A. S. MORRIS.

PRESS.

APPLICATION FILED JAN. 14, 1915.

1,143,849. Patented June 22, 1915.

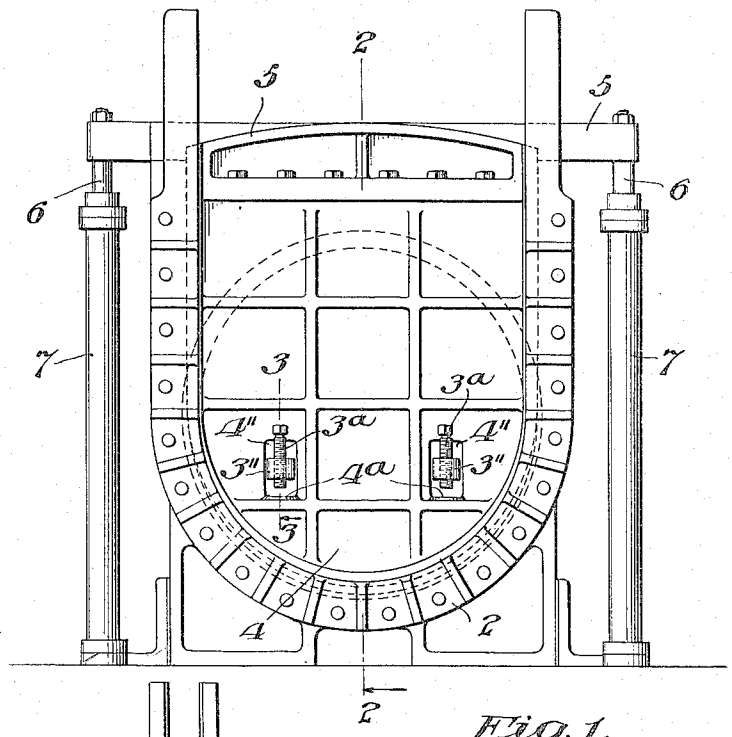


Fig. 1.

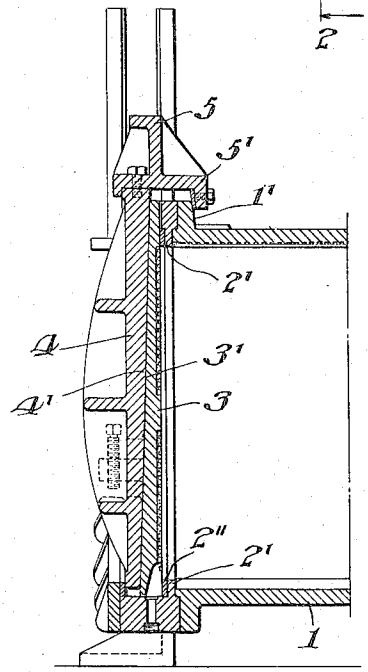


Fig. 2.

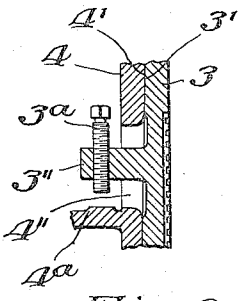


Fig. 3.

Witnesses

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

UNITED STATES PATENT OFFICE.

ANTHONY SAUNDERS MORRIS, OF HAVERFORD, PENNSYLVANIA.

PRESS.

1,143,849. Specification of Letters Patent. Patented June 22, 1915.

Application filed January 14, 1915. Serial No. 2,118.

To all whom it may concern:

Be it known that I, ANTHONY SAUNDERS MORRIS, a citizen of the United States, residing at Haverford, in the county of Delaware and State of Pennsylvania, have invented certain Improvements in Presses, of which the following is a specification.

My improvements relate to head gates for cylinder presses such as are used for extracting liquids from solid matter, particularly in the treatment of garbage.

