

(No Model.)

J. J. RAFTER.
FASTENING DEVICE.

No. 562,417.

Patented June 23, 1896.

Fig. 1.

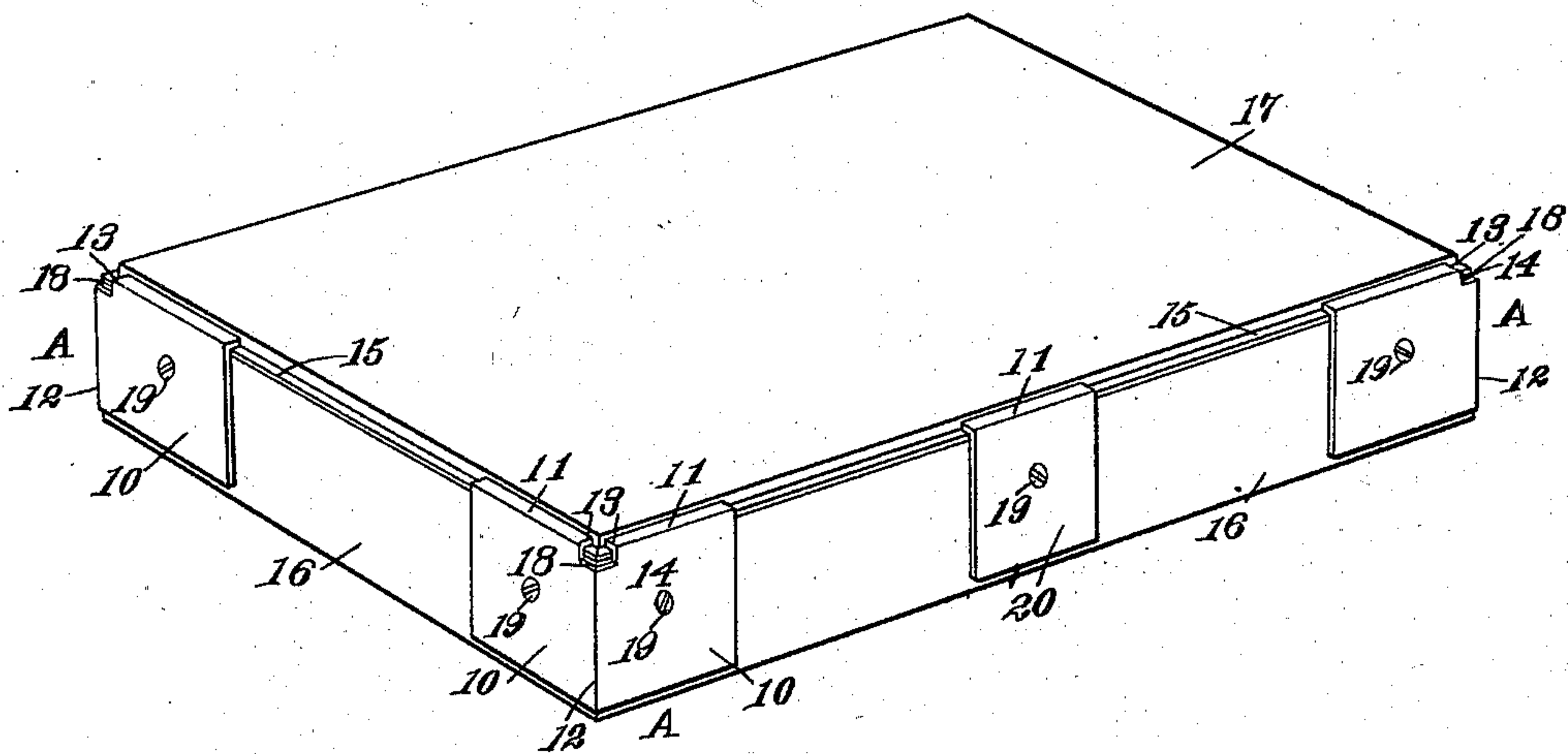


Fig. 2.

