

(No Model.)

2 Sheets—Sheet 1.

M. W. BRUSH & M. A. SALOMONS.

MECHANISM FOR EVENING SHEETS OF PAPER ON FLY BOARDS OF
PRINTING PRESSES.

No. 316,329.

Patented Apr. 21, 1885.

Fig.1.

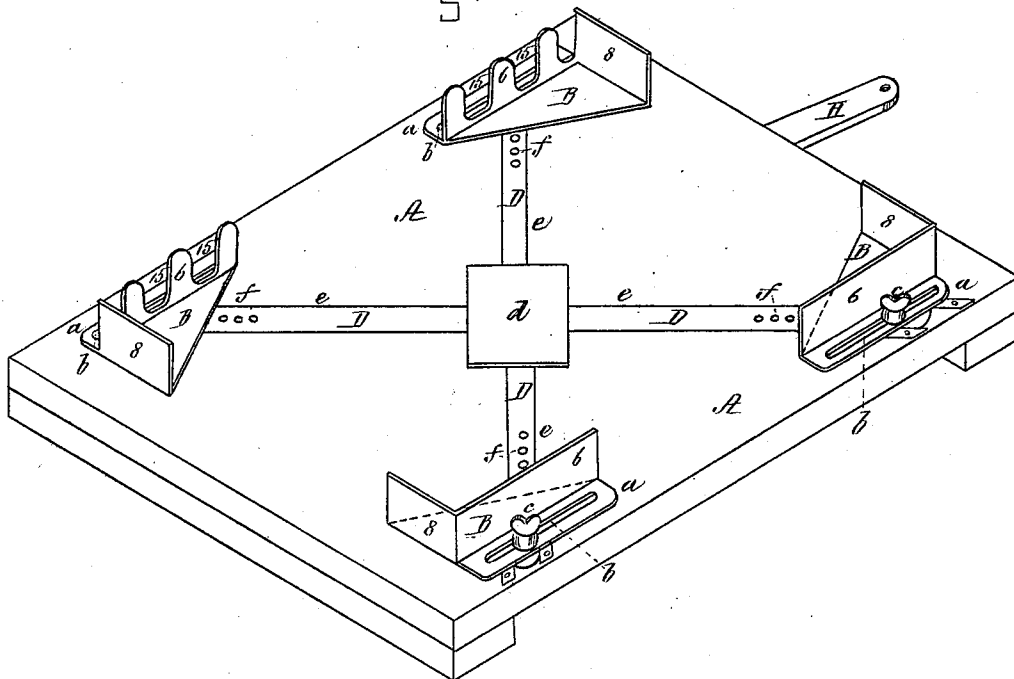
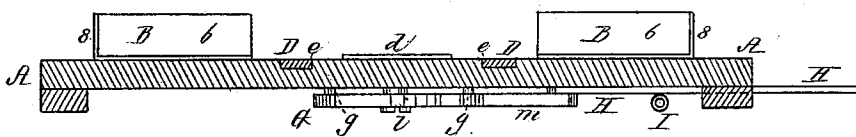


Fig.4.



WITNESSES.

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(No Model.)

2 Sheets—Sheet 2.

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MECHANISM FOR EVENING SHEETS OF PAPER ON FLY BOARDS OF
PRINTING PRESSES.

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Patented Apr. 21, 1885.

Fig. 2.

