

No. 771,914.

PATENTED OCT. 11, 1904.

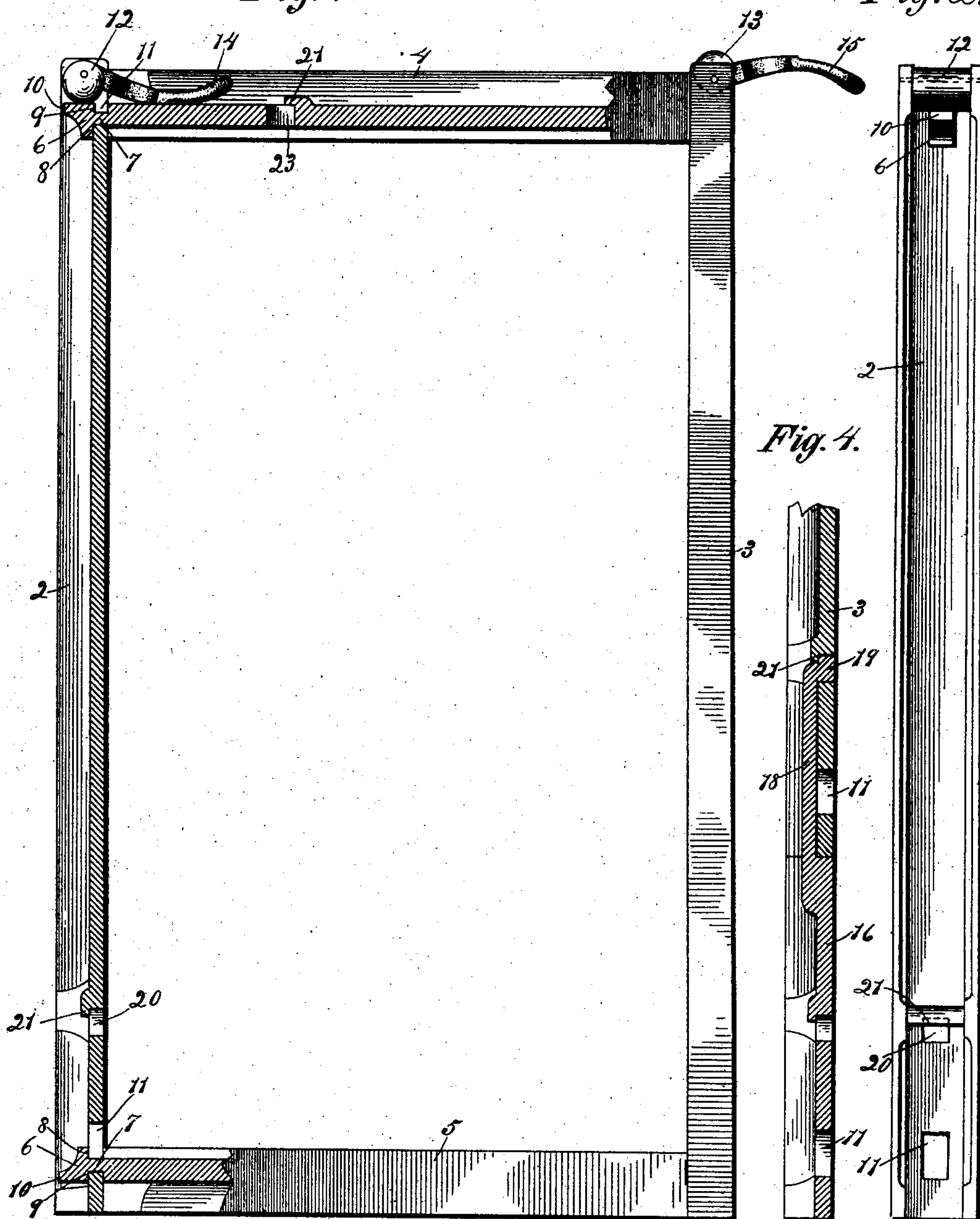
A. L. MACMASTER.  
PRINTER'S TIE-UP.

APPLICATION FILED NOV. 23, 1901. RENEWED FEB. 12, 1904.

