No. 811,164. PATENTED JAN. 30, 1906.

J. MURRAY.

GEARING FOR BUNDLING PRESSES.

APPLICATION FILED SEPT. 1, 1905.

2 SHEETS—SHEET 1.

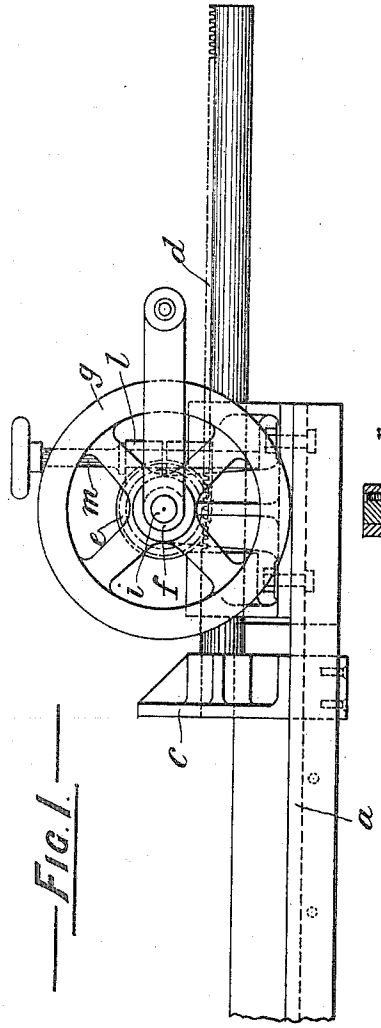


FIG. 1.

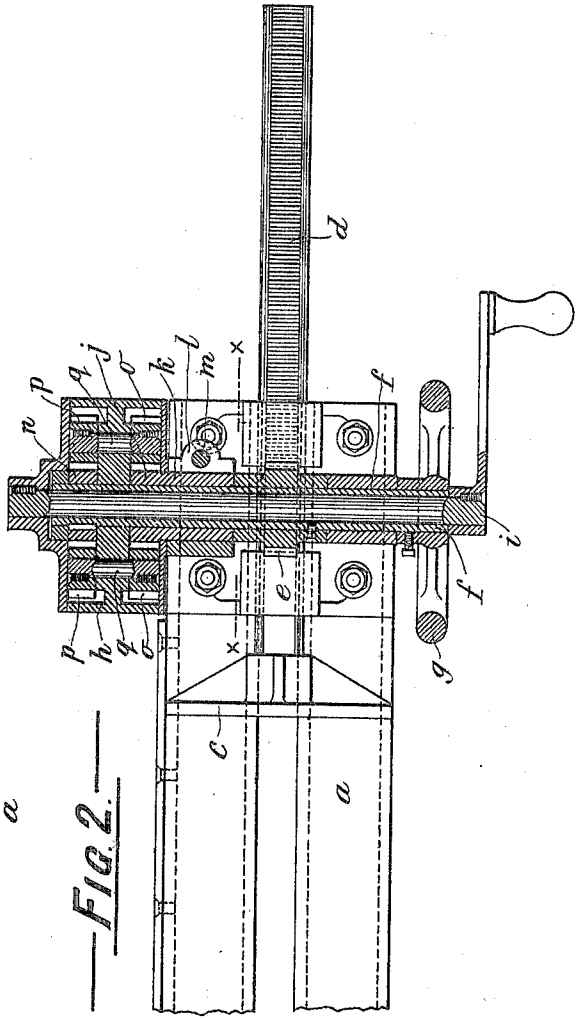
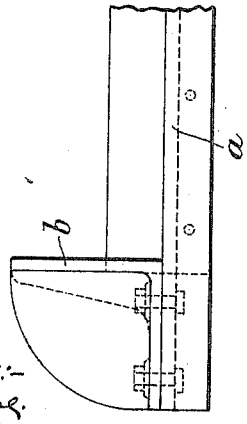
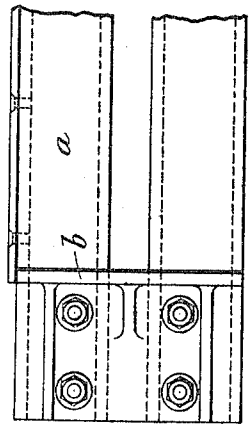


FIG. 2.





Witnesses:-
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F. G. Wachenberg.

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2 SHEETS—SHEET 2.

FIG. 3.

