(No Model.)

2 Sheets—Sheet 1.

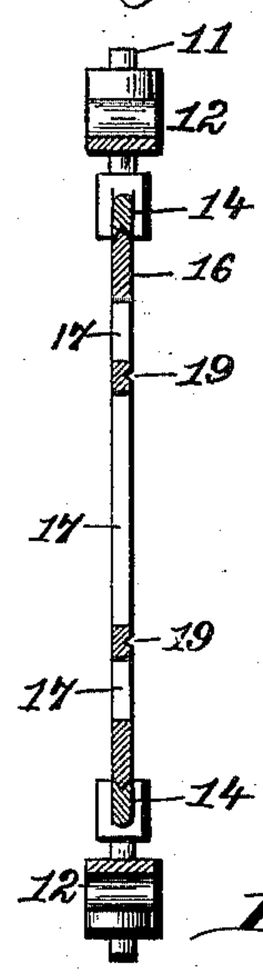
C. W. HOBBS.

MACHINE FOR CUTTING AND PRINTING.

No. 307,647. Patented Nov. 4, 1884.

Fig. 1.

Fig. 2.



Witnesses.
Robt Everett.
A. H. Norris.

Inventor.
Clarence W. Hobbs.
By James L. Norris.
Atty.

(No Model.) 2 Sheets—Sheet 2.

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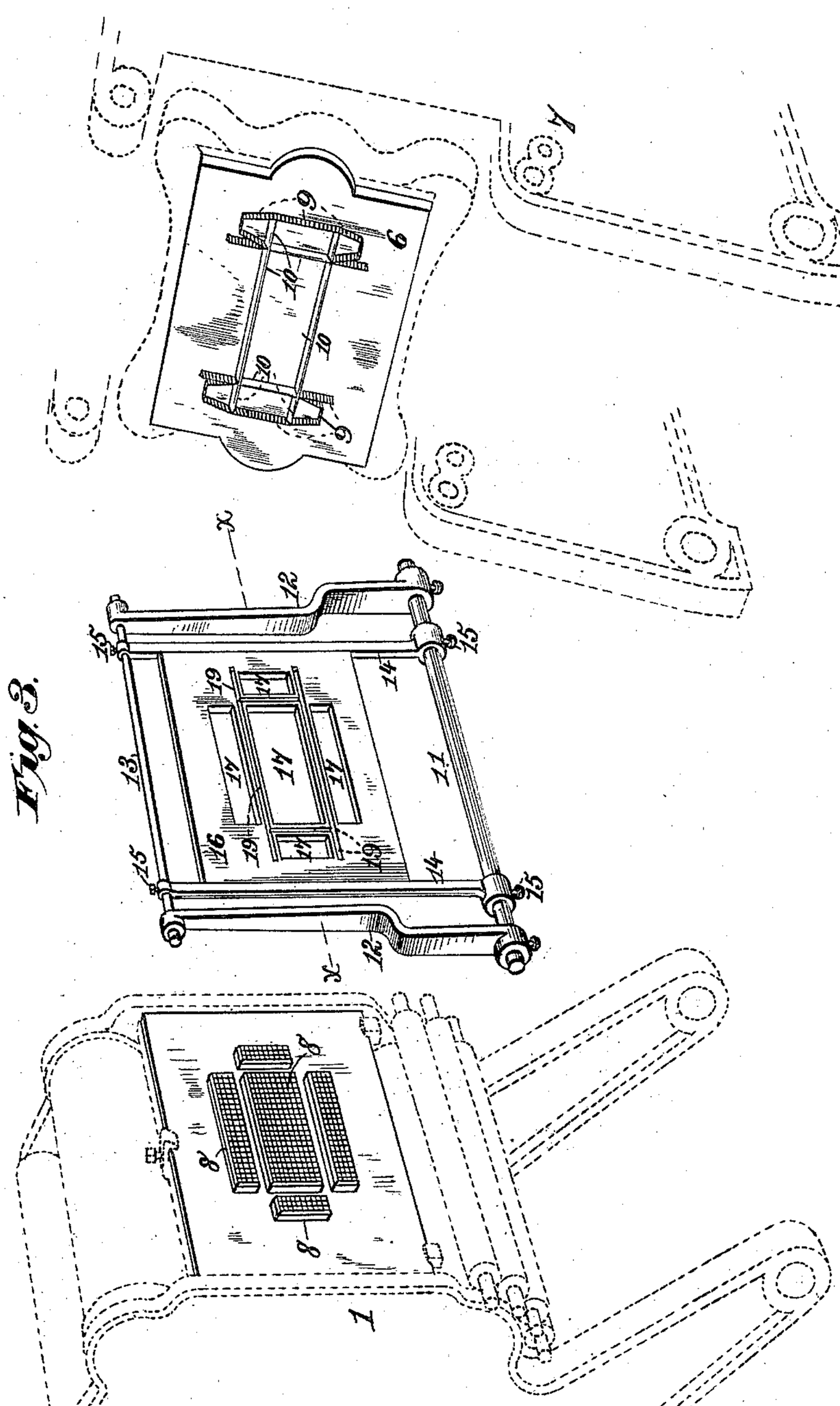

