

No. 636,504.

Patented Nov. 7, 1899.

J. S. DUNCAN.
PRINTING PLATE.

(Application filed Feb. 8, 1899.)

(No Model.)

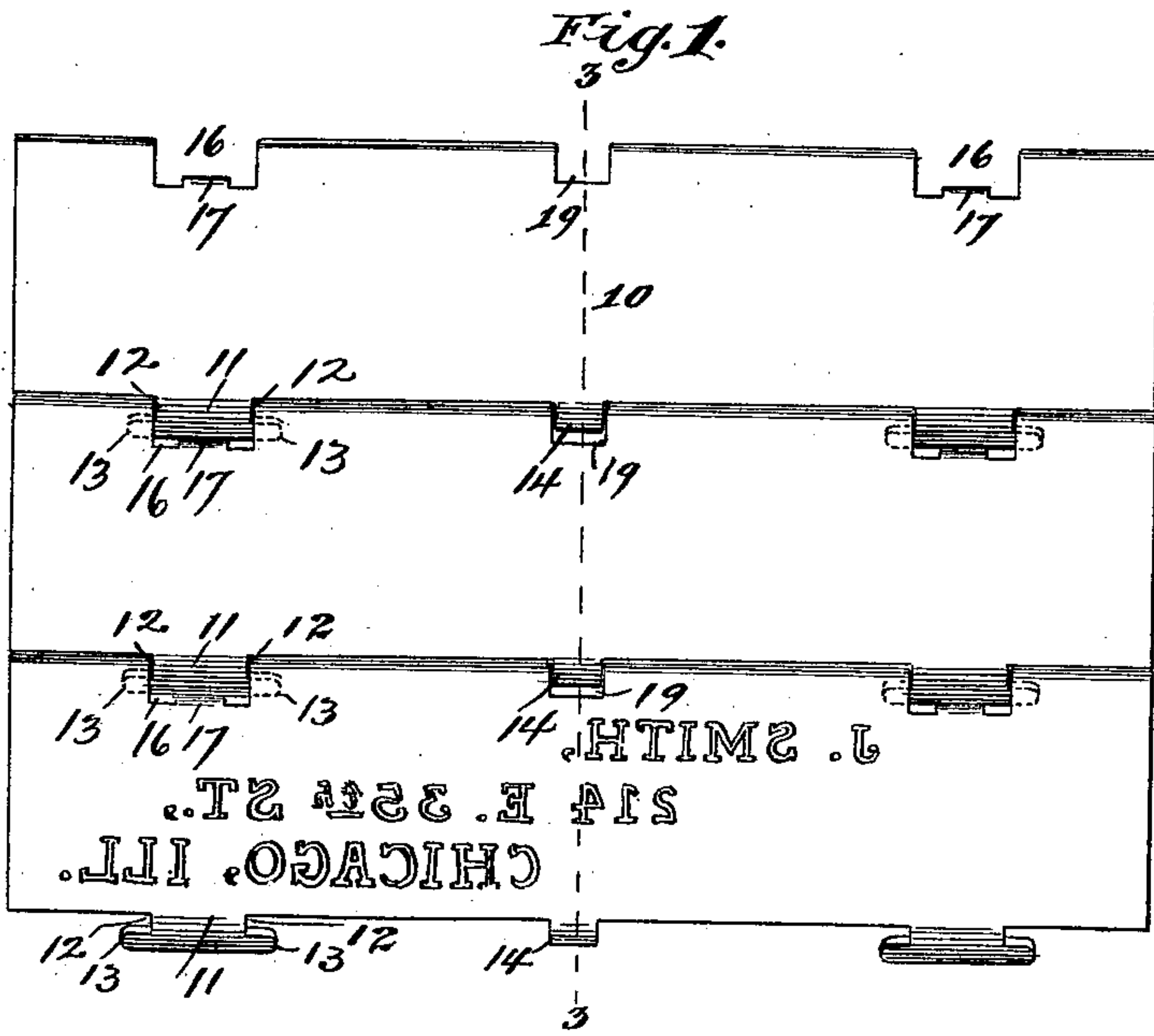


Fig. 2. Fig. 3.

