No. 756,259. PATENTED APR. 5, 1904.

J. F. MALONE & S. DAVIDSON.

MACARONI PRESS.

APPLICATION FILED JUNE 27, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

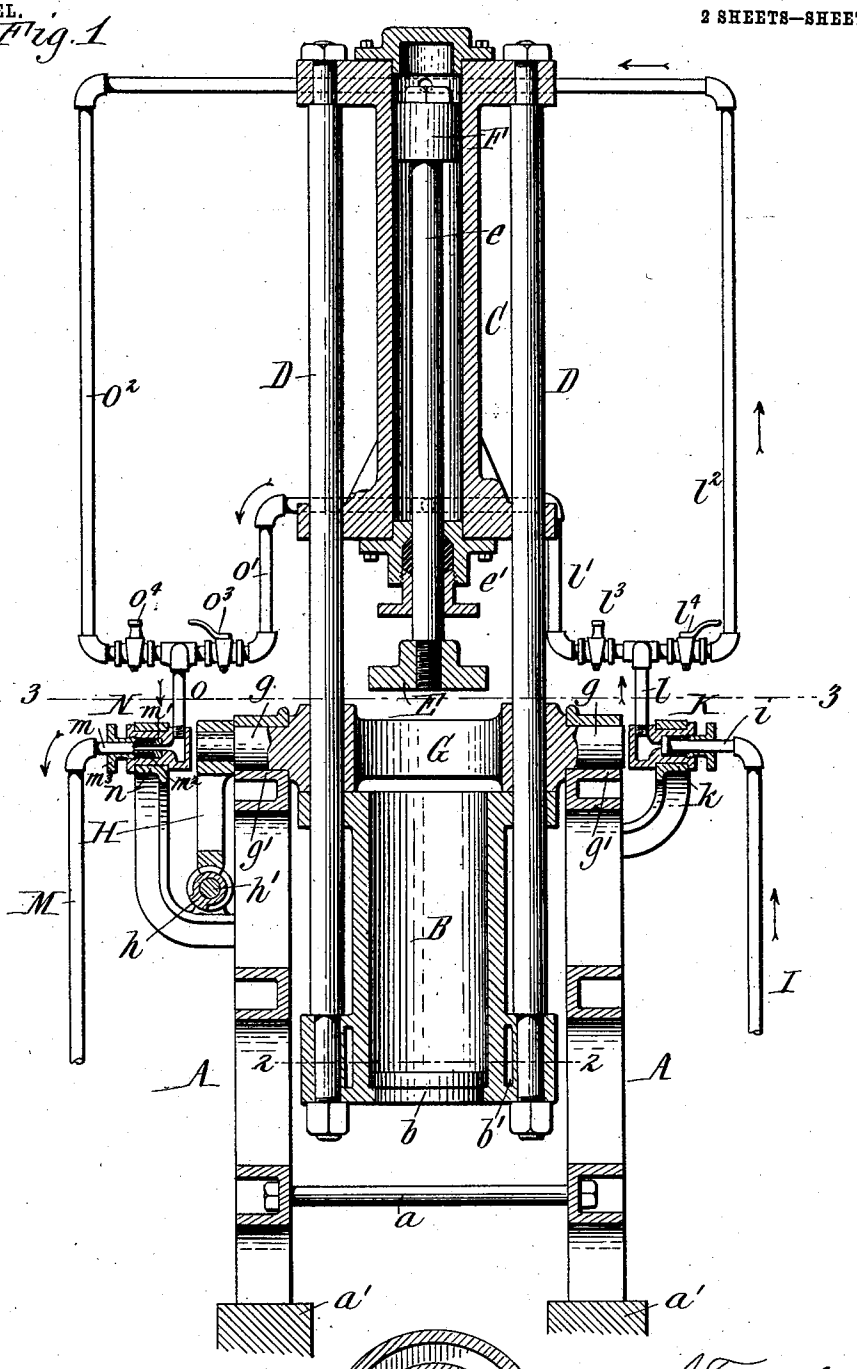
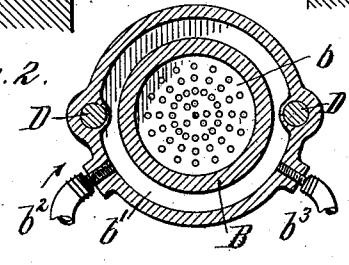


Fig. 2.



