

(No Model.)

G. F. STANSBURY.
BUCKLE.

No. 565,396.

Patented Aug. 4, 1896.

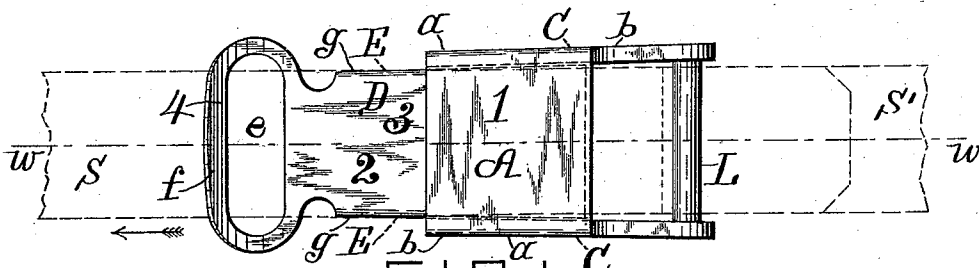


FIG-1-C

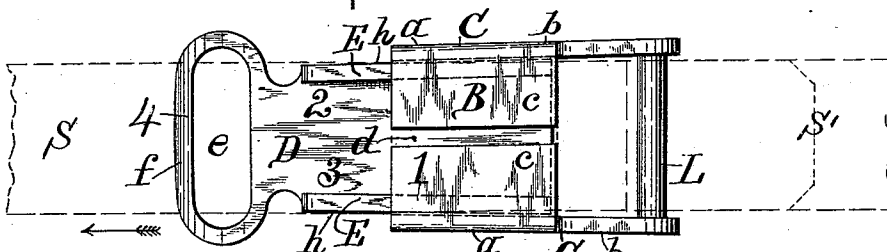


FIG-2-C

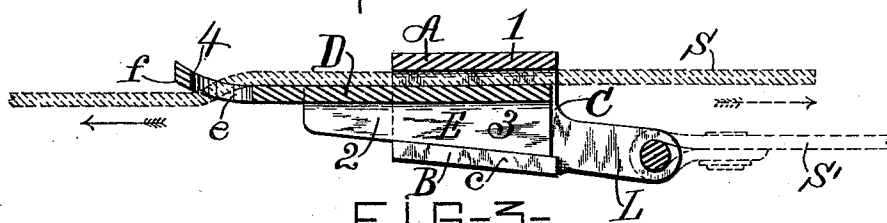


FIG-3-

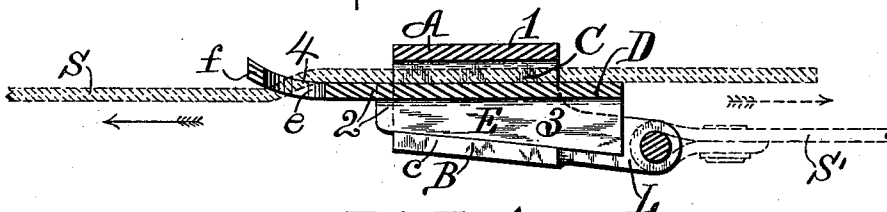


FIG-4-

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE F. STANSBURY, OF WEEDSPORT, NEW YORK, ASSIGNOR OF THREE-FOURTHS TO JOHN L. GOFF, OF SAME PLACE, JOSEPH P. PFOHL, OF SYRACUSE, AND EZRA W. SMITH, OF NEW YORK, N. Y.

BUCKLE.

SPECIFICATION forming part of Letters Patent No. 565,396, dated August 4, 1896.

Application filed January 28, 1895. Serial No. 536,418. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. STANSBURY, a citizen of the United States, residing at Weedsport, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Buckles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of my improved buckle as appearing with its key member in position for securing a strap, and thus buckling it; Fig. 2, an inverted or bottom plan view of same in like position; Fig. 3, a longitudinal sectional elevation thereof, taken centrally through my buckle, upon dotted line *ww*, Fig. 1; and Fig. 4 is a corresponding sectional elevation of my device as appearing with its key member in a position releasing the strap—unbuckling thereof.

Like letters and figures of reference denote corresponding parts throughout the several views.

My invention relates to improvements in buckles adapted for utilization in the securing of harness, belts, suspenders, trusses, and analogous purposes.

Said invention especially relates to improvements in that class or species of buckles comprising a hollow body or case provided with a wedge-shaped member for the buckling of a strap.

My invention consists in such novel and improved construction of a buckle of the characteristics stated as will insure a practical and reliable strap-securing device of comparatively simple formation and inexpensive to manufacture, and invariably assuring such positive gripping or frictional hold of a strap as will render when secured, *i. e.*, buckled, any slipping of the strap impossible, whatever may be the variations in its thickness; moreover, admitting of the easy and expeditious securing or release of a strap without, if so desired, any disturbance of the strap's position, or slackening; moreover, so arranged that the longitudinally-sliding key member

is always held in movably-connected relation to the case-like body, rendering complete disengagement of the parts impossible; and, furthermore, my invention embodies details of formation imparting increased effectiveness and value to the buckle structure, all constructed, arranged, and operating as herein-after described, and specifically enumerated in the claims hereunto annexed.

