

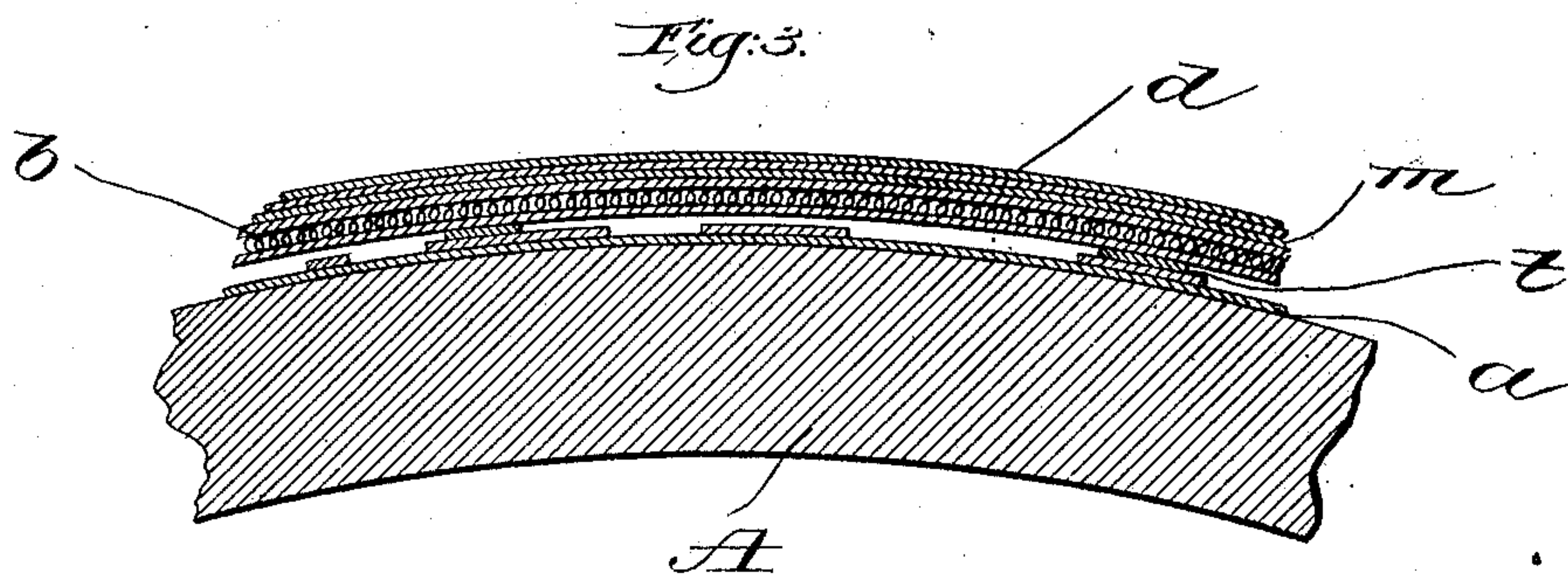
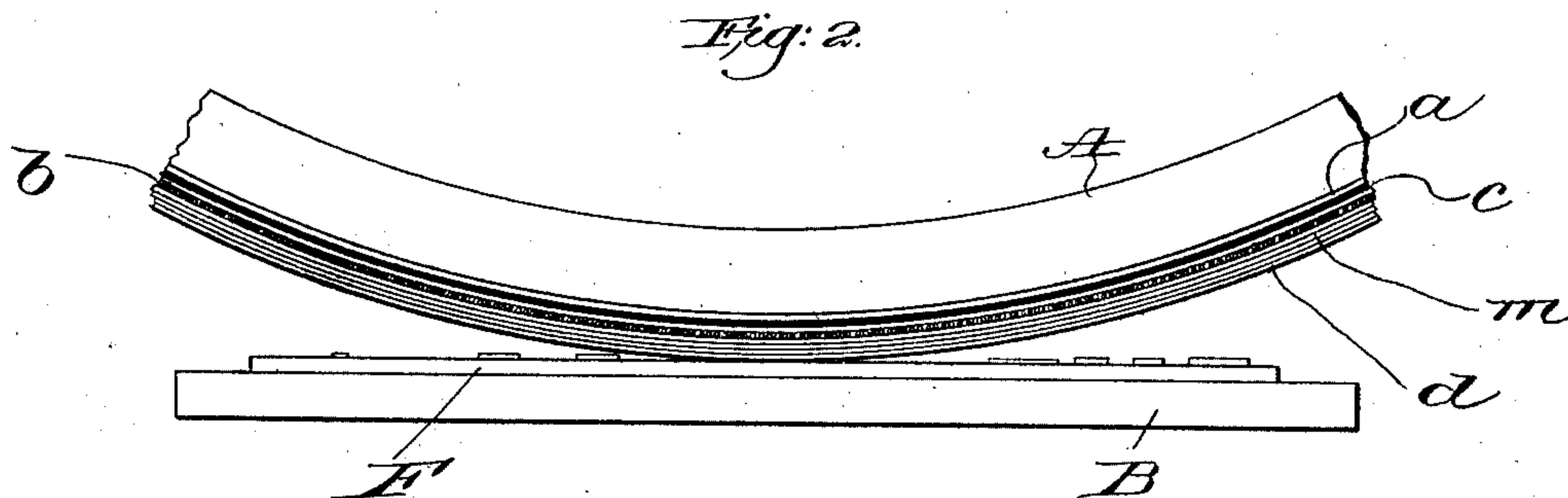
