

Sept. 4, 1928.

1,682,762

R. McCAHAN

PRINTING PRESS CHASE

Original Filed July 5, 1923 3 Sheets-Sheet 1

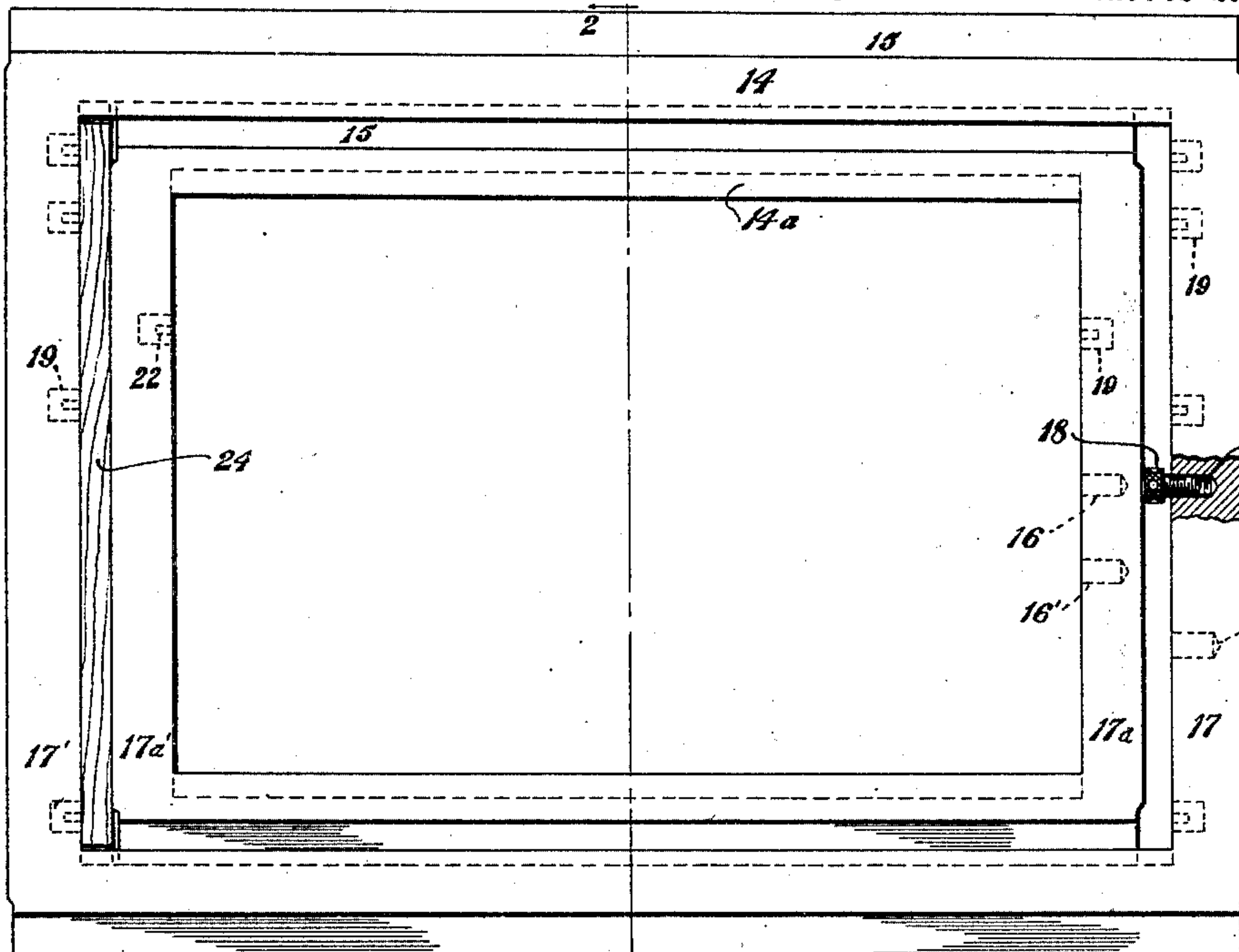


Fig. 1.

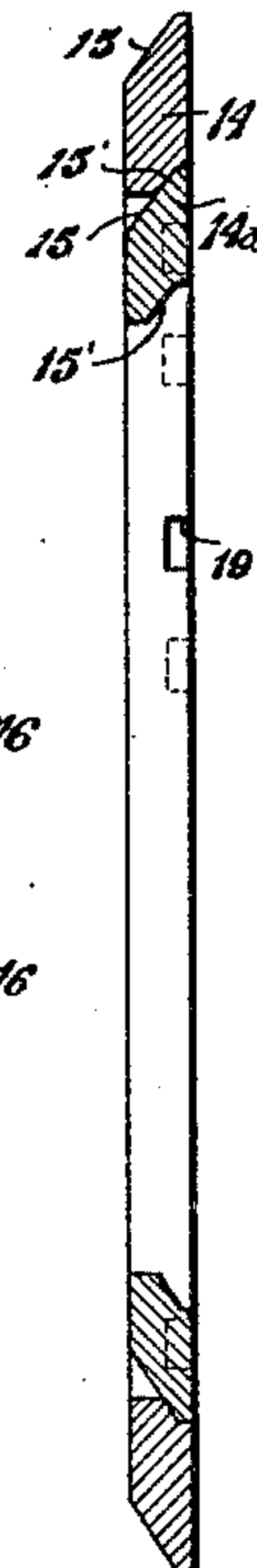


Fig. 2.

