

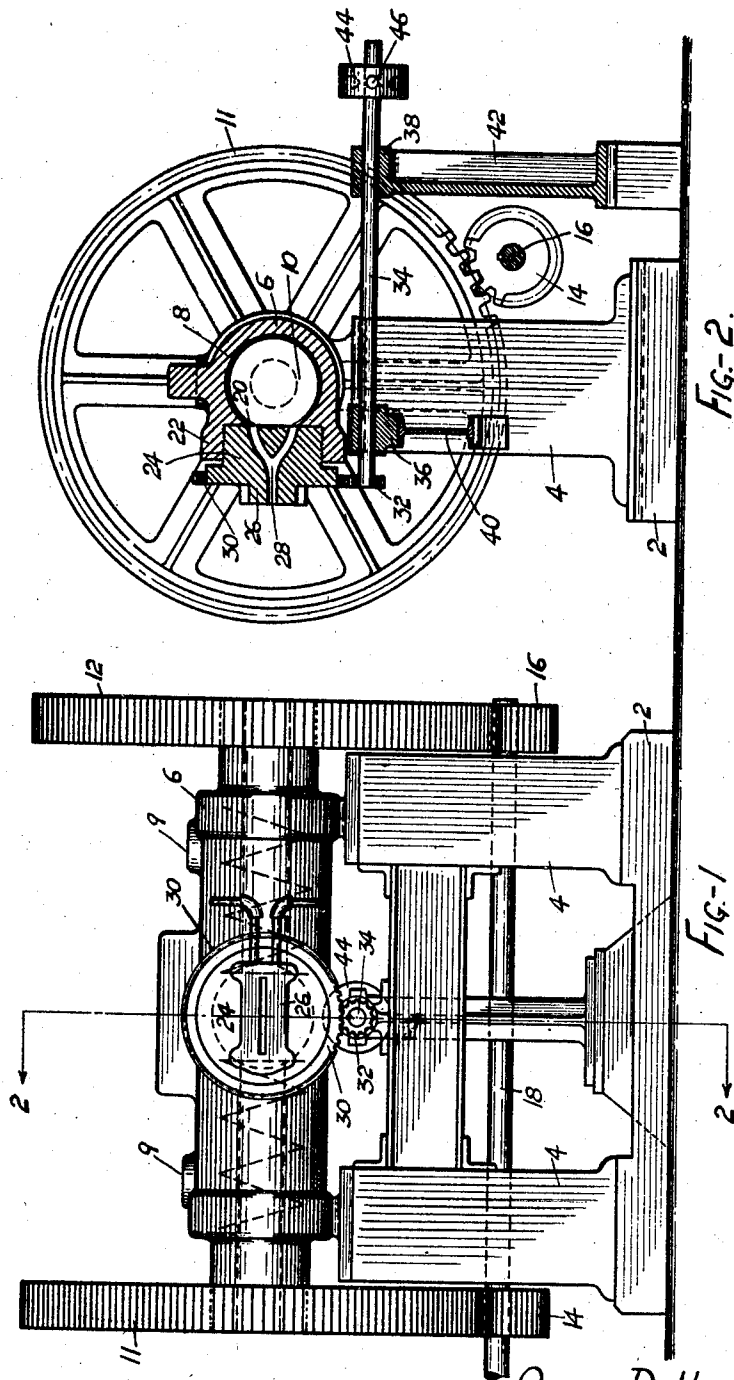
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O. D. HOLLENBECK

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EXTRUDING MACHINE

Filed Sept. 17, 1923



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EXTRUDING MACHINE.

Application filed September 17, 1923. Serial No. 663,026.

To all whom it may concern:

Be it known that I, OSCAR D. HOLLENBECK, a citizen of the United States, residing at Racine, in the county of Racine, State of Wisconsin, have invented certain new and useful Improvements in Extruding Machines, of which the following is a specification.

This invention relates to extruding machines and particularly to that type of machine adapted for the tubing of rubber.

In machines of the type referred to, the dies which are used for rubber extruding purposes are carried upon removable heads attached to the body of the machine and having an internal passage which communicates with the central chamber of the machine. The dies are generally heated in any approved manner so that the rubber will be warmed sufficiently to be plastic and readily assume the shape of the die.