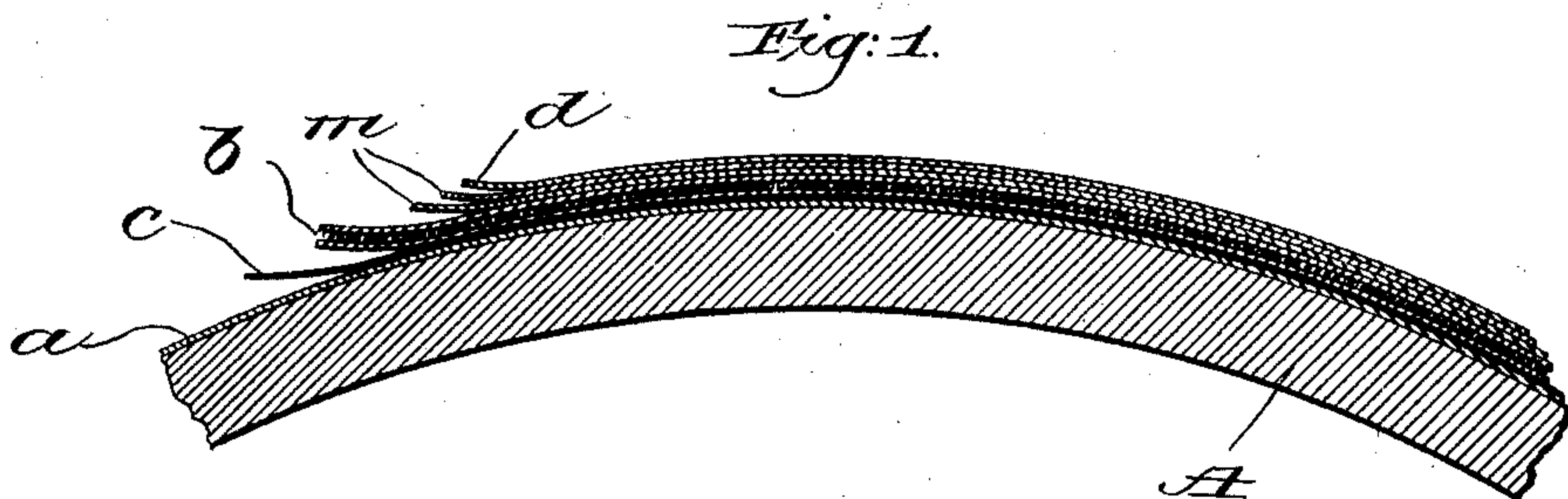
No. 711,147.