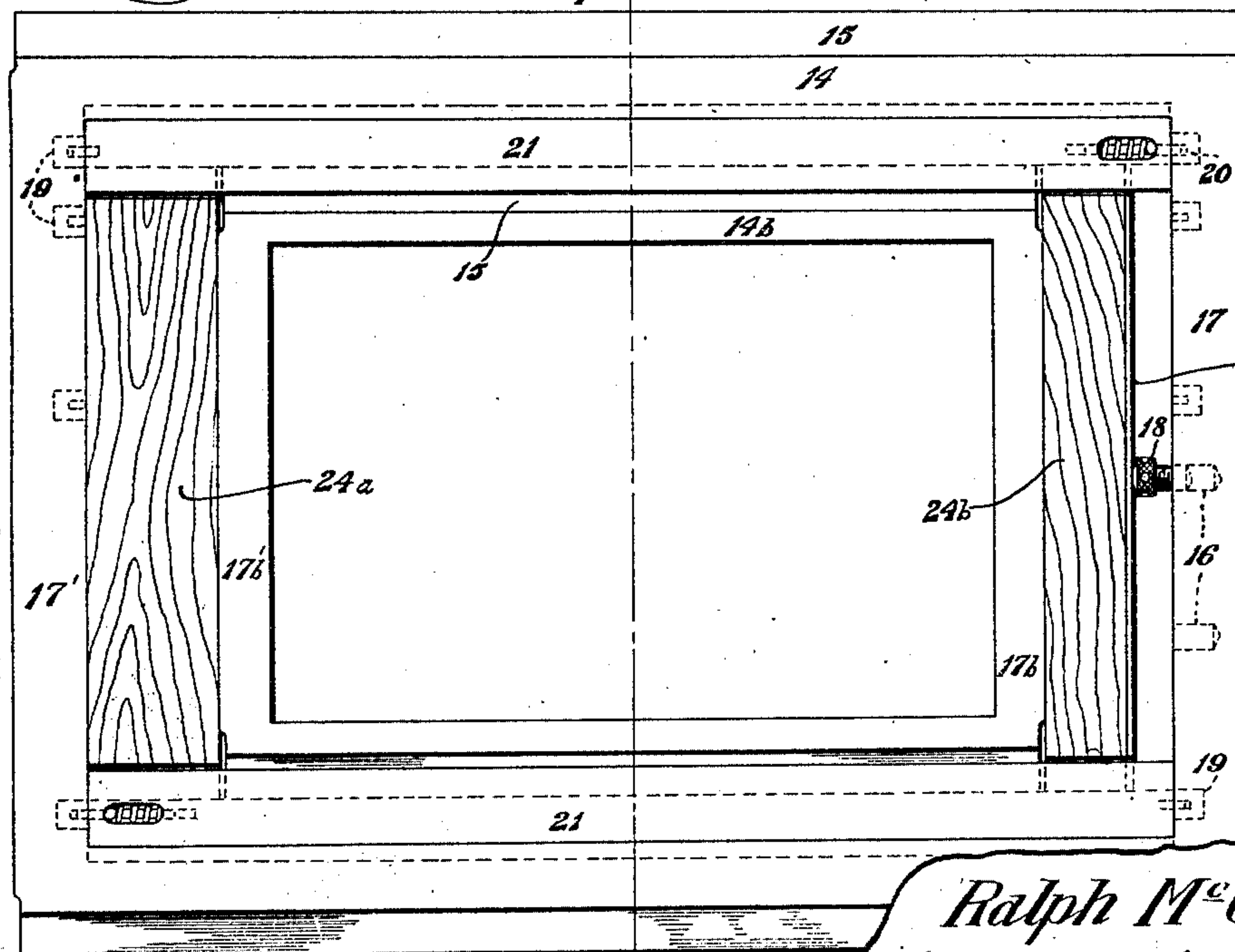


Fig. 3.