In the use of the tubing machine it is frequently necessary to remove the head for various purposes, such as to change the dies and to clean out the central chamber or barrel of the machine.

Heretofore, great difficulty has been experienced in the removal of the machine head due to the presence of a homogenous mass of stock within the passageway of the head which strongly resists any turning or twisting movement on the part of the head.

A general object of the invention is to remedy the disadvantages mentioned above by a novel construction and arrangement of parts which cooperate to facilitate the removal of the machine head.

This and other features of the invention will appear from the following description read in connection with the accompanying drawings and will be particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a front elevation of a machine selected to illustrate the invention; and

Figure 2 is a vertical section on the line 2-2 of Figure 1.

The general features of the type of extruding machine herein shown are of standard construction: Only such portions of the illustrative machine, therefore, as are intimately related to the novel features of this invention will be described herein in detail, and for further information as to the details of construction of the machine, ref-

erence may be made to any of the standard and well known machines.

In its general aspects, the machine includes a base 2 on which are mounted vertical standards 4. Upon the standards is supported a tubular casing 6 which constitutes the main body portion of the machine. The casing 6 is provided with a central chamber or bore 8 into which the stock is fed through openings 9 communicating with each end of the central chamber. The stock is forced toward the center of the chamber by the usual feed screws 10 which are driven by means of gears 11 and 12 mounted upon the outer ends of the screw shafts. Pinions 14 and 16 carried by a horizontal shaft 18 are arranged to mesh with gears 11 and 12 respectively. The shaft 18 is driven from any convenient source of power.

A passageway 20 is formed in one side of the casing 6 and substantially midway between the ends thereof. Surrounding the passageway, the casing is provided with a circular flange 22, the inner surface of which is threaded to engage a removable head 24 having a die 26 upon the outer end thereof. The head 24 is provided with a central passage 28, the inner end of which communicates with the chamber 8 and the outer end with the die passage.

In the operation of the machine the stock is forced through the chamber by the feed screws and passes out of the die which gives to the stock the desired shape.

The above mentioned general features of the construction and operation of the machine differ in no essential respect from the construction and operation of extruding machines of this type heretofore in use, and require no further description. It is to the construction of the machine head with which this invention is especially directed, the construction of which will now be described in detail.

The outer periphery of the head 24 is provided with a ring gear 30 which is preferably shrunk upon the head, but may be secured thereto in any desirable manner. The number of teeth on the gear ring 30 and the size of the ring depend upon the size and construction of the tube machine head.

A pinion 32 having approximately one-fifth the number of teeth of the ring gear 30 is mounted below the head 24 and adapted

to mesh with the ring gear. The pinion 32 is keyed to a horizontal shaft 34 slidably mounted in bearings 36 and 38 formed upon the upper ends of brackets 40 and 42 respectively. Upon the rear end of the shaft 34 is mounted a capstan head 44 provided with recesses 46 for the reception of any suitable tool or bar, by means of which the shaft 34 is rotated.

By the steady, continuous rotation of the capstan 44, the head 24 is slowly turned until the stock is broken, after which the head can readily be removed by hand.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a machine for extruding rubber or analogous plastic material, a casing having a passageway leading therefrom, a removable die head threaded into the passageway, and means for removing said head from said passageway, said means including a gear on the head, a pinion meshed therewith and means for rotating the pinion,

said pinion being adapted to mesh with said gear throughout the movement of said head out of said passageway.

2. In a extruding machine, a casing provided with a central chamber and a passageway in the side thereof communicating with the chamber, a head removably secured in said passageway, a ring gear secured to the periphery of the head, a pinion meshing with the ring gear, and means for rotating the pinion, the said means being mounted for movement longitudinally of the head.

3. In an extruding machine, a casing having a central chamber and a side passageway communicating with the chamber, a head removably mounted in said passageway, and means for turning the head, said means including a ring gear secured to the head, a horizontal shaft slidably and rotatably mounted below the head, a pinion keyed to said shaft adapted to mesh with the ring gear, and means on said shaft by which the shaft is rotated.

OSCAR D. HOLLENBECK.