

No. 772,632.

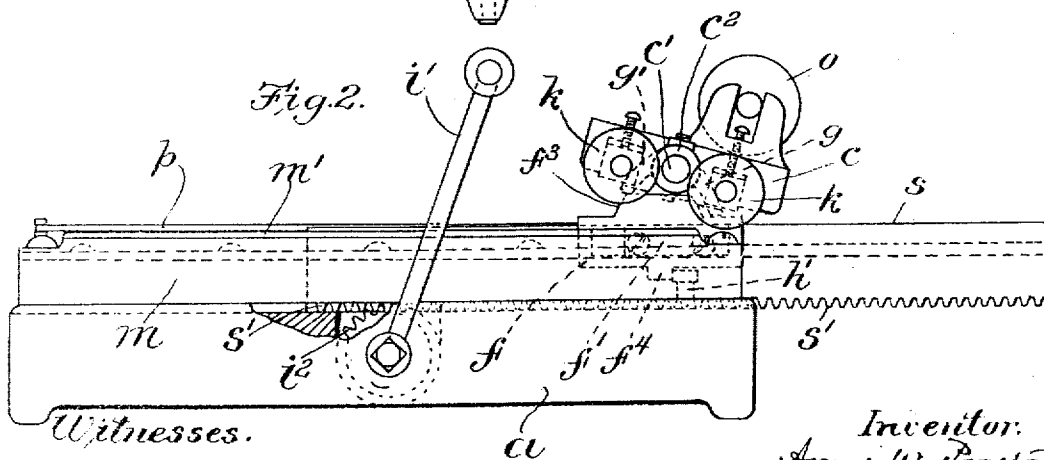
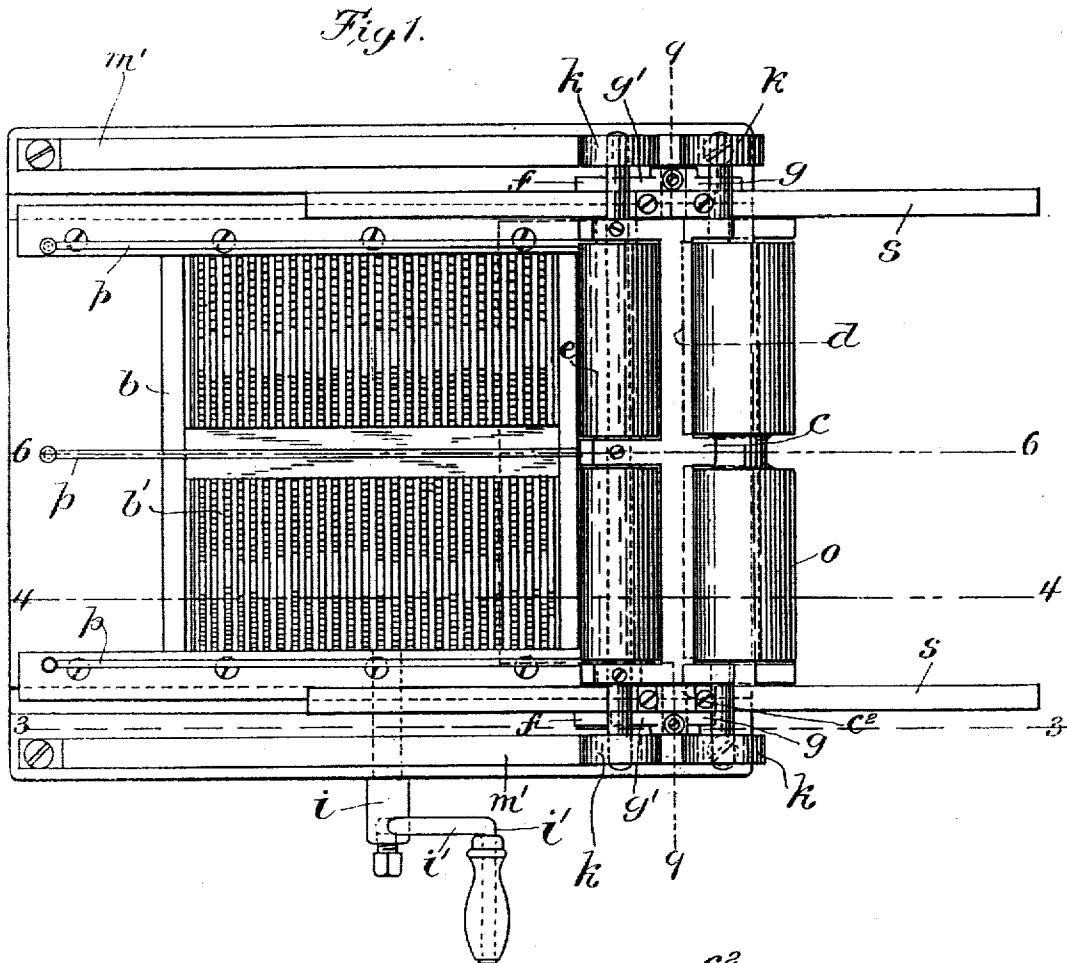
PATENTED OCT. 18, 1904.

