May 31, 1932. G. E. KRIDER 1,861,348

STONE CRUSHER

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Fig. 1.

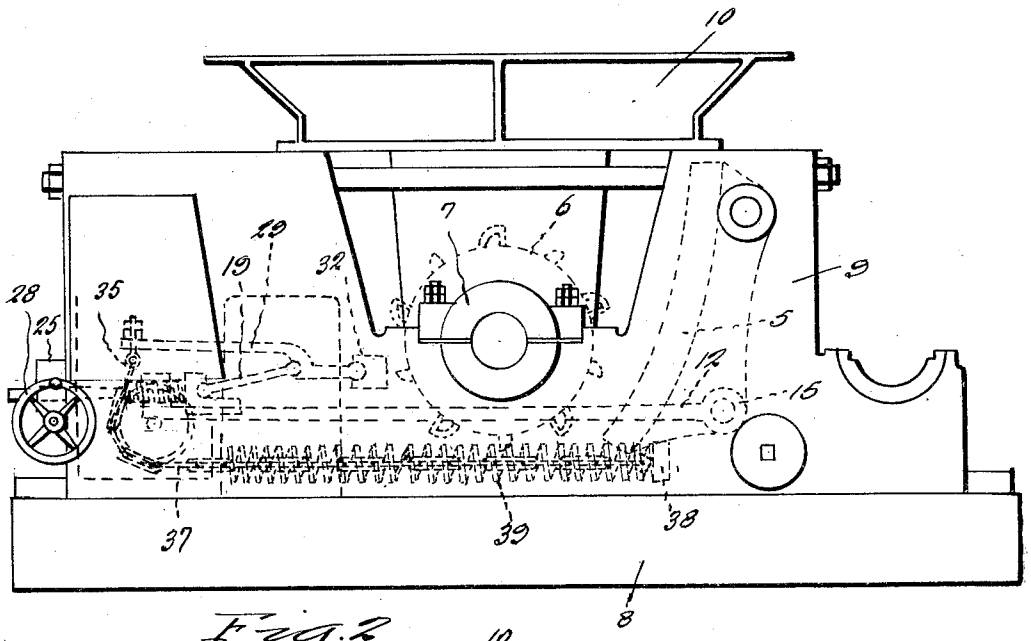


Fig. 2

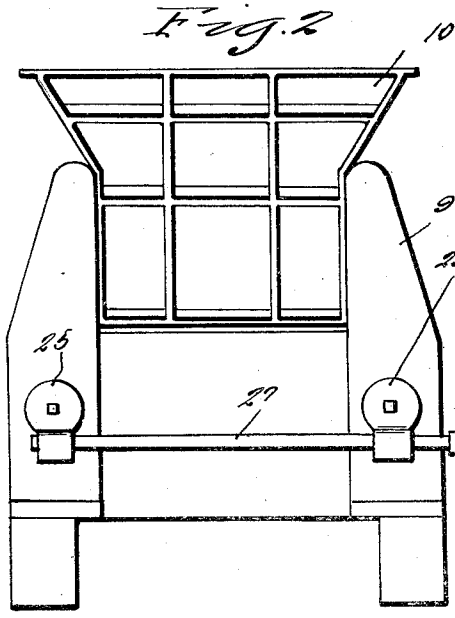
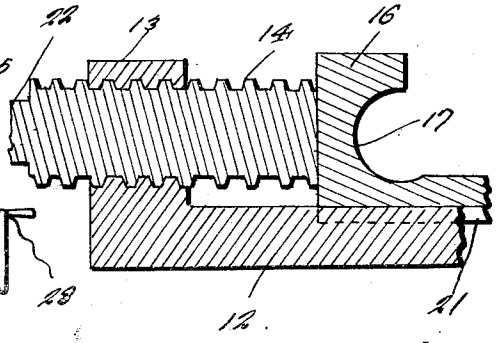


