(Model.)

A. J. ALDRICH

STRAP FASTENER.

No. 270,922. Patented Jan. 23, 1883.

Fig. 1.

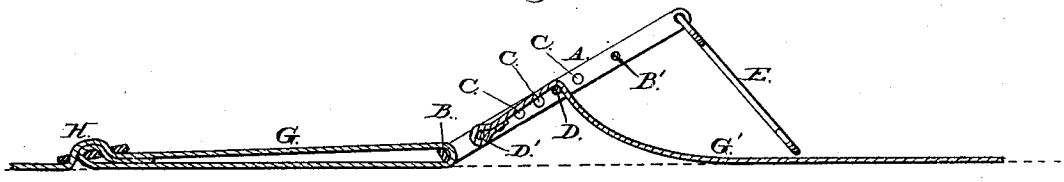


Fig. 2.

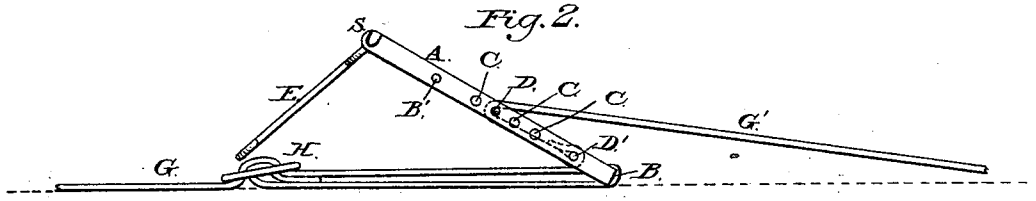


Fig. 3.

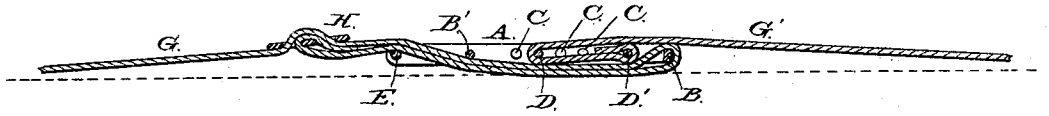
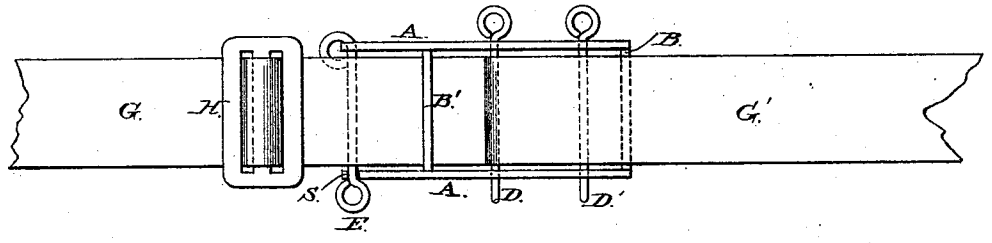


Fig. 4.



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UNITED STATES PATENT OFFICE.

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STRAP-FASTENER.

SPECIFICATION forming part of Letters Patent No. 270,922, dated January 23, 1883.

Application filed July 1, 1882. (Model.)

To all whom it may concern:

Be it known that I, ANDREW J. ALDRICH, of the city, county, and State of New York, have invented a new and useful Improvement in Strap-Fasteners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to a device for readily tightening and securing straps and bands around trunks and other parcels. It has for its object the fastening of straps about a trunk or parcel in a readier manner than with an ordinary buckle, by a simple device which, affording great leverage in drawing up the strap, will enable a person to secure it as tightly as may in any case be desired with perfect ease and very little effort.

In the accompanying drawings, Figure 1 is a central longitudinal section of my improved lever strap fastener and tightener when in position, with the strap engaged thereby, but left loose. Fig. 2 is a side elevation of the same, with the device in position to exert a leverage upon the strap to tighten it. Fig. 3 is a longitudinal section illustrating the device when folded entirely over to secure and hold the tightened strap, and locked in position; Fig. 4, a plan view of the device as shown in Fig. 3.

My lever strap-fastener is constructed simply of a light metallic frame consisting of two side bars, A A, Fig. 4, connected by a fixed cross-bar, B, at one end, and a second fixed cross-bar, B′, at about one-third the length of the frame from its opposite end. A series of apertures, C C C, Figs. 1 and 3, are drilled opposite to each other in the side bars, A A, by preference at equal distances apart between the cross-bars B and B′, to receive detachable transverse pins D D′. A third pin, E, is pivoted to the free end of one of the side bars in position to swing across and rest in a notch, S, (see Figs. 2 and 4,) on the corresponding end of the opposite side bar, as shown in Fig. 4. If preferred, the detachable pins D D′ may in like manner be pivoted at one end to one side bar, so as to swing across and engage notches in the opposite side bar, instead of being inserted through holes therein; but in such case, in order to admit of an adjustment of the pins to and from the fixed cross-bar B at the end of the frame, it will be necessary to pivot them in a longitudinal slot formed in the side bar, which shall permit them to slide on the bar to and from the end of the frame. The pin D′ next to the end bar, B, of the frame need not necessarily be made detachable, but may be fixed and secured to the frame to serve as an additional cross-bar, in which case the end of the strap to be held thereby becomes fixed to the frame, instead of being detachable by the removal of the pin.