Fig. 3.

Witnesses.
Robt Everett.
A. H Norris.

Inventor:
Clarence W. Hobbs.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

CLARENCE W. HOBBS, OF DEERING, MAINE, ASSIGNOR TO THE NEW ENGLAND BOX COMPANY, OF WATERBURY, CONNECTICUT.

MACHINE FOR CUTTING AND PRINTING.

SPECIFICATION forming part of Letters Patent No. 307,647, dated November 4, 1884.

Application filed April 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE W. HOBBS, a citizen of the United States, residing at Deering, Cumberland county, Maine, have invented certain new and useful Improvements in Machines for Cutting and Printing, of which the following is a specification.

This invention has for its object to provide novel, efficient, and economical means for simultaneously cutting and printing blanks for paper boxes, such as are made by folding blanks or pieces of paper after they have been cut into the desired form and scored or creased along the lines where they are to be folded.

The invention consists in the combination, with the bed and platen of a printing-press, of one or more cutters or cutters and scorers mounted on the platen, and a plate interposed between the bed and the platen and attached to a suitable support or frame, and provided with one or more apertures, through which the type on the bed pass to print the paper or stock held between the perforated plate and the platen, the cutter or cutters being arranged to press the paper or stock upon the perforated plate and cut it thereon as soon as the opposite side of the plate is brought to bear or rest against a solid bearing, and while the impression is being made.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a side elevation of sufficient of a printing-press with my invention applied thereto to enable the same to be understood; Fig. 2, a transverse sectional view taken on the line $x \cdot x$ of the apertured plate, Fig. 3; Fig. 3, a perspective view of the bed, the platen, and the apertured plate, the parts being detached to more clearly illustrate the same.

In order to enable those skilled in the art to make and use my invention, I will now proceed to describe the same in detail, reference being made to the drawings, where I have shown part of a Kidder printing-press, which is a well-known structure, and therefore requires no specific description, especially in view of the fact that my invention is applicable to other forms of printing-presses.

The number 1 indicates the press-bed, pivoted at its lower end, 2, and connected by a pitman, 3, with a crank-pin, 4, on the driving-wheel 5, so that the rotation of the latter vibrates the bed to and from the platen 6, which is a part of the frame-work 7 of the machine. The types or electrotypes for producing the desired impression or printed matter are secured to the press-bed in any usual manner, as at 8, and to the platen 6 are suitably attached the cutter or cutters 9 and the scorer or scorers 10, which will be so fashioned and arranged as to cut and score the paper or other material into the form of blank required.