Fig. 4.
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3 Sheets-Sheet 2

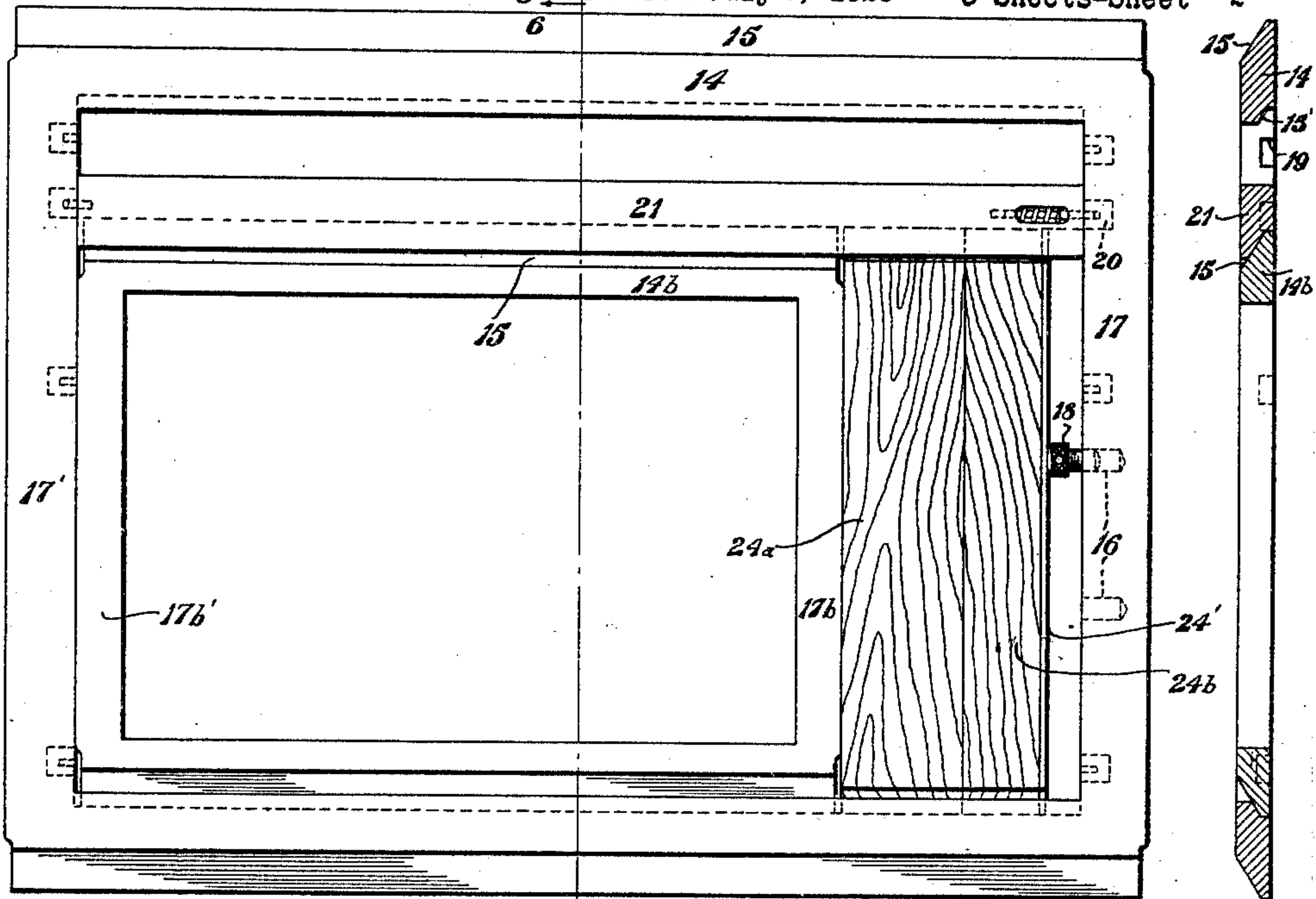


Fig. 5.

Fig. 6.

