

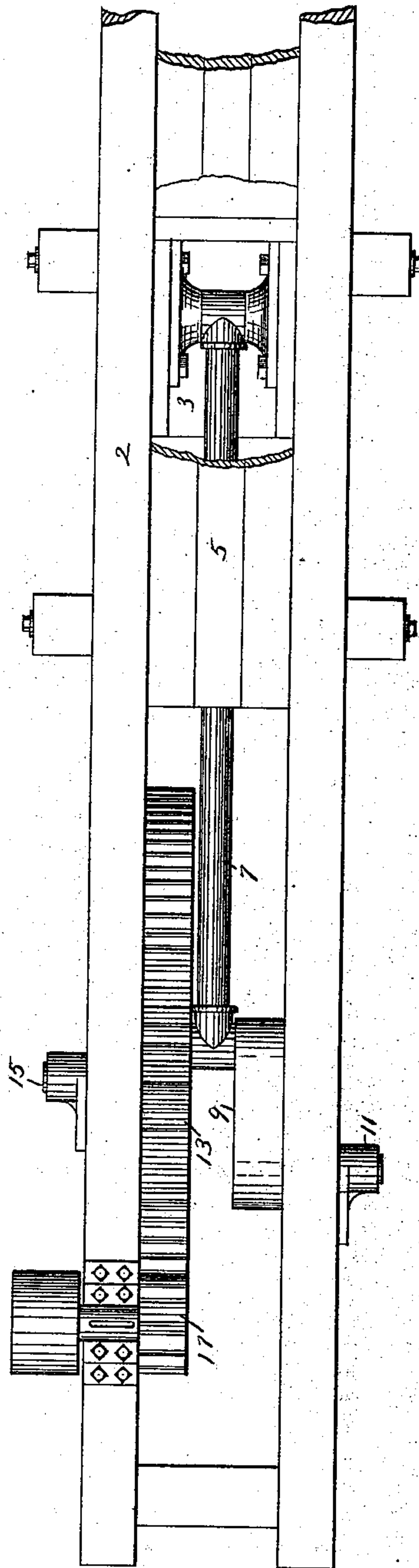
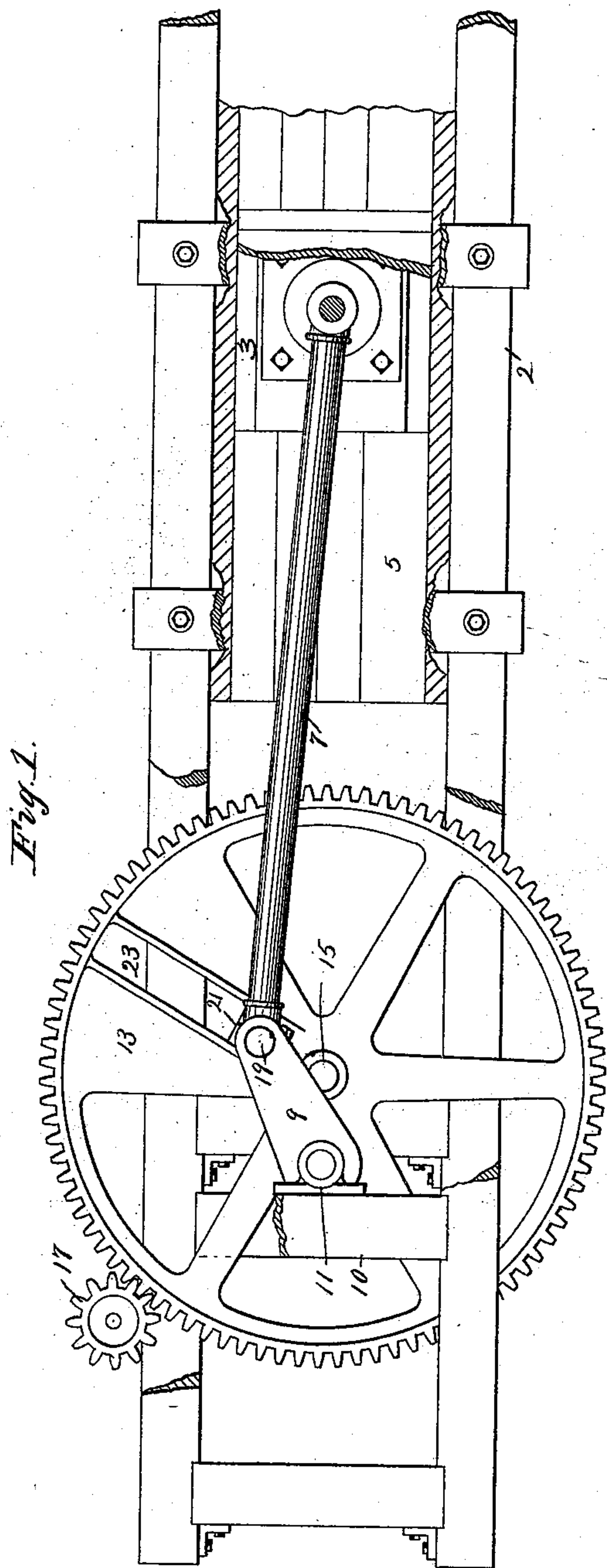
(No Model.)

