S. E. DITTMAN.

TYMPAN FOR PRINTING PRESSES.

APPLICATION FILED DEC. 8, 1913.

1,111,369. Patented Sept. 22, 1914.

Fig. 1.

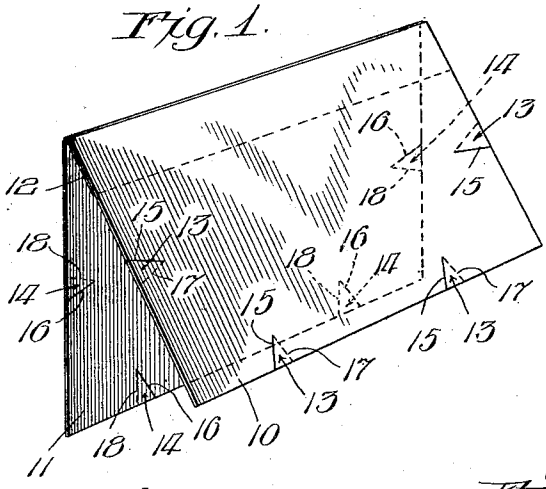


Fig. 2.

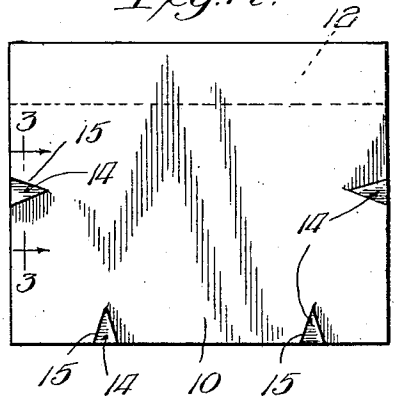


Fig. 3.

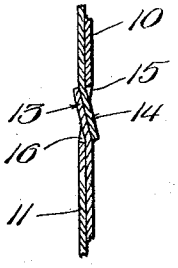


Fig. 5.

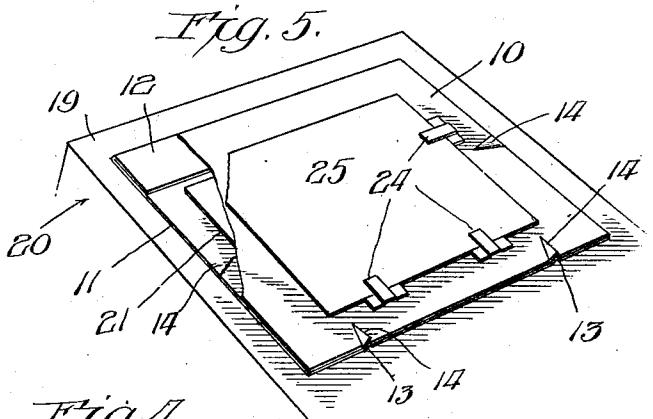


Fig. 4.

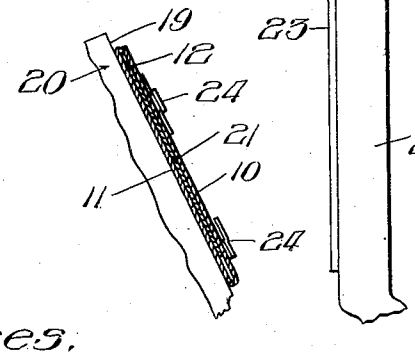
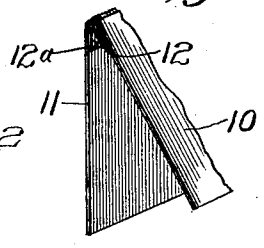


Fig. 6.



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UNITED STATES PATENT OFFICE.

SAMUEL E. DITTMAN, OF NEW YORK, N. Y.

TYMPAN FOR PRINTING-PRESSES.

1,111,369. Specification of Letters Patent. Patented Sept. 22, 1914.

Application filed December 8, 1913. Serial No. 805,465.

To all whom it may concern:

Be it known that I, SAMUEL E. DITTMAN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Tympans for Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to tympans for printing presses and particularly for those types of printing presses having platens with flat working faces.