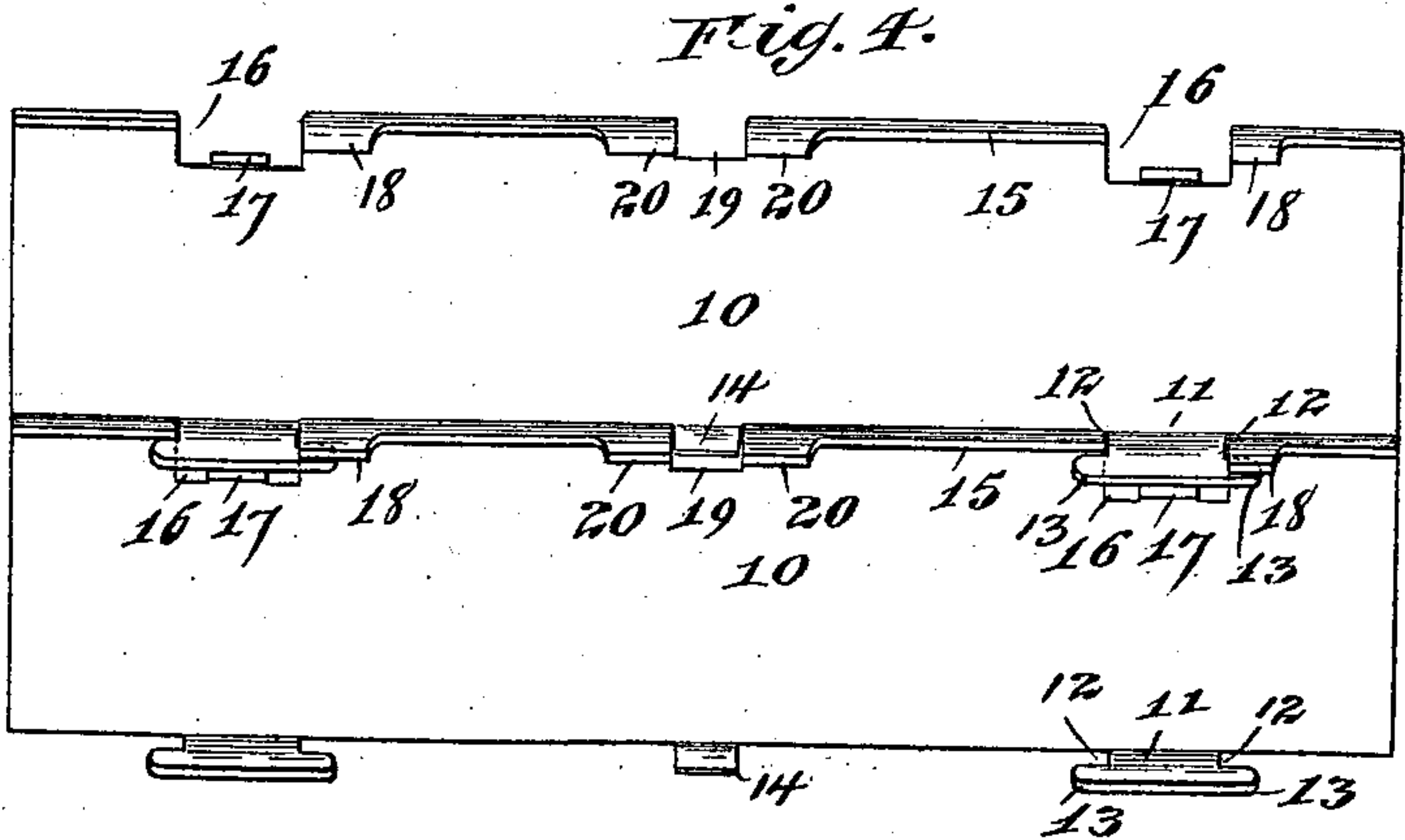
