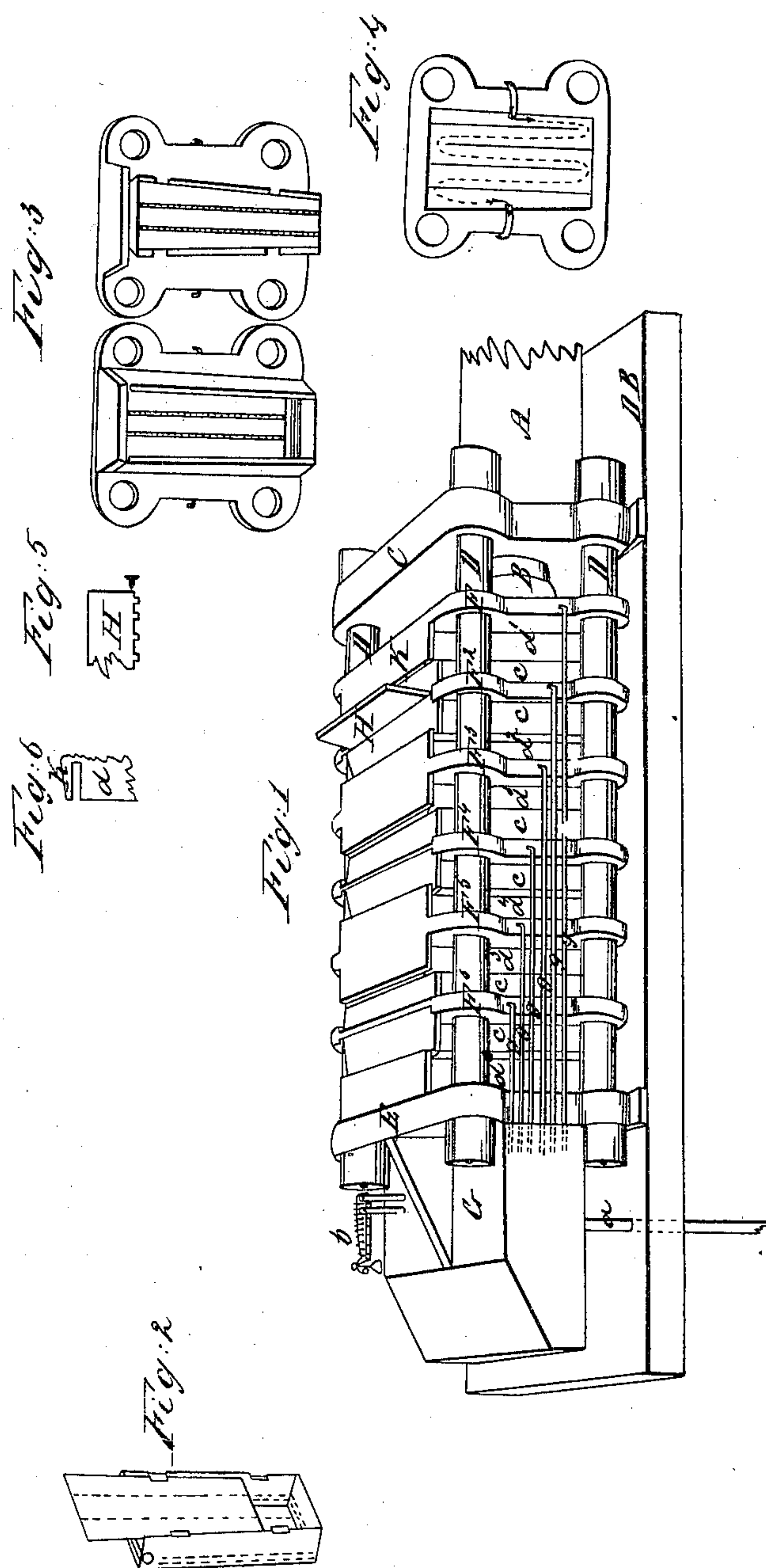


D. L. LATOURETTE.  
HEATED OIL PRESS.

No. 8,469.

Patented Oct. 28, 1851.



# UNITED STATES PATENT OFFICE.

DAVID L. LATOURETTE, OF ST. LOUIS, MISSOURI.

## OIL-PRESS.

Specification forming part of Letters Patent No. 8,469, dated October 28, 1851; Reissued November 22, 1853, No. 250.

*To all whom it may concern:*

Be it known that I, DAVID LOUIS LATOURETTE, of the city and county of St. Louis and the State of Missouri, have invented useful improvements in the heating and pressing processes and machinery adapted thereto in manufacturing linseed, castor, lard, and other oils and for other purposes, which combined I name "The Improved Heated Oil-Press;" and I do hereby declare that the following are full, clear, and exact descriptions of the construction and operation of the same, reference being had to the accompanying drawings and the references marked thereon, making a part of these specifications, in which—

Figure 1, is a perspective view of the machine complete; Fig. 2, a portable case into which is placed the substance to be heated and pressed; Fig. 3, a view of two plates with the case on their face; Fig. 4, the inside of the plates, showing the steam cavity, and the partitions or strengthenings.

My descriptions and drawings, are confined to the horizontal hydraulic press, but the improvements are equally applicable to hydraulic, steam, lever, or other descriptions of presses, both perpendicular and horizontal, which being obvious the same is claimed, as if these specifications extended thereto.