A tympan embodying the features of my invention comprises two connected, flat tympan members or sheets, placed one over and upon the other. The under or bottom tympan sheet is placed against and secured flatwise to the flat working face of a printing press platen and the overlay or make-ready is secured or applied to the front or outer face of the same. The top tympan sheet is placed flatwise over and upon the bottom tympan sheet and the make-ready, and is connected at one or more of its margins with the bottom tympan sheet, thereby inclosing the make-ready between said tympan sheets. A sheet of paper or the like, which is to receive the impression, is placed against the front or outer face of the top tympan sheet and said top sheet is provided with paper guides or gages adapted to engage the edges of the paper sheet or the like and removably hold the paper sheet in position on the top tympan sheet. By connecting the top and bottom tympan sheets with each other, the make-ready is held in fixed relation to the paper guides that are attached to the top sheet. The top and bottom tympan sheets are connected along one margin by a folded or hinged connection and the top tympan sheet may therefore be lifted from the bottom tympan sheet, for permitting access to be had to the over-lay or make-ready on the bottom tympan sheet, without disconnecting the top and bottom tympan sheets or disturbing the fixed relation between the make-ready and the paper guides or gages on the top tympan sheet. The top and bottom tympan sheets further have detachable connection with each other along the non-joined or free margins thereof, when the said tympan sheets are placed over each other, thereby holding the said tympan sheets together when in use. Manifestly, the top tympan sheet is prevented from raising from the bottom tympan sheet in the movement of the platen to and from the printing form.

The invention consists further in the matters hereinafter described and more particularly pointed out in the appended claims.

In the accompanying drawings—Figure 1 is a perspective view of a tympan constructed in accordance with my invention, the top and bottom sheets thereof being shown as having a folded or hinged connection along one margin, and the top tympan sheet being shown as lifted or raised from the bottom tympan sheet; Fig. 2 is a plan view of said tympan with the top and bottom sheets thereof placed one over and upon the other and detachably connected along their non-joined or free margins; Fig. 3 is an enlarged fragmentary sectional view, taken on line 3—3 of Fig. 2; Fig. 4 is a fragmentary view of a printing press of the job or oscillating platen type, showing the tympan constructed in accordance with my invention placed against and secured to the working face of the platen; the top and bottom tympan sheets are shown as placed one over the other and connected together with a make-ready or overlay inclosed between said sheets; Fig. 5 is a fragmentary perspective view of the platen and applied tympan shown in Fig. 4, the top tympan sheet being broken away to show the make-ready therebeneath; Fig. 6 is a fragmentary perspective view of the connected top and bottom sheets of the tympan, showing a member of cloth applied to the sheets for reinforcing the folded or hinged connection between said sheets.

Referring to the drawings, illustrating in detail one preferred form of my invention, the same comprises two flat sheets or members 10, 11, preferably equal in size. The sheet constitutes the top sheet of the tympan, while the sheet 11 is the bottom sheet thereof. Both of said tympan sheets may be made of thick paper preferably of the oil or moisture-proof kind or any other material desired, so that the same will be relatively rigid and stiff throughout and prevented from curling or being readily bent while

in use, yet flexible enough for the purposes intended. The top and bottom sheets 10, 11 are adapted to be placed one upon and over the other with the marginal edges thereof coinciding. Said top and bottom tympan sheets are connected or secured together along one margin thereof by a folded or hinged connection, so that the top tympan sheet 10 may be lifted or raised from or placed against the bottom tympan sheet 11, without disturbing the relation between the sheets. Said folded or hinged connection is preferably made by providing one of the sheets, along one of the margins thereof, with an integral flap 12 adapted to be folded down against the tympan sheet of which it forms a part. The adjacent marginal portion of the other sheet is adapted to overlap and be secured to said flap 12.

As shown in the drawings, the bottom tympan sheet 11 is provided with the flap 12 and the top tympan sheet 10 is secured thereto by an adhesive material or other fastening means. Said top and bottom tympan sheets 10, 11 are adapted to be further secured together, when placed over and upon each other, along their non-joined or free marginal edges by detachable means which, as shown in the drawings, have the form of a plurality of registering, interlocking tongues 13, 14 on the top and bottom tympan sheets 10, 11, respectively. In other words, those margins of the top and bottom tympan sheets which have detachable connection are those margins parallel with and at right angles to the joined margins. Each tongue on each sheet is formed by making an inwardly directed, obliquely disposed incision or cut 15, 16 in the free or non-joined margins of the top and bottom tympan sheets. The incisions or cuts 15, in the free margins of the top sheet 10, are disposed at an angle to the associated incisions or cuts 16, in the free margins of the bottom sheet 11. Said incisions or cuts 15, 16 are so disposed with respect to each other in the two sheets that the inner end of an incision in the top sheet 10 terminates substantially in registration with the corresponding end of an associated or adjacent incision or cut in the bottom sheet 11, when the said top and bottom tympan sheets 10, 11 are in superposed relation, or placed one upon and over the other, and when so placed the associated or adjacent superposed incisions in both sheets form, in effect, the sides of a triangle with the inner ends of the incisions substantially in registration and forming the apex of said triangle. The tongues 13, 14, thus formed, may be flexed laterally and inserted in the adjacent incisions or cuts in the adjacent tympan sheet, when the tympan sheets are placed against and over each other, as shown in Figs. 2 and 3. Said tongues 13 of the top tympan sheet 10, when inserted in the incisions or cuts 16 in the bottom sheet 11, overlap the tongues 14 of the bottom tympan sheet, and said tongues serve to hold or connect the two sheets 10, 11 together along those margins other than the margins of the sheets connected by the hinged connection, above described. The tongues 13, 14 are flexed or bent laterally substantially on the lines 17, 18 which constitute the bases of said tongues. (See Figs. 2, 3 and 4.) Upon disconnecting the tongues 13, 14, the top tympan sheet 10 may be lifted or raised and moved away from the bottom tympan sheet 11 about the hinged connection between the two sheets.

