

(No Model.)

E. N. PARKER.
TWEEZERS.

No. 561,176.

Patented June 2, 1896.

Fig. 1

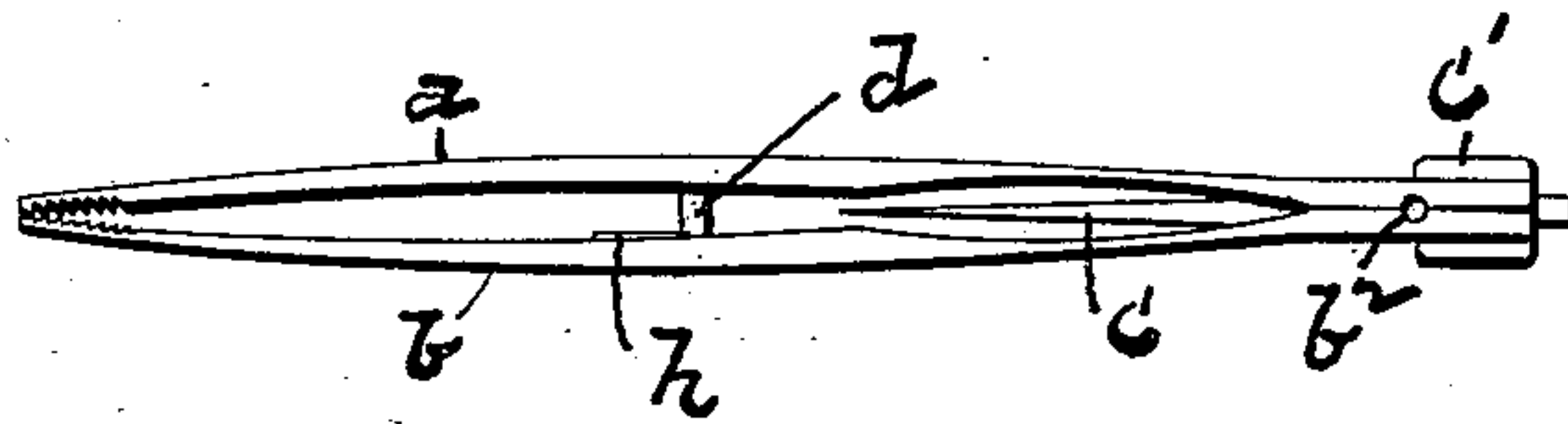


Fig. 2.

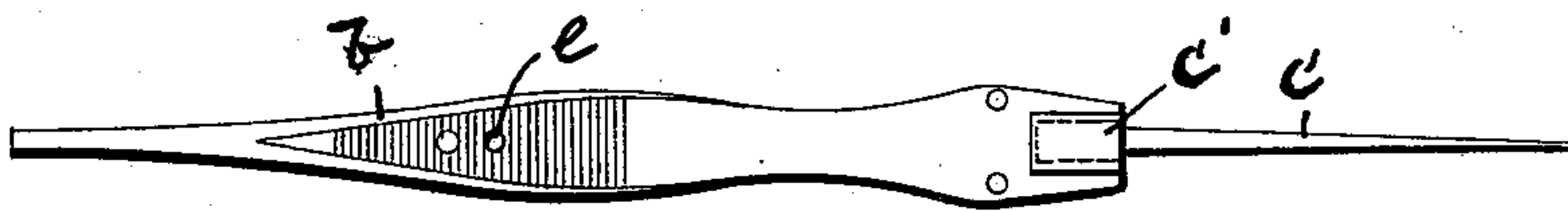


Fig. 3.

