(No Model.) 3 Sheets—Sheet 1.

W. C. McBRIDE.

COTTON SEED PRESS.

No. 370,203. Patented Sept. 20, 1887.

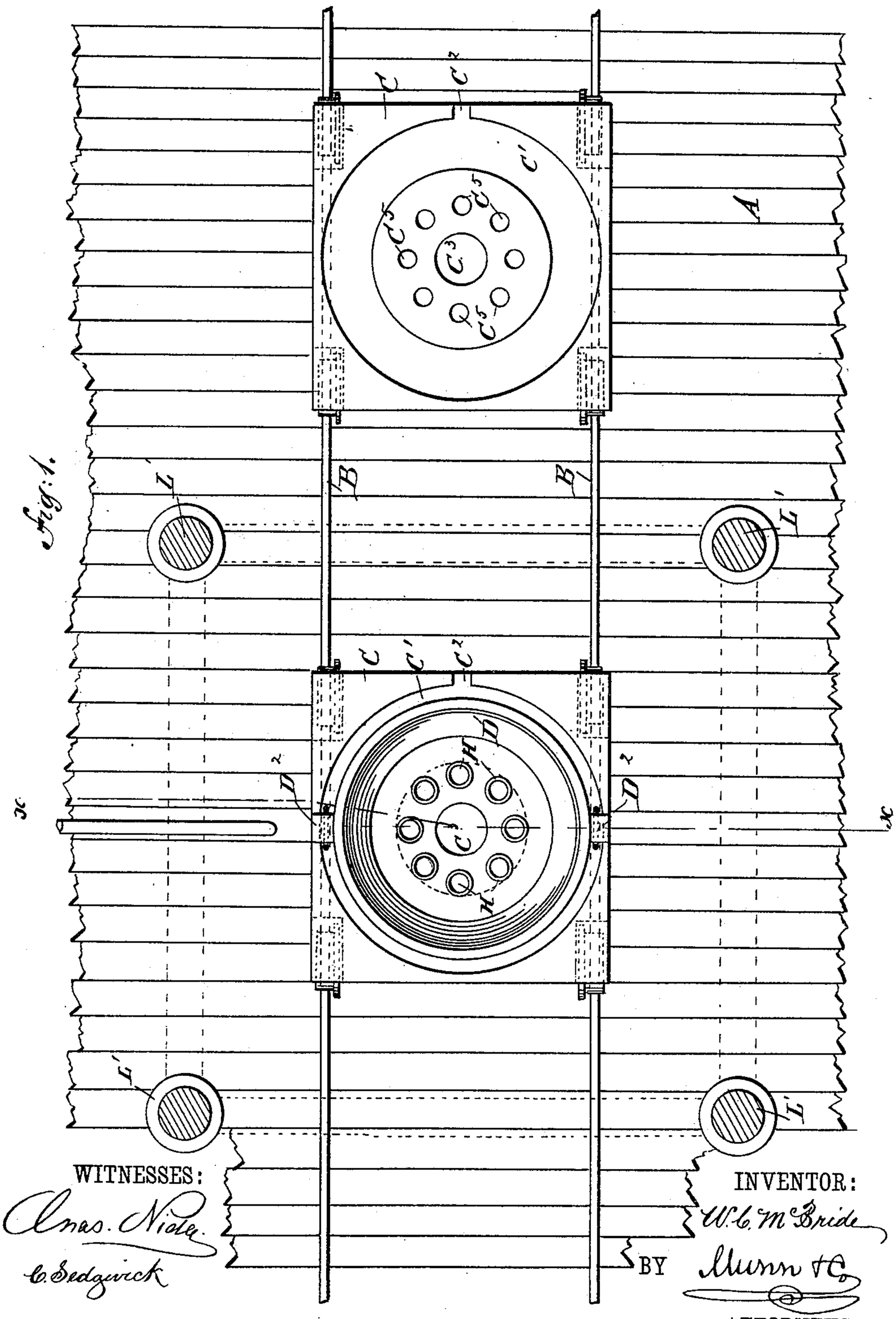

Fig. 1.

WITNESSES:

Chas. Nichols.

C. Sedgwick

INVENTOR:

W. C. McBride

BY Munn & Co.

ATTORNEYS.

