June 25, 1935. L. A. LARSON ET AL 2,005,978

CORE EJECTOR

Filed Feb. 18, 1935

Fig. 1.

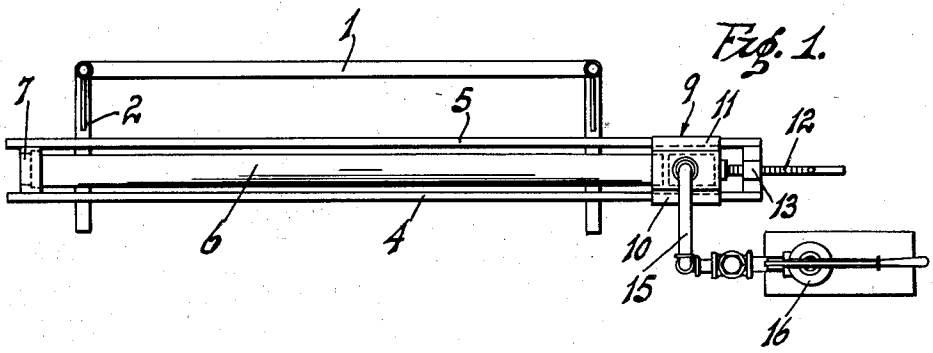


Fig. 2.

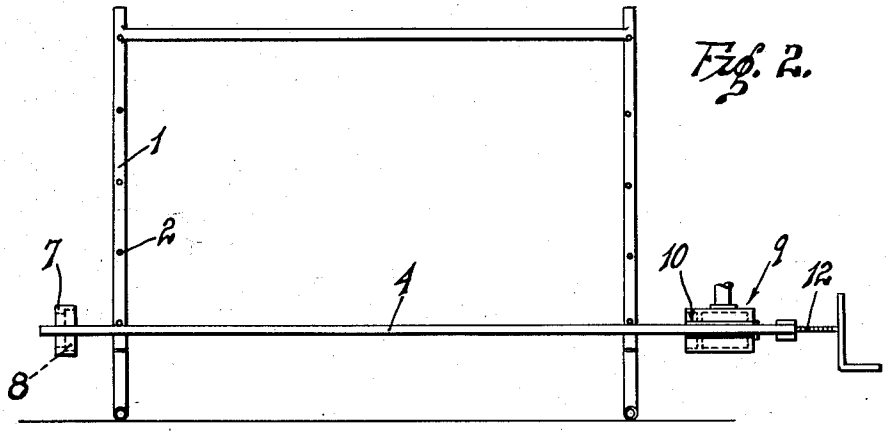


Fig. 3.

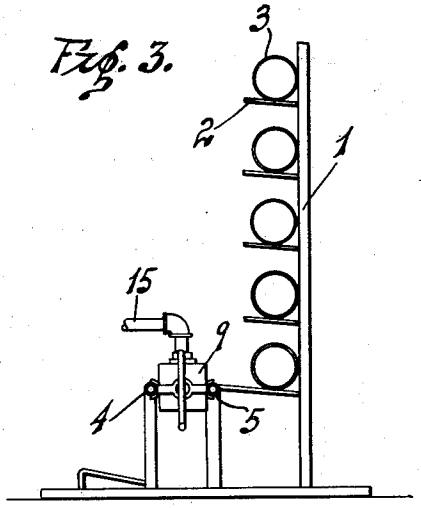


Fig. 4.

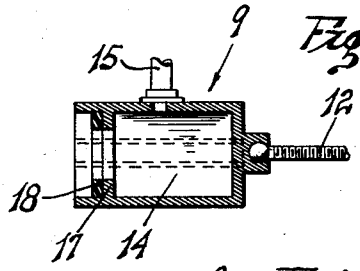
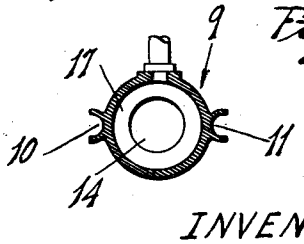


Fig. 5.



INVENTORS.
LEWIS A. LARSON.
ARTHUR SOLL.

BY H. A. Druckman
ATTORNEY.

Patented June 25, 1935 2,005,978

UNITED STATES PATENT OFFICE

2,005,978

CORE EJECTOR

Lewis A. Larson and Arthur Soll, Compton, Calif.

Application February 18, 1935, Serial No. 7,024

5 Claims. (Cl. 255—1)

This invention relates to a core ejector for the purpose of removing the core from earth and rock bore drills. In drills of the core taking type, the material within the barrel becomes so tightly packed or wedged that considerable force is required to remove the material, and this material or core must be ejected from the barrel in the same order and position in which it is received so that a proper diagnosis can be obtained by the geologist.