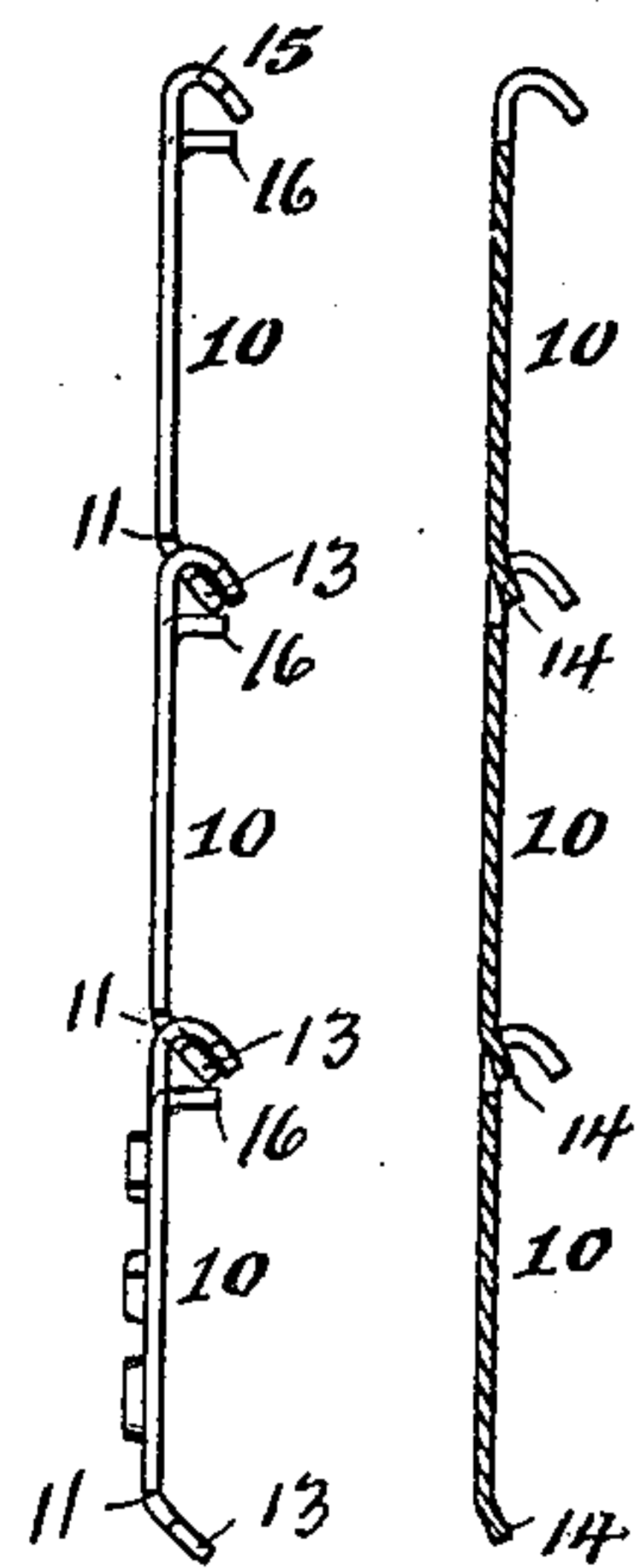


