will fall between the rollers 4 5, 5 6, and 6 7. When the rollers wear away by continued use, and are moved along toward the right, thereby moving them from a central position under the chutes 15, the latter may be moved along a corresponding distance.

By the arrangement described, the number of rollers employed for a given capacity is reduced, since three rollers serve in the place of two pairs and economy is effected in the use of material for weights.

What I claim is—

1. The combination, with a suitable support, of three or more crushing rollers arranged side by side, means for driving said rollers, and means for feeding material to be crushed between all of the adjacent rollers simultaneously, substantially as described.

2. The combination, in a machine for crushing ore, &c., of an intermediate roller and two outer rollers in co-operative relation therewith simultaneously, whereby three rollers serve in place of two pairs of rollers, and a single means for pressing all of said rollers together, substantially as described.

3. The combination of several rollers side by side, some of said rollers being bodily movable, suitable chutes or devices for feeding material to the rollers, there being a chute for each two adjacent rollers, said chutes or devices being adjustable, whereby the material may always be fed to the rollers at the proper point, substantially as described.

This specification signed and witnessed this 28th day of August, 1891.

THOS. A. EDISON.

Witnesses:
CHARLES M. CATLIN,
JOHN F. RANDOLPH.