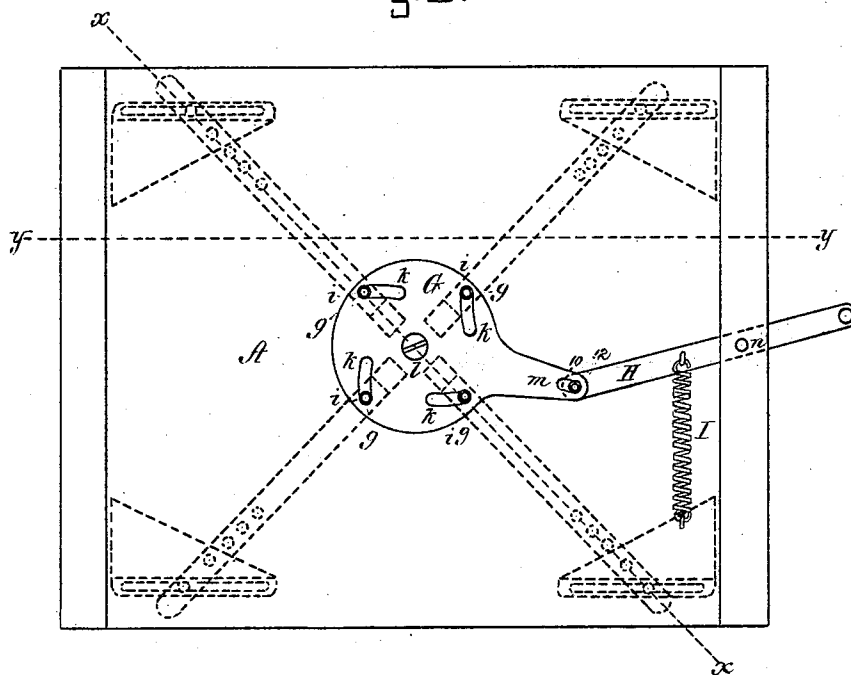
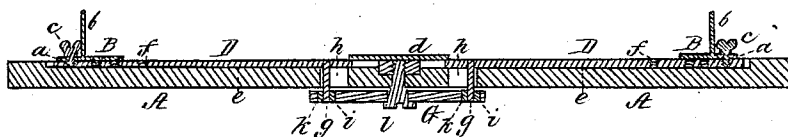


Fig. 3.



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UNITED STATES PATENT OFFICE.

M. WAGNER BRUSH, OF HYDE PARK, AND MITCHELL A. SALOMONS, OF BOSTON, MASSACHUSETTS, ASSIGNORS OF ONE-THIRD TO CHARLES F. BOUGHTON, OF NEW YORK, N. Y.

MECHANISM FOR EVENING SHEETS OF PAPER ON FLY-BOARDS OF PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 316,329, dated April 21, 1885.

Application filed October 17, 1883. (No model.)

To all whom it may concern:

Be it known that we, M. WAGNER BRUSH, of Hyde Park, in the county of Norfolk and State of Massachusetts, and MITCHELL A. SALOMONS, of Boston, in the county of Suffolk and State aforesaid, citizens of the United States, have invented certain Improvements in Mechanism for Evening Sheets of Paper on Fly-Boards of Printing-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the fly-board of a printing-press having our improved sheet-evenner applied thereto. Fig. 2 is a plan of the under side of the same. Fig. 3 is a vertical section of the same on the line $x x$ of Fig. 2. Fig. 4 is a vertical section on the line $y y$ of Fig. 2.

Our invention has for its object to provide a simple and reliable device for evenly piling sheets of paper as they are delivered from a printing-press onto the fly-board; and it consists in the combination, with the fly board or table of a printing-press, of two or more adjustable corner pieces or gages adapted to be simultaneously moved diagonally by suitable mechanism toward and from a common center, whereby each sheet as it is deposited by the fly upon the pile is jogged at the corners to cause it to lie evenly with respect to the preceding sheets, as hereinafter more particularly set forth; and our invention also consists in certain details of construction, as hereinafter set forth and specifically claimed.

In the said drawings, A represents the fly or delivery board or table of a printing-press, upon which the printed sheets are deposited by the "fly" of the press in the ordinary manner.

At or near each corner of the table A, on the upper surface thereof, is placed a triangular corner piece or gage, B, composed preferably of sheet metal, of the form shown, each gage B having two vertical sides, 6 8, at right angles to each other, and being provided at its bottom, on the outer side, with a lip or flange,

a, having a slot, b, through which passes a thumb-screw, c, by means of which the corner-gage is adjustably secured to a bar, D, adapted to slide within a guiding-groove, e, in the upper surface of the table A, and lying flush therewith, or nearly so, as seen in Figs. 3 and 4, this capability of being adjusted on the bars D enabling the corner-pieces to be placed in the exact position required to suit the shape or size of the sheets of paper delivered from the press. The bars D extend from points near the corners of the board A diagonally toward the center thereof, and are each provided with a series of holes, f, for the reception of the thumb-screw c of the corner-piece B, whereby the latter can be adjusted to vary its distance from the center of the board A, as may be required for sheets of paper of different sizes. The inner ends of the bars D are covered and confined in place by a plate, d, secured to the center of the upper surface of the board A.