Witnesses:

E. A. Vock.

R. W. Rumsey.

J. F. Malone
S. Davidson
Inventors.

By Wickham Bonner
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

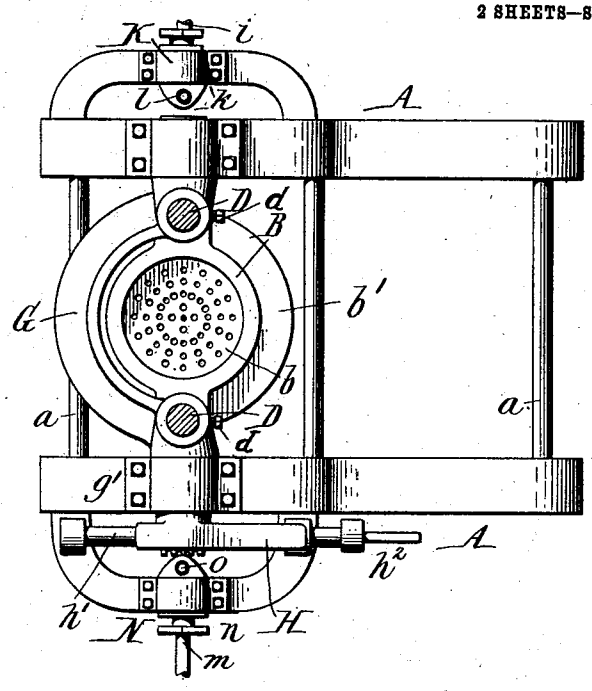


Fig. 4.

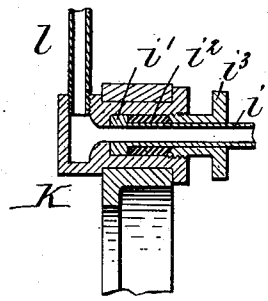
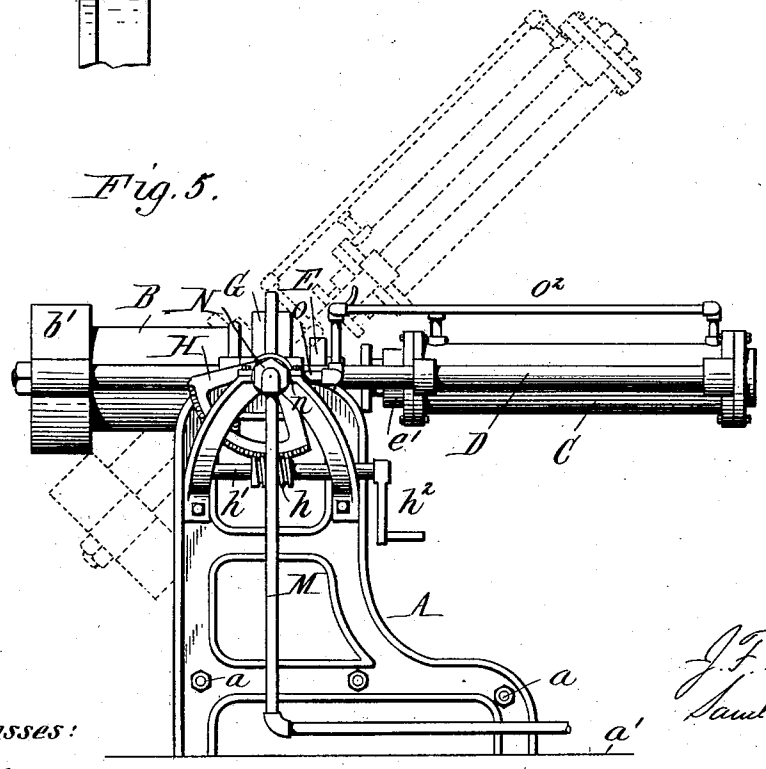


Fig. 5.



Witnesses:
E. A. Voek.
P. W. Runner.

J. F. Malone
Saul Davidson
Inventors
By Wilkinson & Bonner Attorneys.

THE NORRIS PETERS CO. PHOTO-LITHO. WASHINGTON, D. C.

No. 756,259. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

JOHN F. MALONE AND SAMUEL DAVIDSON, OF BUFFALO, NEW YORK.

MACARONI-PRESS.

SPECIFICATION forming part of Letters Patent No. 756,259, dated April 5, 1904.

Application filed June 27, 1903. Serial No. 163,355. (No model.)

To all whom it may concern:

Be it known that we, JOHN F. MALONE and SAMUEL DAVIDSON, citizens of the United States, and residents of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Macaroni-Presses, of which the following is a specification.

This invention relates more particularly to presses which are used for pressing macaroni and similar pastes. These presses are provided with a cylinder in which the batch of dough is placed and from which the dough is delivered in the desired form through a perforated die-plate by the action of a piston or plunger. The latter is operated by hydraulic pressure applied to a piston which is secured to the same piston-rod and arranged in the pressure-cylinder. The dough-cylinder is arranged either horizontally or vertically. Horizontal presses are used for making short macaroni or pastes and vertical presses for making long goods. The manufacturer therefore requires two different styles of presses, either of which is used to a greater or less extent, as the orders received for long and short goods may render necessary. It is seldom the case that these orders are equally divided between long and short goods, and one style of press is therefore often idle, while the other style is working to its full capacity and unable to turn out the goods as fast as desired.