A. W. PROCTOR.
PRINTING PRESS.

APPLICATION FILED DEC. 21, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses.
A. C. Religan
E. B. Brehm

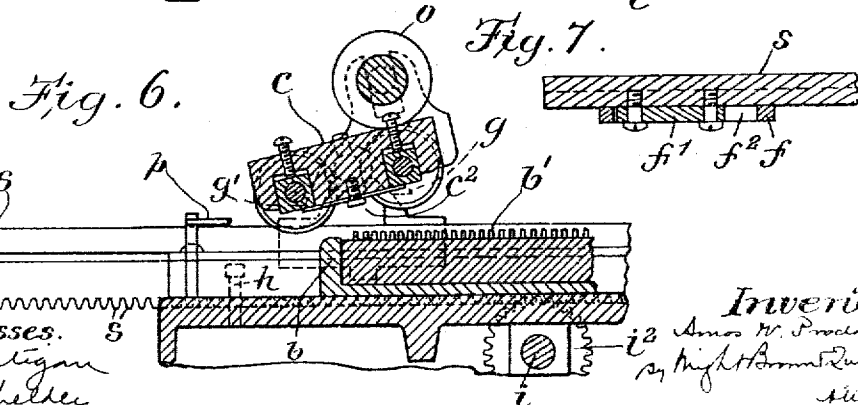
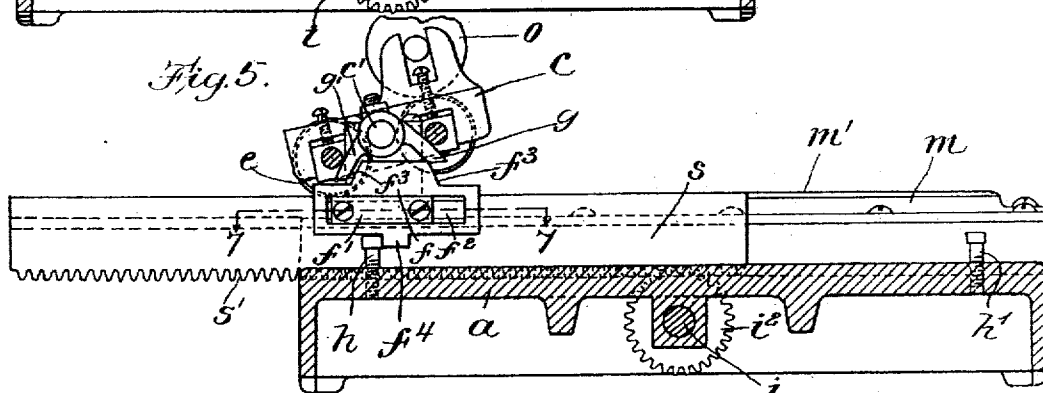