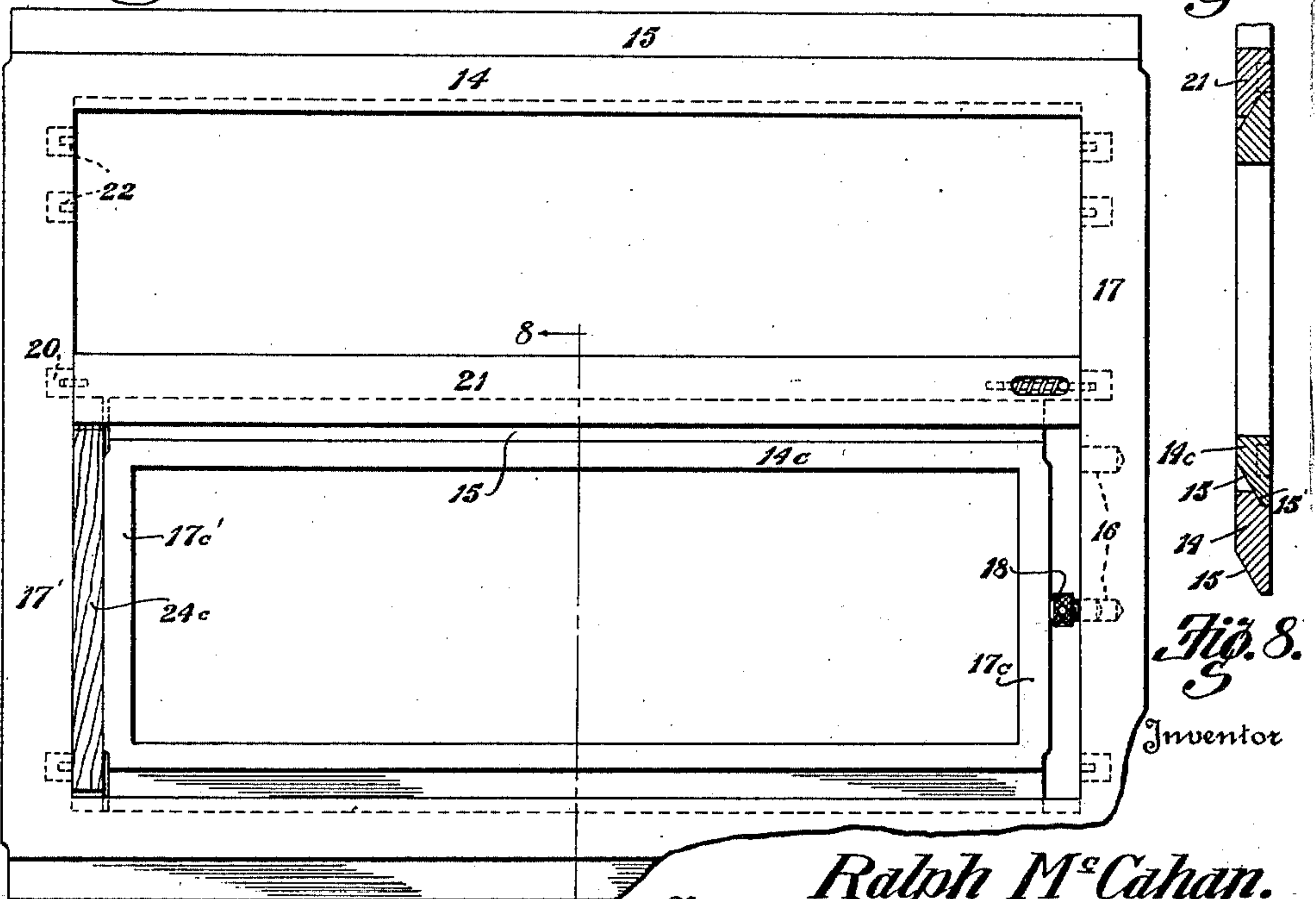


Fig. 7.

Fig. 8.

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3 Sheets-Sheet 3

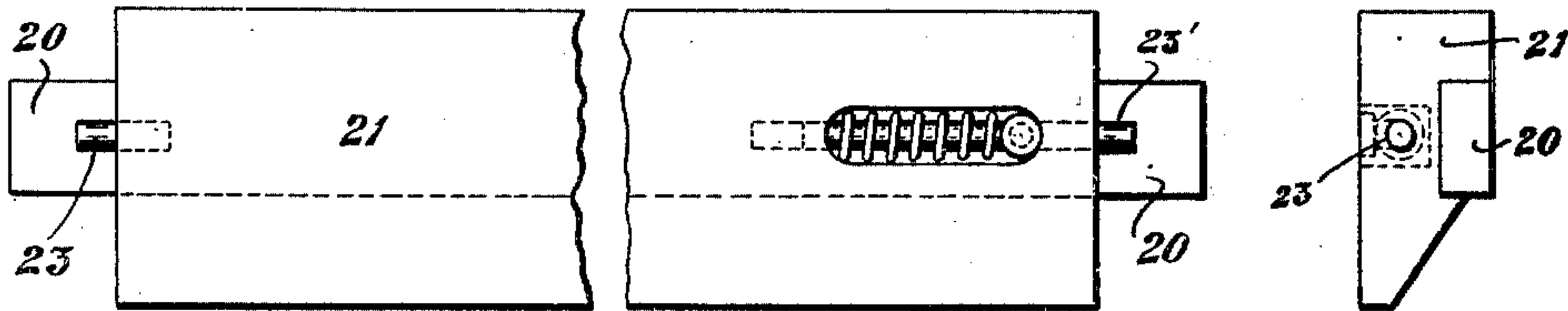


Fig. 11.

Fig. 12.