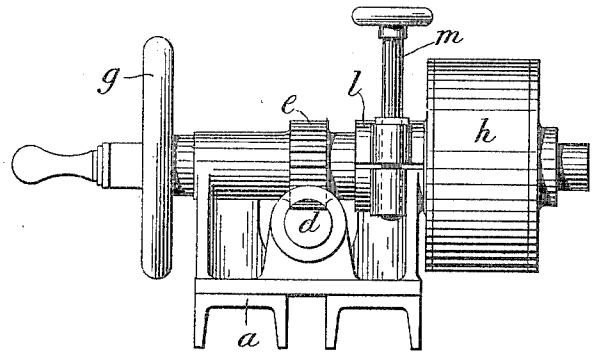
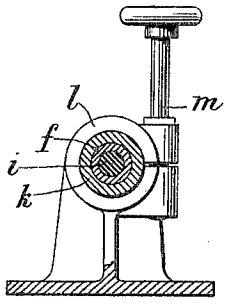


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN MURRAY, OF EDINBURGH, SCOTLAND.

GEARING FOR BUNDLING-PRESSES.

No. 811,164. Specification of Letters Patent. Patented Jan. 30, 1906.

Application filed September 1, 1905. Serial No. 276,675.

To all whom it may concern:

Be it known that I, JOHN MURRAY, engineer, a subject of the King of Great Britain, and a resident of Parkside Works, Dalkeith Road, Edinburgh, Scotland, have invented a new and useful Improved Gearing for Bundling-Presses, of which the following is a specification.

The present invention has reference to special mechanism for advancing the movable abutment of a bundling-press, so that a quick advance is first effected and subsequently a slower and more powerful movement when the full force of the press is required. According to this invention the fast movement of the abutment is obtained by means of a directly-driven pinion engaging with a rack carrying the abutment, while the more powerful advance is effected by the interposition of a train of gearing between the pinion engaging with the rack and the spindle which operates the same.

The accompanying drawings show this invention, Figure 1 being a side elevation; Fig. 2, a plan view partly in section; Fig. 3, an end view, and Fig. 4 a cross-section on the line *x x* of Fig. 2.

a is a table having a fixed abutment *b* at one end and a movable abutment *c* at the other. The movable abutment *c* is shifted by means of a sliding rack *d*, to which it is attached. This rack is moved endwise by a pinion *e* on a tubular shaft or sleeve *f*, which may be turned directly by means of a hand-wheel *g*. When, however, the rack is to be moved strongly to communicate greater pressure to the bundle placed on the table *a*, power-gearing is employed. This gearing is arranged in a box *h*, preferably placed on the side of the machine opposite to the hand-wheel *g*, before mentioned, and fixed on a shaft *i*, passing through the hollow shaft *f*, above referred to. Within the box is a pinion *j*, arranged to turn freely on the tubular shaft *f* and provided with a boss *k*, extending into a strap-bearing *l*, fast on the framing of the machine. The bearing *l* is furnished with a clamping-screw *m*, so that the pinion *j* can be fixed or left free to rotate. There is a second pinion *n* fast on the tubular shaft *f*, and there are other pinions *o o* and *p p* fast on spindles *q q*, mounted freely in the walls of the box *h* and meshing with the two pinions *j* and *n*, respectively.

To operate the press through the gearing, the loose pinion *j* upon the tubular shaft *f* is fixed in its bearing by means of the boss *k* and clamping-screw *m*, and the gear-box *h* is rotated either by means of a crank-handle on the shaft which carries it or by power. The pinions *o o*, carried by the box *h*, walk round the pinion *j*, now fixed, and are thereby slowly rotated. This rotation is imparted through their common spindles *q q* to the pinions *p p* and thence to the pinion *n*, which being fast on the hollow shaft *f* is also rotated and the pinion *e* thereon is caused to advance the rack *d*.

The pinions *o o* and *p p* are shown duplicated, as they balance one another and so work more evenly. Duplication of these pinions is not, however, essential.

What I claim, and desire to secure by Letters Patent, is—

In a bundling-press the combination of a sliding abutment, a rack fast thereto, a tubular shaft, a pinion fast thereon engaging with the rack, means for directly driving the tubular shaft and pinion, a shaft within the tubular shaft, means for separately driving the same, a train of gearing between the two shafts and means for fixing one of the gears of the train of gearing so that the tubular shaft and pinion are driven by the rotation of the shaft within when required substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN MURRAY. [L. S.]

Witnesses:

ROBERT F. SCOTT,

JAMES GARDNER.