Fig. 8.

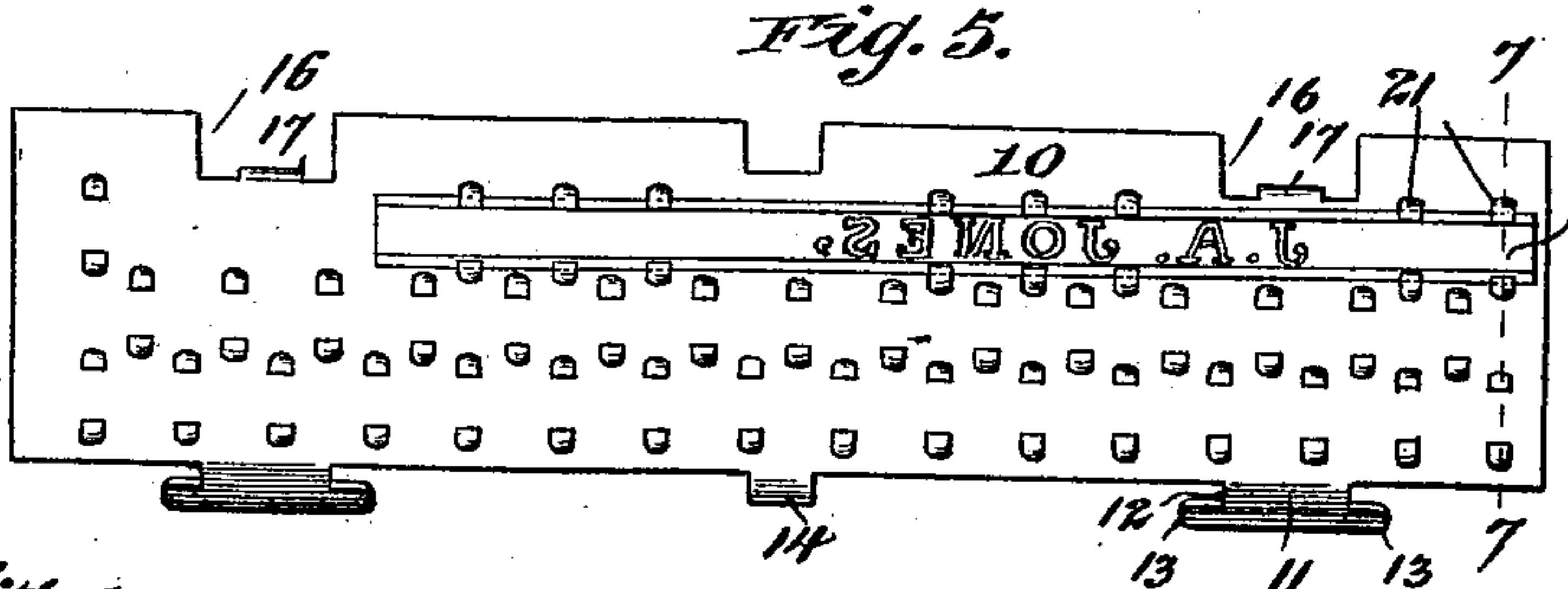
