No. 843,766. PATENTED FEB. 12, 1907.

W. D. PALMER.

PRINTER'S BORDER.

APPLICATION FILED MAY 7, 1906.

Fig. 1.

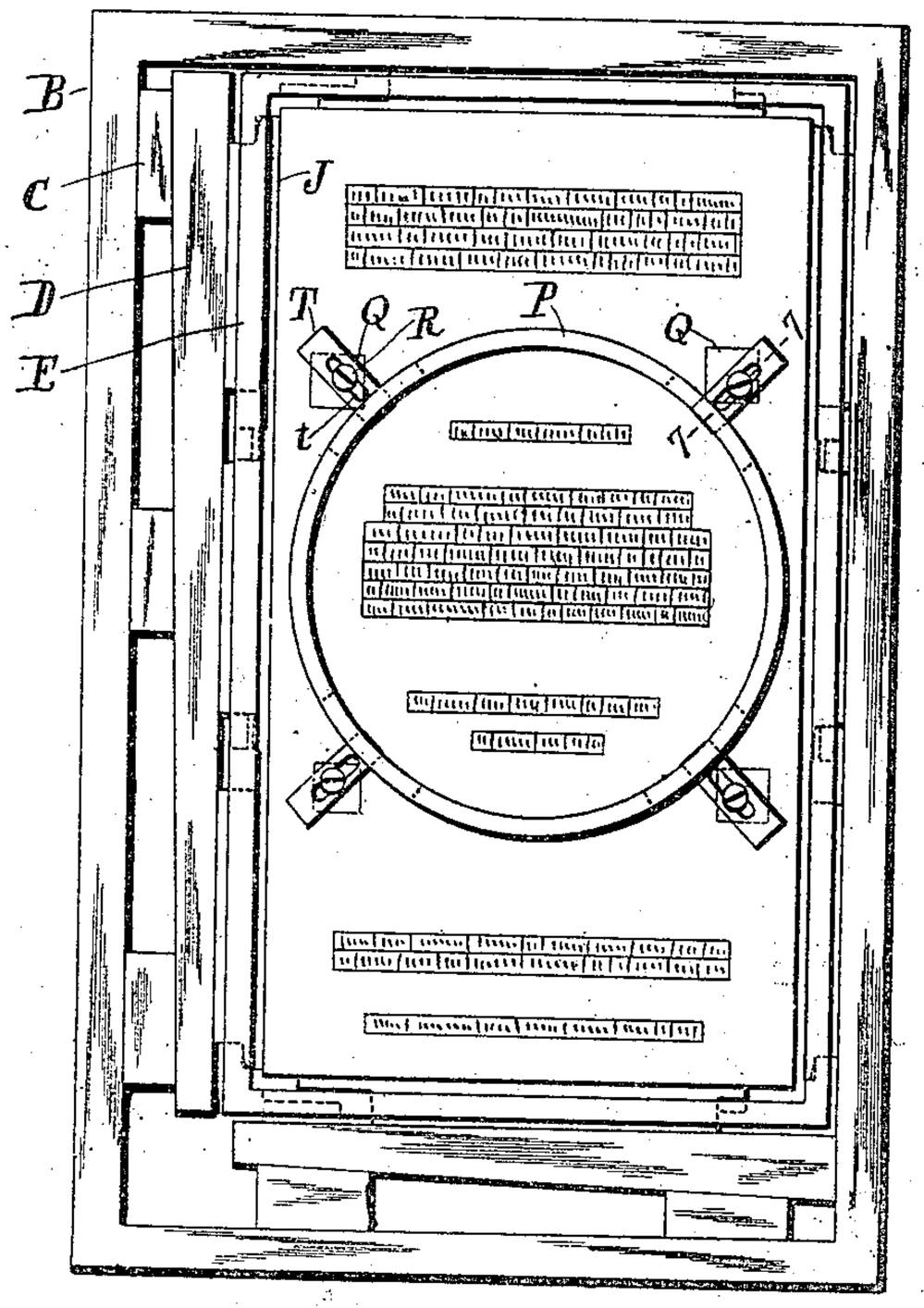



Fig. 2.