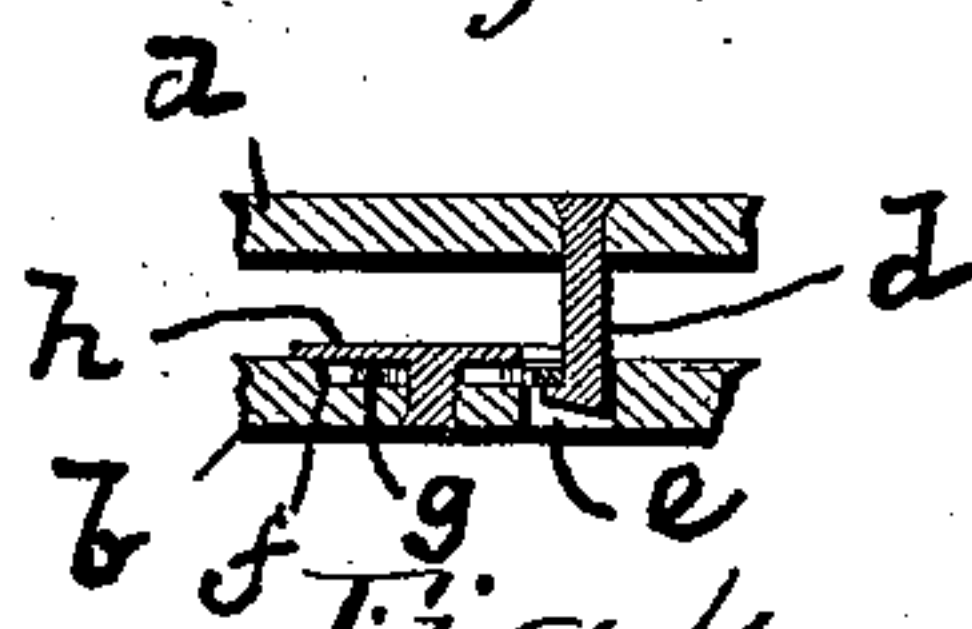


Fig. 4.

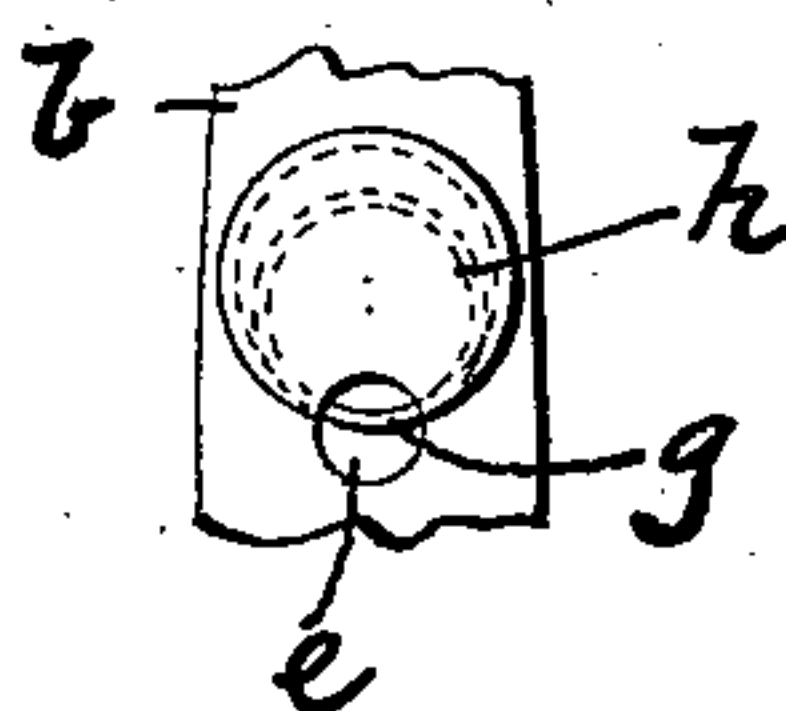


Fig. 5.