The main object of our invention is to produce an adjustable or convertible press which can be used at the will of the operator either in a horizontal or vertical position, thereby enabling the operator to adjust the position of the press to that which is best adapted for producing the desired goods.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional elevation of our improved press, showing the cylinders arranged vertically. Fig. 2 is a horizontal section through the jacket of the dough-cylinder in line 2 2, Fig. 1. Fig. 3 is a horizontal section through the press between the two cylinders in line 3 3, Fig. 1. Fig. 4 is an enlarged longitudinal section of one of the pipe-trunnions. Fig. 5 is a side elevation of the press, on a reduced scale, showing the cylinders arranged horizontally in full lines and obliquely in dotted lines.

Like letters of reference refer to like parts in the several figures.

The stationary press-frame is constructed in any suitable manner, and may consist, as shown, of side frames A, connected by cross-stays a and supported on foundation-timbers a'.

B represents the pressing or dough cylinder, and C the pressure-cylinder, both arranged axially in line and connected by the usual parallel tie-rods D. The dough-cylinder is open toward the pressure-cylinder and provided at its opposite or delivery end with the usual perforated die-plate b. The delivery end of the dough-cylinder is provided with a surrounding jacket b', to which steam or a cooling medium can be supplied by a hose or flexible pipe b^2 and which has an outlet or drip b^3.

E represents the piston or plunger by which the dough is pressed through the perforations of the die-plate, and e the piston-rod to which this piston is secured and which extends into the pressure-cylinder C, where it is provided with the pressure-piston F. The pressure-cylinder is provided at its end nearest the dough-cylinder with a stuffing-box e', through which the piston-rod e works, while the opposite end of this cylinder is closed.

G represents a pivoted or swiveling support by which the cylinders are supported on the stationary frame. This support is arranged between the cylinders and has preferably the form of a crescent-shaped yoke which can be arranged closely to the dough-cylinder and permits the dough-piston to be withdrawn from the dough-cylinder for filling the latter, as represented in Fig. 1. The yoke G is provided on diametrically opposite sides with trunnions g, which rest in bearings g' on the side frames A, so that by rocking the yoke on these trunnions the press-cylinders can be made to assume a horizontal, vertical, or oblique position. In Fig. 1 the press-cylinders are shown in a vertical position, and in Fig. 5 they are shown in a horizontal position in full

lines and in an inclined or oblique position in dotted lines.

Any suitable mechanism may be provided for shifting the position of the cylinders and securing the same in the desired position. The mechanism which is preferred consists of a worm-segment H, which is secured to one of the yoke-trunnions, and a worm-wheel h, mounted on a shaft h', which is journaled in the adjacent side frame A and provided with a hand-crank h^2. The tie-rods D pass through openings or bores in the yoke, in which they are adjustably secured by set-screws d, Fig. 3, or other suitable means, so that by sliding the rods in the yoke the weight of the cylinders and connecting parts can be distributed evenly, or nearly so, on opposite sides of the pivot-line of the yoke.

I represents the stationary pressure-pipe which receives the fluid under pressure from a pump or other pressure-producing apparatus. This pipe has a horizontal end or mouthpiece i, which is arranged in axial alinement with the press or yoke trunnions g and opens into a pipe-trunnion K, which is capable of turning about this pipe and supported in a bearing k on the stationary frame. The mouthpiece i of the pressure-pipe is provided at its end with an enlargement or collar i', Fig. 4, against which the packing i^2 of a stuffing-box is packed by a gland i^3.

l represents the movable pressure-pipe, which extends from the inner portion of the pipe-trunnion K toward the pressure-cylinder and divides into two branches l' l^2, leading, respectively, to the inner and outer ends of the pressure-cylinder. Each branch pipe is provided with a cock l^3 l^4, respectively, by which the branch pipe can be opened or closed.

M represents the stationary exhaust-pipe, which terminates in a horizontal mouthpiece m, arranged in line with the mouthpiece i of the pressure-pipe and the press-trunnions g.

N represents the pipe-trunnion in which the mouthpiece m is arranged, and n the bearing on the adjacent side frame A, in which the trunnion N is supported. The mouthpiece m is provided with an end collar m' and is arranged in a stuffing-box formed by the pipe-trunnion N, packing m^2, and gland m^3.

O represents the movable exhaust-pipe, which extends from the inner portion of the pipe-trunnion N toward the pressure-cylinder and divides into two branch pipes O' O^2, connected, respectively, with the inner and outer ends of the pressure-cylinder. Each branch pipe is provided with a cock O^3 O^4, respectively, by which the branch pipe can be opened or closed.

