

No. 867,684

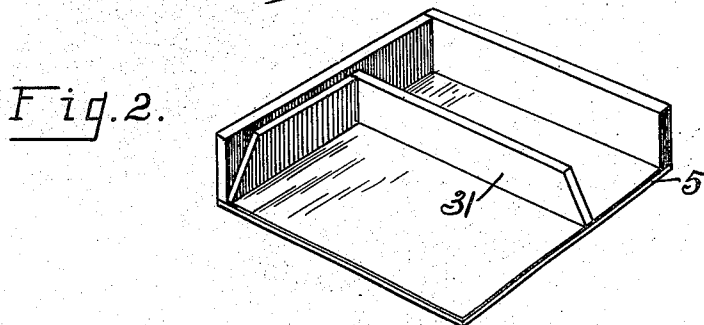
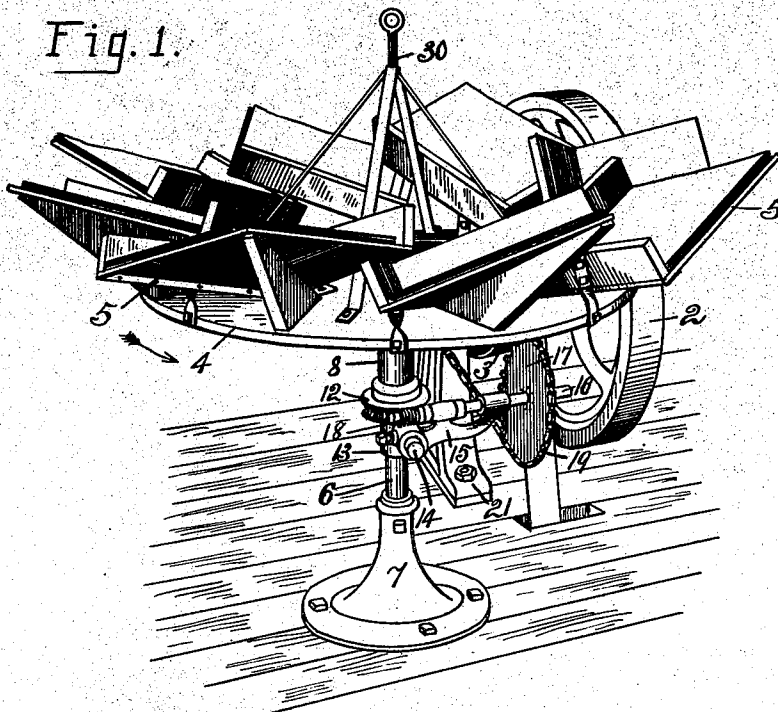
PATENTED OCT. 8, 1907.

F. W. THOMAS.

PRINTED SHEET RECEIVING TABLE FOR PRINTING PRESSES.

APPLICATION FILED APR. 13, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

D. C. Walter
Hazel B. Hiett

INVENTOR.

Frank W. Thomas
By Brown & Brown,
his attys.

No. 867,684.

PATENTED OCT. 8, 1907.

F. W. THOMAS.

PRINTED SHEET RECEIVING TABLE FOR PRINTING PRESSES.

APPLICATION FILED APR. 13, 1907.

2 SHEETS—SHEET 2.

Fig. 3.

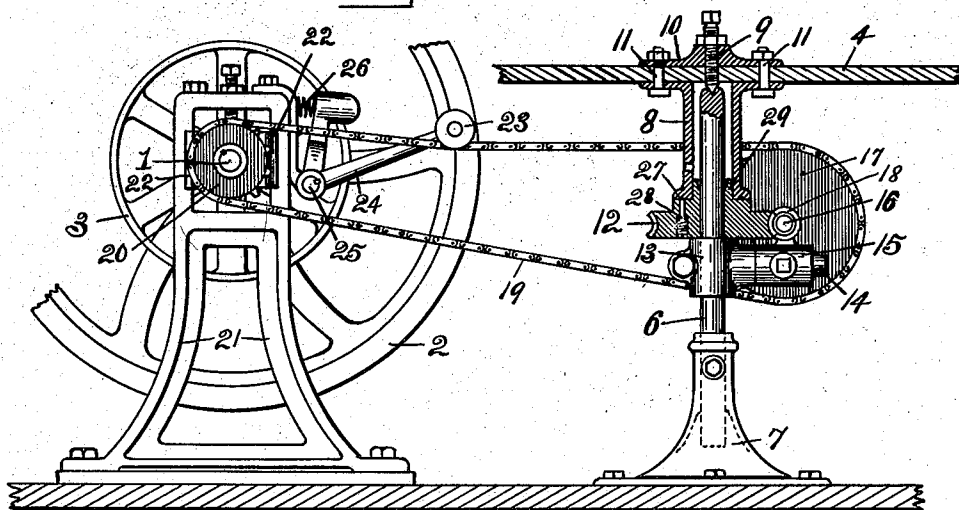
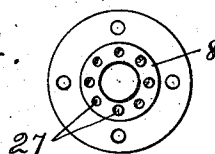