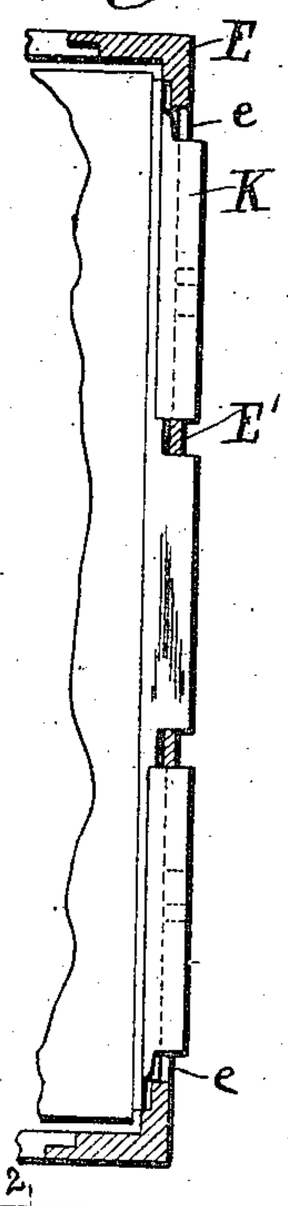



Fig. 3.

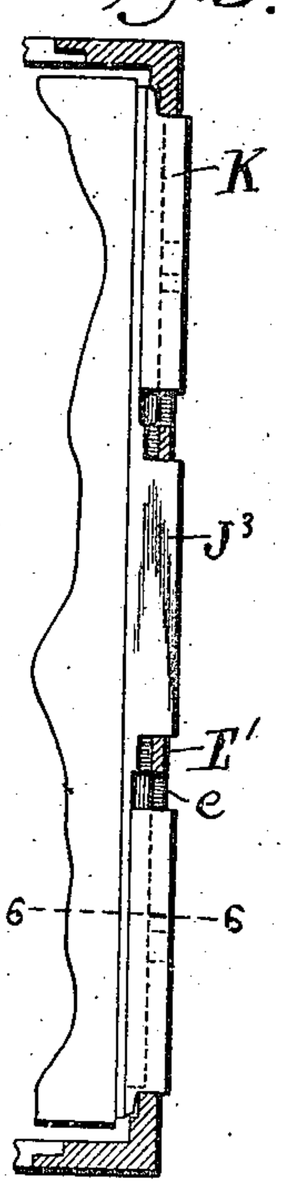



Fig. 4.

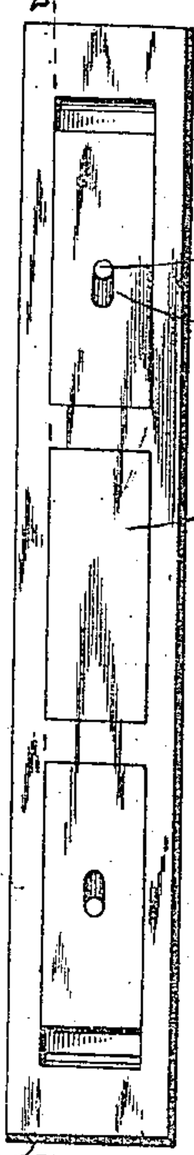



Fig. 5.


Fig. 6.

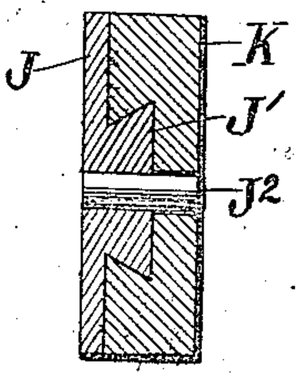



Fig. 7.

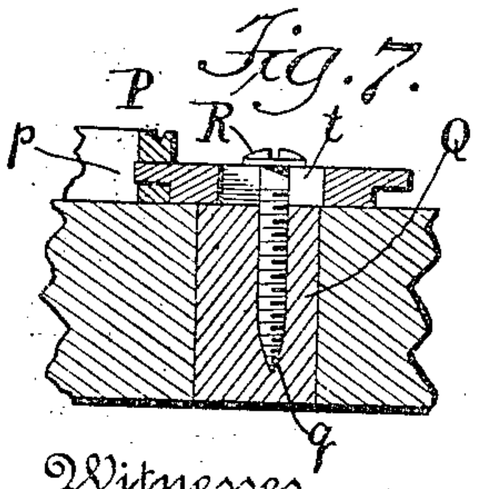
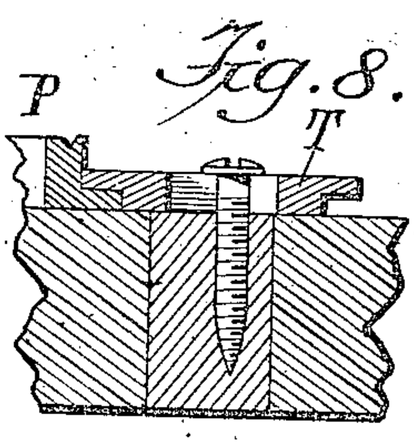



Fig. 8.