In the frame-work 7 of the press is journaled a shaft, 11, capable of rocking in its bearings, and to the ends of this shaft are secured the lower ends of arms 12, which are connected at their upper ends by a rod, 13. To the rods and rock-shaft are secured, respectively, the ends of two bars, 14, capable of adjustment to and from each other, and held in their adjusted position by set-screws 15, which bind against the rock-shaft and the rod. The adjacent edges of the bars are grooved, Fig. 2, to receive the edges of a brass or other flat metal plate, 16, which is provided with perforations or spaces 17, through which the type or electrotype on the press-bed pass to print the paper or stock 18, held between the perforated plate and the platen. The cutter or cutters or cutters and scorers will preferably be in the form of a die detachably connected with the platen, and are so arranged, as shown, as to press the paper or stock upon the perforated plate and cut and score it thereon as soon as the opposite side of the plate is brought to rest against a solid bearing, and while the press-bed is advanced and the impression is being made. The perforated plate is provided with grooves or recesses 19 to receive the scorers in producing the creases in the paper or other material, while the cutter or cutters press squarely upon the surface of said plate. The form or arrangement of the cutters and scorers will of course vary according to the form of blank and creases to be made, and likewise the configuration or arrangement of the perforations or spaces in the plate 16 will vary to conform to the arrangement of the type or electrotypes

according to the impression to be produced. The grooved bars permit the convenient detachment of one perforated plate for the introduction of another bearing a different arrangement or form of perforations, and the bars being laterally adjustable the perforated plate can be readily moved to bring its perforations or spaces into coincidence with the type or electrotype on the press-bed. The paper or stock is preferably held on a roll, 20, mounted on the frame of the machine, and passes between the rollers 21, then upwardly over the roller 21ª, between the perforated plate and the platen, and thence over a roller, 22, and by the means described paper or stock for boxes can be cut, scored, and printed at one operation with accuracy and convenience and rapidity, thus producing blanks to be folded into the required shape, ready for immediate use.

The construction of the frame or support for holding the perforated plate may be modified or changed, and the die on the platen can be used for scoring alone or cutting alone or cutting and scoring simultaneously. If strips of paper are to be cut to produce labels, the scorer or scorers would of course be omitted. The frame or support carrying the perforated plate is moved away from the platen after the impression has been taken to admit of the stock being moved forward, and such movements of the plate can be effected by any suitable means—as, for example, by a cam.

As I do not claim any particular means for moving the perforated plate, I do not deem it essential to illustrate the same.

It is proper to state that while the types are being inked by the inking-rolls and the stock or paper moved, if the surface of the plate which receives the cutters and scorers remained in the same plane as the type or type-bed, such surface of the plate would likely be covered with ink, and the stock or paper thereby disfigured when the cutting is performed. To avoid this the parts are so organized and operated by suitable mechanism that the perforated plate moves away from the press-bed or type and remains away a sufficient distance to prevent contact with the ink-rollers. When, however, the printing, cutting, and scoring is to be effected, it is necessary that the type-bed and the perforated plate should be on substantially the same plane to constitute an even surface, and this is accomplished by the press-bed coming against the plate and the type passing through the perforations therein.

Inasmuch as the novelty of my invention consists in the provision of a perforated plate between the die on the platen and the types on the press-bed, in connection with a cutter or cutters or cutters and scorers, whereby a blank is cut, scored, and printed simultaneously, I do not deem it essential to further illustrate the working parts of the press, as sufficient is shown to enable my invention to be clearly understood and carried into effect.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a printing-press, the combination, with the bed and platen, of one or more cutters or cutters and scorers mounted on the platen, and a plate interposed between the bed and the platen and attached to a suitable frame or support, and provided with one or more perforations or spaces, through which the type on the bed pass to print the paper or stock held between the perforated plate and the platen, the cutter or cutters being arranged to press the paper upon the perforated plate and cut it thereon when the plate is brought to rest against a bearing and while the impression is being taken, substantially as and for the purpose described.

2. The combination, with the platen and vibrating bed of a printing-press, of a cutter or cutters and scorers on the platen, a rock-shaft carrying bars, and a plate held by the bars and perforated for the passage of the type on the bed, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CLARENCE W. HOBBS.

Witnesses:

WILLIAM HENRY CLIFFORD,

DANIEL HAMBLEN.