Referring to the accompanying drawings, 60 1 indicates the case-like member, and 2 the wedge-acting key member appertaining to my buckle structure.

The case portion 1 consists of a flat top plate A, upwardly-converging bottom plate B, side plates C C, respectively of wedge shape in plan and ordinarily terminating at the lower portion of their greatest breadth or height in a longitudinally-outstanding loop L of any ordinary or requisite shape adapted for the permanent attachment of a strap, in the present exemplification the extensions of the side plates in conjunction with a cross-bar uniting their extremities, conjointly creating a loop.

In plan the longitudinal edges or boundaries of the respective plates A and B taper or slant 75 approachingly inward toward that extremity of the case 1 where said plates are the nearest together, the slanting edges being at a gradual taper, as indicated at *a a*, and the side plates C C correspondingly converge toward each other in like direction, as denoted at *b b*.

The top plate A is preferably a solid plate devoid of any slot or aperture, while the bottom plate B may be divided centrally into two parts *c c* by a longitudinal passage or division-opening *d*, said parts forming ways for the travel thereon of the wedge-shaped key shortly to be described. Said ways *c c* may be of any satisfactory width, or the said bottom plate may be non-divided, my prime object in dividing same into two portions by the passage *d* being merely to utilize less metal and thus insure greater lightness to the case, while coincidently dispensing with 85 superfluous metal.

Preferably the entire case, aside from the transverse bar of the loop, is formed of an integral blank of suitable sheet metal formed to shape.

The wedge-like key member 2 is disposed longitudinally movable within the case 1, and being of a greater length than said case invariably extends through and beyond it.

5 This elongated key comprises a wedge-shaped body 3, terminating with a head 4, provided with a transverse slot or opening *e*, which elongated slot, standing on a plane antagonistic to the direction of the key's length, is

10 of sufficient size to admit of the passage of a strap or band.

Preferably, for advantageous reasons, the slotted head or extremity has a moderate upward or outward curvature, as at *f*, away

15 from the plane of the flat top plate portion D of the key, wherewith it is integral.

The wedge-like body of the key member is formed by a major portion of the top plate D, in conjunction with side plates E E, respectively of wedge shape in plan and of similar dimensions.

The level top plate of the member 2 lies parallel with the straight top plate of the inclosing case 1, and the bottom edges of its

25 side plates converge upwardly in the same direction as and in like ratio to the incline of the bottom plate B of the case, whereupon said inclined bottom edges of the sides of the wedge-body 3 of the key are adapted to slide.

30 Obviously, the height of the key is less than that of the case wherein it operates. Moreover, as is discernible, that extension of the top plate of the wedge-like body terminating in a headed (or non-headed) extremity having a slot *e* protrudes longitudinally from the contracted portion of the wedge-body.

Preferably the bordering edges *g g* of the top plate D of the wedge-body of the key taper approachingly inward on inclined planes

40 corresponding to those of the bordering edges *a a* of the top plate A of the case, and, likewise, the vertical sides E E extend beveling inward in analogous degree, as at *h h*.

While by choice I construct the wedge-like

45 body of a trough shape, and form the entire key member of an integral blank of satisfactory sheet metal bent to shape, thereby combining both lightness and economy in manufacture, I may, when so desired, utilize a solid

50 wedge-shaped clamping-body in lieu of the trough-shaped one described.

When deemed advantageous to I may have the ordinarily-looped extremity of the case terminate in an apertured hook adapted for

55 engagement with the post of a front plate of a hernial pad, or, contrariwise, I may dispense with any protrusion of the member for formation of a loop or equivalent and secure the case by the under side to any desired object—strap or fabric—by any suitable fastening means.

By way of exemplification of the adaptation and operation of my buckle I show at S (by dotted work) an extremity of a strap to

65 be secured by same, and at S', I indicate a strap (in dotted work) permanently attached to the loop portion of my device. The strap

or trace S to be buckled passes through the slot *e* in the head termination of the key member 2 and thence straight through the

70 space existing between the under side of the top plate of the case and the upper side of the top plate of said key, and, following such introduction, any tension on the strap in the direction indicated by an arrow will cause

75 the key to act automatically, the wedge-shaped body being carried toward and usually partially through the contracted end of the case-chamber, thereby so impinging or gripping, through frictional contact, the inter-

80 posed strap or trace as to hold it firmly and secure and without possibility of its slipping.

The slotted extension 4, invariably lying forward of the smaller end of the case, is an all-important feature of the movable key

85 member, for the reason that, as demonstrated by repeated trials upon my part, a wedge-shaped body or block devoid of said strap-receiving extension and operative within a case of the broad characteristics specified

90 will not act positively in each and every instance in giving the required grip or frictional hold for absolutely retaining the secured strap against slipping or longitudinal displacement from requisite position, any variation in the thickness of the buckled strap rendering slipping thereof not only possible,

95 but probable.

