No. 785,520. PATENTED MAR. 21, 1905.

F. L. REINECKER.

PAPER STRAIGHTENER.

APPLICATION FILED FEB. 9, 1904.

2 SHEETS—SHEET 1.

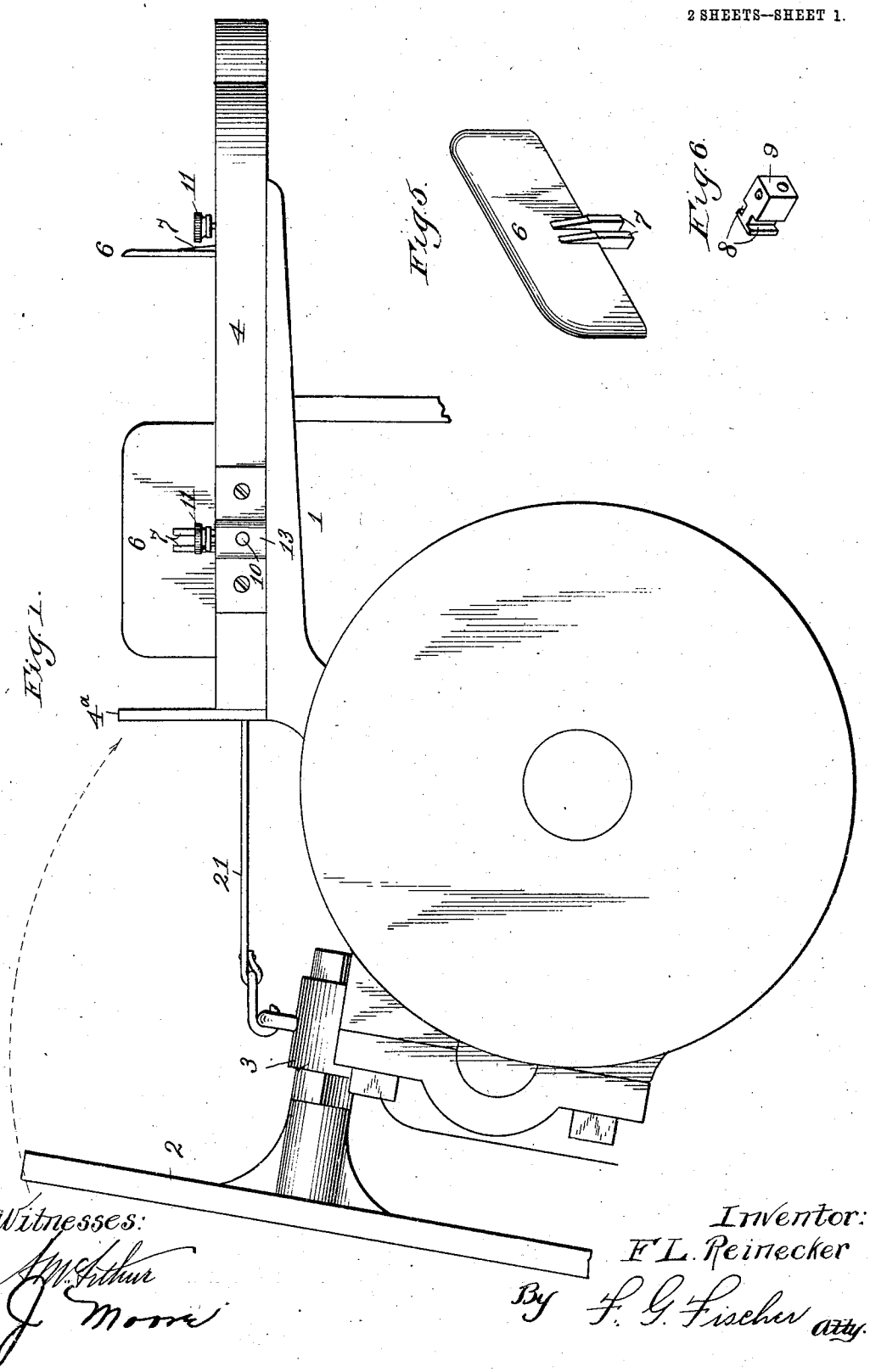


Fig. 1.