Patented Oct. 14, 1902.

A. S. ALLEN.
MAKE READY FOR PRINTING.

(Application filed Aug. 29, 1901.)

(No Model.)



Witnesses,
Edward S. Allen,
Adolph H. Kaiser

In witness whereof,
Arthur S. Allen,
by Stanley Gregory,
Attys.

UNITED STATES PATENT OFFICE.

ARTHUR S. ALLEN, OF BROOKLINE, MASSACHUSETTS.

MAKE-READY FOR PRINTING.

SPECIFICATION forming part of Letters Patent No. 711,147, dated October 14, 1902.

Application filed August 29, 1901. Serial No. 73,703. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR S. ALLEN, a citizen of the United States, and a resident of Brookline, county of Norfolk, State of Massachusetts, have invented an Improvement in Make-Ready for Printing, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In order to produce a proper impression from type or plates in a printing-press, it is necessary for the pressman to build up the uneven parts in the letter-press and the solid and medium tones in the cuts with thin layers of paper, cutting out the high lights, so that the tympan will when an impression is taken exert more pressure in some parts than at others. This operation or process is technically termed "making-ready" and has involved considerable time and the exercise of great skill and judgment on the part of the printer.

By the employment of a novel form of tympan invented by me and forming the subject-matter of United States Patent Nos. 613,217, 613,218, and others, granted to me October 25, 1898, the make-ready is obviated in some cases, and in all cases the use of such tympan greatly reduces the time and labor necessary to prepare a piece of work for printing, the tympan being extremely sensitive to variations in pressure.

It is now customary in preparing a press for printing a piece of work to place such tympan or blanket upon and next the metallic impression member and to superpose thereupon a press-board and one or more "hang-sheets" of stout Manila paper, and an impression is taken upon one of the hang-sheets to get the position of the different portions of the "form" on the impression member, the make-ready being constructed on the hang-sheet bearing such impression. When the make-ready is finished, the "draw-sheet" is placed over it and secured in place in well-known manner, and a number of sheets of suitable paper sufficient to obtain the desired impression are superposed upon the draw-sheet, the number of sheets depending upon the character of the form and the efficiency of the make-ready. This practice is objec-

tionable, however, as the irregular surface of the make-ready is so near the printing-surface of the form that a number of sheets of paper must be interposed between the latter and the make-ready in printing in order to secure a proper surface for the impression and to prevent the tendency of the make-ready to make the surface of the printed sheet, especially in illustrated work, and such interposed material acts to destroy the sharpness and clearness of the illustration when printed, this being particularly true of half-tone cuts. The employment of a tympan of the sensitive character invented by me does not entirely correct this fault, inasmuch as it must act through or from the under side of the superposed make-ready, whereas the highest efficiency of such a tympan is attained when it is brought as near as possible to the printing-surface of the form and supports a hard impression-receiving surface—such, for instance, as a sheet of very hard fiber board or hard manila.

My present invention has for its object the production of novel means for making ready, whereby it is possible to bring the hard printing-surface to the top and the make-ready beneath the sensitive blanket or tympan, thereby producing a very brilliant, clear, and sharp impression, and the construction of the make-ready itself is greatly facilitated.

In accordance with one of the objects of my invention the make-ready is interposed between the impression member of the press and a blanket or tympan of suitably sensitive character, and in order to use the make-ready in this novel manner I prepare it by a novel procedure or method.

Figure 1 is a sectional view of a portion of the impression member of a printing-press with one mode of practicing my invention applied thereto, the impression member being shown as a cylinder. Fig. 2 is a side elevation of a portion of the impression member, the reciprocating bed, and the form of a power-press to illustrate a portion of my invention. Fig. 3 is an enlarged section similar to Fig. 1, but showing the make-ready completed and the covering or packing on the impression member ready for printing.

In the practice of my invention I secure upon the impression member A of the press,

and preferably directly upon its metallic surface, a foundation or hand sheet *a*, of strong Manila paper, superposing thereupon a tympan or blanket *b*, which for the purposes of this invention must be quickly responsive to variations in pressure and so sensitive that it will readily transmit variations of the surface of the make-ready beneath it, and I prefer to use a tympan of the character hereinbefore referred to as invented by me, as it thoroughly meets the requirements necessary to the successful practice of my present invention. Over the tympan one or more sheets of paper *m* are placed and held in position by the draw-sheet *d*, which is clamped in any usual or well-known manner. Between the foundation-sheet *a*, on which the make-ready is constructed and supported, as will be described, and the tympan *b* I interpose transferring or duplicating means in the nature of carbon-paper or the like, as at *c*, and the transferring composition may be applied as a separate sheet, as shown in Fig. 1, or, if desired, such sheet may be cemented directly to the under face of the tympan with the prepared surface next the foundation-sheet.

