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2,384,161

PRESS STRUCTURE

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FIG. 1

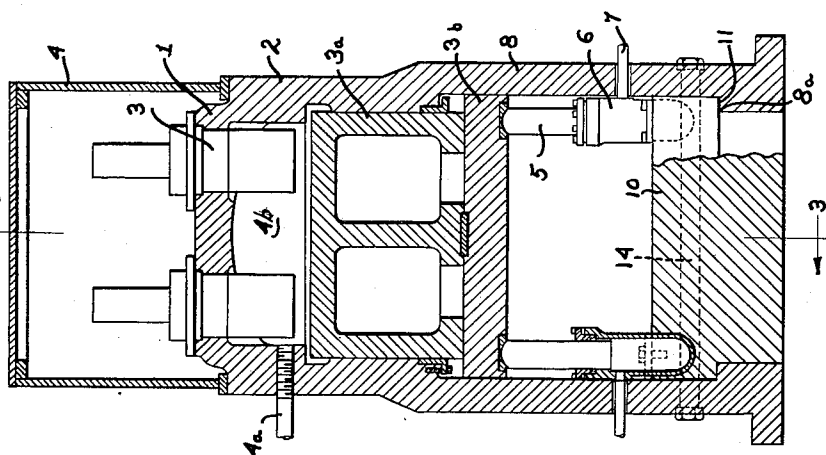
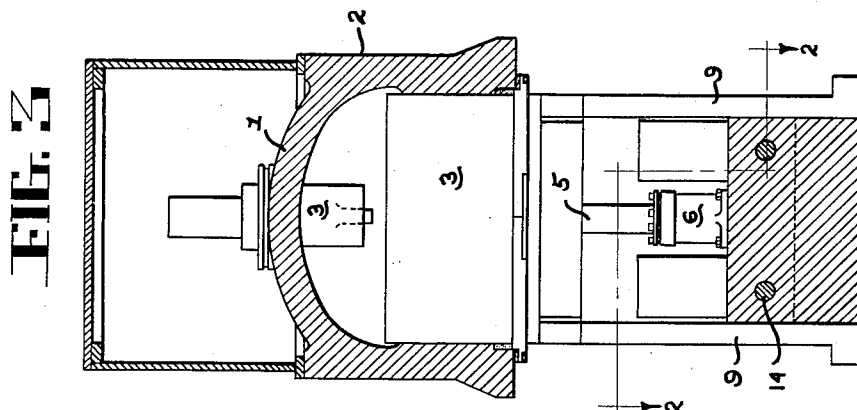
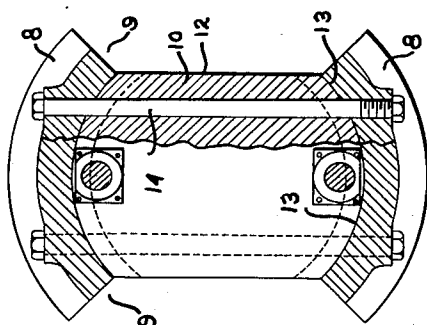


FIG. 2



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PRESS STRUCTURE

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6 Claims. (Cl. 100—71)

My invention relates to press structures, and particularly to a construction of the base of a hydraulic press.

The object of the invention is to lighten the base portion of a press consisting of integral side walls and head by removing wall portions previously located adjacent to supplemental members carried in the bed. Such supplemental members were previously inserted through windows in the side of the press construction and supplemented the press bed.

Another object is to provide simple means for strengthening the base portion thus lightened, so as to counteract bending tendencies of the side walls while the press is under working stress.

Another object of the invention is to provide a simple means of inserting the filler block, constituting the press bed, within the side walls of the press, of positioning the single block in the base of the press and tying the block to the side walls of the press.

Referring to the drawing:

Figure 1 is a vertical section through the assembled press;

Figure 2 is a section on the line 2—2 of Figure 3 looking in the direction of the arrows, showing the side walls of the press in section, and a portion of the press bed block in section;

Figure 3 is a vertical section through the press on the line 3—3, looking in the direction of the arrows of Figure 1.