Fig. 1: A is the main cylinder. B the ram or driver. C head plate cast onto the cylinder, with a hole in the center, corresponding with the bore of the cylinder, from which the ram issues. D D D D the large bolts connecting the head pieces C and E, and forming the main pressing case. Plates F<sup>1</sup> F<sup>2</sup> F<sup>3</sup> F<sup>4</sup> F<sup>5</sup> F<sup>6</sup> are hollow, and strengthened by partitions, as shown by Fig. 4, to resist the pressure from without. They are filled with steam or heated air, by means of the hollow pistons g g g g g g, which are attached to the out edge of the plates, in the form of an elbow, at sufficient distance to clear the intervening plates by which they pass. These hollow pistons penetrate the chest G through packing, allowing them to move to correspond with the movement of the plates, when driven forward or made to retrograde by the ram. Chest G is double, having a partition through the middle. On the opposite side of the press, and attached to the opposite edge of the plates, are duplicate hollow pis-

tons, passing into and out of, the opposite half of chest G.

a is the pipe from the boiler, supplying the chest.

b is the safety valve from under which the steam passes off.

The two chambers of chest G have no communication, except through the hollow pistons and plates. The supply of steam from the boiler is regulated by a throttle, and the requisite temperature of the plates is obtained by the necessary weight upon valve b. The plates are guided by bearings on the four bolts D D D D. A cock at the bottom of each will discharge any water that may form. On the face of these plates are cast, projections forming a complete case—thus c c are the sides and bottom, and d the corresponding face, or side, or piston, forming a box in which is placed Fig. 2 which contains the substance to be heated and pressed. The pistons d correspond exactly with the slide lid, or rather side, of Fig. 2, and drives it before it contiguous to the substance when the pressing is begun. On the inside surface of c c, are channels, running through to the bottom, see dotted lines in Fig. 3 and the side or edge of Fig. 2, is perforated opposite said channels, see dotted lines Fig. 2 through which the gas, steam, and oil, successively pass, as they issue from the substance, while heating and pressing. Plate F<sup>1</sup> is cast onto ram B, and on its face is formed piston d<sup>1</sup>. Plate F<sup>2</sup> is faced on each side with c c. Plate F<sup>3</sup> is faced with the pistons d<sup>2</sup> d<sup>3</sup>, and the balance of them alternately in like manner. The top of these boxes is closed with a lid, which is raised when Fig. 2 is inserted. In Fig. 1, the whole, are represented as closed except H which is raised, ready to receive Fig. 2. These lids are hung by a swivel hinge to the top of plates F<sup>2</sup> F<sup>4</sup> F<sup>6</sup>, and have lugs projecting from the back edge, see Fig. 5 entering when the lid is closed corresponding holes in the plate, to prevent the pressure from below straining the hinges. From the top of plates F<sup>1</sup> F<sup>3</sup> F<sup>5</sup>, and head plate E are attached solid projections, see K Fig. 6 at such a height from its corresponding lid as will allow it when closed, to pass under, when the pressure is begun, to prevent the pressure from below, raising the lid. The plates are connected and locked together, at the



points of projections *d* and *c*, so that each is drawn back to its proper place, by the ram when the pressure is taken off.

- The ram may be carried back, by having  
 5 a piston head attached to hollow piston *g*,  
 and working in a cylinder, so that when  
 the hydraulic pressure is taken off, the pres-  
 sure of the steam on the head of hollow  
 piston *g*, will at once force the ram back.  
 10 The portable case, Fig. 2 may be made  
 of thin boiler iron or of steel. The plates  
 may be cast with a core, complete in all  
 their parts, or in separate parts, and secured  
 together by screw bolts.  
 15 The construction of all parts of this press,  
 is governed by plain mechanical principles,  
 about which further remark is perhaps un-  
 necessary—the important considerations be-  
 ing, to construct it sufficiently strong to re-  
 20 sist the pressure of steam on the one hand,  
 and the hydraulic pressure on the other,  
 and to cause the heating plates to move  
 parallel and steady by means of the guide  
 rods at the corners, which enable me to  
 25 employ the sliding tubes running into the  
 steam chamber through stuffing boxes with-  
 out binding for conveying the steam into  
 the spaces in the plates thus getting rid of  
 numerous expensive joints which have been  
 30 hitherto suggested which are exceedingly

liable to derangement. It is well known  
 by manufacturers of these oils, that the  
 more uniform and perfect the heat impart-  
 ed to the substance, and the sooner it is  
 under pressure after attaining such tem- 35  
 perature, the greater and more rapid will be  
 the yield of oil. The advantages of this  
 press, are apparent, in economizing in cost  
 of machinery—in labor—in fuel, and in  
 time—besides securing a greater yield of oil, 40  
 by keeping up a uniform and perfect heat  
 till the substance is thoroughly pressed with  
 an apparatus at once simple and efficient.

Having described my invention—what I  
 claim as new and wish to secure by Let- 45  
 ters Patent is as follows:

The combination of the heating plates  
 with the steam chamber substantially as  
 herein set forth, the plates being moved  
 parallel and the steam tubes connecting 50  
 them with the steam chamber sliding in  
 stuffing boxes in a line with the motion of  
 the plates as above set forth said steam  
 chamber being placed in a proper relative  
 position with the plates for that purpose. 55

D. L. LATOURETTE.

Witnesses:

P. W. JOHNSTONE,  
 ROBERT H. MASON.

[FIRST PRINTED 1913.]