O. B. KINNARD.

BALING PRESS.

No. 377,942.

Patented Feb. 14, 1888.



Witnesses.
S. J. Beardslee.
J. Jessen.

Inventor
Owen B. Kinnard.
By *R. O. Paul* atty.

UNITED STATES PATENT OFFICE.

OWEN B. KINNARD, OF MINNEAPOLIS, MINNESOTA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 377,942, dated February 14, 1888.

Application filed April 3, 1886. Serial No. 197,652. (No model.)

To all whom it may concern:

Be it known that I, OWEN B. KINNARD, of Minneapolis, Hennepin county, Minnesota, have invented certain Improvements in Baling-Presses, of which the following is a specification.

This invention relates to improvements in presses for baling hay and other fibrous material; and the object I have in view is to provide an improved means for operating the plunger of the press.

The invention consists, generally, in the construction and combination hereinafter described, and particularly pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a side elevation of a portion of the press, showing a portion of the plunger with the means for operating the same. Fig. 2 is a plan of the same.

2 represents the frame-work of the machine, which may be of any suitable construction.

3 represents the plunger, which may be of any preferred construction, and reciprocates in a rectangular plunger-case, 5, into which the hay is fed through a suitable hopper, (not shown,) and from which it is forced by the plunger into the baling-chamber. The baling-chamber may be of any ordinary or preferred construction. The plunger is connected by a pitman, 7, with a crank, 9, that is journaled in a bearing, 11, upon a suitable support, 10. A gear-wheel, 13, is mounted upon a stud, 15, and is driven through a gear or pinion, 17, that engages therewith. The pitman is secured to a suitable crank-pin, 19. One end of this pin is secured to the crank 9 and the other is secured to a sliding block, 21, that is mounted in a radial slot, 23, in the gear-wheel. The gear 13 is turned by the pinion 17. The crank 9 is thereby turned on its axis, and the pitman and plunger are reciprocated. The throw

of the crank is sufficient to move the block 21 back and forth in the slot 23. Power is applied to the circumference of the gear-wheel, and its center forms the fulcrum, the radius of the gear being one arm of the lever through which power is applied to the pitman and the portion of the radius between the center and the position of the crank-pin at any point in the revolution of the gear being, at that point, the other. The axis of the crank 9 is on the side of the center of the gear 13 farthest from the plunger.

When the parts are in the position shown in Fig. 1, and from this point until the plunger begins to recede, the crank-pin is very near the center of the gear. The leverage is therefore very powerful, which gives the plunger great force at the time when it is compressing the hay in the bale. After the crank-pin passes below the center it begins to move toward the circumference of the wheel, giving to the plunger a quick return movement. The plunger has a quick movement in the first part of its stroke, a slow movement with great power in the latter part thereof, and a quick return movement, as described, which is an especially desirable movement for a press of this class.

I claim as my invention—

The combination, in a baling-press, with the reciprocating plunger and pitman, of the wheel having the radial slot 23, the crank 9, the crank-pin 19, to which the pitman is connected, and the block 21, fitting in the slot 23 and having the crank-pin secured thereto, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of March, 1886.

OWEN B. KINNARD.

In presence of—

A. C. PAUL,
ALBERT HAINES.