(No Model.)

G. C. JAMES.

THROW-OFF MECHANISM FOR PRINTING PRESSES.

No. 441,568. Patented Nov. 25, 1890.

Fig. 1.

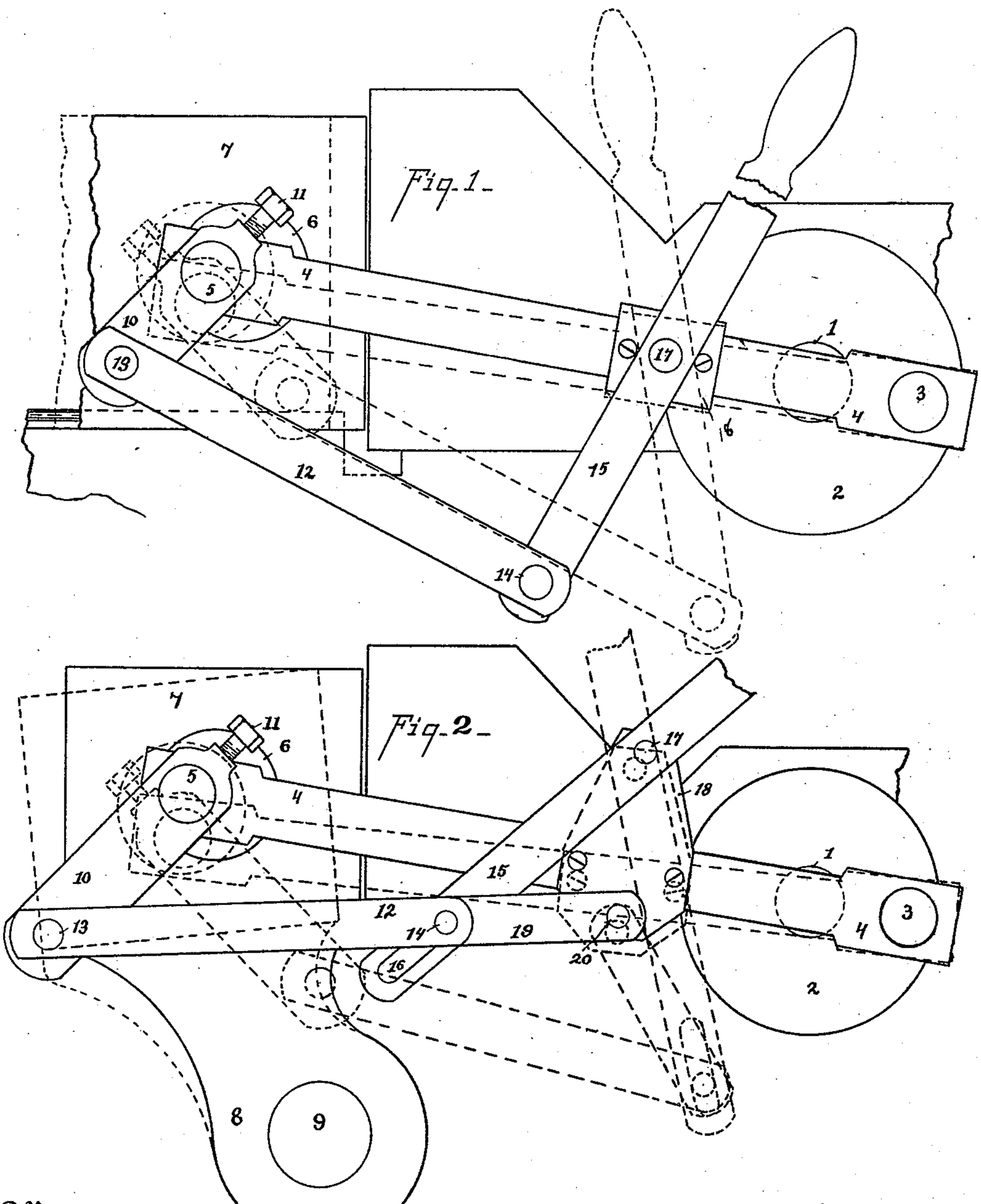

Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE C. JAMES, OF CINCINNATI, OHIO.

