

G. K. ASHLEY.
LINE CLAMP.

No. 545,760

Patented Sept. 3, 1895.

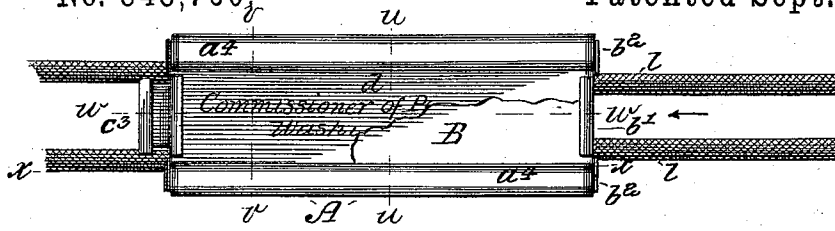


Fig. 1.

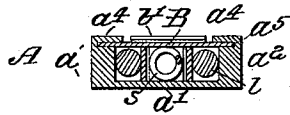


Fig. 2.

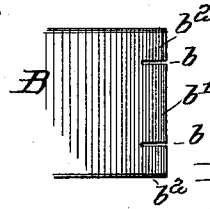


Fig. 1a.

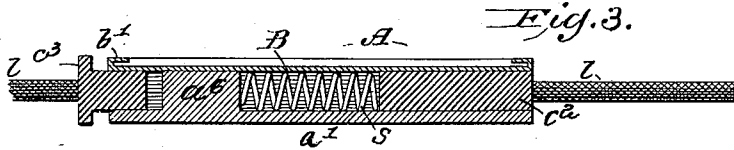


Fig. 3.

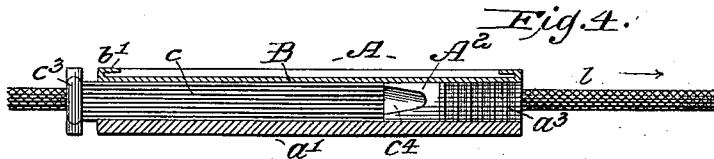


Fig. 4.

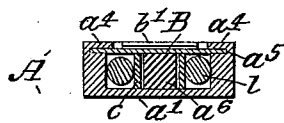


Fig. 5.

Fig. 6.

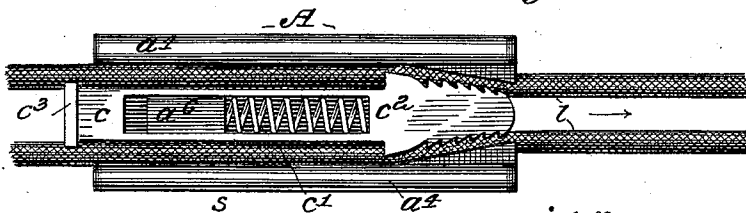


Fig. 7.

Witnesses:
Arthur Ashley
James F. Duhamel

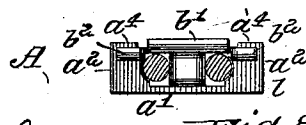


Fig. 8.

Inventor
George K. Ashley
by *George K. Ashley*

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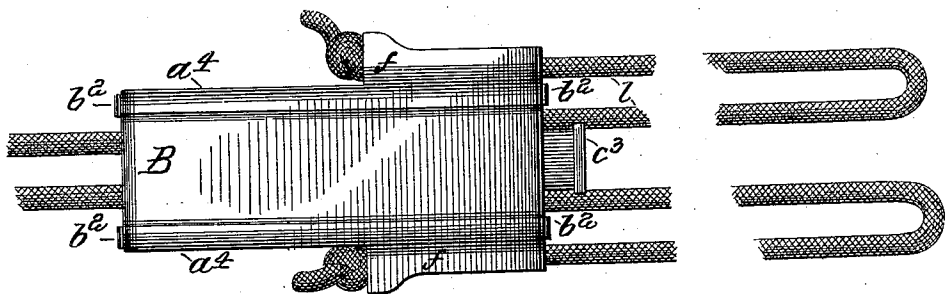


Fig. 9.

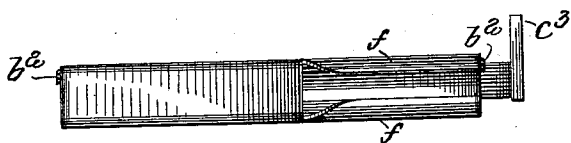


Fig. 10.

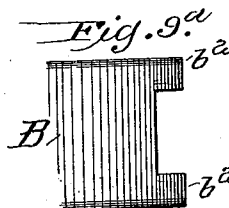


Fig. 9a.