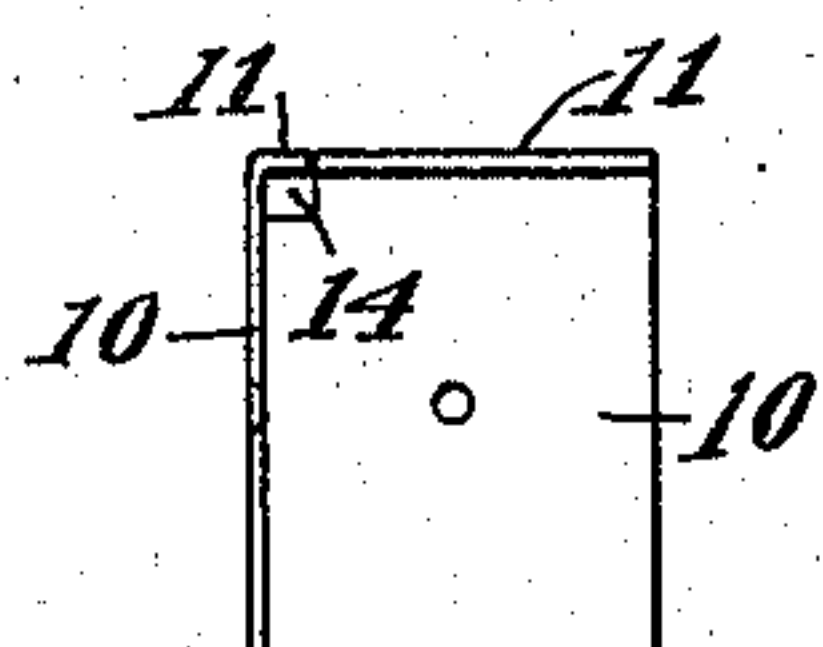


Fig. 3.

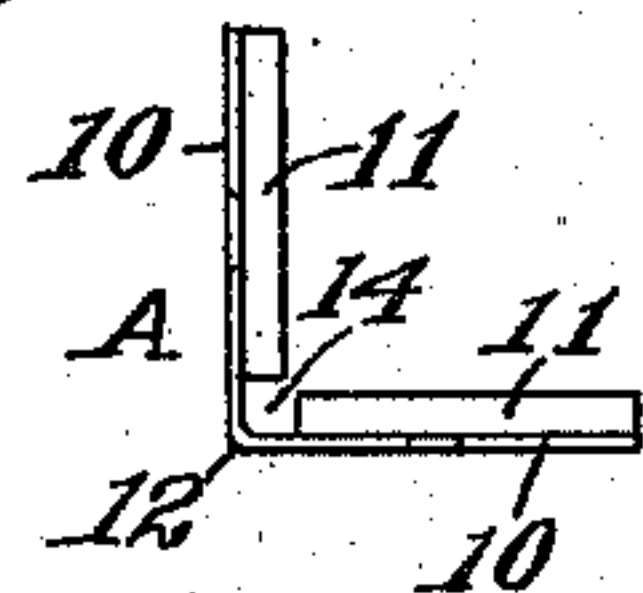
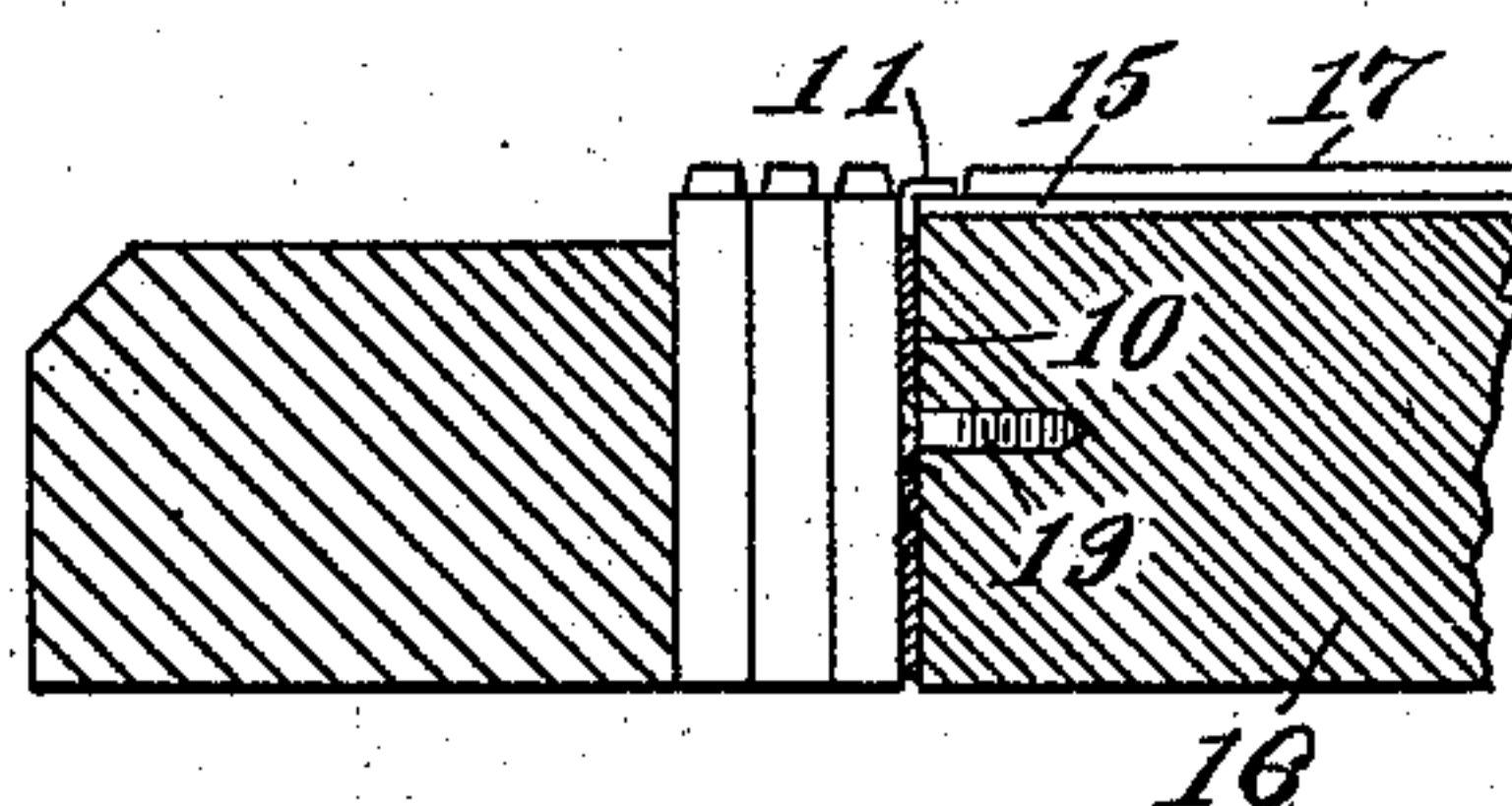