From the under side of each bar D projects a pin or bolt, g, which passes through a slot, h, in the board A, in line with the groove e, and carries at its lower end a friction-roll, i, which fits within a curved slot or camway, k, in a circular cam-plate, G, secured to the under side of the board A by means of a screw-bolt, l, around which the cam-plate oscillates.

The cam-plate G is provided with an arm, m, having at its outer end a slot, 10, in which fits a friction-roll, 12, on a stud projecting from a lever, H, fulcrumed at n, and extending out beyond the edge of the board A, where it is intended to be connected preferably with a strap passing over a pulley on the oscillating fly-shaft of the press, whereby it is operated in one direction against the resistance of a spiral spring, I, by which it is returned to its normal position. If preferred, however, the lever H may be connected with and operated by any other portion of the mechanism of the press having the necessary movement at the proper time.

The corner pieces or gages B nearest to the shaft of the fly are provided with notches or open slots 15, to allow the fly-fingers to descend without coming into contact therewith.

The operation is as follows: The parts being in the position seen in Figs. 1 and 2, with the corner-gages B thrust outward to their full extent, the sheet of paper is thrown over by the fly onto the board A, or the pile of sheets previously deposited thereon, and while the air is beneath the sheet, and before it has had time to settle on the pile, the corner-gages B are simultaneously advanced diagonally toward the center of the board with a quick movement by the oscillation of the cam-plate G through the connections described, which causes the sides 6 8 of the corner-gages B to strike the corners of the sheet of paper and jog it into a position exactly over the preceding sheet, on which it is thus caused to lie evenly, as required, to produce a perfectly even pile of sheets on the board A. As the fly rises to take another sheet the cam-plate is oscillated in the opposite direction by the spring I, and the corner-gages B thrust outward to their full extent to enlarge the space inclosed thereby, in order to prevent any portion of the following sheets from dropping over the upwardly-projecting edges of the corner-gages B.

We do not confine ourselves to the employment of four corner-gages B, as shown, as a single pair of these corner-gages arranged to operate simultaneously upon opposite diagonal corners of the sheet may be used in some cases with good results. Neither do we wish to confine ourselves to the precise construction of the mechanism for producing the simultaneous diagonal movement of the corner pieces or gages B toward and from a common center upon the upper surface of the board or table A, as it is evident that these movements may be produced by other suitable mechanism without departing from the spirit of our invention.

We do not claim a table with gages mounted to slide thereon on four sides of the center, with mechanism, substantially as described, connected therewith for automatically and simultaneously moving said gages toward and from the center. Neither do we claim a delivery-table provided with stop-cleats, an adjuster constructed to embrace two sides of the angle of the sheet diagonally opposite said cleats, and means for reciprocating said adjuster diagonally, and such we hereby disclaim.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with the fly-board of a printing-press, of the adjustable corner-gages, the diagonally-arranged sliding bars, and their actuating mechanism, whereby the sheets are adjusted at the corners as they are successively laid, substantially as specified.

2. The combination, with the diagonally-moving slides having a series of apertures near the ends, of the corner-pieces having vertical sides at right angles to each other, and longitudinally-slotted bases, and the pins and nuts whereby the gages may be adjusted in two directions, substantially as and for the purposes specified.

3. The combination, with the fly-board, of the diagonally-moving slides, the corner-pieces having vertical sides, the cam-wheel whereby the slides are advanced or retracted diagonally, and the lever by which motion is imparted to the cam-wheel, substantially as specified.

Witness our hands this 3d day of September, A. D. 1883.

M. WAGNER BRUSH.
MITCHELL A. SALOMONS.

In presence of—

P. E. TESCHEMACHER,
W. J. CAMBRIDGE.