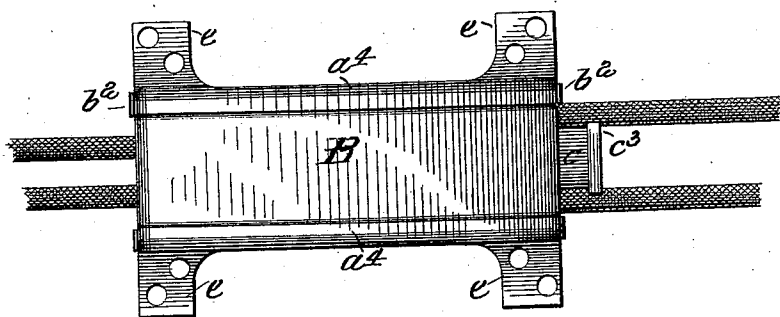


Fig. 11.

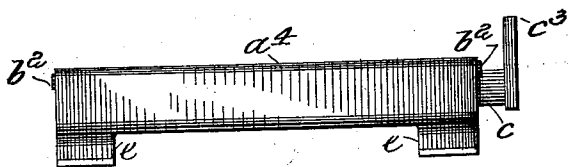


Fig. 11a.

Witnesses:
Arthur Ashley
James F. Duhamel

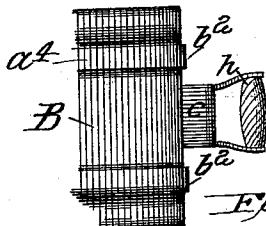


Fig. 13.

Inventor:
George K. Ashley

by *Arthur Ashley*
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE K. ASHLEY, OF WASHINGTON, DISTRICT OF COLUMBIA.

LINE-CLAMP.

SPECIFICATION forming part of Letters Patent No. 545,760, dated September 3, 1895.

Application filed October 24, 1891. Serial No. 409,684. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. ASHLEY, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented a new and useful Line-Clamp, of which the following is a description.

The invention relates to an improved line-clamp, in which a line of any suitable dimensions and of any suitable material is received, and through which it is extended along each side of the interior space thereof, and which the clamp is adapted to engage automatically in such a manner that when power is applied to the line to draw it forcibly outward the effect of such application of power will be to increase the firmness of the frictional contact of the line and the engaging parts of the clamp; and the objects of the invention are to produce a line-clamp of this character in which the expense of production shall be small, so that the device may profitably be afforded to the public at a moderate charge, in which the cover or top plate shall be readily detachable from the body or line containing portion of the clamp, so that the interior of the same may be readily inspected and the parts contained therein, if desired, be easily and quickly removed and replaced, and in which the line shall be equally engaged and compressed between two similar opposing surfaces, so that abrasion or disintegration of such line may be avoided or reduced to a minimum.

With these leading objects and other incidental objects in view, the invention consists in a line-clamp, the body of which, in its side walls, near the upper extremity thereof, is oppositely recessed, and the closing-plate or covering-slide of which is adapted to be received endwise within the opposite recesses of the body, and is adapted also to be bent downward at each end and to engage the body of the clamp, whereby, without the use of rivets or of studs, the parts are readily secured together, and whereby such closing-plate or covering-slide may be instantly removed for inspection, renewal, or repair of the movable contained parts.

The invention consists, also, in the provision in a line-clamp of a body near one extremity of which the opposite interior walls converge outwardly toward such extremity and are ser-

rated in such converging portion, and an automatically-acting bolt the engaging-head of which is tapered and outwardly serrated to conform to the indrawn or converging portion of such opposite interior walls, whereby the line is more quickly engaged and whereby it is equally engaged upon each side, thereby avoiding the abrasion which is consequent upon any construction in which the line is engaged upon one side by a rough surface and upon the opposite side by a smooth surface.

The invention consists, also, in various novel combinations of parts in a line-clamp, having in view simplicity and cheapness in the construction and certainty and effectiveness in the operation of the device, all as will be set forth in detail, and then specifically and distinctly claimed.

In order that the invention may be fully understood, it will be particularly described in connection with the accompanying drawings, which constitute a part of this specification, and in which—

Figure 1 represents a top plan view of the clamp, showing an address-card applied upon the closing-plate, a portion of the card being torn away to disclose the plate beneath, and showing, also, two lines, or a double line, extending therethrough.