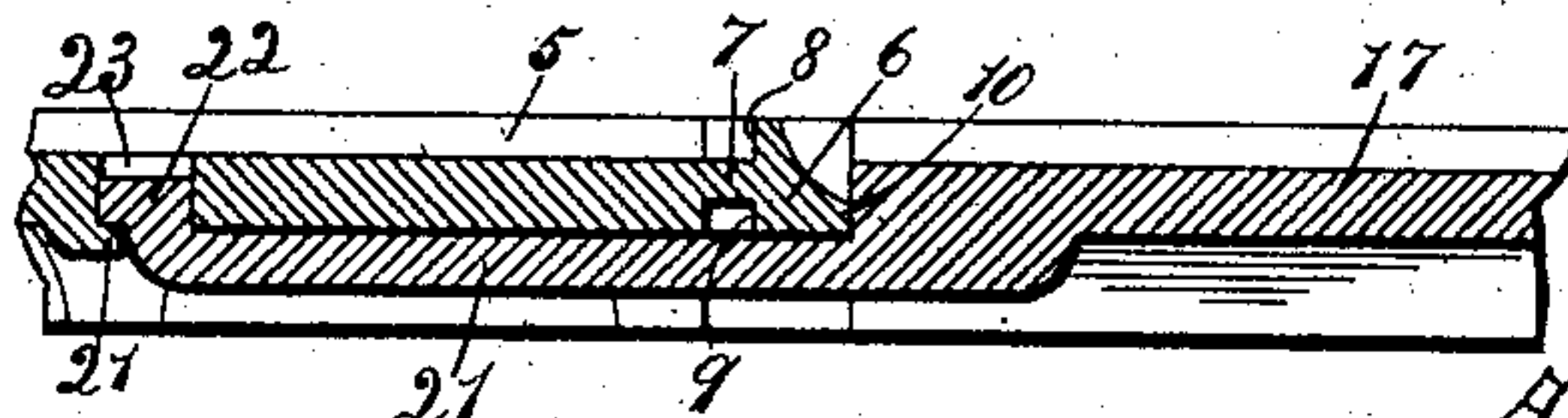
NO MODEL.

*Fig. 1.*

*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## PRINTER'S TIE-UP.

SPECIFICATION forming part of Letters Patent No. 771,914, dated October 11, 1904.

Application filed November 23, 1901. Renewed February 12, 1904. Serial No. 193,343. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM L. MACMASTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and Improved Printer's Tie-Up, of which the following is a specification.

My invention relates to means for temporarily locking or binding together a page, form, or job of types in order that the same may be readily and safely handled by the compositor or printer preparatory to locking the form in the chase for the printing operation.

As is well known in the art the method in most common use among the printers to effect the removal of forms of type from one point to another in the job-room is to tightly wrap a cord or string around said form, suitably fastening the extremities thereof. The objections to this old method of tying up the form or job are the amount of time necessarily consumed in the operation, the liability of breaking the cord in endeavoring to bind said form or job sufficiently tight, the difficulty in making proof corrections without unwrapping and rewrapping, the impossibility of producing sufficient pressure by means of the cord or string to enable the printer to handle the form with ease and safety in transferring it from one point to another, and the consequent liability of piecing a considerable portion of the form or the dropping of a number of the types at the extremities of the lines. The use of the cord or string is further objectionable on account of the fact that the pressure is applied at the corners of the form only, there being comparatively no lateral pressure at points between the corners, where it is most needed.

The object of my invention is to produce a simple, inexpensive, and easily-operated device which will instantly, safely, and firmly bind and lock together the types making up the form or job preparatory to the ultimate locking in the chase for the printing operation and which will further exert sufficient lateral pressure against said types to enable the form or job to be readily and safely

transferred in the hands of the compositor or printer from one point to another in the job-room.

In a general way my invention consists in a separable frame of substantially rectangular configuration provided with means for temporarily but firmly locking together the members comprising said frame and provided, further, with suitable mechanism for contracting said frame to exert pressure against at least two opposite sides of the form or job of type which it contains, not only preventing the dislodgment of the types at the edges of said form, but permitting the ready and safe transferring of the form as a whole from the galley to the composing-stone or to and from such points and places as may be desired; and my invention further consists in the various details of construction and in combination of parts, all as hereinafter described, and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top plan view of my improved tie-up, half in central section. Fig. 2 is a side elevation. Fig. 3 is a central section of the extremity of one of the end pieces, showing the manner of applying or mounting the auxiliary end piece. Fig. 4 is a central section of the extremity of one of the side pieces, showing the manner of applying or mounting the auxiliary side piece.

Referring now to the drawings in detail, I have shown in Fig. 1 a substantially rectangular and preferably metallic frame, which is in height a trifle less than that of the standard type or approximately that of standard printers' furniture. This frame consists in two side pieces 2 and 3 and the two end pieces 4 and 5. The side pieces 2 and 3 are substantially counterparts each of the other, the same being true of the end pieces 4 and 5, in consequence of which a description of the side piece 2 will answer as well for the side piece 3, and the description of the end piece 4 will answer for the end piece 5.