Fig. 4



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STONE CRUSHER

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Fig 3

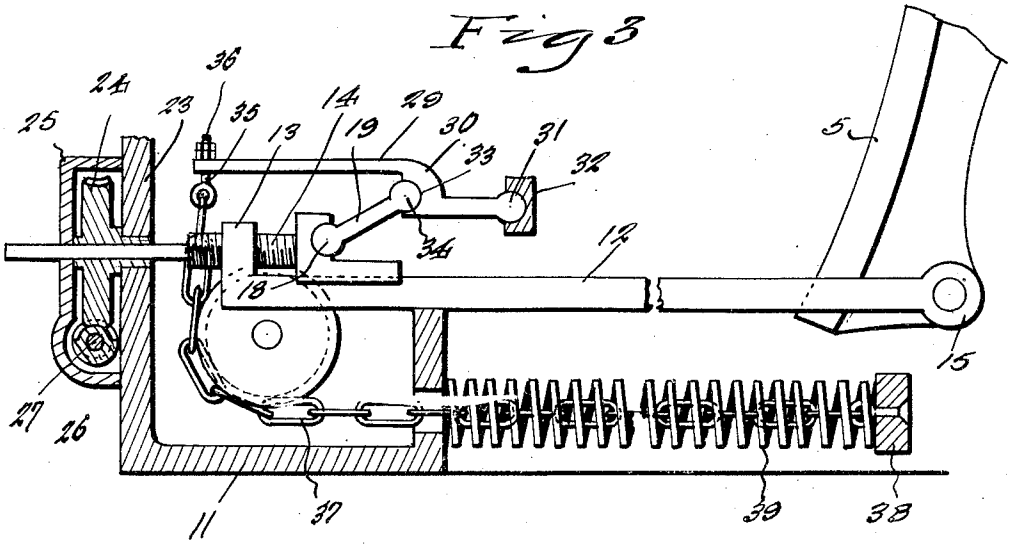


Fig. 5

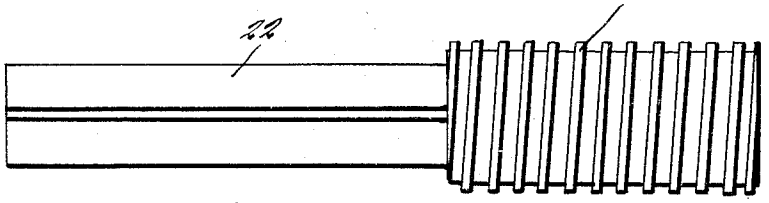


Fig. 6

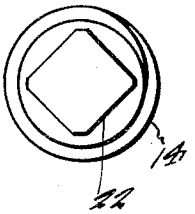


Fig. 7

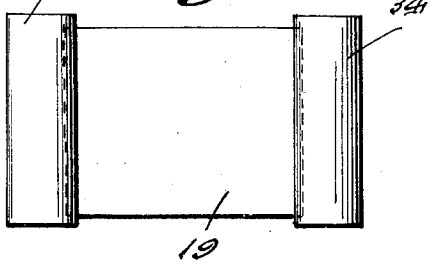


Fig. 8

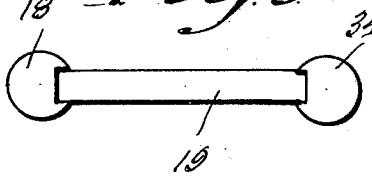


Fig. 9

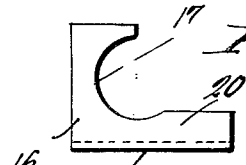
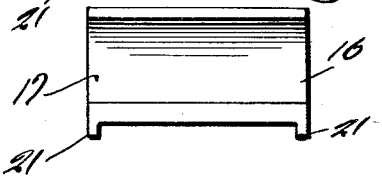


Fig. 10



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Patented May 31, 1932

1,861,348

UNITED STATES PATENT OFFICE

GEORGE E. KRIDER, OF HOLLIDAYSBURG, PENNSYLVANIA, ASSIGNOR TO McLANAHAN & STONE CORPORATION, OF HOLLIDAYSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

STONE CRUSHER

Application filed August 7, 1930. Serial No. 473,700.

This invention appertains to new and useful improvements in stone crushers, and is an improvement on my Patent No. 1,417,389, issued May 23, 1922, for stone crushers.

The principal object of this invention has an improvement over my Patent No. 1,417,389 and provides the means whereby the structure plate can be adjusted to crush finely or coarsely.

Other important objects and advantages of the invention will readily become apparent to the reader of the following specification.

In the drawings:—

Figure 1 represents a side elevational view of the crusher showing the improvements in dotted lines.