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# UNITED STATES PATENT OFFICE.

WARREN DWIGHT PALMER, OF BROOKLYN, NEW YORK.

## PRINTER'S BORDER.

No. 843,766. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed May 7, 1906. Serial No. 315,470.

*To all whom it may concern:*

Be it known that I, WARREN DWIGHT PALMER, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement in Printers' Borders, of which the following is a specification.

When borders are made up of separate pieces, it is difficult to join the pieces perfectly and to keep them so as the forms are locked and unlocked. Better work is produced with far more ease by making borders each in a continuous piece.

Modern practice has developed a demand for borders of rule or various ornamental devices extending around continuously, completely encircling spaces in a page with type or other printing devices inside and also with type or other printing devices outside of such inner border. I have in an application for patent filed January 31, 1906, Serial No. 298,760, set forth means for holding borders thus conditioned by the aid of devices which I have termed "anchors;" but it is not easy to engage such anchors without a greater loosening of the types and quads than the present invention requires. The latter, in fact, allows the inner border to be removed and reinserted without unlocking the form, simply slackening screws and moving buttons.

In the accompanying drawings, Figure 1 is a plan view of a page with a continuous border along the exterior and a continuous border around a smaller portion in the interior. As shown, the outer border is rectangular and the inner is circular. Figs. 2 and 3 are sections on the line 2 2 in Fig. 4 in two conditions, Fig. 3 showing the printing material secured and Fig. 2 showing it liberated. Fig. 4 is an edge view. It shows the effective portion of Fig. 1 as seen from the right. Fig. 5 is a horizontal section of a portion on the same plane as Figs. 2 and 3. Fig. 6 is a magnified cross-section of certain parts on the line 6 6 in Fig. 3. Fig. 7 is a magnified vertical section of certain portions. It is on the line 7 7 in Fig. 1. Fig. 8 is a corresponding view showing a modification.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

B is a chase, C quoins, and D tapering furniture. These parts perform their ordinary functions, the furniture being forced inward toward the form of types, rules, &c., to lock or relaxed to unlock and liberate such printing material according as the quoins are driven in one direction or the other.

E is a rectangular border either plain or ornamental made in one continuous piece of brass or other strong material extending quite around the form. I shall refer to it as the "outer" border. In the mid-height of this border are a series of horizontal apertures *e*, which I will term "windows." The portions E′ of the metal between the windows I will refer to as "bridges." They are sufficiently strong and numerous to reliably support the upper edge, the printing edge, of the rule under all the pressure which is liable to be ever thrown upon it in use. The inner face of each bridge is cut away to allow for the bar to extend across.

J is a piece of steel or other strong material having a length corresponding to the entire series of windows and adapted to be applied from the inside of the form and to match in the series of windows. The ends are received in rabbets. Portions of the metal are removed on the outer face of the bar J, corresponding in position to the bridges, and a ridge J′ of dovetailed cross-section extends along on that face at the mid-height.

K are slides grooved longitudinally on their inner faces to match on the bar. Pins $J^2$, which I will term "posts," are set in the bar J in the positions represented and extend out a little beyond the outer face of the dovetailed ridge J′. Each slide K has a slot *k* of sufficient length to receive a post $J^2$ and allow only the required amount of longitudinal motion of the slide.

When the bar J is applied in position by inserting it in the windows *e*, the thickness of both—that is to say, the thickness of the bar J and of the slide K when applied together—exceeds the thickness of the border E. When in position, the excess of thickness may project on the inside toward the form or on the outside toward the furniture, according as the conditions may require. I have shown the slides as provided one at each end of the bar. The intermediate windows may be filled by thick portions $J^3$ of the bar, giving the same thickness to those thick mid-length portions as the total thickness near the ends where the slides are employed. When the bar is applied on the inner face of my border, these thick portions $J^3$ match into the corresponding windows and perform in the same

manner by projecting on the outside the same as the slides, each receiving the pressure of the furniture and transmitting it to types and other material within.