At each extremity of the end piece 4 I have



shown a longitudinally-projecting lug or tenon 6, said lug being constructed with a rectangular neck 7 and shoulders 8 and 9, which form substantially a locking-cap, which is of the same width as said lug or tenon, said cap being preferably cut away on one side to produce a comparatively narrow extremity 10. Near each extremity of the side piece 2 I have shown a rectangular slot or mortise 11, into which the lug or tenon 6 is adapted to be inserted. In width this slot is the same as that of the lug and cap. In length it is a trifle greater than that of the cap, permitting the ready insertion of the lug within the slot and preventing lateral or rotative movement of the end piece, but which has a freedom of movement longitudinally (with reference to the side piece) through a distance limited by the length of said slot or mortise. It will be noticed that the frame will be tightly mortised when the neck of the lug or tenon is pressed firmly against the extremity of the slot or mortise. At one extremity of each of the side pieces 2 and 3, suitably mounted thereon, are the lever-controlled eccentric disks or cylinders 12 and 13. The lever 15, controlling the eccentric 13, is shown thrown back, permitting the ready insertion of the lug 6 into the slot 11 in assembling the members of said frame. When it is desired to lock said frame, the lever is thrown over into a position corresponding to that shown of the lever 14, the eccentrics thus acting against the end piece 4 to bring the necks 7 thereof in contact with the extremities of the slots 11, where they are firmly held in place by the shoulder 9 on one side and the extremity of the end piece on the other. This pressure, acting through the form of type embraced by said frame, will similarly lock the mortise-joints at the other extremity of said frame.

It is designed that these frames shall be made in sizes to approximately fit the standard sizes of book-pages.

In using my device I prefer to first interlock together the end piece 3 and the side piece 4, placing the same in the lower left-hand corner of the compositor's galley. The type as set is dumped from the stick to the frame exactly as under present usages it is dumped from the stick into the galley. When the page or form is complete, the side piece 5 and the end piece 2 are placed in their proper positions and the levers 12 and 13 thrown into their locked positions, binding the frame together as one member. Further than this, the eccentrics 12 and 13 are of a diameter to produce sufficient pressure to bind together the whole form, permitting of its being lifted from the galley, removed to the composing-stone, and otherwise handled without danger of dropping or pieing the type.

Should it happen that the job or form is not of standard size, it is designed that ordinary printers' furniture be used in the usual man-

ner to bring the same to approximately the size of the inner cross-sectional area of the non-contracted frame.

While the cost of these frames will be inconsiderable, enabling the printer to have and to carry an assortment of sizes, still I have shown as a non-essential part of my invention means for easily and readily expanding the frame to any desired size. To accomplish this purpose, I provide an auxiliary side piece 16 in any length desired, preferably ten ems pica and multiples thereof. This auxiliary side piece is provided with a longitudinal extension 18, terminating in a rectangular hook 19. I have shown the side pieces 2 and 3 provided, in addition to the slots 11, with the slots 20, one extremity of which is partially covered by the plate or cap 21. The hook 19 is adapted to be inserted into the slot 20, which is located so that the extremity of the auxiliary side piece 16 will abut against the extremity of the side piece 3 to produce longitudinal continuity, the hook 20 serving to hold the two firmly together and prevent bending in an outward direction. In a similar manner I provide the auxiliary end piece 17 for increasing the width of said frame, which is provided with a longitudinal extension 21, having a similar rectangular hook 22, adapted to engage in a similar manner with a slot 23 suitably provided in the end piece 5, the abutting extremity of the auxiliary end piece being slotted or grooved to receive the lug or tenon 6. It will be noted that two or more auxiliary side and end pieces may be used if desired.

Many modifications of my improved tie-up will readily suggest themselves to those skilled in the art to which it appertains, and I therefore do not desire to limit my invention to the specific construction herein shown and described.

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

1. In a printer's tie-up, a normally separable frame having a plurality of loosely-interlocking joints and means upon one side of said frame for contracting and rigidly locking all of said joints.

2. In a printer's tie-up, a frame having loosely-interlocking joints and means for locking and contracting the joints at one end of said frame and thereby simultaneously locking and contracting all of said joints.

3. In a printer's tie-up, a substantially rectangular frame comprising a plurality of loosely-joined sections and means for simultaneously contracting and rigidly interlocking all of the joints of said frame.

4. In a printer's tie-up, a substantially rectangular frame comprising a plurality of sections and means at one end of the frame for rigidly interlocking all of said sections and simultaneously contracting said frame.