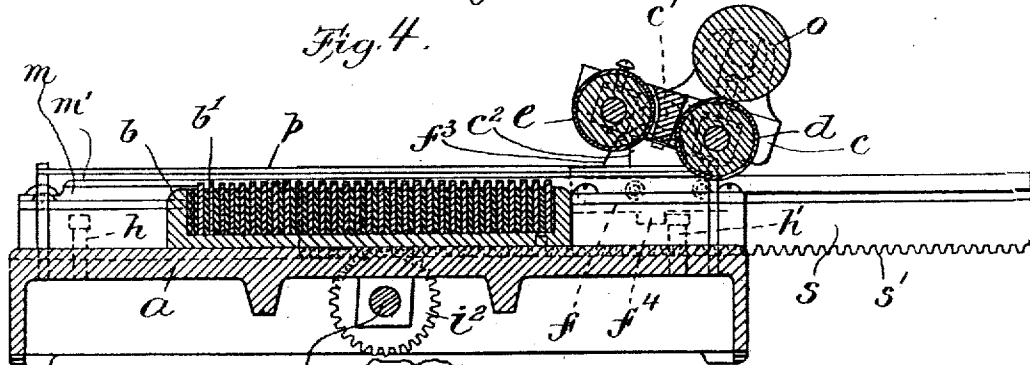
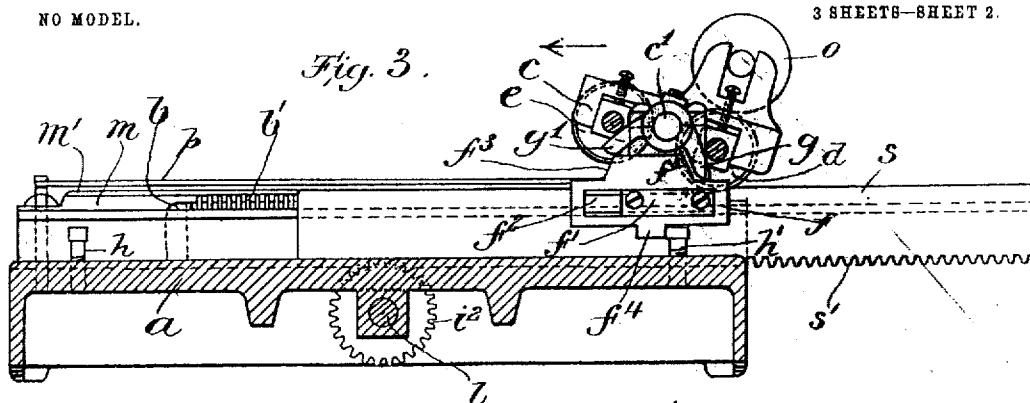
Inventor:
Amos W. Proctor
By *Wm. B. Brehm*
Atty.

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NO MODEL.