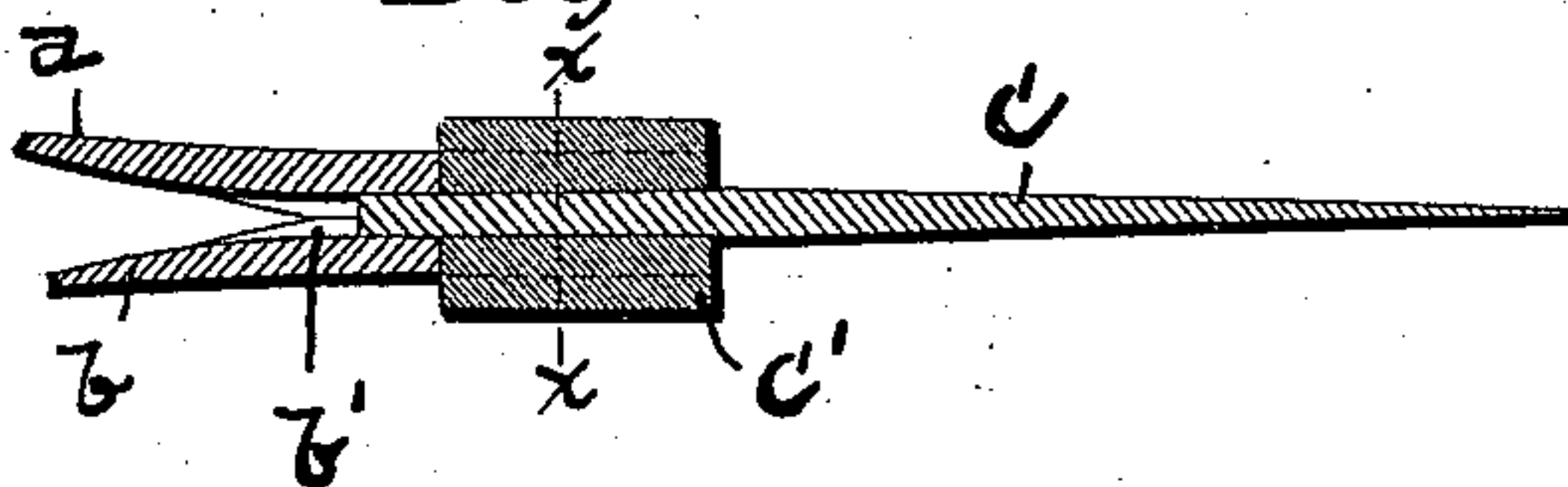
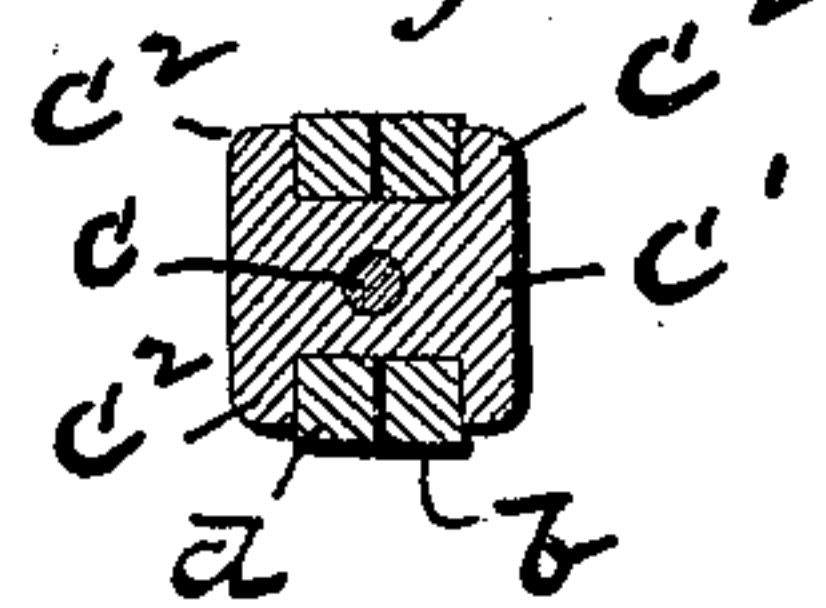


Fig. 6.



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UNITED STATES PATENT OFFICE.

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TWEEZERS.

SPECIFICATION forming part of Letters Patent No. 561,176, dated June 2, 1896.

Application filed February 8, 1896. Serial No. 578,471. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS N. PARKER, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Tweezers, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates, primarily, to printers' tweezers used for picking up type, and has for its object to combine therewith a printer's bodkin so arranged that it can be secured upon the tweezers in position for use and can also be secured thereon in a reversed position, with its point housed between the tweezer-jaws, to enable the tool to be conveniently carried in the pocket.

A further object of the invention is to provide a simple form of means for locking the jaws of tweezers and similar tools together when not in use and acting by gravity to lock and unlock said jaws as the tool is held in reversed positions.

To these ends the invention consists in the construction and arrangement of parts hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, in which like letters designate like parts in the several views, Figure 1 is a side view of a pair of tweezers embodying the invention with the bodkin in its inoperative position and the jaws locked together. Fig. 2 is a face view of the same with the bodkin in its operative position. Fig. 3 is a partial longitudinal section, drawn to a larger scale, showing the locking means. Fig. 4 is a face view of the inner side of one jaw, showing said locking means. Fig. 5 is a partial longitudinal section showing the bodkin in its operative position. Fig. 6 is a cross-section taken at line *x x* of Fig. 5.

The letters *a* and *b* designate, respectively, the two jaws of a pair of printers' tweezers, which jaws have their inner surfaces roughened at their front ends, as usual, and are connected together near their rear ends by transverse rivets, as shown. Near their rear ends said jaws are slightly recessed at their inner sides, as shown in Fig. 1, whereby provision is made for the necessary elasticity of the

jaws and to normally separate them from each other at their front ends. At their extreme rear ends said jaws *a* and *b* are recessed, as shown by broken lines in Fig. 2, to receive the head *c'* of a bodkin *c*, which head is of a width to closely fit within said recess and is provided with projecting flanges *c'* at its sides to overlap the outer surfaces of the jaws at the edges of said recess, as shown in Fig. 6. Said bodkin-head is thus adapted to be inserted within said recess at the rear ends of the jaws either end foremost—that is to say, with the bodkin projecting outwardly, as shown in Fig. 2, or with the same projecting inwardly, as shown in Fig. 1, a longitudinally-extending hole *b'* (see Fig. 5) being made in the line of juncture of the jaws to receive the bodkin in the latter of said positions. In order to more securely hold said head in either of its positions, I prefer to provide the jaws with a hole *b'*, extending through their line of juncture (see Fig. 1) and to slightly bevel their inner surfaces from said hole to their rear ends, as shown, whereby they are caused to exert an outward pressure against the flanges *c'* of the head and make a secure frictional contact therewith.