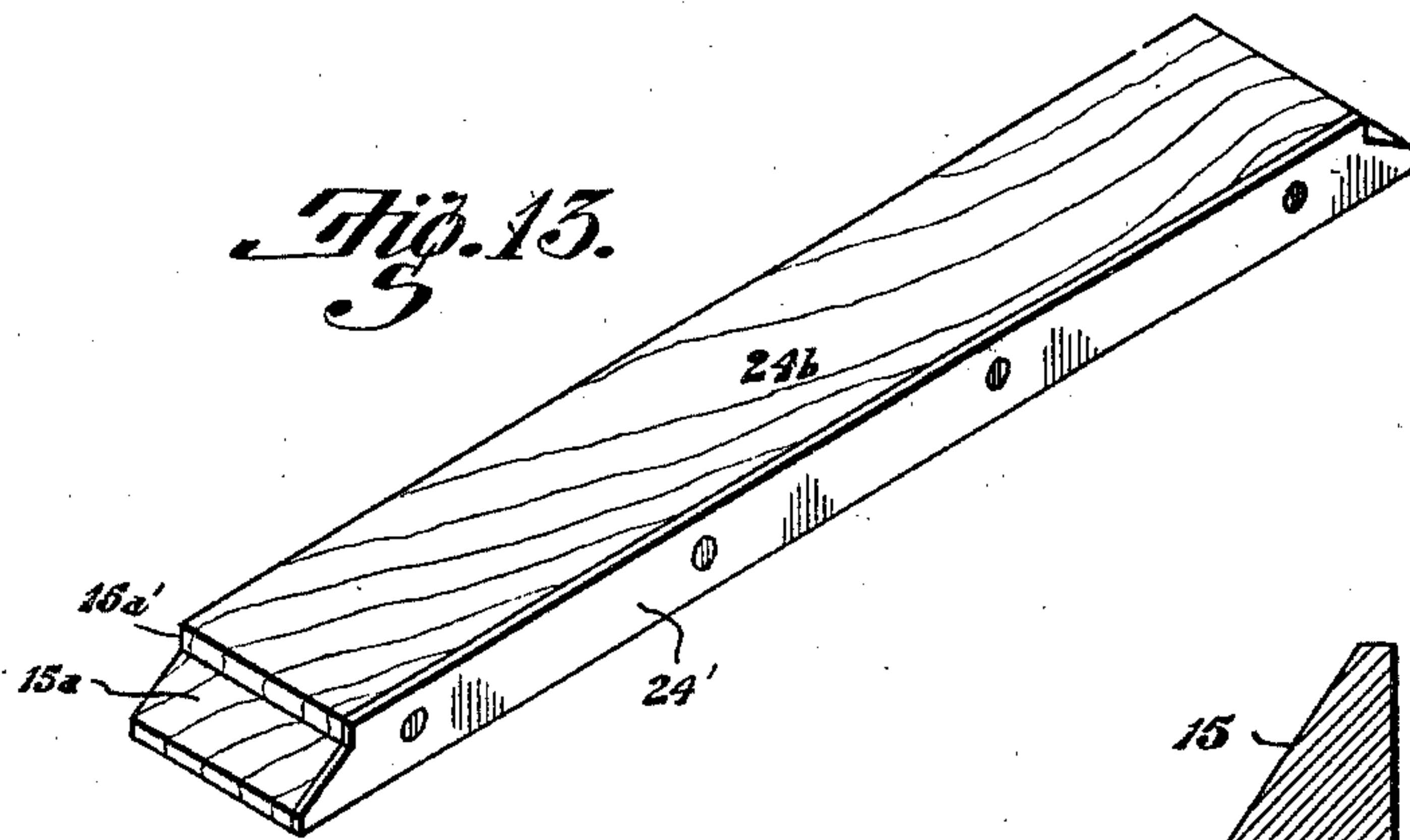


Fig. 13.