If desired, the transferring composition may be applied directly to the surface of the tympan, it being manifest that the particular mode of applying the transferring means is immaterial.

In Fig. 1 I have shown the various sheets or plies upon the impression member as separated at one end to more clearly illustrate my invention, it being understood that in use said material will be clamped or secured upon the impression member concentric therewith. The printer then takes an impression by effecting coöperation of the prepared impression member *A* with the form *F* on the bed *B* of the press, Fig. 2, and by or through the action of the transferring means *c* a duplicate impression is made on the foundation-sheet *a*, such impression serving as a base or guide for the make-ready. After taking the impression the draw-sheet is released at one end, and it, with the tympan and transferring means, will be turned back to expose the duplicate impression on the foundation-sheet *a*. Using such impression as a base or guide, the printer constructs the make-ready in usual manner, though its construction is greatly simplified by the use of a sensitive pressure-transmitting tympan or blanket, such as hereinbefore referred to. When the make-ready is finished on the foundation-sheet, the tympan and draw-sheet are replaced in original position and secured, and the printing is thereafter conducted in usual manner.

If the transferring composition is on a separate sheet, it will preferably be removed before the tympan is replaced, as its presence accomplishes no useful purpose after the duplicate impression has been made upon the foundation-sheet.

From the foregoing description it will be manifest that the position of the foundation-

sheet is unchanged from start to finish, so that the make-ready when completed thereupon is of necessity in precisely the correct position on the impression member to effect accurate printing, and there is thus no possibility for any failure of the make-ready to register exactly with corresponding portions of the form.

Inasmuch as the make-ready is clamped in place upon and adjacent the surface of the impression member of the press, there can be no shifting, no matter what disarrangement may take place in the material superposed upon the make-ready, and the latter is always positioned.

To those skilled in the art it is well known that changes in the temperature and humidity of the air in a press-room will cause such variations in the covering of the impression member of a press as to necessitate the repositioning of the make-ready when it is located in the customary manner above the tympan, and in some extreme cases an entirely new make-ready must be made, all of which is obviated by my present invention.

With the make-ready adjacent the surface of the impression member, as herein described, it is thoroughly protected from moisture and changes in temperature, so that it cannot swell or become distorted, a frequent cause of trouble in the customary mode of procedure.

It will be observed that by my present invention the tympan or blanket is brought as near as possible to the printing-surface of the form to obtain the sharpest impression, the make-ready acting therethrough from its underside or face.

In Fig. 3 the make-ready *t* shown in section on the foundation-sheet *a* is purposely exaggerated to more clearly illustrate the invention.

My invention is not restricted to the precise construction and arrangement herein shown and described nor to any particular tympan, for any tympan of suitable sensitiveness to properly operate with a make-ready beneath it may be employed and falls within the spirit and scope of my invention. So, too, in practicing my invention any suitable transferring means may be employed which will cause a duplicate impression to be made upon a suitable foundation-sheet to serve as the base or guide for the make-ready.

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

1. In a make-ready for printing, a foundation-sheet, a superposed tympan, and interposed impression-transferring means, to transfer an impression through the tympan to the foundation-sheet, to form a base or guide for the "make-ready."

2. In a make-ready for printing, a foundation-sheet adapted to be secured upon the surface of the impression member of a print-

ing-press, a superposed, sensitive tympan, and a transferring medium between the adjacent faces of the tympan and foundation-sheet, whereby when an impression of the printing-surface is taken a duplicate of such impression will be transferred to the foundation-sheet, to form a base or guide for the "make-ready."

3. In a make-ready for printing, a foundation-sheet, a superposed tympan responsive to different pressures due to variations in the height of the printing-surface, and a transferring medium interposed between the tympan and the foundation-sheet, to transfer upon the latter a duplicate impression of the printing-surface of the "form" accurately

corresponding to the position thereof, to constitute a base or guide for the "make-ready."

4. In a make-ready for printing, a foundation-sheet, a superposed tympan, and an interposed sheet of transfer-paper, whereby when an impression of the printing-surface is taken a duplicate thereof will be made upon the foundation-sheet, substantially as and for the purpose set forth.

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

ARTHUR S. ALLEN.

Witnesses:

JOHN C. EDWARDS,
MARGARET A. DUNN.