Fig. 2 represents an end elevation of the machine.

Fig. 3 is a fragmentary sectional view through that portion of the machine involving the improvement.

Fig. 4 represents a fragmentary detail sectional view of the adjusting means.

Fig. 5 represents a sectional view of the screw.

Fig. 6 represents an end elevation of the screw.

Fig. 7 represents a plan view of the link member

Fig. 8 represents an edge elevation of the link member.

Fig. 9 represents an end elevation of the follower.

Fig. 10 represents a side elevational view of the follower.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 represents the usual crusher plate, while numeral 6 represents the crusher drum which is mounted on a shaft journaled through the bearings 7, (only one bearing being shown in Fig. 1). Numeral 8 represents a base with the shell or casing 9 mounted thereon. The hopper 10 is mounted upon the casing 9 in any suitable manner.

All of the foregoing construction is of conventional arrangement. It is the crusher plate which is to be adjusted to accommodate material of different size and furthermore to permit materials to be crushed to a predetermined size.

In carrying out the present invention which is an improvement over my Patent No. 1,417,389, a stand 11 is provided and adapted for slidably supporting the bar 12, which at one end is provided with an upstanding head 13 having a threaded bore therethrough, for receiving the screw 14. The opposite end of the bar 12 is provided with an eye 15 for connection to the aforementioned crusher plate 5. A follower block 16 is provided with a socket 17 in one side thereof for receiving the head 18 on one end of a link 19. This block is provided with a horizontally disposed portion 20, which is provided with depending flanges 21—21 which engage opposite longitudinal edges of the bar 12 so that displacement of the follower block 16 from the bar is prevented.

The screw 14 has a polygonal-shaped shaft extension 22 which is slidably extended through the protruding portion 23 of the hub of the gear 24. This gear 24 is located in the housing 25 with the worm 26 which normally meshes with the gear 24. The worm 26 is on the shaft 27 and by referring to Fig. 2, it can be seen that the aforementioned details are in duplicate, the head 15 on the rod 12 being secured to opposite lower corners of the plate 5.

One end of the shaft 27 is provided with a hand wheel 28 to facilitate rotation of the shaft.

A rocker arm 29 is provided with an offset intermediate portion 30 provided with a head 31 at its adjacent end which engages in the socket of a stationary member 32, which may form a portion of the conventional machine.

The offset intermediate portion 30 is provided with a socket 33 for receiving the head 34 on the opposite end of the link 19, thus the head 34 and the link 19 serves as a fulcrum for the rocker arm 29. The rocker arm 29, opposite from the end 31, has an opening therethrough for receiving the eye bolt 35 equipped with nuts 36. An elongated chain 37 has one end connected to the eye bolt 35 while its opposite end connects to the element 38 on the conventional machine, which bears against one end of the compressible spring 39. The opposite end of the spring

element 39 impinges against the stand lever for holding the chain 37 taut.

Obviously by actuating the shaft 27 the bar 12 moves forwardly or backward and opens or closes the crushing space.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having thus described my invention, what I claim as new is:—

1. In a crushing machine including a crusher roller and a crusher plate pivotally supported at its upper end, a bar having one end pivotally connected to the lower end of the plate, and the other end of the bar having a turned-up part formed with a threaded hole, a screw shaft passing through the hole, a gear mounted on the shaft, means whereby the shaft will rotate with the gear but have sliding movement therethrough, a second shaft, a gear thereon meshing with the first gear, and yieldable means associated with the bar and tending to hold the bar and the crusher plate with the plate in crushing position.

2. In a crushing machine including a crusher roller and a crusher plate pivotally supported at its upper end, a bar having one end pivotally connected to the lower end of the plate, and the other end of the bar having a turned-up part formed with a threaded hole, a screw shaft passing through the hole, a gear mounted on the shaft, means whereby the shaft will rotate with the gear but have sliding movement therethrough, a second shaft, a gear thereon meshing with the first gear, and yieldable means associated with the bar and tending to hold the bar and the crusher plate with the plate in crushing position, said means comprising a follower plate slidably arranged on the bar, a lever pivotally supported in the machine, a spring pressed flexible member connected with the free end of the lever, and a link connection between the lever and the follower plate.

In testimony whereof I affix my signature.

GEORGE E. KRIDER.