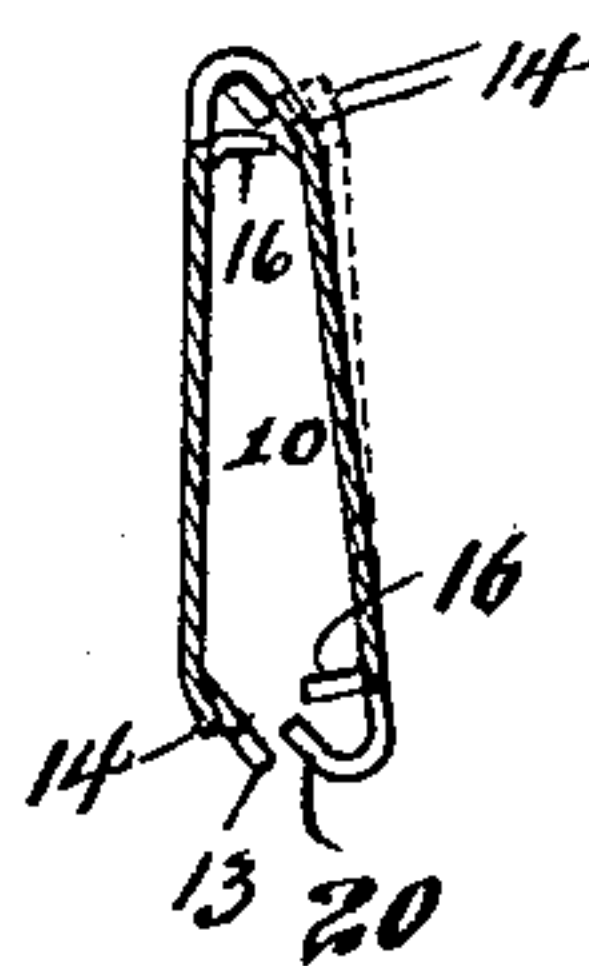
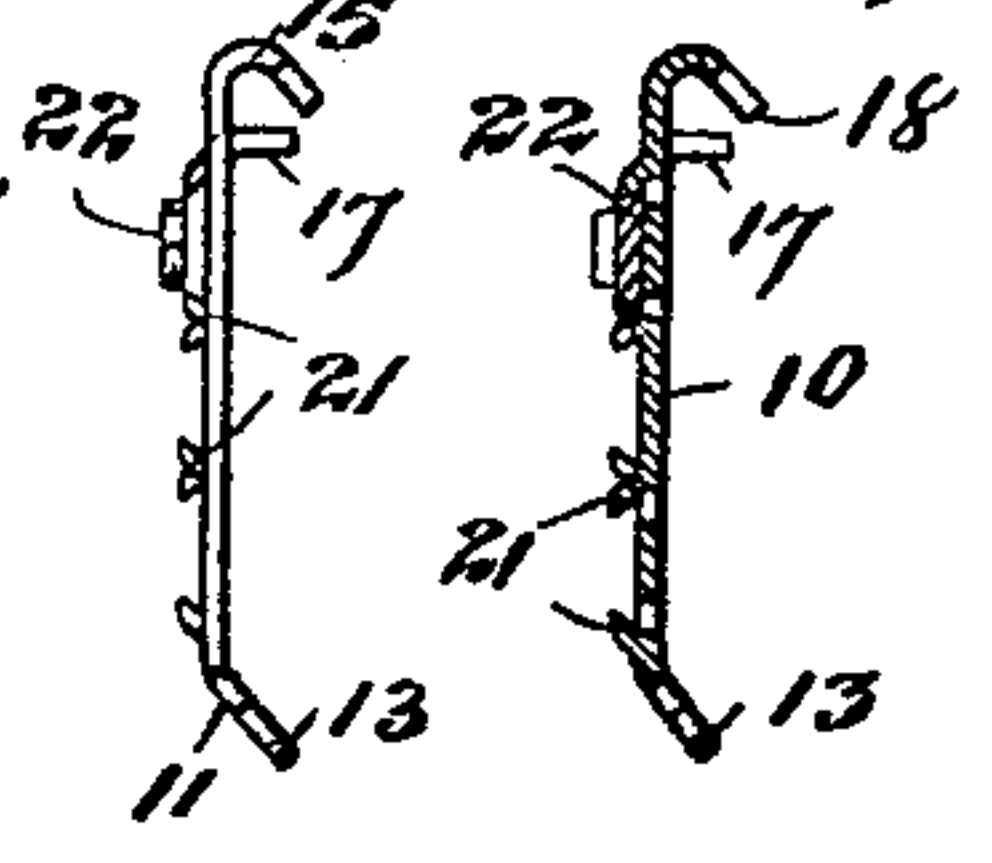


