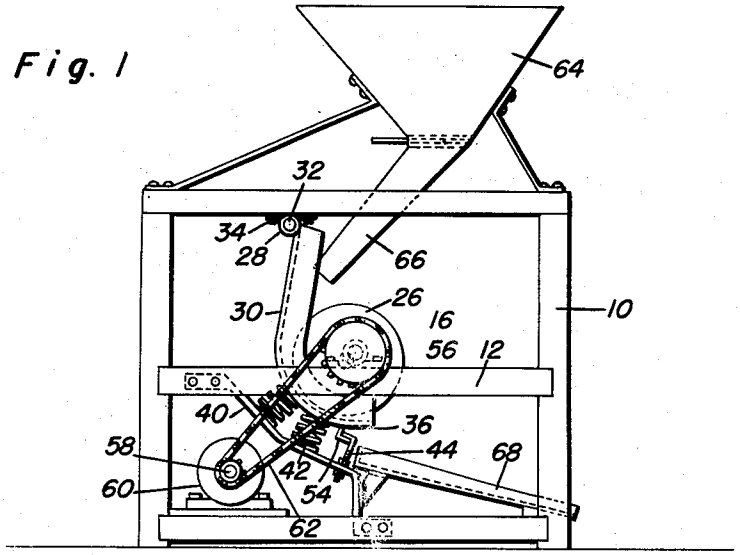
April 20, 1954 H. G. EDWARDS 2,675,970

CRUSHING AND FLATTENING MACHINE

Filed Dec. 22, 1952 2 Sheets-Sheet 1

Fig. 1



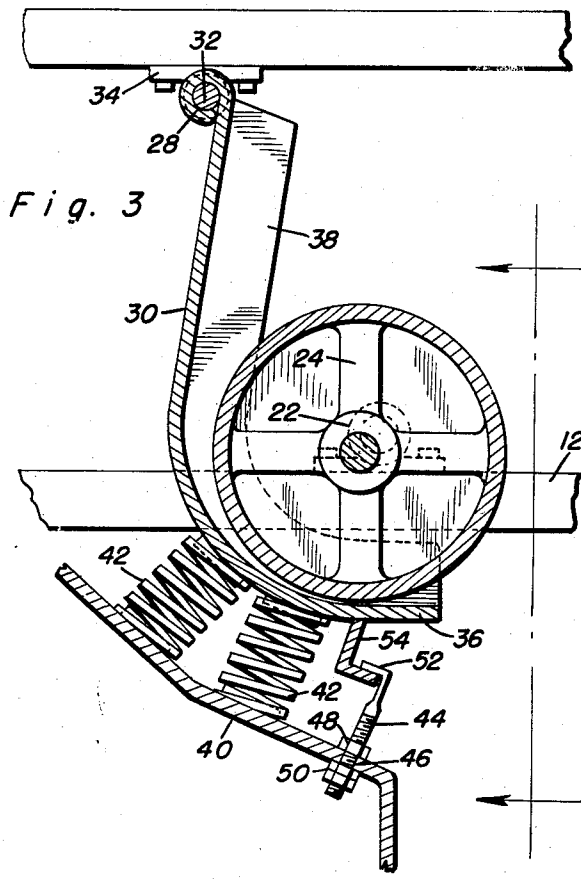


Fig. 3

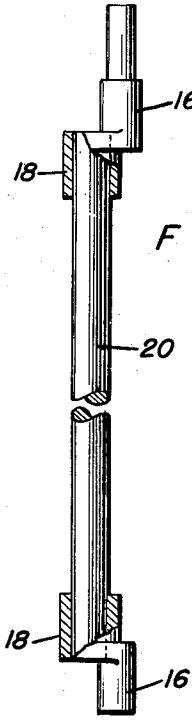


Fig. 5

Harold G. Edwards
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

April 20, 1954 H. G. EDWARDS 2,675,970

CRUSHING AND FLATTENING MACHINE

Filed Dec. 22, 1952 2 Sheets-Sheet 2

Fig. 2

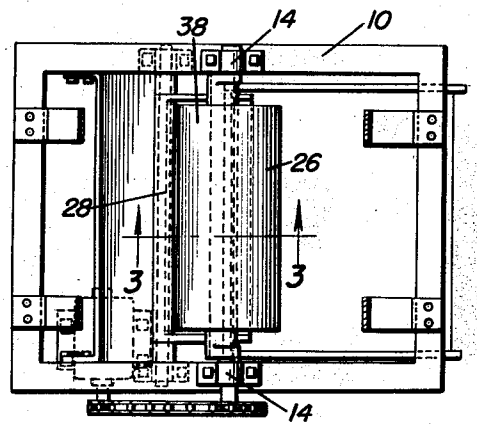
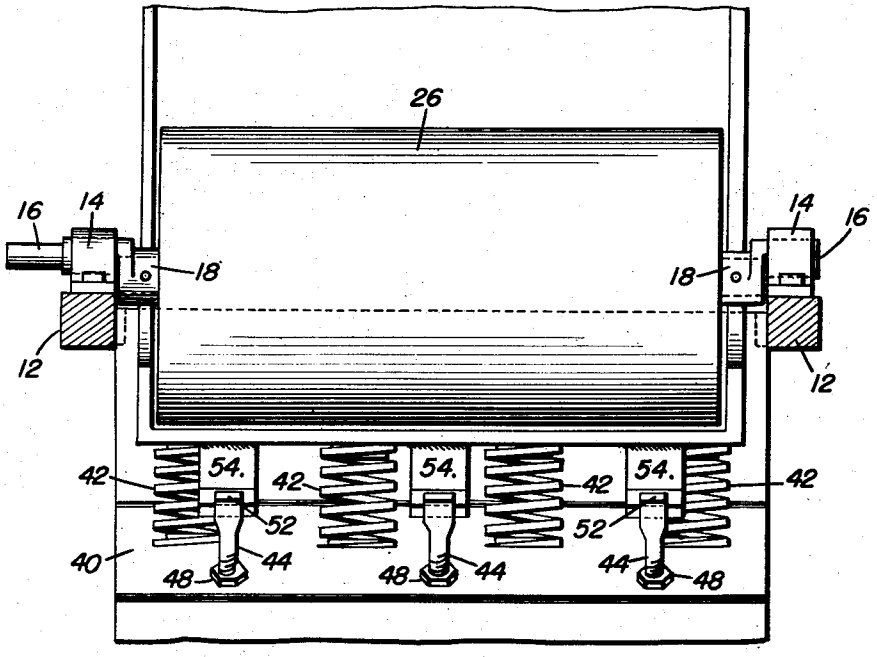