An object of our invention is to provide a core ejector which will effectively remove the core from a barrel with the minimum of effort.

Another object is to provide a core ejector which will receive barrels of different lengths and which can be adjusted to receive these barrels in a minimum length of time.

A further object is to provide a core ejector which is simple in construction and effective in operation.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description, and the appended claims.

In the drawing

Figure 1 is a plan view of our core ejector.

Figure 2 is a side elevation of the same.

Figure 3 is an end view of the same.

Figure 4 is a longitudinal sectional view of the adjustable head.

Figure 5 is a transverse sectional view of the adjustable head.

Referring more particularly to the drawing, the numeral 1 indicates a frame substantially rectangular in shape. A plurality of spaced pegs 2 are provided on the uprights of the frame, and the barrels 3 are racked up on these pegs.

A pair of horizontal guide bars 4, 5 are fixedly mounted adjacent the lower end of the frame 1. These guide bars are preferably cylindrical in cross section and are spaced apart a suitable distance so as to receive a core barrel 6 between them.

A stationary foot ring 7 is secured between the bars 4, 5 adjacent one end thereof. This foot ring is provided with an inwardly extending shoulder 8 against which the end of the core barrel 6 rests, thereby limiting the movement of the core barrel in a horizontal direction. That is, the core barrel 6 is set against the foot ring 7 and tightly held in this position, as will be further described.

The ejected core moves outwardly from the core barrel thru the foot ring. An adjustable pressure head 9 is mounted between the guide bars 4, 5. A pair of lugs 10, 11 project outwardly from the head 9 and partially encircle the guide bars 4, 5, respectively. The pressure head is thus slidably mounted between the guide bars, and can be adjusted horizontally to conform to the length of the core barrel 6. A screw jack 12 extends rearwardly from the head 9 and is threaded thru a transverse web 13 between the cross bars 4, 5. Thus, by turning the screw jack, the head 9 is moved horizontally to engage the core barrel.

A pressure chamber 14 is provided in the head 9 to receive a fluid under pressure from the pipe 15 which enters the chamber. The pipe 15 extends to a pressure chambers 16 from which fluid is pumped into the pressure chamber.

An annular shoulder 17 in the head 9 provides a rest for one end of the core barrel 6. Suitable packing 18 may be provided on the shoulder 17 to prevent leakage around the end of the core barrel. When the core barrel is in position, as shown in Fig. 1, with the head 9 tightly forced against the barrel by means of the screw jack, fluid under pressure is introduced into the chamber 14. The pressure of this fluid acting against the core in the barrel will force this core out thru the foot ring 7 into a suitable pan (not shown).

Having described our invention, we claim:

1. A core ejector comprising a pair of spaced guide bars, a stationary foot ring between said bars, said foot ring being adapted and arranged to receive one end of the core barrel, a pressure head, means slidably mounting the pressure head on the guide bars, said pressure head being adapted and arranged to receive the other end of the core barrel, and means to introduce pressure into said pressure head.

2. A core ejector comprising a pair of spaced guide bars, a stationary foot ring between said bars, said foot ring being adapted and arranged to receive one end of the core barrel, a pressure head, means slidably mounting the pressure head on the guide bars, said pressure head being adapted and arranged to receive the other end of the core barrel, means to introduce pressure into said pressure head, and means to horizontally adjust said pressure head on the guide bars.

3. A core ejector comprising a pair of spaced guide bars, a stationary foot ring between said bars, said foot ring being adapted and arranged to receive one end of the core barrel, a pressure head, means slidably mounting the pressure head on the guide bars, said pressure head being adapted and arranged to receive the other end of the core barrel, means to introduce pressure into said pressure head, and a screw jack engaging the

pressure head whereby said pressure head is adjusted horizontally on the guide bars.

4. A core ejector comprising a frame, a pair of spaced horizontal bars on the frame, a stationary foot ring between the bars, a pressure head slidably mounted on the bars, said foot ring and pressure head being adapted to engage each end of the core barrel, a fluid pressure pipe extending into the pressure head, and adjustment means engaging the pressure head.

5. A core ejector comprising a frame, a pair of spaced horizontal bars on the frame, a stationary foot ring between the bars, a pressure head slidably mounted on the bars, said foot ring and pressure head being adapted to engage each end of the core barrel, a fluid pressure pipe extending into the pressure head, and a screw jack engaging the pressure head whereby said head is moved horizontally on the guide bars.

ARTHUR SOLL.
LEWIS A. LARSON.