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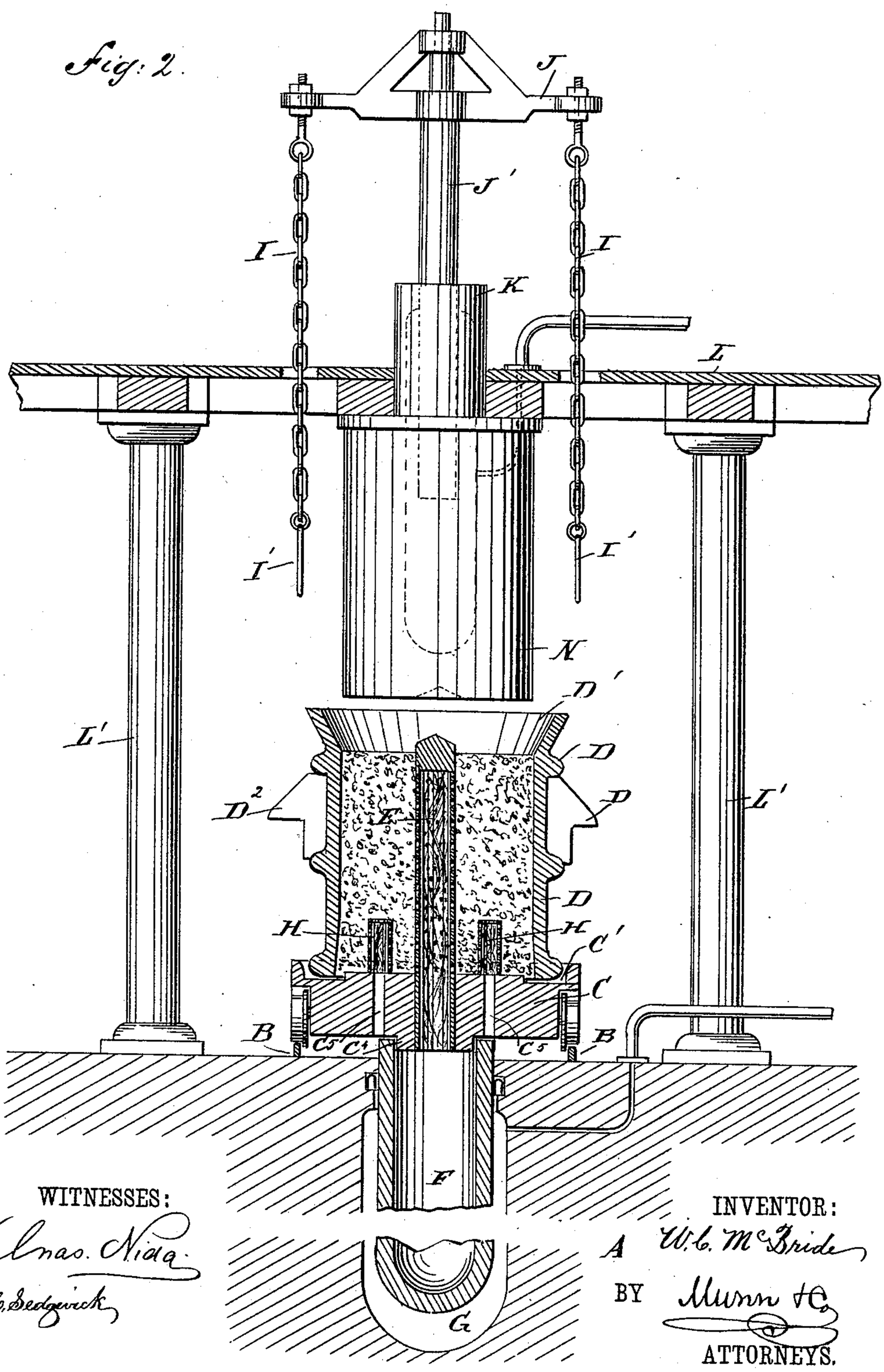
Fig. 2.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

A W. C. McBride

BY Munn & Co.

ATTORNEYS.

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W. C. McBRIDE.

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Fig: 5.