Fig. 4



Harold G. Edwards
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Patented Apr. 20, 1954 2,675,970

UNITED STATES PATENT OFFICE

2,675,970

CRUSHING AND FLATTENING MACHINE

Harold G. Edwards, Houston, Tex.

Application December 22, 1952, Serial No. 327,339

1 Claim. (Cl. 241—214)

1

This invention relates to new and useful improvements in machines for crushing and/or flattening materials and the primary object of the present invention is to provide an eccentrically rotating pressure cylinder and a guide chute that is spring urged toward the cylinder so that material passing down the chute will be forced against the chute by the cylinder.

Another important object of the present invention is to provide a crushing and flattening machine involving adjustable stop means against which the chute is urged by springs to vary the space between the cylinder and chute so that different degrees of crushing or flattening may be accomplished and different types of materials handled by the machine.

A further object of the present invention is to provide a crushing and/or flattening machine that is extremely simple and practical in construction, and which machine involves a spring urged guide chute movable relative to a power driven eccentrically rotating cylinder and adjustable stop means that is quickly and readily adjusted whereby the machine may handle materials of different hardness and thickness.

A still further aim of the present invention is to provide a crushing and flattening machine that is strong and reliable in use, efficient and durable in operation, inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention;

Figure 2 is a top plan view of Figure 1, the hopper being removed and the hopper supporting straps shown in section;

Figure 3 is an enlarged detail vertical sectional view taken substantially on the plane of section line 3—3 of Figure 2;

Figure 4 is a vertical sectional view taken substantially on the plane of section line 4—4 of Figure 3; and

Figure 5 is a plan view of the power driven crank shaft used in the invention and with parts of the shaft broken away and shown in section.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a supporting frame having horizontal rails 12 to which bearings 14 are secured. The bearings 14 rotatably support coaxial shaft sections 16 having offset sockets 18 in which the ends of a crank shaft 20 are suitably secured by set screws or the like.

2

The shaft 20 extends through the hub 22 of one or more spider members 24 fixed within a hollow, rigid, crushing cylinder 26. The end walls of the cylinder 26 are disposed relatively close to the sockets 18 to restrict longitudinal sliding of the cylinder 26 on the shaft 20.

A horizontally disposed transverse sleeve 28 formed at the upper end of a guide chute 30 receives a horizontal hinge pin 32 carried by brackets or bearings 34 mounted on the frame 10 above the rails 12. The lower portion 36 of the chute 30 is concavo-convex and extends under and faces the cylinder 26. Chute 30 is provided with side flanges 38 between which the cylinder 26 is located.

Frame 10 is provided with a downwardly extending wall portion 40 that underlies the lower portion 36 of chute 30. A plurality of coil springs 42 are biased between wall portion 40 and end portion 36 to yieldingly urge the latter toward the cylinder 26. A group of stop rods 44 extend through apertures 46 in portion 40 and are threaded to receivably engage upper and lower nuts 48 and 50 that clampingly engage the portion 40. The angulated or flanged upper end portions 52 of the stop rods 44 engage angle elements 54 fixed to portion 36 in order to limit movement of portion 36 toward the cylinder 26, elements 54 being engaged against the portions 52 of stop rods 44 by the springs 42.

One of the shaft sections 16 supports a sprocket 56 that is connected to a sprocket 58 fixed on the armature shaft of a motor 60 by a sprocket chain 62. The motor 60 is mounted on the frame 10 for rotating the cylinder 26. A hopper 64 is mounted on the frame 10 and includes a discharge spout 66 that leads to the chute 30. Frame 10 supports a downwardly inclined discharge chute 68 that extends downwardly from the lower portion of chute 30.

In practical use of the present invention, material is placed in the hopper 64 and slides down the spout 66 onto the chute 30. The material will move down the chute 30 to be engaged by the cylinder 26 which will force the material against the portion 36 of the chute 30. After the material has been crushed and/or flattened, the material will gravitate onto chute 68 and will pass from the machine.

What is claimed as new is as follows:

A crushing and flattening machine comprising a supporting frame, an eccentrically rotating crusher cylinder traversing said frame and rotatably mounted therein, a vertically swingable guide chute pivoted in said frame and having a lower concavo-convex portion underlying said cylinder, a fixed wall portion in said frame beneath said concavo-convex portion, a plurality of coil springs interposed between said portions and bearing against the same to bias said concavo-convex portion towards said cylinder, and angulated coengaging stops on said portions limiting biasing of said concavo-convex portion towards said cylinder.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
337,901	Wall	Mar. 16, 1886
1,606,225	Hopkins et al.	Nov. 9, 1926
2,582,734	Adams	Jan. 15, 1952
2,588,180	Traylor	Mar. 4, 1952

FOREIGN PATENTS

Number	Country	Date
246,980	Germany	May 15, 1912
329,439	Germany	Nov. 23, 1920