In presses used for treating materials such as garbage, it is desirable to have gates that can be tightly closed readily, and readily opened for the discharge of the mass notwithstanding the resistance of the solid matter pressed against or interlocked with them. Presses having head gates provided with drainage means are especially desirable in extracting liquids from solids, but in the use of such gates, particularly where a considerable mass is subjected to great pressure, the gates are liable to be bound in their closed positions so that considerable force is required to overcome the frictional resistance and shear the matter interlocked therewith.

My improvements are characterized by the provision of efficient means for readily effecting a tight closure for the ends of press cylinders and readily opening the same, which is the primary object of my invention.

In the accompanying drawings, Figure 1 is an end elevation of a press provided with my improved gate; Fig. 2 is a sectional view of the forward end of the press taken on the line 2—2 of Fig. 1; and Fig. 3 is an enlarged section of a detail of the construction taken on the line 3—3 of Fig. 1.

The mechanism, as illustrated in the drawings, comprises the cylinder 1 having the U-shaped gate seat 2 provided with the inner ring 2′, fixed to the end of the cylinder against the flange 1′ thereof, and the packing ring 2″ seated within the ring 2. The end closure for the cylinder comprises the upwardly tapered wedge shaped inner section or gate 3 with the inclined outer face 3′ and the downwardly tapered, wedge-shaped outer section or gate 4 with the inner face 4′ inclined oppositely to and adapted to register with the face 3′. A cross head 5, fixed to the top of the section 4, is provided with the shoe 5′ which forms a wedging engagement with the flange 1′ at the top of the cylinder when the sections 3 and 4 are seated, in which position the engagement of the section 4 with the parts 1′, 2, and 3 presses and holds the latter firmly against the ring 2″.

The cross head 5 has fixed to the ends thereof the pistons 6 which are adapted to reciprocate in the cylinders 7, by which the outer gate 4 is moved. The inner gate 3 is provided with lugs 3″ which extend through slots 4″ in the outer gate 4, and bolts 3^a are set in the lugs in position to be engaged by the flanges or hammers 4^a on the outer face of the outer gate.

When the outer gate 4 is elevated by the actions of the pistons 6 and cylinders 7, it is frictionally separated from the inner gate and its parts 4^a are caused to strike a hammer blow against the parts 3^a of the inner gate 3, which is started by the impact, though it would otherwise stick or be held in its closed position by solid matter interlocked therewith, the impulse given to the inner gate by the shock shearing or rupturing the material of the mass engaged therewith.

Having described my invention, I claim:

1. In a press, the combination with a cylinder, of closing means comprising a reciprocating gate, a reciprocating member, and means whereby said member communicates a blow to said gate.

2. In a press, the combination with a cylinder, of closing means comprising a reciprocating gate, and opening means comprising a striking device movable relatively to said gate.

3. In a press, the combination with a cylinder, of an inner reciprocating gate, an outer reciprocating gate, and means whereby said outer gate is adapted to move relative to and move said inner gate.

4. In a press, the combination with a cylinder, of an inner gate, an outer gate, means whereby said outer gate communicates a blow to said inner gate, and means for moving said outer gate.

5. In a press, the combination with a cylinder, of a gate having a projecting member and an outer member movable relatively to and adapted for striking said projecting member.

6. In a press, the combination with a cylinder, of an inner gate having a tapering

cross section and an outer gate having a cross section tapering oppositely to that of said inner gate.

7. In a press, a pair of independently movable gates having oppositely inclined surfaces.

8. In a press, a pair of independently movable gates having oppositely inclined surfaces, and means whereby one of said gates is adapted to communicate a blow to the other.

9. In a press, a reciprocating gate having a projection thereon, a second reciprocating gate having an aperture through which said projection extends, and means whereby said second gate communicates a blow to said first gate through said projection.

10. In a press, a seat, independently movable gates having oppositely inclined surfaces whereby one wedges the other in said seat, and means whereby the movement of one of said gates opens the other.

In testimony whereof, I have hereunto set my name this 23rd day of December, 1914, in the presence of the subscribing witnesses.

A. SAUNDERS MORRIS.

Witnesses:
Jos. G. Denny, Jr.,
C. N. Butler.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."