

[54] COUNTER PRESSURE MEANS FOR A SCREW PRESS

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[22] Filed: Oct. 9, 1974

[21] Appl. No.: 513,508

[30] Foreign Application Priority Data

Nov. 27, 1973 Norway..... 4518/73

[52] U.S. Cl..... 100/148; 100/147 X

[51] Int. Cl.²..... B30B 15/00

[58] Field of Search..... 100/145-149, 100/191, 192, 211

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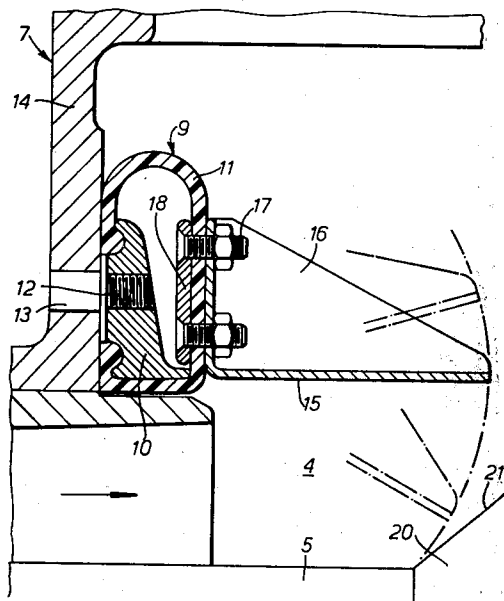
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[57]

ABSTRACT

A counter pressure means for a screw press is disclosed. A number of flaps are swingably arranged in radial planes along the circumference of the press discharge end and are mounted on a common annular bellows to be connected to a source of pressure.

2 Claims, 3 Drawing Figures



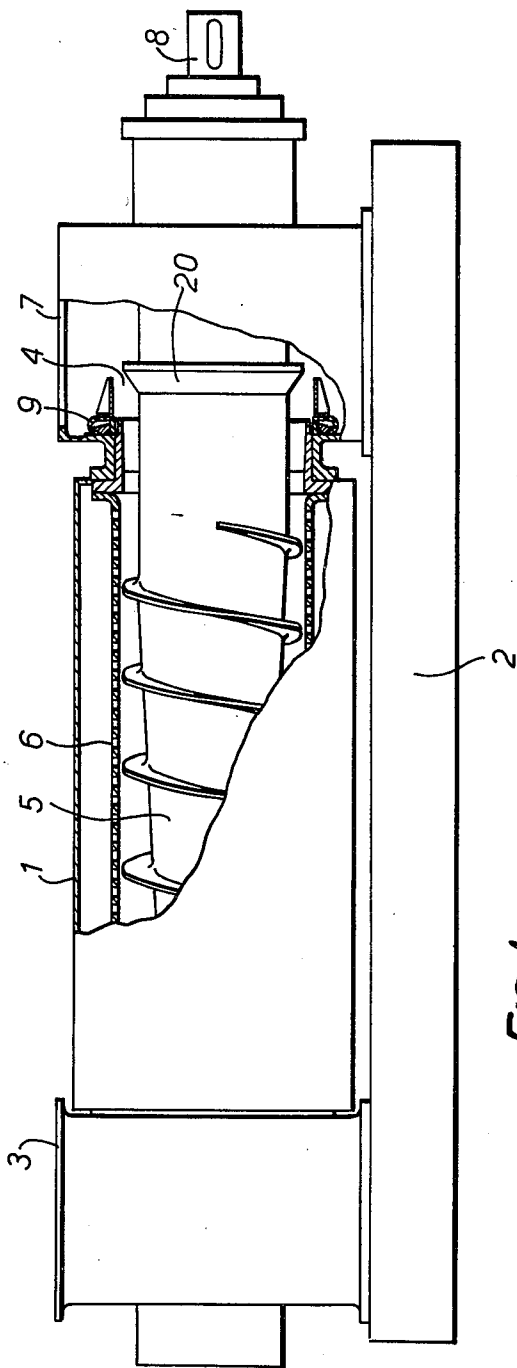


FIG. 1.

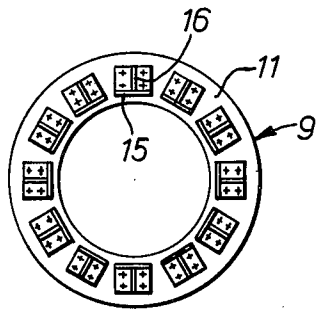


FIG. 2.