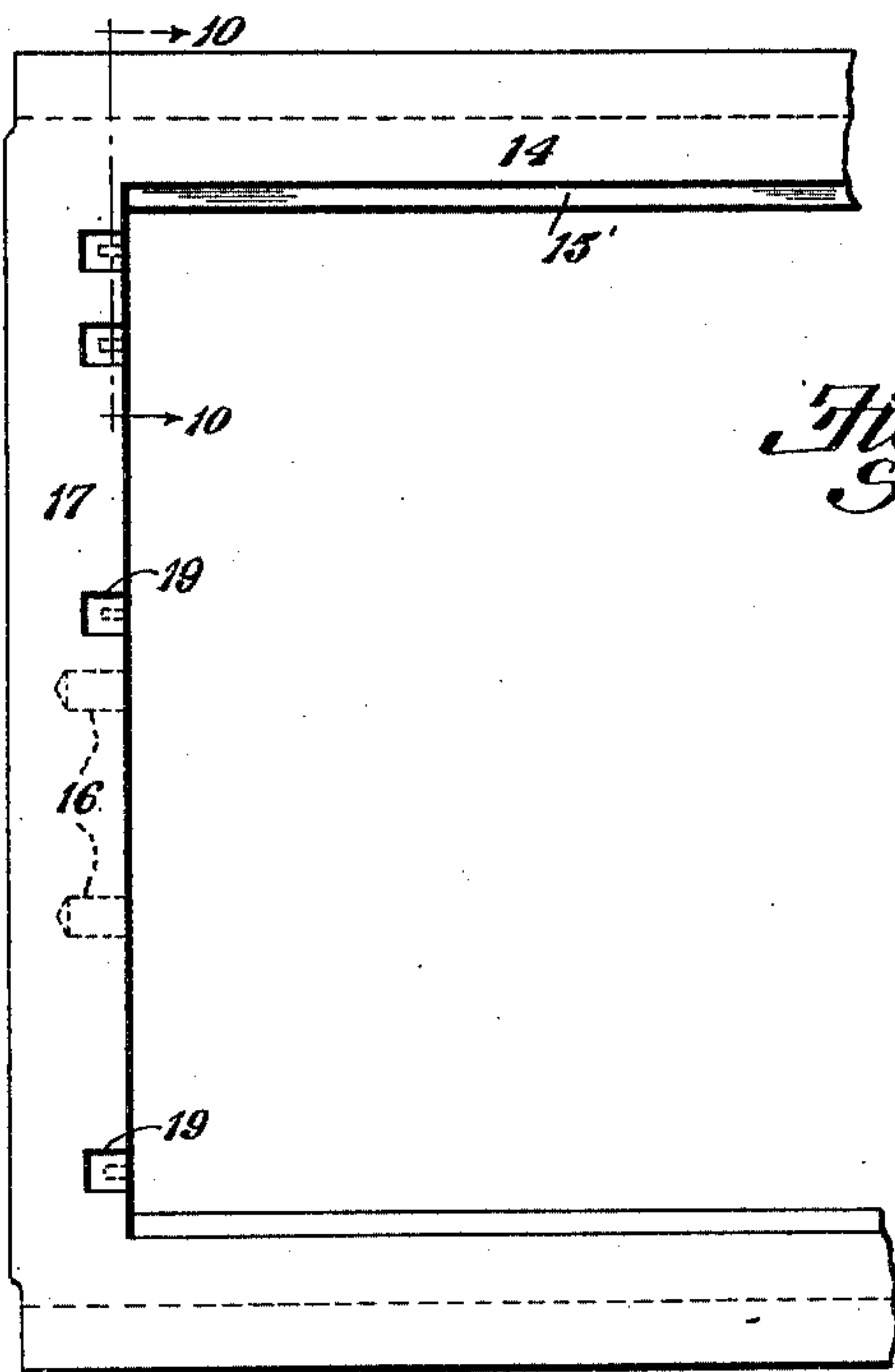


Fig. 9.

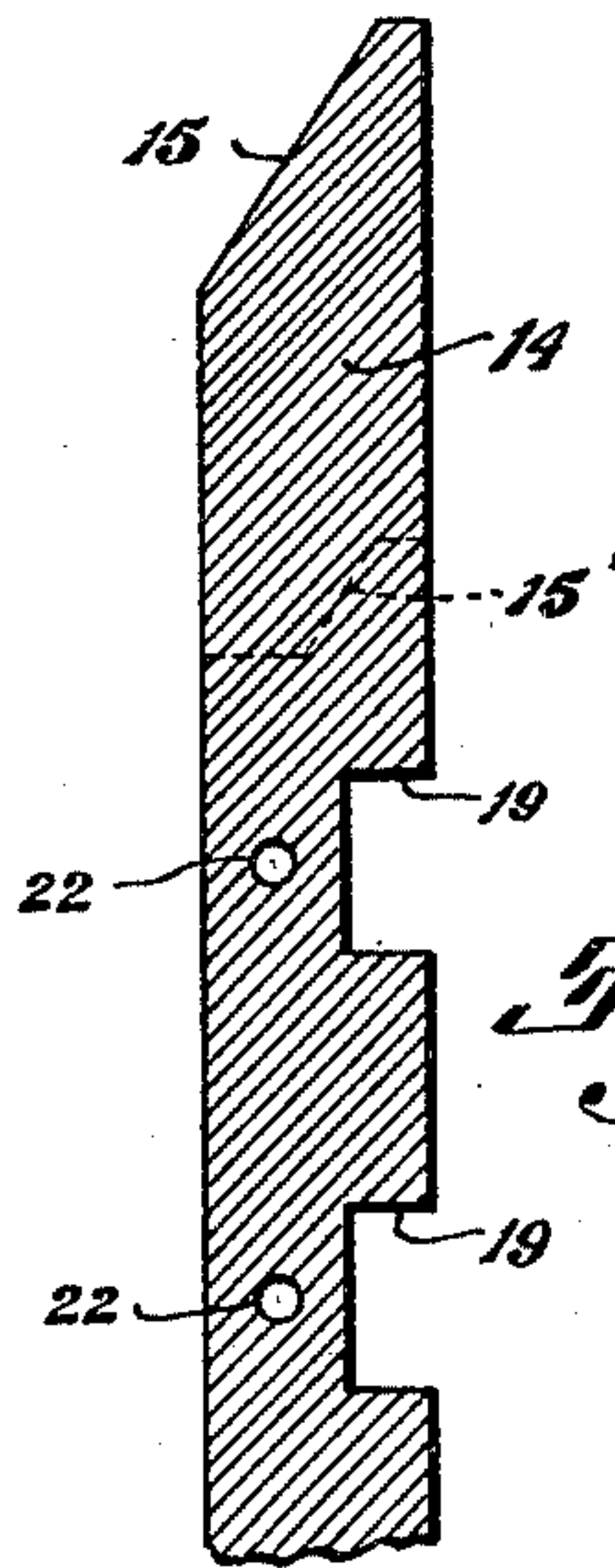


Fig. 10.

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UNITED STATES PATENT OFFICE.

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PRINTING-PRESS CHASE.

Continuation of application Serial No. 649,768, filed July 5, 1923. This application filed May 12, 1924.
Serial No. 712,623.

The invention relates to differential chases for job printing presses; and the object of the improvement is to construct chases so that smaller size chases can be used in larger presses as well as in the smaller presses, in which they are ordinarily used.

Job printing presses are designated or referred to by the inside dimensions in inches of the chases ordinarily used in them, and while there are quite a number of different sizes of presses and chases, the present description will be limited to the three sizes, 8 x 12, 10 x 15, and 12 x 18, which are more commonly used.

Ordinarily a chase can only be used in a press of corresponding size so that when a form is locked in a smaller chase it can only be used for printing in a press of the same size; and unless such a press is available for use, the form must await its turn until a press of the same size is available for use.

Furthermore, when a form is once made up and locked in a chase it can only be used for printing in the same relative position with respect to the platen or sheet upon which an imprint is made.