3 SHEETS—SHEET 2.



Witnesses. S
A. C. Reliquin
E. Batchelder

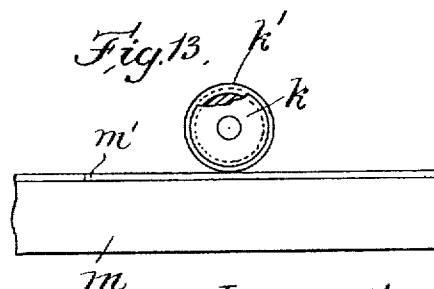
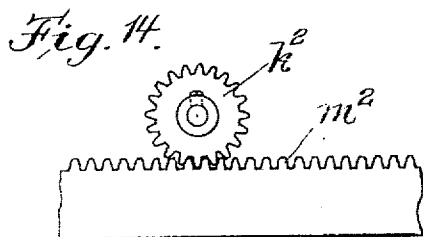
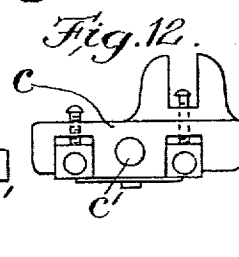
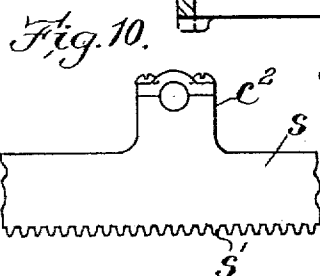
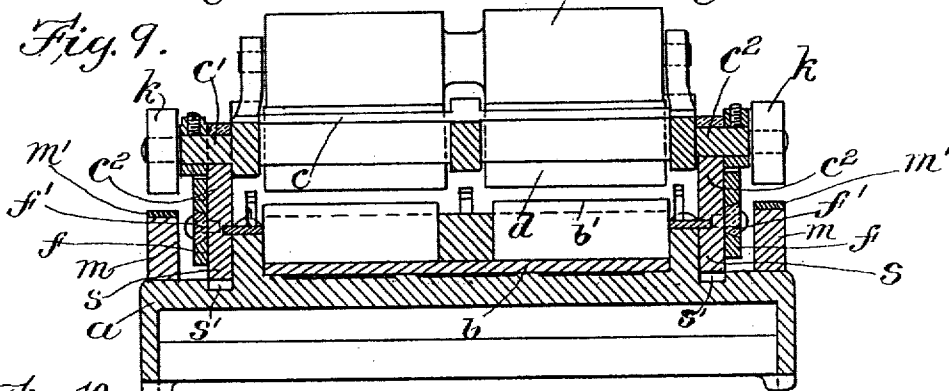
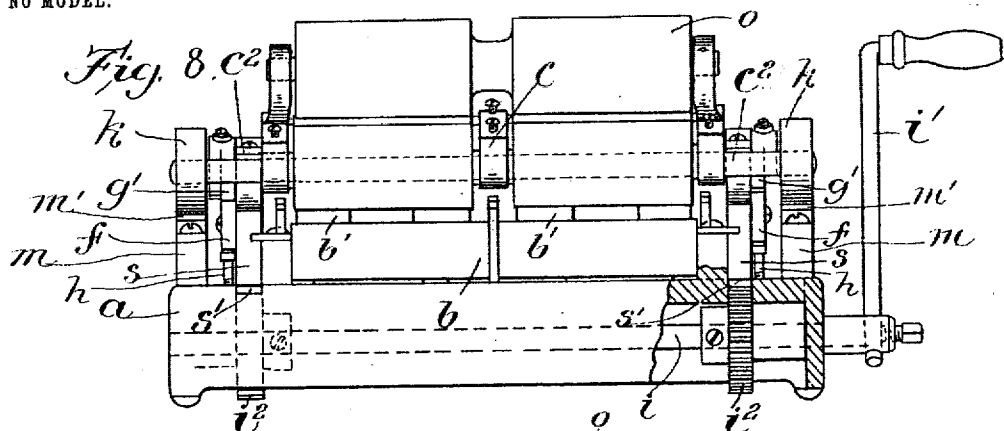
Inventor.
A. W. Proctor
By Hight, Bennett & Quincy
Attorneys

A. W. PROCTOR.
PRINTING PRESS.

APPLICATION FILED DEC. 21, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses.

A. C. Rostigan
To Baseholders

Inventor.

Amos W. Proctor
By Wright Brown Quincy
Attys

UNITED STATES PATENT OFFICE.

AMOS W. PROCTOR, OF BILLERICA, MASSACHUSETTS.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 772,632, dated October 18, 1904

Application filed December 21, 1903. Serial No. 185,923. (No model.)

To all whom it may concern:

Be it known that I, AMOS W. PROCTOR, of Billerica, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification.