Fig. 1^a represents a detail plan view of the closing-plate as it appears before being inserted in position. Fig. 2 represents a transverse vertical section in the line *u u* of Fig. 1. Fig. 3 represents a longitudinal vertical section in the line *w w* of Fig. 1, the spring-bolt or automatic clamp having been removed. Fig. 4 represents a longitudinal vertical section in the line *w w* of Fig. 1. Fig. 5 represents a longitudinal vertical section in the line *x x* of Fig. 1. Fig. 6 represents a transverse vertical section in the line *v v* of Fig. 1. Fig. 7 represents a top plan view of the clamp, the covering-plate or closing-slide having been removed. Fig. 8 represents an end view, looking in the direction indicated by the arrow seen in Fig. 1. Fig. 9 represents a top plan view of the clamp in a slightly-modified form, as when adapted for use in suspending a hammock. Fig. 9^a represents a detail plan of the closing-plate or covering-slide in a modified form. Fig. 10 represents a side elevation of the construction seen in Fig. 9, the line having been

removed therefrom. Fig. 11 represents a top plan view of the clamp, as when so modified as to adapt it for use in adjusting awnings. Fig. 12 represents a side view of the modified construction seen in Fig. 11. Fig. 13 represents in top plan view a modification in which the device is made adaptable as a fire-escape.

As most clearly represented in Figs. 1 to 8, inclusive, the line-clamp A in its preferred form consists, essentially, of a preferably rectangular oblong open-ended chamber or body a , the bottom a' of which is flat, and the side walls $a^2 a^2$ of which are, as here represented, although not necessarily, perpendicular, both interiorly and exteriorly, and are in their main portion parallel with each other, but are near one extremity interiorly increased in thickness or indrawn toward that extremity, thereby forming the converging faces $a^3 a^3$ and a slidable detachable cover or closing-slide A' .

At their upper extremity a continuous projection or flange a^4 extends horizontally inward from each wall, and each flange is provided at its point of connection with the vertical side wall with a recess or way a^5 , in which is received the covering-plate or closing-slide B. The covering-plate or closing-slide B consists of an oblong rectangular plate, which at its edges is adapted to fit the ways $a^5 a^5$, and which, preferably at each extremity, is provided at a short distance from each edge with a longitudinally-extending slit b , by which are provided the two exterior ears or stops $b^2 b^2$ and the intermediate tongue or stop b' .

Formed with or securely attached to the upper surface of the bottom a' of the body a and extending vertically upward therefrom is the rectangular block, base, or stop a^6 , which is of a height corresponding to the vertical extent of the side walls $a^2 a^2$ below the ways $a^5 a^5$ of the body a . Centrally and longitudinally within the cavity or chamber A^2 of the body a is extended the spring-bolt or automatic clamp c , which is flat upon its upper and under surfaces and is of a vertical extent corresponding to the cavity of the body a . This spring-bolt or automatic clamping-slide c has a vertical oblong perforation or central longitudinal slot c' , a front enlarged or shouldered and tapered serrated clamping-head c^2 , which is coincident with the converging faces $a^3 a^3$ of the body a and which is provided with a lateral recess c^4 to receive the body of the line, and a rear upwardly-extending flange or finger-and-thumb piece c^3 for the retraction of the automatically-closing-spring-bolt or clamping-slide. Within the slot c' of the bolt c , in advance of the block, base, or stop a^6 , and in rear of the head c^2 of such bolt, is the spiral actuating-spring s , which is of great strength and resiliency.

It will be observed that the covering-plate or closing-slide B, which is preferably of malleable iron or of steel, but which may be of copper or other suitable material in its first

condition—that is, before it is inserted within the body a of the clamp—is entirely flat, and that it is of somewhat greater length than such body a , so that in assembling the parts the line, the spring-bolt and the spring being first inserted in order within the chamber A^2 , the closing-slide or covering-plate B is last applied, being inserted endwise within the ways a^5 from the front toward the rear of the body a , the slitted portion projecting at each end beyond the body or chamber portion a .

Ordinarily the recesses or ways $a^5 a^5$ will be of capacity to receive, in addition to the closing-slide or covering-plate B, an address plate or card, as d , and the two may conveniently be inserted together, as will be obvious from a glance at Figs. 1 and 3 in the drawings. This latter provision is, however, not indispensable, since, as will be apparent, such card or plate may be of only such width as to exactly fill the space between the inner edges of the two flanges, and may be sufficiently secured by means of the intermediate tongues or stops $b' b'$ alone, as when the mid-length portion of the card is slightly bent upward the ends thereof may be readily snapped into place under such securing-tongues.

It will be understood from the foregoing and from the representation seen in Fig. 8 that the ears or stops $b^2 b^2$, when turned down, prevent longitudinal movement of the slide, and that the tongues or stops $b' b'$, when turned upward, backward, and downward, serve to retain in position an address card or plate, of paper, metal, ivory, celluloid, or other suitable material, as already indicated.

Under the construction represented in Figs. 1 to 8, inclusive, the clamp is adapted to receive within the loop of its line a folded traveling shawl or rug or other parcel or package, or the gathered folds of a bag or of a curtain or other like drapery.