The tympan above described is used in the following manner: The bottom sheet 11 of the tympan is placed flatwise against and secured to the flat working face 19 of a printing press platen 20. Said bottom tympan sheet 11 is secured to said platen by any suitable means. (See Figs. 4 and 5.) The tongues 13, 14 of the two sheets being disengaged, the top tympan sheet 10 is lifted and swung above and from the bottom tympan sheet 11. When the top and bottom tympan sheets 10, 11 are moved apart, a make-ready 21 is then applied to the exposed or outer face of the bottom tympan sheet 11. After the make-ready is completed, the top tympan sheet 10 is swung down over the make-ready and bottom tympan sheet 11 and the latter is connected with said top tympan sheet 11 along its free margins by means of the interlocking of the tongues 13, 14. (See Fig. 5.) In Figs. 4 and 5, the platen 20 shown is of the swinging or oscillating type usually found in the job type of printing press, and said platen is swung into and out of contact with the type or other printing form 23 carried by the stationary part 22 of the press. The top tympan sheet 10 is provided at proper points on its outer or exposed flat face with paper guides or gages 24, adapted to engage the margins of a paper sheet 25 placed against the outer or front face of the top tympan sheet 10. Said paper guides or gages 24 removably hold and maintain the paper sheet 25 in position on the top tympan sheet 10, in the movement of the platen 20 toward and into contact with the printing form 23 in making an impression of said printing form on the said paper sheet 25. Said guides or gages 24 also hold the paper sheet 25 on the top tympan sheet 10, in the movement of the platen from said printing form after the impression on the paper sheet has been made. After the paper sheet 25 receives the impression and the platen 20 has been moved from contact with the printing form 23, the said paper sheet 25 is removed from the top tympan sheet 10 by withdrawing the paper sheet from the guides or gages 24, and another paper sheet to receive the impression

is placed against the top tympan sheet 10 with its edges inserted in the gages or guides 24, as customary in the manipulation of this type of press. The gages or guides 24 herein shown are of that kind which are secured to the tympan by adhesive material, and correspond in form with the guides or gages which constitute the subject matter of my application, Serial No. 808,960, filed December 27, 1913, and need no description herein. It is is of course to be understood that any form of guide or gage may be used and I am not limited to the type of gage or guide shown.

The top and bottom sheets 10, 11 of the tympan being connected along one margin by a folded or hinged connection, as above described, the top tympan sheet 10 may be lifted or raised above the bottom tympan sheet 11 for the purpose of having access to the make-ready or overlay on the bottom tympan sheet 11, without disturbing the make-ready and bottom sheet to which it is applied. This may happen in case it is found that the impression is too light or too heavy in parts or throughout and it becomes necessary to either build up or tear down the make-ready in parts or throughout. Moreover, by connecting the top and bottom tympan sheets by a folded or hinged connection, the top tympan sheet, in being lifted or swung above the bottom tympan sheet, does not disturb or affect the fixed relation between the make-ready and the paper guides or gages 24 attached to the top tympan sheet. Furthermore, by providing a detachable connection between the free or non-united margins of the top and bottom tympan sheets 10, 11, in the manner above described, the two sheets may be connected together when placed one over and upon the other and the top sheet prevented from raising up and down in the oscillatory movement of the platen. The bottom tympan sheet being secured to the platen, the make-ready thereon is maintained in fixed relation with respect to the printing form, and in raising or lifting the top tympan sheet from the bottom tympan sheet this fixed relation between the make-ready and the printing form is not disturbed or affected.