Fig. 4.



Witnesses:
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By his Attorney
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UNITED STATES PATENT OFFICE.

JOSEPH J. RAFTER, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO RIAL S. PECK, OF SAME PLACE.

FASTENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 562,417, dated June 23, 1896.

Application filed August 12, 1895. Serial No. 558,985. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. RAFTER, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Fastening Devices, of which the following is a specification.

This invention relates to a fastening or clamping device for securing printing-plates—such as engraved, stereotype, electrotypes, or other plates—to the block or base to which they are usually secured; and the object of the invention is to provide a fastener or clamp which is simple in construction, and by means of which a printing-plate can be secured to the block or base without the use of nails, brads, or tacks, as heretofore, and whereby the distorting or bending of the plate is prevented, and whereby, also, the working out of the brads, usually used to fasten the plate onto its block, is prevented.

A further object of my invention is to provide a fastening or clamping device which can be quickly and easily attached to the base or block to secure the plate in position thereon, and which can be secured in position without any liability of marring or injuring the face of the plate by the use of a hammer or other pounding means adjacent to the face thereof; and also to provide a device which will not interfere with the printing operation, and which will permit the printing-plate to be readily removed and replaced to remove or insert a suitable backing or supplemental sheet between the plate and block, to obtain darker lines of certain parts of the plate in printing, by the printer or pressman, without the assistance of an engraver.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a printing-plate secured in position on the block or base by means of this improved fastener or clamp. Fig. 2 is an interior side view of the fastener. Fig. 3 is a plan view of the fastener, and Fig. 4 is a partly-sectional view showing a portion of the printing-plate secured to its block by means of this improved fastener and showing the plate and block in position in connection with the letter-press matter or text ready for printing.

Similar characters represent like parts in all the figures of the drawings.

In the method heretofore used for securing printing-plates—such as engraved, stereotype, electrotypes, or other plates—to the base or block to which they are usually secured, it has been the usual practice to secure such plates by means of tacks or brads run through the flange or other projection, or means extending from the sides of the plate below the face thereof, and into the block. This means of securing the plates to the blocks oftentimes injures the face of the plate, owing to the carelessness of the printer in striking the face of the plate adjacent to the edges thereof with the hammer or other pounding means, while driving the brads or nails into the block; while at the same time the tacks or or brads are liable to, and oftentimes do, work out of the block by the pressure on the plate when in use, and thereby injure the material operated on, and the plate. Moreover, by securing the plates in this manner, the plates are distorted and bent out of position and the face of the plates caused to bulge between the points where the brads are driven through the flange, whereby an uneven printing-surface is presented, and whereby parts of the plate will print in darker lines than other parts of the same plate, which are intended to print with the same degree of shade, and which is therefore a great disadvantage in the art. It has also been found that, by the use of the means heretofore provided for securing the plate on its block, it has been practically impossible for the printer or pressman—without the assistance of the engraver—to remove and replace the printing-plate in proper position on its block to permit the insertion or removal of the backing or supplemental sheet used between such plate and block to obtain darker shades of certain portions of the plate, owing to the difficulty of removing the brads, and consequent liability to injure or move the plate out of its proper position relative to such backing and the block. In order to obviate these serious defects, I have provided an improved fastening or clamping device, whereby the plates can be secured to the block or base quickly and easily, and whereby the