With the bodkin in its operative position, as shown in Fig. 2, the tool thus constructed is adapted to be used in the same manner as the ordinary printer's bodkin, and by reversing its ends the tweezers can be used in the same manner to pick up type. When the bodkin occupies the position shown in Fig. 1, the tool can be carried in the pocket without danger of injury to person or clothing.

It will thus be seen that I provide a combined tool which is of simple and inexpensive construction and which is thoroughly effective for both of the purposes for which it is designed.

I also provide means for locking the two members of the tweezers together when the tool is not in use, so that their front ends will be held against separation, which means are as follows: To one of the jaws, as *a*, is secured an inwardly-projecting stud *d* at a point substantially midway between the two ends of the tool, which stud is provided at its outer end with a forwardly-projecting lip or flange, as shown in Fig. 3, or said stud may be simply notched in its front side, if desired. In

the opposite jaw, as *b*, is provided a hole *e* to receive said stud and a recess *f* in the inner side of said jaw, said recess being located in front of and communicating with said hole.

5 As herein shown, the recess is of circular form and of considerably greater diameter than the hole, which it intersects, as shown in Fig. 4. Within said recess is located a ring *g* of less diameter than the recess, whereby it is adapted to drop by gravity to a position in which it intersects the hole *e*, as shown in Fig. 4, when the tool is held with its front end uppermost, and to move to a position in which it clears said hole when the tool is held in the reverse position. Said ring is retained within the recess by a rivet *h*, the head of which covers said recess and is notched to conform to the outline of the hole *e*, as shown.

To lock the jaws together by the means thus constructed, it is necessary simply to press them together with the front end of the tool held uppermost, thereby causing the ring *g* to fall to the position shown in Figs. 3 and 4, in which position it engages the lip on the stud *d* and prevents its withdrawal from the hole *e*, and to unlock said jaws it is necessary simply to reverse the position of the tool and impart a slight inward pressure upon the jaws, thereby causing the ring to fall to its opposite position, in which it clears the stud. Such locking and unlocking operations can be performed instantly and by simple manipulation of the tool with the thumb and fingers of one hand, and the unlocking action occurs when the tool is held in position for use with its front end lowermost. By providing the stud *d* with a plurality of notches in its front side the jaws can be locked with their front ends at varying distances from each other, for the purpose of clamping articles of varying thicknesses between said ends, if desired.

While I have shown and described the gravity locking device as being in the form of a ring, I do not wish to restrict myself to such form, as the particular shape of said device is not material to the invention so long as it is mounted upon its jaw in such manner as to operate by gravity to engage and be disengaged from the stud on the opposite jaw.

50 When the jaws are locked together with the bodkin in its inoperative position, as shown in Fig. 1, the tool can be carried in the pocket with perfect safety.

Attention is called to the fact that, in ad-

dition to its function as an adjunct of the locking means, the stud *d* in connection with the hole *e* serves as a guide to prevent lateral deflection of the front ends of the jaws as they approach each other and compels them to accurately register with each other.

The locking means herein described is applicable to tweezers and similar tools generally, and being located wholly at the inner sides of the jaws it leaves the outer surface thereof unobstructed, a matter of considerable importance in this class of tools.

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

1. A combined tool comprising a pair of tweezers and a printer's bodkin, the former having at its rear end a recess and the latter having a head adapted to be detachably held in said recess and being provided with flanges to overlap the side walls of the recess, substantially as described.

2. A combined tool comprising a pair of tweezers and a printer's bodkin, the former being provided with means for locking its jaws together in a closed position and having at its rear end a recess and a longitudinal hole or socket communicating with said recess, and said bodkin having a head adapted to be reversibly held within said recess, substantially as described.

3. A pair of tweezers or similar tool having one jaw thereof provided with an inwardly-projecting stud having its front side notched as described, and having its opposite jaw provided with a hole to receive said stud and with a movable locking device located at the front side of said hole and adapted to fall by gravity into a notch on said stud when the tool is held with its front end uppermost, substantially as described.

4. The pair of tweezers herein described comprising the jaws *a b* and means substantially as described for locking said jaws in a closed position, and having at its rear end a recess and the hole *b'* communicating therewith, combined with the bodkin *c* having the head *c'* provided with the side flanges *c''*, substantially as described.

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Witnesses:

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