By the present invention the inner edges of the longitudinal side bars of a larger chase are under beveled so as to overlap the ordinary beveled outer edge of the side bars of smaller chases, and the master chase thus formed may be provided with insertible longitudinal bars having their inner edges likewise under beveled so as to vary the lateral position of a smaller chase in a larger one; and in either case a capstan screw or like means is provided in one end of the master chase for clamping the ends of the smaller chase between the end bars of the master chase, or between sticks of furniture which may be interposed between the ends of the differential chases, for varying the longitudinal location of the smaller chase within the master chase.

The invention is illustrated in the accompanying drawings with respect to the three sizes of chases in general use, and also to a special elongated chase for heading forms, in which drawings—

Figure 1 is a plan view of the largest chase constructed as a master chase with a median chase clamped therein;

Fig. 2, a section of the same on line 2—2, Fig. 1;

Fig. 3, a plan view of the master chase with two inserted bars and two sticks of furniture, showing the smallest chase clamped therein;

Fig. 4, a section of same on line 4—4, Fig. 3;

Fig. 5, a plan view of the master chase with one insertible bar and two sticks of furniture, showing the smallest chase clamped in one corner of the master chase.

Fig. 6, a section of same on line 6—6, Fig. 5;

Fig. 7, a plan view of the master chase with one insertible bar, showing a special elongated chase clamped in one side of the master chase.

Fig. 8, a section of same on line 8—8, Fig. 7;

Fig. 9, a fragmentary under side view of one end of the master chase, showing the under bevel on its side bars and mortise notches in its end bars for the tenons on the ends of insertible longitudinal bars;

Fig. 10, a fragmentary section on line 10—10, Fig. 9;

Fig. 11, a plan view of the end portions of an insertible bar;

Fig. 12, an end view of the same; and

Fig. 13, a perspective view of a stick of furniture with beveled ends for use with the improved chases;

Similar numerals of reference refer to similar parts throughout the drawings.

The longitudinal side bars 14, 14^a, 14^b and 14^c of all the chases are provided with upper bevels 15 on their outer edges for engagement with clamping means on job presses in accordance with well known practice, and for the purpose of the present improvement the inner edges of these bars in the chases intended to be used as master chases, are provided with under bevels 15' shaped to fit and overlap the beveled edge of a smaller chase. The inside width of a median chase intended for use as a master chase, is preferably reduced to about 9½ inches for the purpose of properly engaging the edges of the smallest chase without requiring any changes in the ordinary dimensions thereof.

One or more screw sockets 16 are provided in the inner side of one end bar 17 of a master chase, in one of which sockets is located a capstan screw 18 for clamping the

end bars 17^a, 17^b or 17^c of a smaller chase between the end bars 17 and 17' of the master chase; and one or more mortise notches 19 is provided in the inner under side of each end bar 17 and 17', of the master chase, for receiving a tenon 20 on the end of an insertible longitudinal bar 21, of which two are preferably provided.

Each end bar of a master chase is also provided with a bolt hole 22 for receiving a dowel pin 23 on one end of the longitudinal bar and a spring plunger bolt 23' on the other end of the longitudinal bar, by means of which the bar may be readily inserted and detachably secured in the master chase, as may be desired.

Differential sticks of furniture 24, 24^a and 24^b are provided, of different lengths and widths according to their place of use, and each stick is provided with a bevel 15^a and a shoulder 15^{a'} on its end to fit and abut the inner edge of one of the longitudinal bars, for use in blocking and filling in the space between the ends of a smaller chase and the end bars of a master chase. One of these sticks of furniture is preferably provided with a plate metal face 24' for receiving the thrust of the head of the capstan screw.

The bodies of all the chase bars, the insertible bars and, the sticks of furniture, are preferably made of the same thickness, and the parts are so proportioned and arranged that when assembled and clamped together the faces thereof are all in the same plane. A smaller chase is thus made available for use in a job printing press adapted to receive the larger chase in which it is clamped without any modifications in the ordinary holding devices present in the press.

When constructed in accordance with the present improvement, a median chase may be centrally located and clamped with a larger master chase, by the use of a narrow stick of furniture 24 in one end and the operation of the capstan screw 18 in the other end, as shown in Figs. 1 and 2; whereupon a form made up and locked in the median chase may be printed in a press corresponding to the size of the larger chase.

In a similar manner the smallest chase may be centrally located and clamped within a larger master chase by the use of two insertible bars 21, one at each side, and the use of wider and narrower sticks of furniture at the ends, by the operation of the capstan screw against the metal faced side of the narrower stick, as shown in Figs. 3 and 4.

By a different arrangement, the smallest chase may be located and clamped in one corner of a larger master chase by the use of a single insertible bar 21 and the wider and narrower sticks of furniture placed together at one end of the smaller chase, by a similar

operation of the capstan screw, as shown in Figs. 5 and 6; and in a like manner an elongated narrow chase may be located and clamped in one side of a larger master chase by the use of a single insertible bar and a shorter narrow piece of furniture 21^d at one end by the operation of the capstan screw against the other end of the narrow chase, as shown in Figs. 7 and 8.

When thus assembled and clamped in a larger master chase, and mounted in a printing press, it is evident that the smaller chase is securely held in position by a bottom bearing against the bed of the press and by the overlapping beveled edges of the side bars of the master chase or the insertible longitudinal bars secured therein; and it is also evident that by varying the location and arrangement of the insertible bars and the sticks of furniture, a smaller chase may be located in a larger number of different positions within a larger master chase, thereby permitting the printing of a small form in any desired position on a sheet of paper placed upon the platen of a larger printing press.