This invention relates to printing-presses adapted specially for printing menu-cards and to be operated by hand. The invention has for its object to provide a simple and effective printing-press adapted to be operated with reasonable rapidity and to produce printing of satisfactory quality.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of a press embodying my invention. Fig. 2 represents a side elevation of the same. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a view similar to Fig. 3, showing the machine at a different stage of the operation. Fig. 6 represents a section on line 6 6 of Fig. 1. Fig. 7 represents a section on line 7 7 of Fig. 5. Fig. 8 represents an end elevation of the machine. Fig. 9 represents a section on line 9 9 of Fig. 1. Figs. 10, 11, 12, 13, and 14 represent views of details hereinafter referred to.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents a base or bed to which is affixed a form *b*, which includes the movable type *b'*, from which the impression is made when the machine is operated.

c represents a frame which is provided with trunnions *c'*, journaled in bearings *c''* on a slide or carriage, which, as here shown, is composed of two parallel bars or slides *s s*, which are movable in guides in the base *a*. The frame *c* is provided with an inking-roller *d* and an impression-roller *e* and is movable relatively to the form in such manner that the rolls *d* and *e* will cooperate alternately with the form and move across the latter, the inking-roll *d* being in contact with the form and applying ink to the type, while the im-

pression-roll *e* acts to press the paper against the inked type. The arrangement of the frame and rolls *d* and *e* is such that when the frame, which is adapted to tilt, is in the position shown in Figs. 2, 3, and 4 the inking-roll is depressed and is in position to ink the type when the carriage is moved over the form, the impression-roll being elevated. When, however, the frame is in the position shown in Figs. 5 and 6, the impression-roll is depressed in position to cooperate with the form in effecting an impression on a sheet of paper when the carriage is moved over the form, the inking-roller being raised.

Means operated by the movements of the carriage over the form are provided whereby when the carriage reaches one end of its movement it is automatically tipped to one of the positions above described and when it reaches the opposite end of its movement is automatically tipped to the other position. The means shown for automatically tipping the frame in this embodiment of my invention comprise ears or lugs *f*, which are supported by the carriage and have a limited independent endwise movement permitted by a block *f'*, affixed to the carriage and occupying a slot *f''* in the lug *f*, said block being shorter than the slot, while the upper and lower walls of the slot are adapted to slide on the block. The ear *f* is provided with two inclined faces *f''' f'''*.

g g' represent arms affixed to the trunnions of the frame *c* and arranged to cooperate with the ear *f*, as hereinafter described. When the carriage is at the end of its movement, (shown in Figs. 3 and 4,) the arm *g* projects below one end of the ear *f*, the arm *g* being raised above said ear. The inking-roll is therefore in position to cooperate with the form when the carriage is moved in the direction indicated by the arrow on Fig. 3. When the carriage approaches the opposite end of its movement, the frame *c* being in the position indicated in Figs. 3 and 4, the projection *f'* on the ear *f* strikes a fixed stop *h*, attached to the base *a*. The movement of the ear *f* is thus arrested just before the completion of the movement of the carriage. The completion of the movement of the carriage after the arrest of the ear *f* causes the

arm g to be swung upwardly by the ear f , thus tilting the frame c to the position shown in Figs. 5 and 6, the arm g' being depressed. The impression-roll is now in position to co-operate with the form during the opposite movement of the carriage, which I will term the "printing" movement to distinguish it from the above-described inking movement. When the carriage nearly reaches the end of its printing movement, the projection f' on the ear f strikes another fixed stop h' . The ear f is again arrested before the completion of the movement of the carriage, so that the arm g' is raised and the frame is returned to the position shown in Figs. 3 and 4.