In order to reinforce or strengthen the folded or hinged connection between the top and bottom sheets 10, 11 of the tympan, a strip of cloth or the like may be employed for this purpose. As shown in Fig. 6 of the drawings, the strip of cloth is indicated by 12^a and is secured to the under side of the flap 12 and the adjacent face of the bottom tympan sheet 11. Said cloth strip extends under and along the fold formed by the bottom tympan sheet 11 and the integral flap 12.

By connecting the top tympan sheet 10 with the flap 12 on the bottom tympan sheet 11, said top tympan sheet may be removed from the bottom tympan sheet by disconnecting said top tympan sheet from said flap 12 without removing the bottom tympan sheet from the printing press platen. It follows, therefore, that when a top tympan sheet becomes too much worn or indented for further use, or when it is desired to apply new paper gages for sheets of different size or shape, said top tympan sheet may be readily removed from the flap 12 and another or new top sheet substituted in place of the one removed. After the new top sheet is secured to the flap 12, the paper guides or gages are applied to the outer face of the new top sheet in position to support and maintain the paper sheet on said new top sheet in proper position with respect to the make-ready and printing form. In such a case, should it be desired to print upon a larger paper sheet, it is only necessary to remove the top tympan sheet, in use, from the flap 12 and replace said top tympan sheet with another top sheet on which the paper guides or gages may be placed in position to support such larger paper sheet. The bottom sheet with the overlay thereon need not be disturbed in the substitution of the top tympan sheets. Moreover, the bottom tympan sheet may be used for several jobs by applying different overlay or make-ready sheets thereto. In color printing, for instance, the several make-ready sheets used on the same job may be applied successively to the same bottom tympan sheet. In such case, one bottom tympan sheet may be used throughout the printing job irrespective of the number of colors used. One top tympan sheet may also be used for several bottom sheets, as for instance when it is not desired to disturb the make-ready on the bottom sheet, so that, in printing a picture in several colors, the overlays for the several colors may be placed on different bottom sheets, which, in such case, will be used successively with the same top sheet. The top tympan sheet, therefore, may be used for any number of bottom sheets and not discarded until it becomes too greatly worn or indented for further use. By making the top and bottom tympan sheets of both water and oil-proof paper stock, the sheets will not expand by the action of moisture or other cause. By reason of this fact, neither the position of the paper guides or gages with respect to the overlay, nor the position of the make-ready with respect to the printing form, will be affected by expansion or contraction of the top or bottom tympan sheets.

It is of course understood that the various details of construction and arrangement of parts shown and described may be variously modified and changed without departing from the spirit or scope of my invention, and I do not wish to be limited to the exact

details of construction and arrangement of parts shown, except in so far as pointed out in the appended claims.

I claim as my invention:—

1. A tympan for printing presses, comprising flat top and bottom sheets of stiff material adapted to be placed one over and upon the other, said tympan being adapted to be placed on the flat face of a printing press platen with the bottom sheet of said tympan attached to the flat face of said platen, and means providing a hinged connection for said sheets along one margin thereof independent of the means securing the bottom sheet to the platen.

2. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one over and upon the other, means providing a hinged connection for said sheets along one margin thereof, and means providing a hinged connection for said sheets along those margins thereof at right angles to and parallel with the joined margins of said sheets.

3. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one over and upon the other, and means providing a hinged connection for said sheets along one margin thereof embracing a flap made integral with one of said sheets along one margin thereof and to which the other of said sheets is connected.

4. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one over and upon the other, means providing a hinged connection for said sheets along one margin thereof embracing a flap made integral with one of said sheets and to which the other of said sheets is connected, and means providing detachable connection for said sheets along the non-joined margins thereof.

5. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one over and upon the other, means providing a hinged connection for said sheets along one margin thereof, and means providing detachable connection for said sheets along at least one of the non-joined margins thereof embracing tongues on each of said sheets adapted to be interlocked when said sheets are placed one over and upon the other.

6. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one over and upon the other, means providing a hinged connection for said sheets along one margin thereof embracing a marginal flap on one of said sheets and to which the other of said sheets is connected, and means providing detachable connection for said sheets along at least one of the non-joined margins thereof embracing marginal tongues on said sheets adapted, when said sheets are placed one over and upon the other, to be interlocked.

7. A tympan for printing presses, comprising top and bottom sheets adapted to be placed one upon and over the other, means providing hinged connection for the sheets along one margin thereof embracing a folded marginal flap on one of said sheets and to which the other of said sheets is secured, and means for reinforcing the fold formed by said flap and sheet of which it forms a part embracing a strip of cloth applied over said fold and secured to said flap and sheet.

In testimony, that I, claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 3rd day of December A. D. 1913.

SAMUEL E. DITTMAN.

Witnesses:
ELWOOD W. BAKER,
NELLIE H. EFROS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."