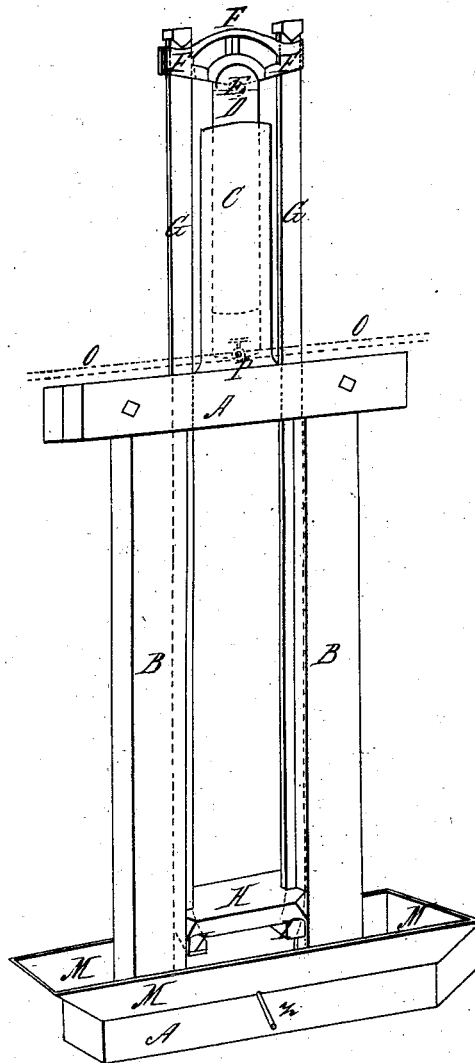


*E. Merrill.*

*Hydraulic Press.*

*Nº662.*

*Patented Mar 28, 1838*



*Witnesses.*

*Wm G. & Co. Pp  
The Pipe Line.*

*Inventor.*

*E. Merrill*

# UNITED STATES PATENT OFFICE.

EDWARD MERRILL, OF NEW BEDFORD, MASSACHUSETTS.

## HYDROSTATIC PRESS.

Specification of Letters Patent No. 662, dated March 28, 1838.

*To all whom it may concern:*

Be it known that I, EDWARD MERRILL, of New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and Improved Mode of Pressing Oil by the Help of the Common Hydrostatic Cylinder and Piston or Ram; and I do hereby declare that the following is a true, full, and exact description.

10 The nature of my invention consists in placing two pieces of square or flat timber of the necessary size horizontally one above the other, at any required distance as A, A, in the drawings, which can be of any length  
15 according to the number of presses that are wanted, the upper timber to be sawed in to perpendicularly to receive the guide bars, and bolted together; B, B, upright timbers with grooves in the inner sides to receive the  
20 guide bars G, partially tenoned into A, A, and placed at any distance apart that presses are wanted to be in width; C, cylinder, one to be placed over each press; D, piston or ram with a transverse groove in  
25 the upper end cut down even with the cylinder when the press is down; in the drawings it is represented as partly up.

E, is a small iron roller cut just as long as the groove is wide, and let one third of  
30 its diameter into the center of the groove in the piston as represented by the dotted lines on the head of the piston; F, F, F, the cap; a piece of cast iron with a perpendicular groove in each end to receive the guide  
35 bars G, and the upper edge of the ends concave for the heads of the guide bars to rest on—which serves to keep them in their places. The center of the lower edge of the cap is fitted into the groove in head of the  
40 piston across the roller E which is let one third of its diameter into the center of the lower edge of the cap which serves to keep the cap in its place, and at the same time  
45 giving it a chance for the ends to play up and down to equalize the stress on the guide bars; G, G, guide bars, flat pieces of iron which pass through the upper timber A, and half their width in the grooves (as represented in the dotted lines) in the timbers  
50 B, B, down to the follower H, with their upper ends fitted into the grooves in the ends of the caps with knife edged heads above resting on the concave ends of the cap which serves to keep them in their

places and at the same time giving them a 55 chance to cant if necessary without altering their positions in regard to the center; I, I, concave shoulders to the guide bars placed far enough from the edge of the bars that go into the timbers to allow the bars to 60 slide up and down in the grooves in the timbers B, B, without the shoulders coming in contact with the wood; H, follower, a flat piece of wood or metal with a perpendicular groove in each end to receive that part 65 of the guide bars that projects out from the timbers B, B, and with a transverse concave groove in the under side of each to fit upon the shoulders of the guide bars I, I, which serve to keep the bars from spreading at 70 the same time leaving them at liberty to play up and down and equalize the strain.

O, O, is the main pipe coming from the pump and passing the cylinder of each press (if two or more are connected together) and 75 connected to each cylinder by a short pipe which contains the stop cock as at P; any one or the whole of these stop cocks being open we are enabled to pump or work up any one or the whole of the presses at once 80 with the same pump or by opening a stop cock for letting off the water placed near the pump on the main pipe and all the others, the presses will all go down themselves or open the one on the main pipe, and 85 any one of the others and the press will go down while the rest remain stationary.

The space between H and the upper timber A is the place to receive the plates and bags of oil or stuff that is to be pressed the 90 plates fitting on to the guide bars the same as in the usual way of pressing oil.

M, M, M, are plank fitted with a close joint on the lower timber A in the form of a trough to catch the oil from the press 95 which is let off by the pipe N. This trough obviates the necessity of a cistern below as used in the old fashioned presses. By lengthening the timbers A, A, and inserting one more timber B, and continuing the 100 trough we have a frame for another press and so it can be continued to any number with little expense and having the cylinders in a line on one timber the main pipe can be connected with each and one forcing pump 105 can work them all which obviates the necessity and expense of providing each press with a separate pump.

The advantages that my presses possess over any others are that they cost only about one-half as much as the hydrostatic presses now in use inasmuch as it requires about  
5 four thousand pounds less iron to make one and obviates the necessity of more than one pump for several presses and takes up less room and answers a better purpose.

What I claim as my invention and desire to secure by Letters Patent is— 10

The mode of connecting the piston with the follower in the manner above described.

EDW. MERRILL.

Witnesses:

GEORGE I. PERRY,  
BENJ. RODMAN.