As the pipe-trunnions K and N are arranged axially in line with the press or yoke trunnions g and the mouthpieces i and m of the stationary pressure and exhaust pipes are connected by stuffing-boxes with these pipe-trunnions, the press-cylinder can be shifted to a vertical, horizontal, or inclined position without interfering with the flow of the fluid to and from the pressure-cylinder.

In the position of the parts represented in Fig. 1 the cocks l^3 and O^4 are shut and the cocks l^4 and O^3 are open. The pressure liquid therefore passes from the pipe I through the pipe l and branch pipe l^2 to the outer or upper end of the pressure-cylinder above the pressure-piston F and forces the latter toward the dough-cylinder, while the spent fluid from below the pressure-piston escapes through the branch pipe O', pipe O, and stationary exhaust-pipe M, as indicated by the arrows. The dough-piston E now forces the dough through the die-plate. When the batch of dough has been worked off, the dough-piston is returned and withdrawn from the dough-cylinder by opening the cocks l^3 O^4 and closing the cocks l^4 O^3.

This improved press can be used in a vertical position for making long goods or in a horizontal position for making short goods. One press will therefore answer the purpose of two presses—a vertical and a horizontal press—in a small establishment, while in a large establishment, in which a number of presses are used, some of the presses can be used in one position and some in another, as the demand for long and short goods may render most advantageous. The press can also be used in an inclined position when the condition of the dough renders this desirable in order to cause the dough to flow properly from the die-plate orifices. The press can also be placed vertically for filling the dough-cylinder and then horizontally for delivering the dough through the die-plate.

We have described the preferred construction of our adjustable press; but it is obvious that various modifications can be made in its mechanical features without departing from the spirit of the invention.

We claim as our invention—

1. The combination of a supporting-frame, a pressing-cylinder and pressure mechanism secured together, and means for pivotally adjusting said cylinder and pressing mechanism about a horizontal axis, whereby said cylinder and pressing mechanism can be adjusted for operation at various angles to the horizon, substantially as set forth.

2. The combination of a supporting-frame, a pressing-cylinder and a pressure-cylinder secured together in line with each other, and means for pivotally adjusting said cylinders about a horizontal axis, whereby said cylinders can be adjusted for operation at various angles to the horizon, substantially as set forth.

3. The combination of a supporting-frame, a support capable of pivotal adjustment on said frame about a horizontal axis, and a pressing-cylinder and pressure-cylinder secured to said support and adjustable therewith about

the horizontal axis thereof, substantially as set forth.

4. The combination of a supporting-frame, a pivoted support mounted thereon, a pressing-cylinder and a pressure-cylinder mounted on said pivoted support, pipe-trunnions arranged in line with the pivot-line of said pivoted support, and pipes connecting said trunnions with said pressure-cylinder, substantially as set forth.

5. The combination of a supporting-frame, a support capable of pivotal adjustment on said frame about a horizontal axis, a pressing-cylinder and pressure mechanism secured to said support and adjustable therewith, and adjusting mechanism connecting said support with said frame, substantially as set forth.

6. The combination of a supporting-frame, a pivoted support mounted thereon, a pressing-cylinder and a pressure mechanism mounted on said pivoted support, a gear-segment on said pivoted support, and an actuating-gear mounted on said supporting-frame, substantially as set forth.

7. The combination of a supporting-frame, a support capable of pivotal adjustment on said frame about a horizontal axis, and a pressing-cylinder and pressure-cylinder mounted on said pivoted support and capable of adjustment thereon in the direction of the axes of said cylinders and at right angles to the pivotal axis of said support, substantially as set forth.

8. The combination of a supporting-frame, a support capable of pivotal adjustment thereon, a pressing-cylinder and a pressure-cylinder mounted on said support, and rods connecting said cylinders parallel with the axes thereof and adjustable in said support in the direction of their length, substantially as set forth.

9. The combination of a supporting-frame, a support having trunnions by which it is pivoted on said frame, and a pressing-cylinder and pressure-cylinder secured to said pivoted support and arranged on opposite sides thereof, substantially as set forth.

10. The combination of a supporting-frame, a pivoted support mounted thereon, a pressing-cylinder and a pressure-cylinder mounted on said pivoted support, a stationary pressure-pipe and a stationary exhaust-pipe arranged on opposite sides of said frame, pipe-trunnions connected with said stationary pipes, and pipes connecting said trunnions with said pressure-cylinder, substantially as set forth.

11. The combination of a supporting-frame, a support adjustable thereon about a horizontal axis, a pressing-cylinder mounted on said support and provided with a jacket, and a flexible supply-pipe connected with said jacket, substantially as set forth.

Witness our hands this 25th day of June, 1903.

JNO. F. MALONE.
SAMUEL DAVIDSON.

Witnesses:
JNO. J. BONNER,
C. B. HORNBECK.