It will be seen, therefore, that at the end of each movement of the carriage one of the rollers is moved into and the other out of its operative relation to the form; but while the carriage is moving the frame carrying the rollers is locked in its tilted position by the arms g and g' , which rest alternately upon the top of the lug f at each side of the machine, such arm resting upon the end of the upper surface of the lug, as shown in Figs. 3 and 5. The carriage may be reciprocated by any suitable means. I have here shown a shaft i , journaled in bearings affixed to the base and extending crosswise of the same, said shaft being provided with an operating crank or handle i' and with gears i'' , meshing with rack-teeth s' , formed on the bars s , composing the carriage. The rotation of the shaft i causes the carriage to move endwise, as will be readily seen.

I prefer to provide means independent of the form for causing the rotation of the rolls when they are coöperating with the form, the independent rotation of the rolls preventing them from dragging on the type, as they would have a tendency to do if the frictional contact between the rolls and the type were relied upon to rotate the rolls. The preferred means for causing the independent rotation of the rolls comprise friction-wheels k , affixed to the shafts of the rolls d and tracks m , affixed to the base, the said tracks having frictional faces m' , which may be of rubber or any other suitable material. When each roll is in its operative position, the friction-wheels k , connected with it, are in frictional engagement with the tracks m , so that the roll is rotated when the carriage is in motion. The rolls k are preferably provided with frictional tires k' , of rubber or other suitable material, as shown in Fig. 13. In Fig. 14 I show a modification in which the roll-rotating means comprise gears k'' , substituted for the rolls k , and rack-toothed tracks m'' , substituted for the tracks m .

o represents an ink-distributing roll, which is supported by bearings in the frame c and is in contact with the inking-roll.

The inking-roll d and the impression-roll e

are preferably each made in two sections, as shown in Figs. 1, 8, and 9, the form being correspondingly divided, as indicated in Fig. 1. p p represent elastic bands which are attached to suitable supports at opposite ends of the form and are arranged so that they stand normally slightly above the printing-face of the type and support the paper out of contact therewith, the bands yielding to permit the paper to be pressed against the type.

I claim—

1. A printing-press comprising a form, an oscillatory frame having an inking-roll and an impression-roll, said rolls being mounted in the frame on opposite sides of the pivot of said frame and adapted to coöperate alternately with the form, one of the parts termed the frame and form being movable relatively to the other to cause the alternating coöperation of said rolls with the form, means being provided for locking said frame against oscillation during its movement relatively to the form.

2. A printing-press comprising a form, an oscillatory frame having an inking-roll and an impression-roll, one of the parts termed the frame and form being movable relatively to the other to cause the coöperation of the rolls with the form, and means operated by the movement of the said movable part for tilting the frame and causing the said rolls to coöperate alternately with the form, means being provided for locking said frame against oscillation during its movement relatively to the form.

3. In a printing-press, an oscillatory frame having an impression-roll, an inking-roll, and an ink-distributing device in contact with the inking-roll, and means for tilting said frame to make the inking-roll and the impression-roll alternately operative, means being provided for locking said frame against oscillation during its movement relatively to the form.

4. A printing-press comprising a form, a carriage movable over the form, a frame pivotally supported by said carriage, an inking-roll and an impression-roll supported by the frame on opposite sides of the pivot thereof, and means for causing said rolls to become alternately operative in relation to said form, means being provided for locking said frame against oscillation during its movement relatively to the form.

5. A printing-press comprising a form, a carriage movable over the form, an oscillatory frame supported by the carriage, an inking-roll and an impression-roll carried by said frame, arms affixed to the frame, a lug supported by the carriage and having a limited endwise movement thereon, and fixed stops arranged to arrest the lug, the said lug being formed to coöperate with the arms in tilting the frame.

6. A printing-press comprising a form, a carriage movable over the form, a frame pivotally supported by the said carriage, an inking-roll and an impression-roll supported by the frame on opposite sides of the pivot thereof, means for causing said rolls to become alternately operative in relation to said form, and means independent of the form for ro-

tating each roll when in its operative position.

In testimony whereof I have affixed my signature in presence of two witnesses.

AMOS W. PROCTOR.

Witnesses:

LEON J. MERCHAUD,
C. F. BROWN.