G G′ are the ends of a strap or band led around the trunk or package to be secured. One end, G, is designed to be secured to or held by the outer cross-bar, B, of the frame, and the other end, G′, by the pin D′. The attachment of the end G of the strap to the bar B may be effected by sewing it thereto, or by carrying it around the same and confining its end by means of a slide or buckle, H, or other equivalent device, by which the length of the strap may be adjusted. The attachment of the end G′ to the frame is effected by sewing or otherwise fastening it to the bar or pin D′, when it is fixed to the frame, or by forming a loop therein, (see Fig. 1 of the drawings,) through which the pin D′ is passed when left detachable. When the two ends of the strap led around the trunk have thus been secured to the frame A A and the length of the strap properly adjusted by means of the slide H, the free end of the frame is laid over upon that end, G′, which is secured to the inner pin or bar, D′, and the detachable pin D is inserted through one of the sets of apertures C C in the frame, so as to pass under the strap at this point, in the manner illustrated in Fig. 1. The frame is then thrown over toward the opposite end, G, of the strap, as illustrated in Fig. 2. This movement lifts the pin D, and with it the strap resting thereon, and as it passes over the center folds the strap back upon itself, taking up thereby, to a corresponding extent, the slack in the strap. The frame, as it is thus carried over, operates as a lever, with the end B as its fulcrum, to draw upon the strap engaged by the pin D and tighten the same, the extent of leverage and consequent tension upon the strap

being determined by the position of the pin D, as it is placed nearer to or farther from the fulcrum end, B, of the frame. When the frame is thrown entirely over to lie flat upon the strap, as shown in Fig. 3, it is locked and secured by passing the swinging pin E under the strap and engaging its free end in the notch S on the opposite bar of the frame, as shown in Fig. 4.

The slide or buckle H may be dispensed with and the end G of the strap secured directly to the bar B of the frame in all cases where the strap is designed for a trunk or package of a determinate size to which the length of the strap is properly proportioned, the adjustment of the pin D permitting an adjustment of the length and tension of the strap to a considerable extent independent of an adjusting-slide, H.

While the locking-pin E, which closes and secures the free open end of the frame, is, for convenience, linked or pivoted at one end to the frame, it is evident that such a permanent connection thereto is not essential to its functions, and that a detached pin may be used, in connection with apertures or notches in the side bars at the free end of the frame, to secure it when the strap has been drawn up and tightened thereby.

Although, for the sake of convenience in securing both ends of the strap to the frame separately, an independent cross pin or bar, D′, is provided, to which one end of the strap may be secured, the other end being fastened, as described, to the end bar, B, I contemplate securing both ends of the strap by any suitable means or device to the end bar, B, in which case the transverse strap-pin D′ may be wholly dispensed with.

When it is found desirable to use a strap whose ends are united together to form an endless band, and which shall be wholly detached from the tightening device, the latter is simply laid upon the band or strap after it has been passed around the trunk or package, and the slack or loose portion of the strap being drawn in upward between the strap-pin D′ and the inner cross-bar, B′, the detachable take-up pin D is slipped under it and secured in manner as shown in Fig. 1. The device is then folded over, as illustrated in Figs. 3 and 4, and will operate to tighten the strap in manner as hereinbefore described.

I claim as my invention—

1. A device for tightening and securing trunk and other straps, consisting of an open-ended metallic frame constructed of side bars, A A, a fixed cross-bar, B′, and an end bar, B, in combination with a detachable take-up pin, D, engaging a series of holes or notches in the side bars intermediate between the cross-bars B and B′, and an outer transverse locking-pin, E, adapted to engage and close the free open end of the frame, all substantially in the manner and for the purpose herein set forth.

2. The combination, in my improved trunk-strap tightener, with the open-ended metallic frame A A B B′, the detachable take-up pin D, and the transverse locking-pin E, of an auxiliary transverse pin or bar, D′, substantially in the manner and for the purpose herein set forth.

3. The combination, with an open frame consisting of side bars, A A, connected by cross-bars B B′, and carrying a transverse strap-pin, D′, a detachable take-up pin, D, and locking-pin E, of a strap or band, G G′, connected at one end to the outer cross-bar, B, and at the other to the strap-pin D′, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANDREW J. ALDRICH.

Witnesses:
JOHN A. ELLIS,
J. F. ACKER, Jr.