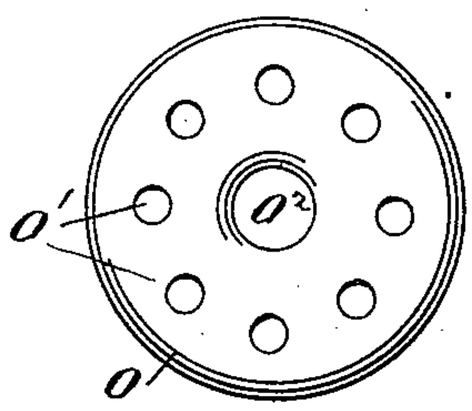

Fig: 3.

Fig: 4.

WITNESSES:

Chas. Nichols.

C. Sedgwick

INVENTOR:

W. C. McBride

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. McBRIDE, OF BROOKLYN, NEW YORK.

COTTON-SEED PRESS.

SPECIFICATION forming part of Letters Patent No. 370,203, dated September 20, 1887.

Application filed March 30, 1887. Serial No. 233,027. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. MCBRIDE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Cotton-Seed Press, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved press specially adapted for pressing the oil out of cotton or other seeds.

The invention consists in the construction and arrangement of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional plan view of the lower part of my improvement before pressing the cotton-seed. Fig. 2 is a vertical cross-section of the same on the line *x x* of Fig. 1. Fig. 3 is a side elevation of the same after the pressing of the seed is complete. Fig. 4 is a side elevation of the lower hydraulic pump with the car in position over it, and Fig. 5 is a plan view of the pressed cotton-seed cake.

My improved press is mounted on a suitable foundation, A, which supports a track, B, on which travel, preferably, two platform-trucks, C, which carry a seed-cylinder, D, and the trucks C are arranged to travel in opposite directions from the press to cooking vessels or boilers located at a suitable distance from the press, with the latter between the two vessels or boilers, so that the press can be kept continuously in operation, by pressing the seed in one cylinder while the other cylinder is charged at its respective boiler or vessel.

On top of the platform of the truck C is formed an annular recess, C′, opening into the outlet-groove C^2 for the discharge of the oil. In the center of the truck C is a central opening, C^3, for the admission of a perforated pipe, E, closed at the top by a pointed cover and adapted to pass loosely down into the tubular plunger F of the hydraulic press G of any approved construction, and located in the center of the press on the foundation A. The upper open end of the plunger F receives a corresponding annular projection, C^4, formed on the under side of the platform of the truck C, said projection C^4 being concentric with the central opening, C^3. In a circle around the latter are arranged smaller openings, C^5, over which are held the perforated tubes H, closed on top by a removable cover, and made of a height equal to the thickness of the cake into which the cotton-seed is pressed, which cake is shown in Fig. 5. The pipes E and H are filled with rags or other suitable filtering material.

In the annular groove C′ of the truck C is set the cylinder B, which is open at the top and bottom, and provided on its upper end with an outwardly-flaring rim, D′. On the exterior of the rim of the cylinder D, at opposite sides, are formed the lugs D^2, adapted to engage the links I′ of the chains I, secured to a cross-arm, J, fastened to the upper end of the plunger J′, operating in the hydraulic press K, located centrally above the hydraulic press G, and supported on the platform or floor L, held on the columns L′, resting on the foundation A. From the under side of the floor L extends downward a fixed plunger, N, arranged concentric with the hydraulic presses G and K and adapted to fit into the cylinder D.

The operation is as follows: The empty cylinder D is placed on the platform-truck C, with its lower end resting in the annular groove C′, so the platform of the truck C forms a bottom for the cylinder D. The perforated pipe E is held in the central aperture, C^3, and extends upward to near the top of the cylinder D. The perforated pipes H are placed over the respective apertures C^5 of the truck C, as illustrated in Figs. 1 and 2. The truck C is now moved on the track B to the vessel or boiler in which the cotton-seed is prepared preparatory to pressing, and the cylinder D is then filled with the seed, and the truck C, with its filled cylinder D, is returned to the press, so that the truck C stands centrally between the hydraulic presses G and K, as illustrated in Figs. 1 and 2. Suitable stops may be employed for holding the truck C in this position. The hydraulic press G is now set in operation, so that its plunger F rises and engages with its open end the projection C^4 on the under side of the platform of the truck C, whereby the latter is held firmly in place on the said plunger F. The latter, on rising higher up, takes with it in its upward movement the truck C and the