Fig. 6. Fig. 7.



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PRINTING-PLATE.

SPECIFICATION forming part of Letters Patent No. 636,504, dated November 7, 1899.

Application filed February 8, 1899. Serial No. 704,950. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. DUNCAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing-Plates, of which the following is a specification.

This invention relates to printing-plates adapted for use in addressing-machines, such plates having flat metal bodies having characters punched or impressed therein or otherwise applied thereto, and has for its object to so construct these plates that they may be joined together so as to form a band or chain of plates adapted for use in machines, such, for instance, as that set forth in Letters Patent No. 558,936, granted to me April 28, 1896, for improvements in addressing-machines.

The particular object of the present invention is to so construct these plates that they may be readily and quickly articulated and when thus articulated will maintain their connection with each other under all ordinary conditions of use and while readily separable by particular manipulation for that purpose will not become accidentally separated.

To these ends the invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 represents a portion of a band or chain composed of plates constructed in accordance with my invention, three such plates being shown articulated together. Fig. 2 is an edge view of the same; Fig. 3, a central vertical sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a view of the back or reverse of two of the plates articulated together. Fig. 5 is a front or face view of a modified form of plate. Fig. 6 is an end view of the plate shown in Fig. 5. Fig. 7 is a sectional view taken on the line 7 7 of Fig. 5, and Fig. 8 is a central sectional view taken on a line corresponding with the line 3 3 of Fig. 1 and showing two of the plates turned into a position to permit their engagement or disengagement with each other.

In carrying out my invention I employ a plurality of plates 10, of sheet metal, which are when employed in the embodiment of my invention in its preferred form of a material

such as to be capable of being somewhat flexed or bent and preferably resilient or elastic to an extent sufficient to resume its normal shape when released. Each plate is provided upon one of its edges with two tongues or projections 11, each having a narrow portion or neck 12 immediately adjacent to the edge of the plate and laterally-projecting lugs 13 at its outer end. These tongues or projections 11 are located near the ends of one of the long edges of the plate and are deflected downward or rearward at an angle thereto, as clearly indicated in Figs. 2, 6, 7, and 8. Upon this same edge the plate is provided with a central locking tongue or projection 14, which is also inclined rearward or downward from the body of the plate, as shown more particularly in Figs. 3 and 8. The opposite edge of the plate or the adjacent edge of the adjoining plate is turned over to form a flange 15, which lies on the same side of the body of the plate as the tongues or projections 11 and 14 and which is preferably inclined in approximately the same direction. This same edge is provided at points corresponding with the location of the tongues or projections 11 with notches or recesses 16, said notches or recesses being of a width equal to that of the narrow portions or necks 12 of said tongues. Each of said notches or recesses 16 is provided at its central portion with a lug 17, extending rearward at about a right angle to the body of the plate. Upon one side, and that the same side of each of the notches or recesses 16, the flange 15 is provided with an extension or stop projection 18, which extends beyond the body of the flange in the same direction, these stop projections being shown as located on the right hand of the notches or recesses 16 in Fig. 4 of the drawings. On this same edge of the plate there is provided at the center thereof a notch or recess 19 of a width corresponding with that of the locking tongue or projection 16, and on each side of said notch or recess 19 there is located a stop projection 20, preferably formed by an extension of the flange 15 on each side of the notch or recess.

In assembling these plates as thus constructed the tongued edge of one plate is placed adjacent or opposite to the recessed

edge of the other plate, the two plates being placed at such an angle to each other that the edges of the flange 15 adjacent to the recesses 16 lie in a plane outward beyond the side edges of the narrow or neck portions 12 of the tongue 11. Such a position is shown in Fig. 8 of the drawings, although the parts are in proper position for engagement when the angle of the plates is not as acute as that shown in said figure. The plates are then approached to each other in a laterally-offset position, the plate with the tongued engaging edge lying slightly to that side of the plate with the recessed engaging edge opposite to the side on which the stop-lugs 18 are located. When in this position, the locking-tongue 14 will rest upon one of the lugs 20. By a slight deflection or bending of one or both of the plates the tongues 11 may be pushed under the flange 15 and then moved laterally until the projections 13 at one side of said tongues pass underneath the stop projections 18. The plates may then be moved laterally into alinement, when the locking-tongue 14 will spring into the recess 19, seating itself between the two stop-lugs 20, and at the same time the edge of the necks 12 will come in contact with the stop-lugs 18, so that further movement of the plates in that direction is prevented, while the engagement of the tongue 19 between the two stop-lugs 20 prevents lateral movement of the plates relatively to each other in either direction. The plates may then be swung up into the same plane, as indicated in Figs. 1 to 4 of the drawings, and in this movement and during the time that the plates are united the outermost portion of the tongues 11, with their end-projecting lugs 13, ride in the space formed between the flange 15 and projections 17. It will be noticed that the lugs 13 bear upon the inner or under side of the flange 15 at each side of the recesses 16, while the edge of the body of the tongues 11 bears against the lugs 17, so that since the flange and lugs bear upon opposite sides of the tongues and inclose the greater portion thereof the plates are practically hinged together. The plates can only be disengaged by moving them laterally or endwise relatively to each other, and throughout their ordinary reach of movement or until they are brought at a comparatively sharp angle to each other such lateral movement is rendered impossible by the engagement of the edges of the neck portions 12 with the adjacent edges of the recesses 16. When brought to such an angle, as is necessary for their final disengagement, they are still prevented from being separated at all in one direction by the stop-lugs 18, while their movement in either direction is prevented by the engagement of the locking tongue or projection 19 with the stop-lugs 20, which lie on each side of it. By springing the plates slightly, however, as indicated in dotted lines in Fig. 8, the locking tongue or projection 14 may be drawn outward beyond the plane of the lugs 20, whereupon the plates

