

R. BELCHER.
BUCKLE DEVICE.
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1,002,489.

Patented Sept. 5, 1911.

Fig. 1.

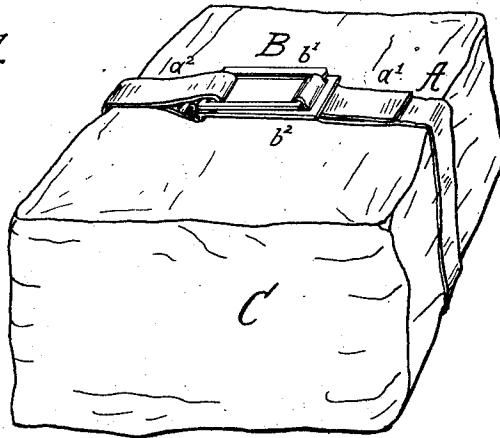


Fig. 2.

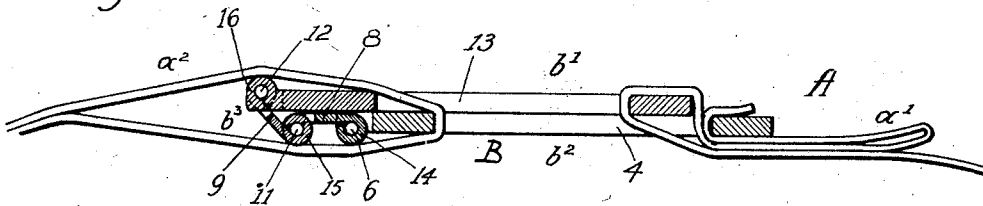
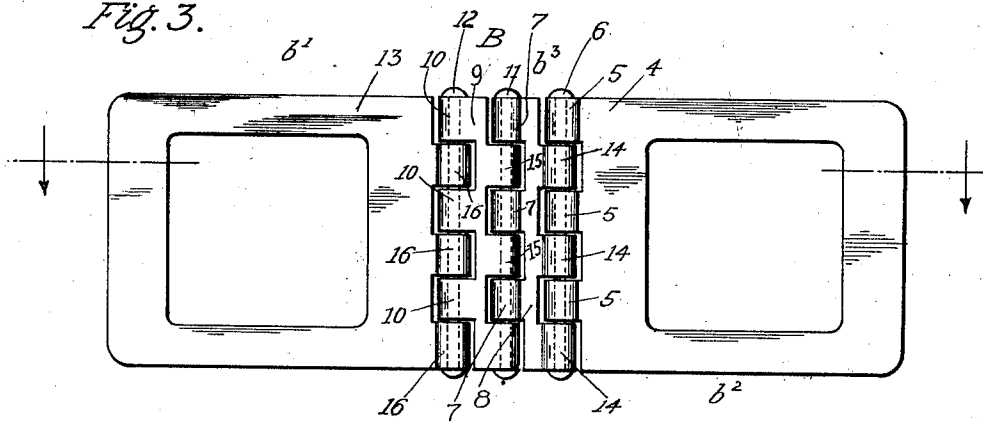


Fig. 3.



Witness:
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Inventor:
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UNITED STATES PATENT OFFICE.

RALPH BELCHER, OF LOS ANGELES, CALIFORNIA.

BUCKLE DEVICE.

1,002,489.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RALPH BELCHER, a subject of the King of Great Britain, having declared my intention of becoming a citizen of the United States of America, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Buckle Devices, of which the following is a specification.

This invention relates to buckle devices, and it has for its object to provide an improved buckle device adapted for use as temporary holding or securing means in a wide range of classes of service, in connection with straps, cords, and other flexible devices which are adapted to co-act with the same.

A particular object of the invention is to provide a buckle device or buckle substitute in connection with which such flexible devices as those above enumerated, and others, such as tapes and bands, may be used, in combining or holding together a wide variety of articles or objects with which straps and buckles are customarily employed, the buckle device or substitute being so organized as to obviate the provision of holes or openings in the flexible device, which former tend to weaken the latter. In the use of the present invention another objection to the use of pierced straps or the equivalents is obviated, namely, that of the requirement of adjustment of the strap or equivalent, relative to the buckle, so that an opening shall be brought into registration with the tongue of the buckle. As is well known, it often results that, in the use of the ordinary buckle and strap, it is impossible to obtain the proper binding action of the entirety and at the same time positively connect the buckle with the strap, because of such failure of registration of the tongue of the former with an opening in the latter. And, conversely, it often occurs that undue binding strain is imposed upon the device or articles about which the strap is passed, in order that the buckle tongue may come into registration with the strap opening which according to the present invention any strap, band, tape, or other flexible device of suitable dimensions and tensile strength may be employed in connection with the improved buckle device, and the two may be firmly and temporarily engaged in holding function at any phase of relative adjustment of the same; and furthermore, the buckle de-

vice and flexible device may be released from holding engagement by a simple tug upon one end of the flexible device.