Fig. 5.

Fig. 6.

Witnesses:
J. W. Arthur
J. Moore

Inventor:
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By F. G. Fischer Atty.

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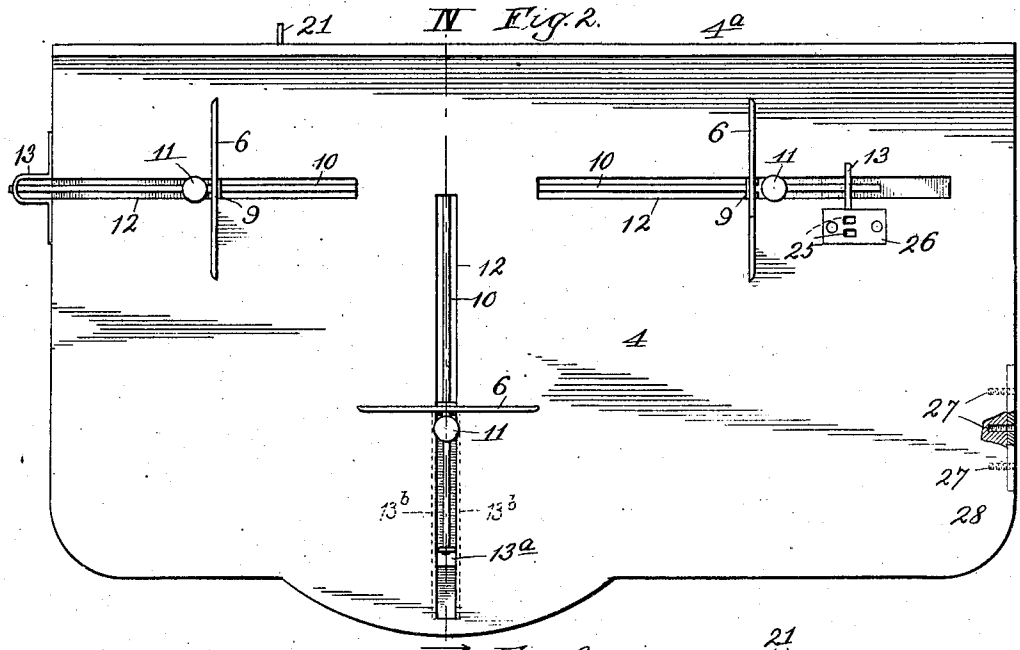
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2 SHEETS—SHEET 2.

IV Fig. 2.



IV Fig. 3.

