April 3, 1945. R. F. SHINN 2,373,057

CAN CRUSHER

Filed Dec. 21, 1943

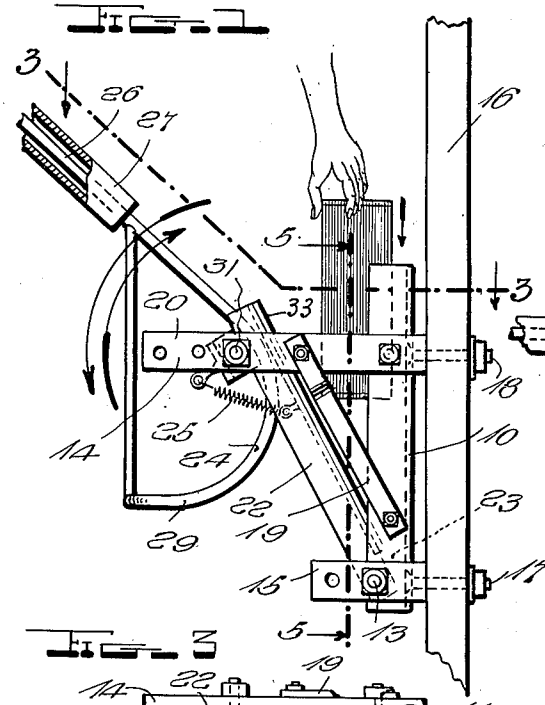


FIG. 1

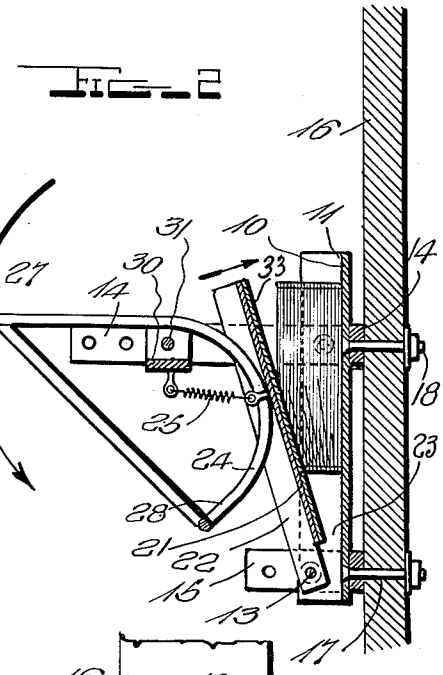


FIG. 2

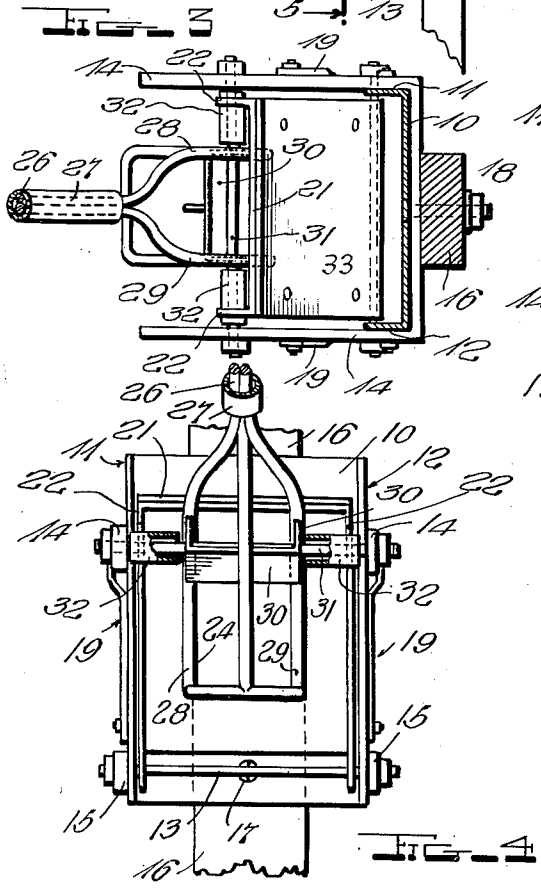


FIG. 3

FIG. 4

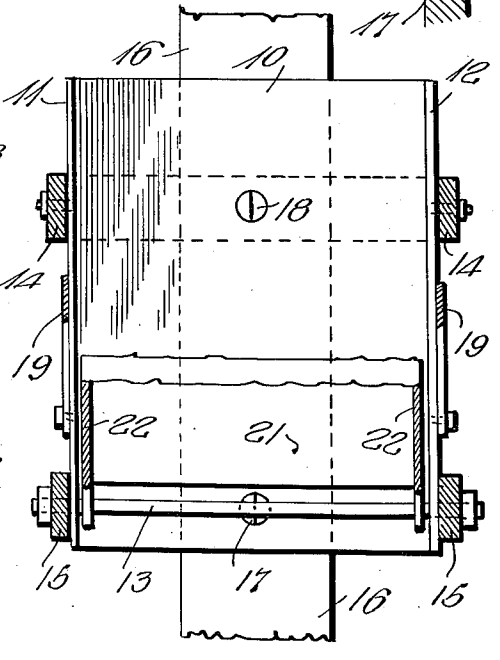


FIG. 5

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CAN CRUSHER

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2 Claims. (Cl. 153—10)

This invention relates to a can crusher and to a crusher which is effective without requiring excessive power or force on the part of an operator for accomplishing the results.