Under the construction represented in Figs. 9, 9^a, and 10, flanges $f f$ are formed with the sides of the case constituting ways in which are received the knotted ends of the lines by which a hammock is supported.

In the modification represented in Figs. 10 and 11 lateral ears $e e$ are formed upon each side of the case, and these are provided with openings to receive screws or nails, by which the clamp is secured to a window-casing or other fixed part of a building, where it serves as a means of adjusting an awning.

In the construction represented in Fig. 13 a grasping-handle h is substituted for the finger-piece c^3 , and the clamp is thus made available for convenient use as a fire-escape, one extremity of the line being made fast on occasion to any fixed object within an apartment in an upper story of a building.

In each of these latter modifications, an address card or plate being unnecessary, the securing-tongue b' of the plate B may be dispensed with, as will be seen in Fig. 9^a.

As will be readily understood from the drawings and from the foregoing description,

movement of the line in the direction indicated by the arrow seen in Figs. 4 and 6 serves to wedge the head c^2 of the clamping-bolt more tightly between the two lines ll and to compress such line more closely between the serrated faces of such head and the coincident vertical serrated faces of the converging walls $a^3 a^3$ of the containing-case. In other words, the security of the hold of the clamp upon the line is increased in proportion to the strain that is brought to bear upon such line, the two oppositely-serrated faces serving effectively to equalize the bearing upon the inner and the outer face of the line.

It will be noted that under all these forms of construction the line, the spring, and the bolt, either or all, may be readily renewed, the withdrawal of the closing-slide, the removal of the contained parts, and the substitution of others, being accomplished in a few seconds of time.

From the foregoing it will be understood, as already stated in substance, that the primary object of the invention is the production of a simple and inexpensive line-clamp, the parts of which may be quickly separated and as quickly reassembled without the aid of a file, a hammer, or any other implement, and which shall, with very slight modifications, be adapted to advantageous use as a clothes-line clamp, a fire-escape, a bag-fastener, a trunk-fastener, a hawser-clamp, a hammock-fastener, an awning-fastener, a curtain-fastener, a shawl-fastener, a parcel-fastener, and probably to many other analogous uses.

It is not my desire to claim, broadly, a flat metallic plate a margin of which is slitted, so that one portion may be turned in one direction and another portion in an opposite direction from the plane of the body of the plate, such a construction having been old and common for many years. It is my belief, however, that I am the first to provide in a line-clamp a covering-plate which is insertible endwise within ways which are formed in the body of the clamp; the first to provide in a line-clamp a cover which is insertible endwise within ways which are formed in the body of the clamp, and which is of greater longitudinal extent than such body; the first to provide in a line-clamp a cover which is insertible endwise within ways which are formed in the body of the clamp, and the projecting ends of which, when the cover is thus

inserted, are adapted in one part to be turned in one direction to engage the body of the clamp, and in another part to be turned in an opposite direction to secure in place upon the upper surface of such cover an address-card or designating-card; and the first to provide in a line-clamp a cover which is secured in place without the use of rivets, screws, studs, or any other extraneous fastening device.

The invention having been thus described, what is claimed is—

1. A line-clamp which has fixed line-engaging surfaces and movable line-engaging surfaces; the body of which, in its side walls, near the upper extremity thereof, has opposite longitudinal recesses or ways; and the closing-plate or covering-slide of which is adapted to be inserted endwise within the opposite ways, and is adapted also to be bent downward, at either end, to engage the end of the body, and to be thereby secured in its covering position.

2. In a line-clamp, a containing-case which embraces a rectangular body the sides of which are at the top horizontally indrawn or flanged, and longitudinally recessed or grooved; a spring-bolt or clamping-slide, within the body; and a closing-plate or covering-slide of greater length than the containing-case, and insertible endwise therein, from either direction, and which is slitted at its ends to form downturned corner lugs, to engage the body of the case, and an intermediate tongue, to engage a superposed designating or address card.

3. A line-clamp which embraces an oblong open-ended, flat-bottomed box or casing the side walls of which are interiorly parallel in their main portion, but which at one end converge and are serrated; a central longitudinal bolt, the engaging end of which is tapered, and outwardly-serrated, to correspond with the converging side walls of the casing; a fixed central block or seat which projects upwardly from the bottom of the box or casing; and a spring which is received within the bolt, and is seated by its base, upon the block, and by its opposite extremity bears against the body of the bolt, to actuate the same and clamp the line between the coincident serrated surfaces.

GEO. K. ASHLEY.

Witnesses:

HORACE A. DODGE,
ARTHUR ASHLEY.