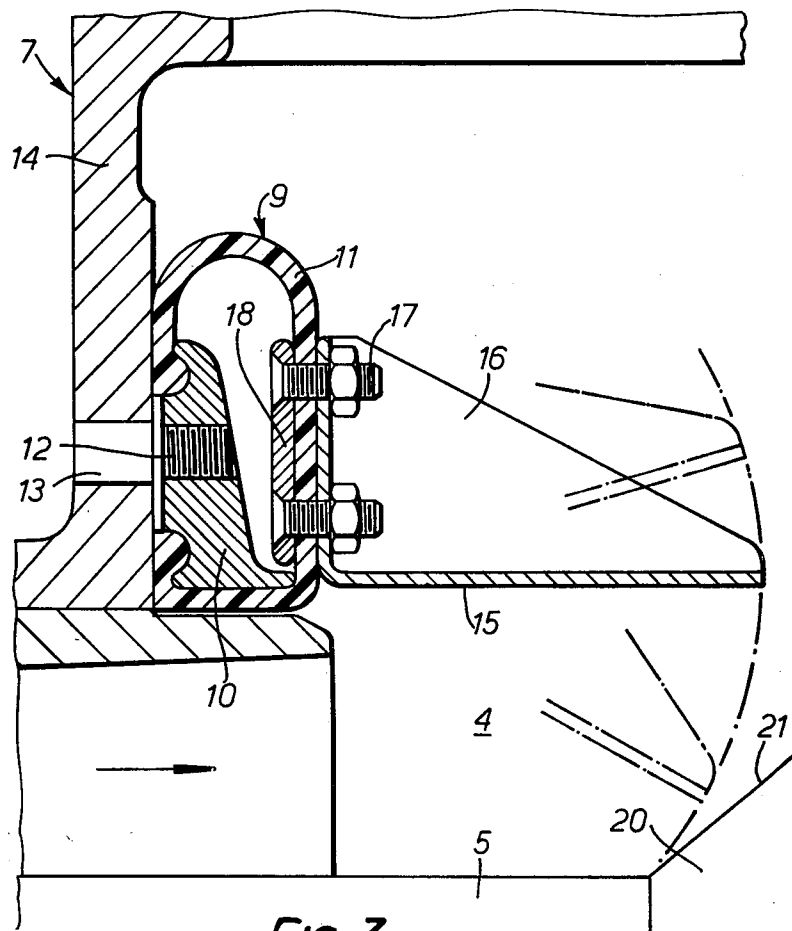


FIG. 3.

COUNTER PRESSURE MEANS FOR A SCREW PRESS

Screw presses basically comprise a screw arranged in a pressure cage. The material to be pressed is fed into one end of the screw press and out of the other end, the discharge end. The desired pressure effect is achieved by an increased screw diameter in the feeding direction or by a constant screw diameter in cooperation with a decreasing diameter of the pressure cage. At the discharge end, a counter pressure means is usually arranged, i.e., a means ensuring increased pressure at the discharge end of said press. This is usually achieved by a reduction of the discharge area, whereby a local retention of the material and a correspondingly increased pressure is achieved at the discharge end of the press.

The object of the present invention is to provide a counter pressure means effective to reduce the material discharge area.

According to the invention a number of flaps swingably arranged in radial planes along the circumference of the press discharge end are mounted on a common annular bellows means, which can be connected to a source of pressure. By the aid of such a counter pressure means the desired reduction of the material discharge area can be achieved by adaption of the pressure in the bellows means to the working conditions. Also, the great advantage is achieved that the flaps are influenced by one and the same pressure means, and the single flaps can swing away as occasion demands as well, which is of importance, e.g., in the case of hard inclusions. Flaps worn down can also be exchanged in a simple manner. If desired all flaps can be exchanged by flaps of a different size or shape. In this manner the counter pressure means is more universally adjustable and utilizable.

According to the invention a counter pressure means is, thus provided for a screw press, which counter pressure means is characterized by a number of flaps swingably arranged in radial planes along the circumference of the press discharge end, which flaps are mounted on a common annular bellows means that can be connected to a source of pressure.

The invention will now be described in more detail with reference to the accompanying drawing, where

FIG. 1 is a partly sectional side elevation of a screw press,

FIG. 2 shows the counter pressure means, seen in the direction towards the screw press, and

FIG. 3 is a sectional view on an enlarged scale of the counter pressure means.

In FIG. 1 a screw press is shown comprising a case 1

on a substructure 2. The screw press further comprises an inlet 3 and a discharge end 4. The screw is designated 5 and the pressure cage 6. The screw 5 is extended through the discharge box 7 and is provided with a shaft journal 8 for connection with a driving means.

Around the press discharge end an annular bellows means 9 is provided. The structure of the bellows means is shown in detail in FIG. 3. Said bellows means thus comprises a rigid ring 10 and an annular bellows 11 made of a suitable resilient material and secured on said ring. Mutually spaced along the circumference of said ring 10 a number of threaded bores 12 are arranged so as to correspond to bores 13 in the wall of said discharge box 7. By the aid of screws (not shown) said ring 10 and, thus, said bellows means can be secured in the discharge box around the press discharge end 4. A conduit (not shown) leading to a source of pressure with suitable control means can be screwed into one of said threaded bores 12, so that the interior of said bellows means can be provided with a desired pressure.

The flaps 15 being L-shaped in section and comprising a central stiffening leg 16, are identically mounted. Here only the mounting of the flap shown in FIG. 3 is described. The flap is mounted by the aid of four screws 17 which are inserted through a counterhold disk 18 inside the bellows 11 and through one leg of the flap 15. Said screws are provided with nuts as shown in FIG. 3.

With dotted lines in FIG. 3 possible positions of the flaps are indicated which depend on the pressure inside said bellows means 9 and the pressure exerted by the material arriving at the discharge end 4.

The screw 5 is provided with a ring 20 forming an inclined face 21 towards said discharge end 4 and cooperating with said flaps for adjustment of the material discharge area.

Having described my invention, I claim:

1. Counter pressure means for a screw press, characterized by a number of flaps swingably arranged in radial planes along the circumference of the press discharge end, which flaps are mounted on a common annular bellows means to be connected to a source of pressure.

2. A counter pressure means as stated in claim 1, characterized by a ring mounted on the screw and facing said flaps with an inclined surface in the direction of said discharge.

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