Aug. 30, 1932. C. F. SCHERER 1,874,636

PROTECTING MEANS FOR FLASK REST ACTUATING MECHANISM

Filed April 26, 1930

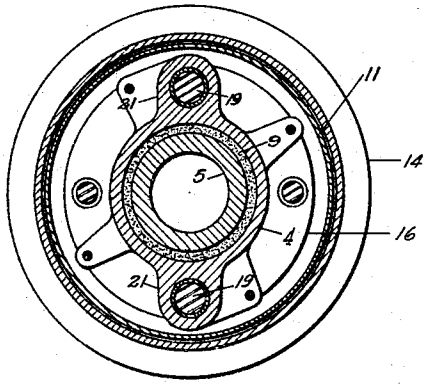


Fig. 3

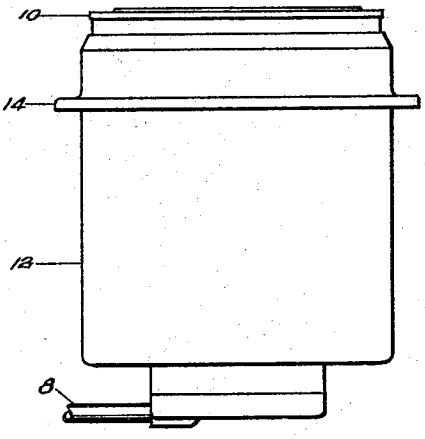


Fig. 1

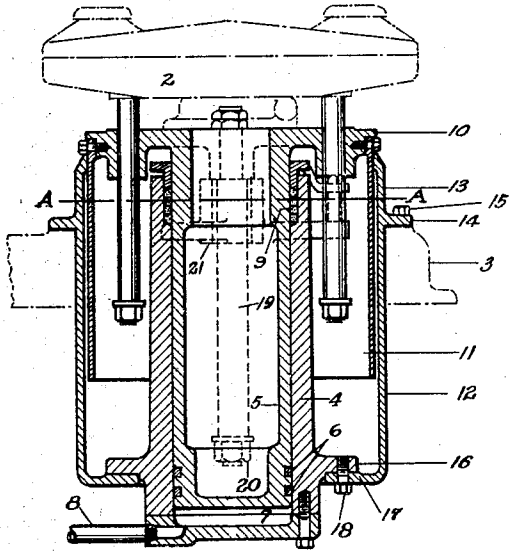


Fig. 2

C. F. SCHERER. INVENTOR.

BY Merrill M. Blackburn
ATTORNEY

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UNITED STATES PATENT OFFICE

CHARLES F. SCHERER, OF DAVENPORT, IOWA, ASSIGNOR TO DAVENPORT MACHINE AND FOUNDRY COMPANY, OF DAVENPORT, IOWA, A CORPORATION OF IOWA

PROTECTING MEANS FOR FLASK REST ACTUATING MECHANISM

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The present invention pertains to foundry equipment and more particularly to certain means for protecting the draw cylinder and piston against access of sand thereto whereby the working parts might become scored so that they would thereafter be lacking in normal efficiency.

Among the objects of this invention are, to provide a substantial protecting means for the operating surfaces of the draw cylinder and piston of a roll-over machine; to provide improved supporting mechanism for the draw cylinder of a roll-over mechanism; and such further objects, advantages and capabilities as will hereafter appear and as are inherent in the construction disclosed herein. My invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawing and, while I have shown therein what is now considered the preferred embodiment of this invention, I desire the same to be understood as illustrative only and not to be interpreted in a limiting sense.

In the drawing annexed hereto and forming a part hereof,

Fig. 1 is an elevation of a structure embodying my present improvements;

Fig. 2 is a vertical, substantially central section through the structure shown in Fig. 1;

Fig. 3 is a transverse section substantially along the plane indicated by the line A—A, Fig. 2.