By my provision of an extended slotted portion to the wedge-body *per se*, through

100 the aperture of which the strap readily passes prior to its passage through the space existing between the top of the case member and the sliding key, tension upon the strap necessarily draws the wedge-shaped body for-

105 ward and upward, (the side plates thereof moving on the bottom plate of the case,) causing frictional gripping of the strap, and the harder the strain the tighter is said strap held wedgishly locked in place.

As is clearly indicated by Figs. 3 and 4 of the drawings, no slack or longitudinal movement of the strap is entailed either in the release or securing thereof by the buckle, unless so desired, a matter of excessive im-

110 portance.

The position for the fastening of the strap being reached by the pulling taut of said strap in the direction indicated by dotted arrow, Fig. 4, the operator, with one hand con-

120 currently grasping the strap S and loop of the case, (or permanent strap S',) grasps by his disengaged hand the slotted extremity of the key member, drawing it in the direction indicated by full arrow until the strap S is

125 impingingly retained by the frictional contact of the top plate of the case and the top of the wedge-like key, and for the releasing of the now-secured strap, as per Fig. 3, the strap may be drawn in the direction indicated

130 by dotted arrow in said figure and thereby released, or, in case no disturbance of the strap longitudinally is desirable, it may be held by the hand conjointly with the loop or

permanent strap, as hereinbefore specified, and the thumb of said hand, or the disengaged hand, engaging with the slotted head of the key the same is retracted in the direction indicated by dotted arrow sufficiently to free the strap from retention, the key assuming the position delineated in Fig. 4.

No matter how tightly wedged the strap may be no pounding upon the key is necessary to effect the starting thereof, a very advantageous feature of my device.

As is evident, by my formation and arrangement of the buckle members a continuous and equal frictional hold upon the strap is assured from end to end of the case proper. Moreover, with the strap compressingly retained between the underlying wedge-body of the key and the top plate of the case and extending tautly through the slot in the extension of the top plate of the key by a curvilinear or angular bend thereat such biting or frictional seizure of the strap is attained at said slotted portion as to not only (through tension) thoroughly crowd the key against the strap, but concurrently acts as an auxiliary strap-securing medium.

While requisite thrust of the wedge-like body of the key within the case is a desideratum and amply provided for by my device, yet it is advantageous that, following the withdrawal of a strap from the buckle, complete disconnection of the key from the case should be impossible, as otherwise there would be danger of losing the key through oversight or accident.

It is for the purpose of preventing complete disconnection of the case and its key member that I have the sides of the case and sides of the key-body formed coincidingly convergent, as priorly described, the effect whereof is that in the absence of a superposed strap or trace the key cannot become detached from its case, the lateral contact of the parts occurring upon the key being drawn out its greater portion from the case retarding further withdrawal and yet admitting of its free movement in opposite direction until stopped by the loop extension of the case.

Obviously I may, if so desired, dispense with the convergence of the sides of the case and its key, and accomplish aforesaid purpose by so regulating the height of the contracted portion of the case that it will be slightly less than the height of the expanded extremity of the wedge-body of the key, and rendering complete withdrawal of said key impossible,

such provision being merely a matter of dimensions, as evident.

That my improved construction of a buckle provides a device that is practical, operative, simple, and inexpensive is clearly apparent.

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

1. A device of the class described, comprising a casing formed integral and having its upper and lower sides arranged at an angle to form a converging chamber, a similar key adapted to move in the chamber and exert gripping pressure in conjunction with the parallel inner surface of the upper wall thereof, and an extension on the casing provided with means for the attachment of a strap, said means being in the path of the key whereby it may be retained against excessive rearward movement.

2. A device of the class described, comprising a casing formed integral with its upper and lower sides at an angle to form a converging chamber, a key having its upper and lower sides arranged at an angle equal to that of the similar sides of the casing, said key having an opening to receive a strap in its passage between the key and casing, and an extension on the casing in the path of the key to retain the latter against excessive rearward movement.

3. In a device of the class described, the combination of a casing formed integral with its base at an angle to its top, a similarly-formed key comprising a web having downwardly-extending runners whose lower edges form angles with the web, said key having its outer end turned upwardly and diagonally of its path, and provided with a perforation in the upturned portion at right angles to the web of the key, and a strap passed between the web of the key and the top of the casing and bent downwardly through the perforation in the key whereby it may be gripped or released by the adjacent surfaces of the key and casing as the key is manipulated, and an extension on the casing in the path of the key in its rearward movement to prevent removal of the latter.

In testimony whereof I affix my signature, in presence of two witnesses, this 2d day of January, 1895.

GEORGE F. STANSBURY. [L. s.]

Witnesses:

W. H. KERAND,
L. R. KLUMPP.