Fig. 4.



WITNESSES:

S. C. Walter
Hazel B. Hiett

INVENTOR.

Frank W. Thomas,
By Owen & Owen
his attys.

UNITED STATES PATENT OFFICE.

FRANK W. THOMAS, OF TOLEDO, OHIO.

PRINTED-SHEET-RECEIVING TABLE FOR PRINTING-PRESSES.

No. 867,684.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed April 13, 1907. Serial No. 867,914.

To all whom it may concern:

Be it known that I, FRANK W. THOMAS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Printed-Sheet-Receiving Table for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to attachments for printing-presses, and particularly to a table or device for receiving the impression-sheets after they have been printed.

In the running of printing-presses it has heretofore been customary to successively place the printed sheets on top of each other in the order in which they are taken from the press, thus causing an off-setting of the wet impressions from each sheet to the one next above, such off-setting becoming more decided as the size and consequent weight of the pile increases, and preventing the air from circulating between the sheets to hasten the drying thereof, thereby necessitating great care in the handling thereof before becoming thoroughly dried to prevent a smearing of the sheets. This has heretofore been overcome in certain classes of work by slip-sheeting, i. e., by placing a sheet of waste paper between the printed sheets until the same are dried.

The object of my invention is to obviate this off-setting and to save the expense and labor incident to slip-sheeting by the provision, in association with a press, of simple and efficient means having a plurality of sheet-receiving pockets or trays and movable to successively bring the pockets or trays in position for the operator to successively deliver the wet sheets, as they are taken from the press, to different ones thereof, the number of pockets and movement thereof being so regulated that after a sheet has been delivered to a pocket such pocket is not again brought in position to receive another sheet until the impression on the sheet previously placed therein is sufficiently dried to prevent off-setting.

The operation, construction and arrangement of the parts of the invention are fully described in the following specification and illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of the mechanism comprising my invention and a portion of an associated job-press to which it is connected. Fig. 2 is an enlarged perspective view of one of the pockets with a reducing member therein. Fig. 3 is a side elevation of the operating mechanism and a portion of the associated press, with the table of the former in central vertical section

and partially broken away, and Fig. 4 is a bottom view of the bearing-sleeve projecting from the under side of the table.

Referring to the drawings, 1 designates the main or drive-shaft of a job-printing press, and 2 and 3 the usual balance-wheel and belt-pulley, respectively, carried by said shaft.

At one side of the press in convenient position for the operator to deliver the printed sheets thereto as they are taken from the press is located a revolving table 4, which carries adjacent its edge a series of concentrically arranged pockets or trays 5 for successively receiving the printed sheets as they are taken from the press. These pockets or trays are shown as consisting of a rectangular bottom and two adjoining sides and as being supported by the table in tilted relation thereto with the corner formed by the two sides lowered and disposed toward the center of the table and the diagonally opposite corner elevated, thus enabling the sheets as they are placed therein to slide inwardly until the inner adjoining edges thereof strike the two sides of the pocket, thereby uniformly straightening themselves.

The table 4 is rotatably supported by a stationary vertical shaft 6, which has its lower end mounted in a standard 7 secured to the floor. This shaft has its upper end projecting within an enlarged sleeve 8, rigidly projecting from the under side of the table, and is provided at such end with a conical socket for loosely receiving the conical end of a centering screw or pin 9, which is carried by a plate 10 and projects axially through the table, as shown in Fig. 3. The plate 10 is secured to the top of the table by bolts 11, which are shown as also securing the sleeve 8 thereto.