It is also evident that a median chase can be converted into a master chase by under beveling the inner edges of the side bars, by providing one end bar 17^a with screw sockets as 16 and 16' and providing both end bars 17^a and 17^{a'} with suitable mortise notches as 19 and bolt holes as 22 and that the smallest size chase may be located and clamped therein; and that by the use of an insertible bar of proper length a narrower chase may be located and clamped in one side thereof by the use of furniture sticks having the proper length and width for longitudinally locating the smaller chase within the median master chase as may be desired.

In the use of the improved chases the lock-up or stone man uses the 8 x 12 chase as the basis for his work, regardless of the size of sheet upon which the form is to be printed, and the smallest chase will be used for locking up any form which can be conveniently located therein; whereupon this chase and form can be bodily located and locked in a master chase for printing in any one of the larger presses, without any need for the stone man to inquire of the pressman as to the particular chase in which the form should be made up and locked, or for the pressman to ascertain which size of press is available for printing the form; and likewise, any form which is too large for an 8 x 12 chase can be made up and locked in a 10 x 15 chase, without the necessity of inquiring whether a 10 x 15 press is available for use, for the reason that the 10 x 15 chase can be locked and clamped in a 12 x 18 master chase for printing in a 12 x 18 press.

Furthermore, the pressman can take the forms which are locked in the smaller chases

and can locate and lock the same in a larger chase, not only for the purpose of printing the form on a larger press, but in such a manner as to enable the form to be printed in any one of various positions or locations therein; and in all cases the smaller chase or form is reenforced all around in the larger chase in a more secure and rigid manner than if the smaller form was made up and locked directly in the larger chase by the use of an unnecessary number of ordinary blocks and furniture sticks in the usual manner.

In carrying out the improved method of preparing forms for printing, the form is made up on a stone and locked in a rectangular chase of convenient size to receive the form, after which a larger rectangular master chase is placed around the smaller chase with its side or longitudinal bars overlapping the side bars of the smaller chase, and the ends of the smaller chase with the form therein are then bodily clamped between the end bars of the master chase.

By these means a printing establishment having presses of different sizes is given the same operating basis as though all the presses were of one size, and the work of the lock-up man and the pressman is so simplified that the condition of the work in the press room need not be considered by the lock-up man in making up the forms or by the pressman in assigning the same to the different presses.

I claim:

1. A printing press chase including a side member having an upper bevel on its outer edge, and a larger chase provided with a longitudinal bar detachably secured therein, the smaller chase being located within the larger chase, and the detachable bar of the larger chase having an under bevel on one edge overlapping the upper bevel on the outer edge of the smaller chase side member.

2. A printing press chase including a side member having an upper bevel on its outer edge, and a larger chase provided with a longitudinal bar detachably secured therein, the smaller chase being located within the larger chase, and the detachable bar of the larger chase having an under bevel on one edge overlapping the upper bevel on the outer edge of the smaller chase side member, and means for clamping the smaller chase within the larger chase.

3. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase having longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges along a substantial portion of their lengths overlapping the upper bevels on the outer edges of the smaller chase side bars.

4. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase including longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges overlapping the upper bevels on the outer edges of the smaller chase side bars, and means for bodily clamping the smaller chase within the larger chase.

5. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase having longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges overlapping the upper bevels on the outer edges of the smaller chase side bars, and a furniture stick having ends beveled to fit under the overlapping bevels of the larger chase longitudinal bars.

6. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase having longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges overlapping the upper bevels on the outer edges of the smaller chase side bars, and a furniture stick having ends beveled to fit under the overlapping bevels of the larger chase longitudinal bars, and means for clamping the smaller chase within the larger chase.

7. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase having longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges overlapping the upper bevels on the outer edges of the smaller chase side bars, and a furniture stick having ends beveled and shouldered to fit and abut the inner edges of the larger chase longitudinal bars.

8. A printing press chase including side bars, upper bevels on the outer edges of the side bars, and a larger chase having longitudinal bars extending between end bars, said longitudinal bars having under bevels on their inner edges overlapping the upper bevels on the outer edges of the smaller chase side bars, and a furniture stick having ends beveled and shouldered to fit and abut the inner edges of the larger chase longitudinal bars, and means for planting the smaller chase within the larger chase.

9. A master chase including side bars and end bars forming an opening, and a smaller chase including side bars and end bars bodily located in the opening, the inner edges of the side bars of the master chase being shaped to overlap the outer edges of the side bars of the smaller chase, and means for varying the distance between the end bars of the separate chases and for clamping the smaller chase within the master chase.

10. A master chase including end bars, longitudinal bars extending between the end bars, and means for varying the distance between the longitudinal bars, the longitudinal bars and the end bars forming an opening, and a smaller chase including side bars and end bars bodily located in the opening, the inner edges of the longitudinal bars of the master chase being shaped to overlap the outer edges of the side bars of the smaller chase, and means for clamping the smaller chase within the master chase.

RALPH McCAHAN.