THROW-OFF MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 441,568, dated November 25, 1890.

Application filed April 28, 1890. Serial No. 349,710. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. JAMES, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Throw-Off Mechanism for Printing-Presses and for other Purposes, of which the following is a specification.

The object of my invention is to provide an improved power-transmitter by the crank-and-pitman motion so constructed that the throw of the pitman can be regulated to a greater or less extent, as occasion requires, the various features of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the device adapted to reciprocating motion. Fig. 2 is a modification of the same device adapted to vibratory movement.

1 represents the driving-shaft, on which is mounted a crank-wheel 2.

3 represents a crank-pin.

4 represents a pitman journaled on crank-pin 3, the opposite end being journaled to crank-pin 5, which is keyed to or rigidly fastened on or to a part of the shaft 6, which journals in the head 7. The shaft 6 is adapted to be rotated in its journal, so as to move the crank-pin 5 for adjusting the throw of the eccentric and head. This head 7 is supported in suitable guides. In Fig. 1 it is shown as adapted to move in right lines. In Fig. 2 said head is provided with a downwardly-projecting arm 8, which journals upon a rock-shaft 9, so that said head may be vibrated instead of reciprocated. In order to adjust the eccentric crank-pin 5, I provide an arm 10, which is rigidly attached to crank-pin 5, preferably by set-screw 11.

12 represents a connecting-rod journaled on the center 13 at one end and to the center 14 at the opposite end. 15 represents a lever, the lower end of which is provided with the slot 16. It is journaled upon the center 17, attached to the plate 18, which is rigidly connected to the pitman 4.

19 represents a link journaled by the centers 20 and 14, as shown in Fig. 2.

In Fig. 1 the link 19 is omitted, also the slot 16 in the lever 15. These two forms of throw-off mechanism are equivalent one to the other, except that the one shown in Fig. 2 is most powerful, and that in the position shown in full lines the rod 12 and link 19 are locked on the line of their centers.

When it is desired to change the stroke, so as to move the throw of the head nearer to or carry it farther from the driving-axis, the hand-lever 15 is moved, say, into position shown in dotted lines, thereby drawing the eccentric down, which throws the motion or travel of the head 7 farther backward. A reverse movement would bring it forward. The lever 15 may be locked in any desired position for holding the adjustment, if desired. It is well adapted to printing-presses. The press-bed may be attached directly to the vertical inner face of the head 7 by moving the hand-lever. The bed can be carried away so that the machine will run and still not perform any duty. It can be likewise regulated to the desired amount of pressure, which is adapted to various other uses where the increase or decrease of the power of the stroke is desired, or varying positions to perform varying kinds of work.

In my invention the shifting-lever 15 is mounted on the pitman, and all of the lever mechanism is supported by the crank-pin and the pitman, in consequence of which long connecting-rods and links are avoided, while a compact and simple arrangement is provided. By my invention the lever mechanism is not attached to and does not depend from the press or other frame-work, and therefore my invention can be applied to the reciprocating-platen and is not dependent on an oscillating frame, while it is more positive than similar mechanism applied to the machine-frame.

Having described my invention, what I claim is—

1. The combination, with the crank 3, the adjustable crank-pin 5, and the pitman 4, connecting the crank and crank-pin, of a swinging lever 15, fulcrumed on the pitman and connected with the adjustable crank-pin for adjusting the latter, substantially as described.

2. The combination, with the crank 3 and the pitman 4, of the movable head 7, the axially-turning shaft 6, journaled in the head and

having an eccentric-pin 5, provided with an arm 10, and the lever 15, fulcrumed on the pitman and connected with the arm on the eccentric-pin to adjust the latter for varying the throw of the movable head, substantially as described.

3. The combination of the crank and pitman 3 4, with the eccentric moving devices, consisting of the arm 10, the connecting-rod 12, the locking-link 19, and the slotted lever 15, fulcrumed on the pitman, substantially as described.

In testimony whereof I have hereunto set my hand.

GEORGE C. JAMES.

Witnesses:
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