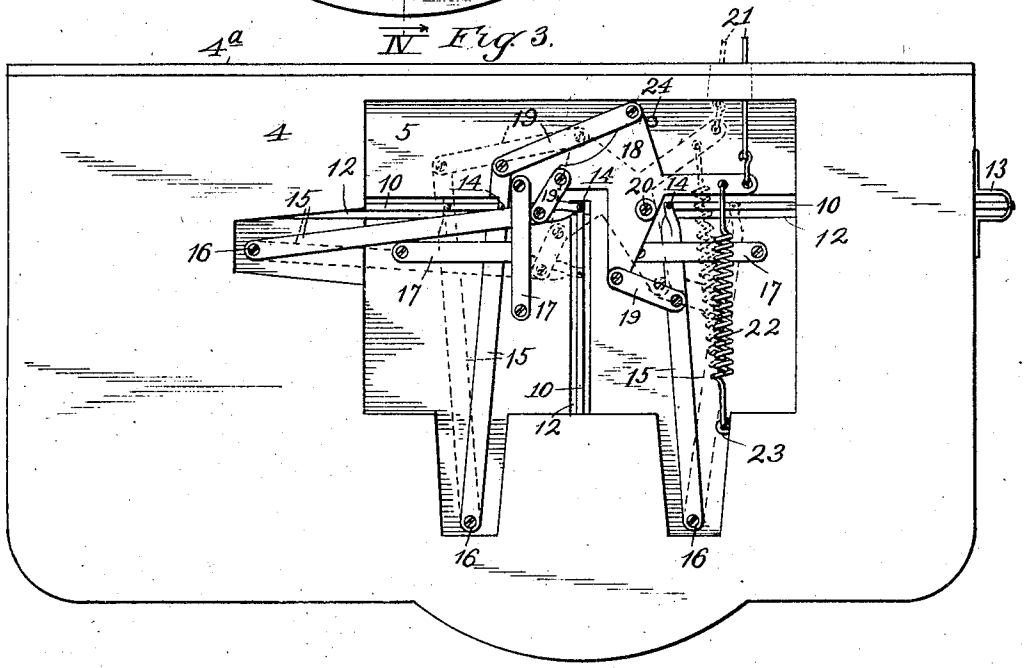
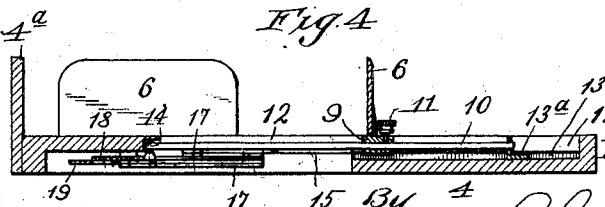


Fig. 4



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No. 785,520. Patented March 21, 1905.

UNITED STATES PATENT OFFICE.

FREDERICK L. REINECKER, OF KANSAS CITY, MISSOURI.

PAPER-STRAIGHTENER.

SPECIFICATION forming part of Letters Patent No. 785,520, dated March 21, 1905.

Application filed February 9, 1904. Serial No. 192,854.

To all whom it may concern:

Be it known that I, FREDERICK L. REINECKER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Paper-Straighteners, of which the following is a specification.

My invention relates to certain new and useful improvements in paper-straighteners for printing-presses; and my object is to provide a simple automatic mechanism for straightening the stack of paper as the latter is printed, and thus save the time and labor spent in performing this work by hand.

The present invention is arranged especially for use on a platen-press, although it can be applied to cylinder-presses by making certain minor changes; and it consists in the novel construction, combination, and arrangement of parts hereinafter described, and pointed out in the claims.

In order that the invention may be fully understood, reference will now be made to the accompanying drawings, in which—

Figure 1 represents a side elevation of my invention attached to the upper portion of a platen-press. Fig. 2 is a plan view of the invention detached from the press. Fig. 3 is an inverted plan view of the same. Fig. 4 is a transverse section taken on line IV IV of Fig. 2. Fig. 5 is a detail perspective view of one of the paddles employed in carrying out the invention. Fig. 6 is a detail perspective view of one of the paddle-carriers.

In said drawings, 1 designates the upper portion of the frame of a platen-press.

2 designates the platen, which is oscillated in the well-known manner, and 3 designates one of the platen-arms.