may be moved laterally relatively to each other in such a direction as will carry the tongues 11 and the stop-lugs 18 away from each other, and as soon as the lugs 13 pass clear of the flange 15 the plates will be disengaged.

While this description of the operation of engaging and disengaging the plates requires considerable space, as a matter of fact the plates can be separated and rearticulated almost instantly and without the employment of any appreciable force by any one familiar with their construction and operation, and while thus readily separable and adapted to be joined together with equal facility there is practically no possibility of their accidental separation while in use. It will be seen that the plates are locked together, except when brought to a comparatively sharp angular relation, whether or not the locking projections 14 and stop-lugs 20 be employed, and under some circumstances these projections may be omitted, although I prefer the particular form hereinbefore shown and described.

In Figs. 1, 2, 3, 4, and 8 of the drawings I have shown a form of plate in which the printing characters are struck up from the body of the plate, so as to appear in relief thereon, the plate itself furnishing the material from which the printing-surface is formed. My invention is not, however, limited to this particular form of plate, but is applicable to plates to which the printing characters are applied in any suitable manner.

In Figs. 5, 6, and 7 I have shown a form of plate in which a plurality of guideways are provided by means of lugs 21 struck up from the metal of which the body of the plate is composed and inclined outwardly toward each other, being arranged in parallel rows, as shown. These guideways are adapted to receive strips 22, having beveled edges, by means of which they are adapted to fit and be held between the lugs 21, being slid into position endwise and being removable in the same manner. These strips are provided with suitable printing characters, and by this means changes in the reading matter carried by the plate may be readily effected by removing one or more of the strips and substituting others having thereon the desired matter. With plates thus constructed a portion of the address may be changed to suit the circumstances without discarding the entire plate, as would be necessary in the case of the type of plates shown in Figs. 1 to 4.

The details of construction hereinbefore described and shown in the drawings may obviously be modified without departing from the principle of my invention, and I therefore do not wish to be understood as limiting myself to such details.

I claim—

1. The herein-described printing band or chain, comprising a plurality of plates, each provided upon one edge with tongues having laterally-extending lugs and having its oppo-

5 site edge bent to form a flange and provided with recesses having rearwardly-extending lugs, the tongues of one plate being adapted to fit the recesses of the adjacent plate and to be engaged between the flange and lugs thereof, substantially as described.

10 2. The herein-described printing band or chain, comprising a plurality of elastic plates having on their meeting edges interlocking recesses and projections adapted to be engaged by a lateral movement of the plates relatively to each other, one edge of said plates being provided with a locking-tongue and the other with a locking-recess, said locking tongue and 15 recess being adapted to be engaged and disengaged by slightly springing the plates and serving when in engagement to prevent lateral movement of the plates, substantially as described.

20 3. The herein-described printing band or chain, comprising a plurality of plates, each provided on one edge with tongues having

laterally-projecting lugs to form pintles and with a locking-lug, and on its other edge with a flange and with recesses having rearwardly- 25 extending lugs therein to receive the pintle-tongues of the adjacent plate and with a locking-recess to receive the locking-tongue of the adjacent plate, substantially as described.

4. The herein-described printing band or 30 chain, comprising a plurality of plates, each having upon one of its edges inclined tongues having laterally-projecting lugs and a locking-tongue, and having its opposite edge bent to form a flange and provided with recesses 35 having rearwardly-projecting lugs therein, stop projections located at one side of said recesses, and a locking-recess provided with stop projections located on each side thereof, substantially as described.

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