5. In a printer's tie-up, a substantially rec-



5 tangular frame comprising a plurality of loosely-joined sections and means upon two thereof for simultaneously contracting and rigidly interlocking all of the joints of said frame.

6. In a printer's tie-up, a substantially rectangular frame comprising a plurality of loosely-joined sections and means upon one end of each side rail for simultaneously contracting and rigidly interlocking all of the joints of said frame.

7. In a printer's tie-up, a substantially rectangular frame comprising a plurality of sections and means operable in the plane of contraction for simultaneously contracting and rigidly interlocking all of the joints of said frame.

8. In a printer's tie-up, a rectangular and normally separable frame and means upon one side of said frame for simultaneously locking together the members of said frame and contracting the same to exert lateral pressure against the sides of a form of type embraced thereby.

9. In a printer's tie-up, the combination of a substantially rectangular, loosely-mortised frame, two of which members are provided with means for simultaneously locking said frame in its rectangular shape and slightly contracting the same to exert lateral pressure against opposite sides of form of type embraced thereby.

10. A printer's tie-up comprising two side members and two end members, said side members being provided near the extremities thereof with suitable slots, and said end members being provided with suitable longitudinally-extending lugs adapted to be inserted each within its corresponding slot to form a substantially rectangular frame, and means for simultaneously locking together all of said members and contracting said frame to produce lateral pressure against the sides of the form of type embraced thereby.

11. A printer's tie-up comprising two side members and two end members, said side members being mortised near the extremities thereof and said end members being provided with suitable tenons adapted to be inserted within said mortise to form a substantially rectangular frame, and the means for simultaneously locking together the members comprising said frame and contracting said frame to exert lateral pressure against opposite sides of the form of type embraced thereby.

12. In a printer's tie-up, the combination of two side members and two end members, said side members being provided at or near the extremities thereof with suitable slots and said end members being provided with longitudinally-extending lugs adapted to being inserted each in its corresponding slot to form a substantially rectangular frame, the auxiliary side and end pieces, means for interposing said

side and end pieces to increase the dimensions of said frame, and means for simultaneously locking together all of the members comprising said frame and contracting said frame to produce lateral pressure against opposite sides of the form of type embraced thereby.

13. In a printer's tie-up, the combination of two side members and two end members, said side members being provided near the extremities thereof with longitudinally-elongated, rectangular slots, and said end members being provided with longitudinally-projecting lugs of approximately the same width as said slots and provided with projecting shoulders adapted to project over one edge of said slot when said lug is properly inserted therein, and the lever-controlled eccentrics mounted at one extremity of each of said side members to simultaneously lock together the members comprising said frame and to contract said frame to produce lateral pressure against opposite sides of the form of type embraced thereby.

14. In a printer's tie-up, the combination of a separable frame, of two side members and two end members, said side members being provided near each extremity thereof with a suitable slot and said end members being provided with longitudinally-projecting lugs adapted to be inserted within said slots, and said lugs having suitable caps to retain each in its respective slot when held against the extremity thereof, the auxiliary side and end members adapted to increase the dimensions of said frame and means for contracting the same to produce lateral pressure against opposite sides of the form of type embraced thereby.

15. In a printer's tie-up, the combination of a separable frame of two side members and two end members, said side members being provided near each extremity thereof with a suitable mortise, and said end members being provided with longitudinally-projecting tenons, having a slight freedom of movement longitudinally within said mortises, and said tenons having suitable caps to retain the same each within its respective mortise when held against the extremity thereof, the auxiliary side and end members adapted to increase the size and capacity of said frame, and the lever-controlled eccentrics mounted at the extremities of each of said side members to simultaneously lock together all of the members comprising said frame and to slightly contract said frame to produce lateral pressure against opposite sides of the form of type embraced thereby.

16. A printer's tie-up comprising two side members and two end members, said side members being provided near the extremities thereof with suitable slots, and said end members being provided with suitable longitudinally-extending lugs adapted to be inserted each within its corresponding slot to form a sub-

stantially rectangular frame, auxiliary mem-  
bers capable of interposition to increase the  
dimensions of said frame, and means for si-  
multaneously locking together all of the mem-  
5 bers comprising said frame and contracting  
said frame to produce lateral pressure against  
the sides of the form of type embraced thereby.

In testimony of the foregoing I have here-  
unto set my hand, this 20th day of May, 1901,  
in the presence of two subscribing witnesses. 10

ABRAHAM L. MACMASTER.

Witnesses:

F. P. BLACKMAN,

CHARLES T. PALMER.