Referring more in detail to the annexed drawing, the flask rest of a machine embodying my present invention is denoted by the numeral 2, the supporting base by the numeral 3, the draw cylinder by the numeral 4 and the draw piston by the numeral 5. The parts thus far referred to are common in the art and no invention is claimed therein. The draw piston is provided with piston rings 6 for preventing escape of air from the space 7 when compressed air is admitted to this space through the pipe 8, connected to the source of compressed air normally used in connection with such mechanism. A packing 9 is provided at the upper end of the cylinder 4 to assist in guiding the draw piston and preventing escape of air from the space 7.

A flange 10 extends laterally from the upper end of the piston 5 and serves as means to which can be attached the skirt 11, which extends downwardly within the protecting cylinder 12 to a point such that its lower end will be well below the upper end 13 of the protecting cylinder. This end 13 extends inwardly slightly so as to result in a clearance between the skirt 11 and the cylinder 12 so as to reduce the amount of friction between these parts as the piston 5 moves up and down in its course of travel.

A flange 14 extends laterally from the protecting cylinder 12 and rests upon the base 3 to which it is secured by a series of bolts 15. The cylinder 4 is provided adjacent its lower end with a flange 16 which extends outwardly to rest upon and be secured to the inturned flange 17 of the cylinder 12. These two flanges 16 and 17 are secured together by means of bolts 18 and this protecting cylinder therefore serves as means for properly positioning the cylinder 4 and holding the same in place. At the same time, it will be seen that because of the close fit between the cylinder 12 and the skirt 11 no sand will be permitted to get in between these to cause scoring of the contacting surfaces. Also, which is the main purpose of this invention, this construction prevents sand from getting in between the cylinder 4 and piston 5 and thereby causing scoring of the contacting faces of these two elements. As a result of this construction, the useful life of this machine, without repairs in connection with these parts, is considerably prolonged.

Stop rods 19, having nuts 20 upon the ends thereof extend through openings in the flange 10 and the nuts 20 engage the bottom faces of the bosses 21 upon the outside of cylinder 4 when the flask rest is raised to its highest position. These therefore serve as stops to limit the upward motion of the flask rest when compressed air is turned into the space 7. It will be seen from this that the bottom end of the skirt 11 will stop considerably below the upper end 13 of the cylinder 12 when

the upper limit of movement of the flask rest is reached.

It is believed that the construction, use, and advantages of the present invention will be appreciated from the foregoing description without further explanation thereof.

It is of course understood that the specific description of structure set forth above may be departed from without departing from the spirit of my invention as set forth in this specification and the appended claims.

Having now described my invention, I claim:

1. In a structure of the general nature described, having a supporting base, an elongated hollow body of approximately uniform diameter having an external projection to be secured to the base and be held in position thereby, a draw cylinder having an external outwardly projecting flange connected in tight relation with said hollow body to be supported thereby upon said base, a piston sliding within said cylinder and having an outwardly projecting flange adjacent its exposed end, and a skirt surrounding said flange and secured thereto in tight relation, said skirt projecting within the hollow body and sliding longitudinally thereof, said skirt and hollow body having a substantially tight fit at their meeting points whereby to prevent access of sand or other scoring material to the contacting faces of the cylinder and piston.

2. In flask rest actuating mechanism, a draw piston upon which the flask rest is mounted and by which it is moved vertically, a draw cylinder surrounding said draw piston and in which said piston slides in actuating the flask rest, a flange extending laterally from the free end of the draw piston and overhanging the end of the draw cylinder, a skirt secured to said flange and depending therefrom, and a hollow body surrounding said skirt and having a tight sliding fit with relation thereto, said hollow body being secured to the frame of the machine for the purpose of being held in place thereby and being secured to the draw cylinder for the purpose of holding same properly positioned with relation to the frame of the machine.

3. A structure as defined by claim 2 having means for stopping the outward movement of the skirt with relation to the hollow body before these parts reach the point of separation thereof.

In witness whereof, I hereunto subscribe my name to this specification.

CHAS. F. SCHERER.