Loosely mounted on the shaft 6 beneath the sleeve 8 is a worm-gear 12, which is supported by a collar 13 in position for its upper face to frictionally engage the lower end of said sleeve. This collar is fixed to the shaft 6 and has a stud 14 projecting laterally therefrom and carrying a bearing-bracket 15. Suitably mounted in this bracket is the horizontal worm-shaft 16, which carries the sprocket-wheel 17 and the worm 18, the latter meshing with and driving the worm-gear 12. Rotation is communicated to the shaft 16 from the drive-shaft 1 of the press by the sprocket-chain 19, which connects the sprocket-wheel 20 on the shaft 1 with the sprocket-wheel 17. The outer end of the shaft 1 is braced by a standard 21, which rises from the floor and carries the opposing journal-blocks 22.

23 designates an idler-roll which yieldingly coacts with the chain 19 to take up any slackness therein. This roll is carried by one arm of an angle-lever 24, which is fulcrumed to the standard 21, as at 25, and has a yielding pressure exerted on its other arm by a compression-spring 26, which has its thrust against the standard 21 and said latter arm.

In order to increase the frictional resistance of the coating surfaces of the sleeve 8 and worm-gear 12 and at the same time enable them to have a relative turning movement should a restraining force be applied to the table 4, the lower end of the sleeve is provided with a series of concentrically arranged depressions 27 with which one or more pins or detents 28 loosely co-operate, said pins or detents being threaded through or otherwise suitably set in the worm-gear 12, as shown in Fig. 3. The upper surface of the worm-gear 12 has its hub portion extended, as shown at 29, to form a bushing which projects within the lower end of the sleeve 8 and centers it relative to the shaft 6.

The table may be hoisted from the shaft 6 by suspending a rope or other hoisting means above the table and attaching it to the eye of the lifting bracket 30, which is secured to the top of the table.

Should sheets of smaller size than the pockets or trays 5 be printed, a reducing pocket or tray 31 of suitable size may be positioned in the pocket or tray 5, thus causing the outer edges of the sheets to register with the corresponding edges of the tray. The reducing trays are made in different stock sizes and each comprises a bottom which completely covers the bottom of the trays 5 and two adjoining sides, which are properly positioned relative to the sides of the tray 5 to suit the size of the sheets being printed.

The operation of the apparatus is as follows:—Should the table 4 be provided with eight pockets or trays 5, as shown in the drawing, the speed at which the table is driven relative to the connected press is so timed that one-eighth of a revolution is imparted to the table at each printing operation of the press, thus successively moving the pockets in position for the operator to deliver a printed sheet to each as it is taken from the press so that each pocket will receive one sheet at each revolution of the table, providing, of course, no impressions are missed. By the use of rapid drying ink it is found that the impression on a sheet is sufficiently dried during one revolution of a table employing eight pockets to prevent an offsetting of the im-

pression on the next sheet when placed thereon. It is understood, however, that the number of pockets employed and the consequent speed of revolution of the table depends upon the length of time required to properly dry the impressions. It will also be understood that while I have shown and described a particular construction and arrangement of the parts of the invention, I do not desire to be limited thereto, as obvious modifications will occur to a person skilled in the art.

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

1. The combination with a printing-press, of a rotatable member turnable on a vertical axis, a series of tilted sheet-receiving parts carried by said member, and mechanism driven by the press for rotating the member at a predetermined speed to successively bring the sheet-receiving parts in position for each to receive only one printed sheet at each revolution of the member.

2. The combination with a printing-press, of a rotatable member having a vertical axis, a circular series of sheet-receiving pockets carried by said member and mechanism driven by the press for continuously rotating the member at a predetermined speed to successively bring the sheet-receiving pockets in position for each to receive one printed sheet at each revolution of the member.

3. In combination, a vertical shaft, a gear carried by the shaft, a table revolvably supported by the shaft and having a part loosely receiving the upper end of the shaft and having its lower end resting on the gear whereby rotation is frictionally communicated thereto from the gear, and mechanism for driving the gear at a predetermined speed.

4. The combination with a printing-press, of a table mounted at the side thereof and revoluble about a vertical axis, mechanism for imparting rotation to the table, and a plurality of circularly arranged trays carried by the table in tilted relation thereto, said trays each comprising a bottom and two adjoining sides, the corner formed by the two sides being lowered and disposed toward the center of the table.

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

FRANK W. THOMAS.

Witnesses:

C. W. OWEN,
HAZEL B. HIETT.