In the main, the improved buckle device comprises two members capable of free relative movement, and so connected as to prevent such free relative movement, constituting a unitary device perfectly adaptable to all the conditions of adjustment and manipulation incident to use.

The invention consists in the novel provision, formation, combination and association of parts, members and features, all as hereinafter described, shown in the drawing and finally pointed out in claims.

In the drawing:—Figure 1 is a perspective view illustrating merely the method of use of the improved buckle device constituting the invention; Fig. 2 is an enlarged longitudinal section thereof, taken upon the section line in Fig. 3 and looking in the direction of the appended arrows, the parts being in operative arrangement and in association with a strap or other flexible device; and, Fig. 3 is a plan view, upon a similarly enlarged scale, of the buckle device in detached position, the parts or members being in extended relation.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring with particularity to the drawing, A designates a strap or other flexible device, which, as shown, may be imperforate throughout its entire length, the same being combined with the buckle device B, organized and constructed according to the invention; the two being shown in Fig. 1 as applied to a package or object in binding operation.

The buckle device D comprises two parts or members, b^1 and b^2 , which are joined at an end of each by connection means b^3 which permit relative movement of the two members b^1 and b^2 . Each of the buckle members b^1 and b^2 may be of any suitable shape and conformation, and are shown in the drawing as comprising rectangular open frames or links 4 and 13, respectively. In use, one of the frames or links 4 and 13 overlies the other, in superposed relation, as shown, being in facial contact therewith, both said members or links being preferably flat.

The connection means b^3 preferably comprises three hinge portions, having each a nucleus or pintle 6, 11 and 12 respectively, the pintles 6 and 12 being respectively con-

connected with knuckles 5 upon the link 4 and knuckles 16 upon the link 13. The pintle 6 is also connected with knuckles 14 upon the plate 8 intermediate of the links 4 and 13. 5 The pintle 12 is also connected with knuckles 10 upon the plate 9 intermediate of the links 4 and 13; and the pintle 11 is connected with knuckles 7 upon the plate 8 and with knuckles 15 upon the plate 9; the plate 9 10 being next in position to the link 13, and the plate 8 being disposed between the plate 9 and the link 4.

The pintles 6, 11 and 12, and the knuckles 5, 14, 7, 15, 10 and 16, are all formed with 15 such proper dimensions as shall cause the entire three hinge portions of the connection means b^3 to lie as nearly as possible within the same plane as the links 4 and 13, when all of the parts stated are in extended posi- 20 tions, as shown in Fig. 3, to the end that the connection means b^3 may project as slightly as possible, if any, beyond the plane occupied by the two links 4 and 13 when the same are in facial contact, in service, as shown in 25 Fig. 2.

The strap or other flexible device A is looped at one end through the two links 4 and 13, and around the connection means b^3 joining the same, as shown in Figs. 1 and 2, 30 and secured in such position; and after the strap has been passed around the device or objects to be bound by the entirety the free end a^1 of the strap is passed upwardly through the under link 4 and the upper link 35 13, and thence downwardly between the free outer ends of said links. The extreme end of the strap is then preferably looped back and upwardly between the free ends of the links, as shown in Fig. 2, so that a slight 40 pull upon said free end will release the end of the strap from its firm engagement between the free ends of the links. It is manifest that the greater the strain upon the strap, the more effective will be the impinge- 45 ment of the free ends of the links upon the free end a^1 of the strap, giving a firm binding effect thereto in temporary holding function, the two links being free to play

relatively to effect such binding engagement, as permitted and accommodated by the flexi- 50 ble connection means b^3 .

The binding impingement of the links upon the strap may be effected at any point in the length of the strap; and any suitable flexible device may be employed in connec- 55 tion with the buckle device. The entire device is of slight total thickness or transverse dimension so that it lies and fits snugly against the devices or objects in connection with which it is used, particularly qualify- 60 ing the device for use as a harness or saddle girth fastening, a shoe fastening, or package fastening. The delicacy of adjustment capable in the use of the improved buckle device also qualifies it particularly for a 65 wide variety of other uses, such as holding in place surgical bandages and compresses.

Having thus described my invention, I claim and desire to secure by Letters Pat- 70 ent:—

1. An improved buckle device, comprising two members adapted to coact in flat contact in gripping a flexible connection device and connected by a plurality of pintles, 75 knuckle bearing members disposed between and connected with the pintles, and knuckles connected with the members and connected with the pintles.

2. An improved buckle device, comprising two open links adapted to coact in flat con- 80 tact in gripping a flexible connection device, knuckles connected with the links, a plurality of plates each provided with two sets of knuckles, and a plurality of pintles connected with said sets of knuckles and said 85 knuckles upon said links whereby said links and plates are serially and flexibly connected.

In testimony whereof, I have signed my name to this specification in the presence of 90 two subscribing witnesses.

RALPH BELCHER.

Witnesses:

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B. F. FLETCHER.