4 designates my improved table rigidly secured upon a frame 1 and provided at its forward side with a straightening-strip 4^a. A portion of the under side of table 4 is countersunk, as indicated by 5, for the reception of the operating mechanism for paddles 6, three of which are preferably employed. Each paddle is provided with a pair of centrally-disposed depending arms 7, adapted to engage a pair of oppositely-disposed vertical grooves 8, arranged near one end of paddle-carriers 9, adjustably secured upon reciprocating rods 10 by thumb-screws 11 in order that the paddles may be adjusted to accommodate different-size sheets of paper. Rods 10 and paddle-carriers 9 operate in combination slot and grooves 12 in order that the upper surface of the paddle-carriers will be flush with the top of the table, as shown in Fig. 4, and thus avoid interfering with the paper on the latter. The rods are arranged as shown in Fig. 2, and the outer terminals of the two in longitudinal alinement operate in transverse guides 13, secured to the table, while the outer terminal of the third has a rigidly-secured cross-head 13^a, provided with a base slidingly arranged in grooves 13^a, so the rod will not extend beyond the rear edge of the table. The inner terminals of the rods are secured by pivots 14 to levers 15, fulcrumed at 16 in the countersunk portion 5. The free ends of the levers operate over guides 17, secured to the under side of the table, and are operatively attached to three terminals of a four-arm operating-lever 18 by connecting-links 19. Lever 18 is fulcrumed upon a pin 20, and its fourth arm is attached to the platen-arm 3 by a strap 21, so that at each forward movement of the platen the levers will be drawn to the dotted position shown in Fig. 3 and expand the paddles for the reception of a sheet of paper after the latter has been printed. When the platen moves back or away from the form, and thus relieves strap 21 of tension, the paddles are contracted and the levers are returned to their normal position, as shown in full lines, Fig. 3, by a retractile spring 22, attached at its opposite ends to one arm of lever 18 and to a staple 23 in the table 4. The retractile movement of spring 22 is limited by a stop 24, depending from the under side of the table in the path of one of the arms of lever 18. In practice the levers are permitted to assume their normal position. A sheet of paper the size of those to be printed is then placed upon table 4, with one edge against strip 4^a. The paddles are next adjusted in contact with the remaining three edges of the

sheet and are locked on the rods by thumb-screws 11, so that after expanding to receive each successive sheet they will contract against the same, and thus aline the edges of the sheets, so that when removed from the table in stacks the edges of the sheets will be even, and thus avoid the necessity of performing this work by hand.

In printing extra large sheets one of the paddles is removed from its carrier and rendered stationary by placing its arms in apertures 25 in a plate 26, secured near one end of the table, so that the two remaining reciprocating paddles will push two edges of the sheets into contact with the stationary paddle and strip 4^a. The removal of the paddle from its carrier of course renders the latter inoperative, so its thumb-screw 11 is removed and secured in one of the threaded apertures 27 in a plate 28 in order to be out of the way of the paper. Plate 28 is countersunk in one edge of the table and provided with three threaded apertures 27 for the reception of thumb-screws 11 when the paddles are not in operation.

From the above description it is apparent that I have produced a mechanism which is comparatively simple in construction and thoroughly effective for the purpose intended.

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

1. A paper-straightener consisting of a table, two guides secured thereto, rods reciprocably arranged in the guides, a third rod reciprocably arranged in a slot in the table at right angles to the other two, a cross-head at the outer end of this rod, said cross-head having a base slidably engaging the table, levers for operating said rods, means for operating the levers, paddle-carriers suitably secured to the rods, and paddles suitably secured to the paddle-carriers.

2. A paper-straightener, consisting of a slotted table for receiving the paper, guides arranged transversely of the slots, rods reciprocating in the guides, levers for operating said rods, other guides for the levers, means for operating the levers, paddle-carriers adjustably secured to the rods, and paddles suitably secured to the paddle-carriers and adapted to contact with and even the paper on the table.

3. A paper-straightener consisting of a table, rods slidably supported therein, levers fulcrumed to the table and pivotally secured to the rods, guides supporting the swinging ends of said levers, an operating-lever fulcrumed to the table, means for oscillating the operating-lever, links pivotally secured at their opposite terminals to the first-mentioned levers and the operating-lever, paddle-carriers adjustably secured to the rods, and paddles detachably secured to the paddle-carriers.

4. A paper-straightener consisting of a table for receiving the paper, a straightening-strip secured to one edge of the table, rods operatively secured to the table, levers for reciprocating said rods, means for operating the levers, paddle-carriers suitably secured to the rods, paddles provided with depending arms adapted to be detachably secured to the paddle-carriers, and an apertured plate secured near one end of the table and adapted to receive one of the paddles.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERICK L. REINECKER.

Witnesses:
J. W. BOLING,
F. G. FISCHER.