cylinder D, which latter is finally passed over the fixed plunger N, which thus compresses the cotton-seed in the cylinder D, so that the oil contained in the seed is pressed out of it and passes through the perforated pipes H and E into the apertures C^5 and the open plunger F, and out of the same, when the said plunger has been filled, upon the foundation A, from which the oil is led to a suitable receptacle or reservoir located in the foundation A below the level of the same. Some of the oil will find its way out of the cylinder D between the lower rim of the latter and the platform of the truck C, passing into the annular groove C′ and out of the same by the outlet C^2, which permits the oil to drop upon the foundation, from which it flows to the receptacle or receiver above mentioned. The perforated pipe E is pressed downward by coming in contact with the fixed plunger N, and extends into the tubular plunger F, the latter passing upward until the lower end of the fixed plunger N is nearly in contact with upper ends of the pipes H. The links I′ on the chains I are then hooked over the lugs D^2 of the cylinder D, and then the hydraulic press K is started, so that the plunger J′ rises, and, with its cross-beam J and the chains I, causes an upward motion of the cylinder D, which then slides on the fixed plunger N, while the car-truck C remains on the plunger F, which may be lowered to its former position until the truck C again rests on the track B. The upward motion of the cylinder D on the fixed plunger N causes the latter to force the cake O of pressed cotton-seed out of the cylinder D and upon the platform of the truck C, from which it is removed, and the short pipes H and the center pipe, E, are then taken out of the cake, leaving the latter with a series of perforations, O′, and the central aperture, O^2, as illustrated in Fig. 5. The cylinder D is then lowered again by reversing the hydraulic press K until the cylinder rests on the platform of the truck C. The links I′ are then removed from the lugs D^2 of the cylinder D, and the plunger J′ is again raised by the hydraulic press K to its original position. (Shown in Fig. 2.) The pipes H and E are then replaced on the truck-platform, and the truck is again run to the vessel or boiler and refilled, after which the above-described operation is repeated. While one truck goes to its vessel or receptacle to be filled, the other truck with a filled cylinder is operated on under the press, as above described.

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

1. In an oil-press, the truck having a central aperture and a vertical perforated pipe adapted to slide in said aperture, substantially as set forth.

2. In an oil-press, the truck having a central vertical aperture and outer apertures, a vertical perforated pipe sliding in said central aperture, and the shorter perforated pipes placed on the truck over said outer apertures, substantially as set forth.

3. In an oil-press, the truck C, having an annular channel, C′, and outlet C^2 in its upper surface, the central aperture, C^3, having a vertically-movable pipe, E, therein, the outer apertures, C^5, the perforated pipes H over said apertures, and the annular projection C^4 on the under surface of the truck, substantially as set forth.

4. The combination, with the tubular hydraulic plunger F, open at its upper end and closed at its lower end, and the fixed plunger N, of the truck C, having a central annular projection on its under face to engage the upper open end of the plunger when forced upward, a central vertical aperture, C^3, and outer apertures, C^5, the perforated pipe E, adapted to enter the tubular plunger when forced down, and the perforated pipes H, substantially as set forth.

5. In a cotton-seed press, the combination, with a platform-truck having apertures and perforated pipes placed on said platform-truck over said apertures, of an open cylinder held on said platform-truck, with said pipes extending into the interior of said cylinder, and filtering material held in said perforated pipes, substantially as shown and described.

6. In a cotton-seed press, the combination, with a platform-truck and an open cylinder supported on the platform of said truck, of a central perforated tube held in a central aperture of said truck and extending to near the top of said open cylinder, and filtering material held in said perforated tube, substantially as shown and described.

7. In a cotton-seed press, the hydraulic plunger F, the truck C, adapted to be held on said plunger F, the perforated pipes H and E, supported on said truck, and the cylinder D, open at both ends and supported on said truck, in combination with the fixed plunger N, to fit said cylinder D, which is pressed over the same by said hydraulic plunger F, substantially as shown and described.

8. In a cotton-seed press, the combination, with two hydraulic presses located centrally one above the other and a fixed plunger held between said hydraulic presses and being concentric with the plungers of the presses, of a truck adapted to be raised by the lower hydraulic press, perforated pipes supported by said truck and leading into apertures in the same, and a cylinder open at both ends and held in a suitable groove formed on said truck, so that the latter forms a bottom for said cylinder, substantially as shown and described.

WM. C. McBRIDE.

Witnesses:
C. SEDGWICK,
E. M. CLARK.