P is the inner border. I have shown it circular; but it may be rectangular or of any other desired outline to conform to any decoration or other design. Its height, unlike that of the outer border D, is only equal to the difference between type-high and space-high. In setting the types and the spaces and quads care must be take to have all the required area filled with quads and spaces alone where this inner border P is to lie. Such space or plane low area must be a little wider than the inner border P. This border is provided with windows *p*, which because of the limited height cannot be as deep as those in the outer border D. It is not necessary to provide for receiving great strains; it is enough if we lock the inner border against the ordinary slight disturbing strains.

Q Q are pieces of strong metal which I will term "steel" quads, set in place among the ordinary quads. They are of rectangular cross-section, each bored longitudinally and tapped. The tapped hole *q* in each is out of center.

R is a screw with a large thin head, inserted in the threaded hole.

T is what I will term a "button," slotted longitudinally along its mid-length and engaged on the corresponding steel quad Q by means of the screw R, extending through its slot *t*. One end of the button is rabbeted on its under side.

Four or other convenient number of the steel quads are set in the form adjacent to the exterior of the inner border P. These steel quads will necessarily conform to the lines of the quads which constitute the body of the form. It will not be usually practicable to lock these quads at exactly the proper distance from the inner border P. The fact that the screw R is set out of center of its quad affords an important advantage, because the steel quads may be lifted out and turned a half-revolution or quarter-revolution and aid to adjust the distance of the button from the inner border P. Another provision for overcoming inequalities in distance lies in the slot *t* in each button, which when the screw R is slackened allows the button to be thrust inward or outward, as required. When all is right, the several buttons stand approximately radial, and being screwed down hold the inner border firmly in the required position against all the disturbing influences due to the adhesion of the ink-roller or other causes for an indefinite period.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention.

Fig. 8 shows a provision for taking hold of the inner border without requiring any windows therein, simply allowing the same buttons T to take hold of a narrow foot provided on the lower edge of the border. For such use the steel quad Q should be set farther away from the exterior face of the inner border or should be partially revolved, or both, so as to hold the screw R farther out from the border and allow the button to perform its function of holding the border against disturbing influences by pressing on the foot and by also making contact by its end with the outer face of the said border. I propose to use such feet on these narrow rules for general use, not only to be ready to serve, as shown in Fig. 8, but for all uses where they are supported on previously-placed quads, because they give a broader bearing to carry the rather heavy pressure imposed in the act of printing. The rules and all the material can be varied indefinitely so long as the conditions required for my invention are obtained. Modern forms of quoins may of course be substituted for old and long-approved wedge forms shown. The printing-office should have different sizes of the steel quads to match two lines or other number of lines of pica, long primer, &c.

Other material than steel can obviously be used. I propose to provide a liberal supply of wood quads to be used to carry the pivot for the button and to serve in other positions under or near the inner border P with the advantage that nails may be driven therein additional to the other means of fastening shown.

My outer border E or inner border P, or both, may be made only space-high and used with the easy and rapid means shown for tightly seizing and liberating instead of the laborious tying with string now adopted in handling printing matter.

Although I prefer to have both the outer and inner border made originally continuous quite around, a good portion of the advantages may be attained by joining the corners by any efficient means.

I propose to use the invention with electrotypes, half-tones, ordinary stereotypes, and even with zinc etchings.

I claim as my invention—

1. A border for printers' use extending continuously around the form and provided with windows, in combination with a bar adapted to be applied from the interior and to extend across a number of such windows, and with a slide and provisions for guiding such slide longitudinally relatively to such bar at one end so as to lock and unlock the bar and border by an easy movement as herein specified.

2. A border for printers' use extending continuously around the form and provided with windows, in combination with a bar adapted to be applied from the interior and to

extend across a number of such windows and having portions thinned where the bar extends across the bridges between the windows and a thick portion matching in each window and with a slide and provisions for guiding such slide longitudinally relatively to such bar at one end so as to lock and unlock the bar and border by an easy movement as herein specified.

3. A border for printers' use extended continuously around and provided with windows, in combination with a quad Q carrying a pivot-pin, and a button carried on such quad with capacity for adjustment adjacent to a window so as to secure and release the border, all substantially as herein specified.

4. A border for printers' use extended continuously around and provided with windows in combination with a quad Q carrying a pivot-pin mounted out of the center of the quad so that it can be adjusted by partially revolving the quad and a button carried on such quad with capacity for adjustment adjacent to a window so as to secure and release the border, all substantially as herein specified.

Signed at borough of Brooklyn, New York city, this 3d day of May, 1906.

WARREN DWIGHT PALMER.

Witnesses:
Mrs. W. D. PALMER,
HUGH GILLEN.