plates will not be distorted or bent out of shape to thereby prevent the proper printing with the same, and whereby the operation of making the plate ready for printing is facilitated by allowing the printer or pressman to readily remove the plate from its block or base without bending or injuring the printing-face thereof, and to readily replace the same without the assistance of an engraver.

10 In the preferred form thereof, herein shown and described, this improved fastening or clamping device comprises a sheet-metal fastener or clamp (designated in a general way by A) and suitable means for securing said

15 fastener or clamp in place relatively to the printing-plate block.

The fastener or clamp A consists of a plate bent adjacent to its middle portion to form two extending leaves 10 at right angles to each other; and this plate has its upper edge bent or turned inwardly, forming a flange 11 at right angles to the plate, and whereby the flanges of the leaves will also be at right angles to each other, and whereby the clamp or

25 fastener is adapted to be placed in position onto the flange 15 or other projection of the printing-plate hereinafter described. Adjacent to the angle 12 of the plate and the inner ends 13 of the flanges 11—which are non-

30 connected with each other, for the purpose hereinafter specified—the clamp has a cut-out portion 14 for the purpose hereinafter specified.

In the use of this improved fastening or clamping device the printing-plates 17 are

35 usually provided with flanges 15 or other substantially similar means projecting from the sides of the plates below the printing-face thereof for securing said plates to the blocks

40 16. When this construction of printing-plate is used, it is laid upon the block or base 16 and the fastener adjusted into position at the corner of said block or base, with its bent flanges 11 resting on the flanges 15 of the

45 plate 17, whereby the corner 18 of the block 16 is adjacent to and projects into the cut-out portion 14 of the fastener, and the corner of the printing-plate 17 is also adjacent to and projects into and between the non-connected

50 ends of the flanges 11, whereby the same will be more securely held, and whereby, by means of this cut-out portion 14, the protruding part of the fastener, which would otherwise be formed at this place, owing to the bending of

55 the plate to form the flanges 11, is obviated. The fastener is then secured to the sides of the block by any suitable fastening device—such as screws 19, nails, or brads—and the printing-plate is then ready for use, either by

60 itself or in connection with the letter-press

matter or text, (see Fig. 4,) with which it can be readily set up, if desired, and when so used the leaves 10 of the fastener will be in the nature of and constitute lead spaces.

It will be observed that the corner-blocks 65 are so constructed, by virtue of the cut-out portions 14, that small shims or underlying pieces can be driven beneath the printing-plate, so that either one corner or one end of the same can be raised, if necessary, to obtain darker lines in printing without the assistance of an engraver. The series of clamps being readily removable also permit the printing-plate, or certain parts thereof, to be raised by the insertion of suitable backing-sheets 75 between the plate and the block, and after said sheets are inserted the clamps can again be secured to the block to hold the printing-plate in the desired horizontal or inclined position.

When it is desired to secure the sides or ends of the printing-plate to the block, another form of fastener or clamp is used, and which, in the preferred form thereof, consists of an unbent plate 20, having a flange 11, 85 adapted to be secured in substantially the same manner as the bent-plate fastener, hereinafter described.

It will be observed that the corner and intermediate plates constitute a set of clamps 90 which can be applied to different blocks and serve to firmly but removably secure the printing-plates in position.

Having thus described my invention, I claim—

1. In combination with a base-block and a flanged printing-plate, a series of fasteners located at the respective corners of the block and each comprising a metal plate having two right-angular side portions with lateral 100 lips, cut away at their intersection to fit and receive the corners of the printing-plate and block, which lips fit over and engage the flanges of the printing-plate; and plates having lateral lips for engaging said flanges, located on the block intermediate the corner-plates, substantially as and for the purpose specified.

2. A set of fasteners for securing printing-plates to their blocks comprising corner-plates having flanged right-angular portions, 110 and intermediate plates having angular flanges, said set being adapted to be applied to different blocks, substantially as and for the purpose specified.

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