It is an object of the invention to provide an anvil or base structure, against which the can is forced by the application of power, and to provide a crushing plate suitably mounted with relation to the base so that the said plate oscillates with relation to the base and is effective to crush the can and to permit escape of the can from between the plate and base when the plate is moved outwardly for a repetition of the operation.

It is a further object of this invention to produce a can crusher having a movable plate or jaw operated in one direction through the employment of a cam engaging the outer surface of the jaw, which cam is effective to force the jaw on the compression stroke of the jaw; means being provided for retracting the jaw as the cam is moved in the reverse direction to that in which it moves during the crushing operation.

It is a still further object of the invention to so mount the jaw with relation to the base or anvil that a space is afforded for the escape of the crushed can during the outward movement of the jaw after the crushing operation.

It is furthermore an object of the invention to provide means for mounting the apparatus in stationary position where cans may be conveniently inserted between the jaw and the anvil and thereafter crushed and discharged in their crushed state during the successive steps of operation of the means by which the jaw is operated.

It is a still further object of the invention to provide a can crusher of the character indicated comprising comparatively few, inexpensive parts which have proven efficient and satisfactory in use.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawing forming part of this application, wherein like characters denote corresponding parts in the several views, and in which:

Figure 1 illustrates a view in elevation of the can crushing device embodying the invention;

Figure 2 illustrates a vertical sectional view thereof;

Figure 3 illustrates a sectional view of the crusher on the line 3—3 of Fig. 1;

Figure 4 illustrates a plan view of the crusher, partly in section; and

Figure 5 illustrates a sectional view on the line 5—5 of Fig. 1.

In this drawing 10 denotes the base plate or anvil against which the cans are forced during the crushing operation, and it is shown as having flanges 11 and 12 at its edges which act as guards or confining elements to prevent displacement of the can while under pressure.

A shaft or pivot 13 is mounted in the flanges at their lower ends and in order to increase the strength and durability of the structure a U-shaped yoke 14 is applied to the base near the top thereof, whereas another U-shaped yoke 15 is applied to the base at the lower end thereof, and the shaft or pivot 13 also extends through the projecting portions of the yoke 15. The said yoke and the base are anchored to a post 16 by a bolt 17, and the yoke 14 and the said base are likewise anchored to the post by a bolt 18.

On each side of the structure a brace 19 is fastended to the anvil on its outer surface and to the projecting portions or arms 20 of the yoke 14 so that a rigid structure is afforded to withstand the strain of the pressing operation. The jaw 21 has flanges, such as 22, at each edge and each flange is mounted on the shaft or pivot 13. It is seen that the flanges extend below the lower edge of the jaw 21 so that when the jaw is swung to an open position a space, as at 23, is unguarded and the crushed can escapes through this space and is discharged from the presser.

The jaw is forced inwardly by the cam 24 which bears against the outer surface of the jaw, and a spring 25 anchored to the jaw and to a stationary portions of the structure acts to retract the jaw against the action of the cam.

The cam merges with a suitable handle 26 provided with an extension sleeve 27, which sleeve may be of sufficient length to provide suitable leverage for the operation of the crusher and of course the said length may be varied to suit particular requirements and the character of the work to be performed.

The cam comprises two curved members 28 and 29 which are in spaced relation to each other a suitable distance so that they bear on the jaw to equalize the pressure on said jaw and they converge to form the handle. The cams are connected by a yoke 30 having apertures to

receive a shaft 31 which is mounted on the arms 20 of the yoke 14, so that by this means the cams are oscillatively mounted in operative relation to the jaw. Sleeves 32 on the shaft 31 retain the cam centered or in proper operative relation to the jaw, and as the handle of the cams is oscillated, it communicates partial rotary motion to the cams which, acting on the outer surface of the jaw, serves to press the jaw inwardly against the can for performing the crushing operation, and when the handle is moved in the opposite direction, the spring 25 opens the jaw and the can escapes through the space at the bottom of the jaw.

The jaw 21 is provided with a backplate 33 which is renewable for replacement or repair.

I claim:

1. In a can crushing apparatus, a base plate anchored in a vertical position, said base plate having side flanges for conflining a can during the crushing operation, a yoke embracing the base plate near the top thereof and having extensions, a yoke embracing the base plate near the lower end thereof, a jaw comprising a plate having flanges at its edges, means for pivotally mounting the said flanges of the jaw on the lower yoke, the said flanges of the jaw extending beyond the lower edge of the jaw whereby a clearance is formed between the lower end of the jaw and the base plate for the escape of crushed cans, a cam for engaging the jaw and forcing the jaw into crushing action, a yoke on which the cam is secured, means on the upper yoke for pivotally supporting the last mentioned yoke, a handle by which the cam is operated, and a spring for retracing the crushing jaw when the cam releases the said crushing jaw.

2. In a can crushing apparatus, a base plate anchored in a vertical position, said base plate having side flanges for confining a can during the crushing operation, a yoke embracing the base plate near the top thereof and having extensions, a yoke embracing the base plate near the lower end thereof, a jaw comprising a plate having flanges at its edges, means for pivotally mounting the flanges of the jaw on the lower yoke, the said flanges of the jaw extending beyond the lower edge of the jaw plate whereby a clearance is formed between the lower end of the jaw and the base plate for the escape of crushed cans, a double cam oscillatively mounted on the upper yoke and operative to force the jaw into crushing action, the said double cam having extensions forming a handle by which the cams are operated, an extension handle on the handles of the cams, and a spring for retracting the crushing jaw when the cams release the said crushing jaw.

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