Referring to the drawing in detail:

The press consists of a cap member 1 integrally formed with the cylindrical side walls 2 forming the head of the press. Mounted in the cap member 1 are the surge valves 3 communicating with the tank 4. The pressing member 3a reciprocates within the side walls 2 in the cylinder 4b. It is actuated on its forward motion by the direct application of pressure fluid to cylinder 4b through pipe 4a; and on its reverse motion by piston rods 5 operating in the cylinders 6 to which hydraulic fluid is supplied through the pipes 7. The platen 3b, which is movable with member 3a, is guided within the legs 8 arcuate in cross section of the side walls which are spaced oppositely from one another as shown in Figure 2, so that a space 9 is left between them on either side of the press through which work can be inserted and removed, and through which the bed block 10 can be inserted and positioned. It will be noted that the spaces 9 extend downwardly the entire length of the legs 8. This is apparent in Figures 2 and 3. In the lower portion of the press, adjacent the block 10, these spaces represent an item of econ-

omy of material, and also permit the operator to stand as close to the work as possible.

The bed block 10 consists of a block having a positioning shoulder 11, flat side walls 12 and arcuate ends 13. It is introduced between the arcuate side walls 8 with its flat side walls parallel generally, to the arcuate walls 8. When within the press, the block 10 is rotated 90° until its arcuate ends 13 engage with the arcuate legs 8. It is then lowered until the shoulder 11 engages a shoulder 8a of the legs 8 in the base of the press. Thereupon, the transverse bolts 14 are inserted through the side walls 8 and the block 10 to tie the side walls and bed block together rigidly. The actuating cylinders 6 are positioned upon the bed block 10, preferably adjacent the shoulder 8a.

Prior to the insertion of block 10 into the base, the pressing member 3a is assembled. The opening in the base serves to admit this member. The platen 3b is admitted through the openings 9, a 90° rotation of the platen being required, as in the case of block 10, to position it for assembly.

In tying the legs 8 and block 10 together in a unitary structure, the bolts 14 counteract a tendency for legs 8 to spread or bend laterally during the subjection of the press to working forces. They thus constitute a lightweight and inexpensive means for replacing a heavy continuous wall at the base of the press, such as has been employed previously.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination, a one piece press frame having spaced legs, a bed block having one transverse dimension equal to the space between the legs and another transverse dimension less than the space between the legs, whereby said bed block can be inserted between the legs and rotated into position in engagement with the legs, said legs and said bed having complementary arcuate portions adapted to be in juxtaposition to each other when said press has been assembled.

2. In combination, a one piece press frame having spaced legs, a bed block having one transverse dimension equal to the space between the legs and another transverse dimension less than the space between the legs, whereby said bed block can be inserted between the legs and rotated into position in engagement with the legs, and means of anchoring said bed block within said legs comprising transverse bolts, said

legs and said bed having complementary arcuate portions adapted to be in juxtaposition to each other when said press has been assembled.

3. In combination, a one piece press frame having spaced legs, a bed block having one transverse dimension equal to the space between the legs and another transverse dimension less than the space between the legs, whereby said bed block can be inserted between the legs and rotated into position in engagement with the legs, means anchoring said legs against spreading comprising transverse bolts through said legs and block, and means on the bed block and said legs for positioning vertically the bed block with respect to the legs and the anchoring means, said legs and said bed having complementary arcuate portions adapted to be in juxtaposition to each other when said press has been assembled.

4. In combination, a one piece press frame consisting of integral legs spaced from one another, connected at the top by a cap block, the lower end of said press having an opening through which a pressing member may be inserted, and a bed block adapted to fill this opening between said legs, said bed block having one dimension equal to the distance between the inner walls of said legs, and another dimension at right angles thereto, lesser in distance than the distance between the walls of the legs, said legs and said bed having complementary

arcuate portions adapted to be in juxtaposition to each other when said press has been assembled.

5. In combination, a one piece press frame consisting of integral legs spaced from one another, connected at the top by a cap block, the lower end of said press having an opening through which a pressing member may be inserted, and a bed block adapted to fill this opening between said legs, said bed block having one dimension equal to the distance between the inner walls of said legs, and another dimension at right angles thereto, lesser in distance than the distance between the walls of the legs, and means for anchoring the bed block between said legs comprising transverse bolts passing through the legs and the bed block, said legs and said bed having complementary arcuate portions adapted to be in juxtaposition to each other when said press has been assembled.

6. In a press structure, a unitary frame comprising a continuous, substantially vertical wall having its lower portions cut away to form two spaced legs arcuate in cross section, a bed block fitting between the free ends of said legs and having a transverse dimension not greater than the shortest distance between said legs, and through bolts securing said legs to said bed, said bolts constituting the only means securing said legs against spreading at the free ends thereof.

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