(No Model.)

C. A. CONGER.

BUCKLE.

No. 536,267. Patented Mar. 26, 1895.

Fig. 1.

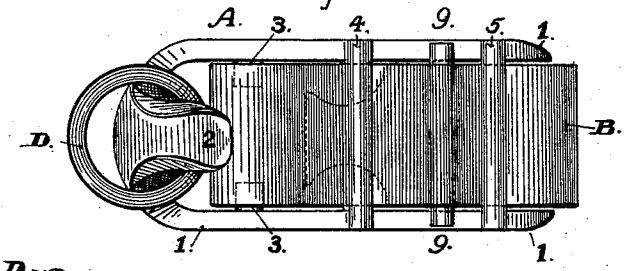


Fig. 2.

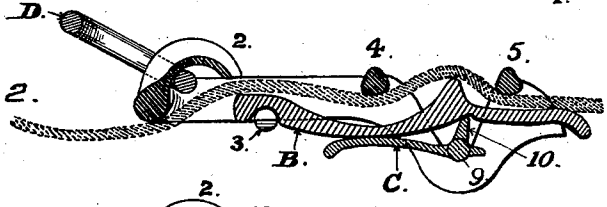


Fig. 3.

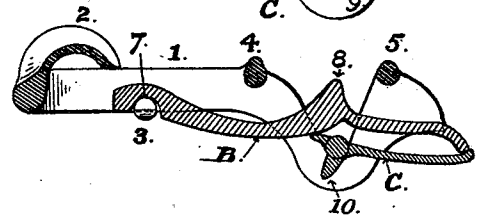
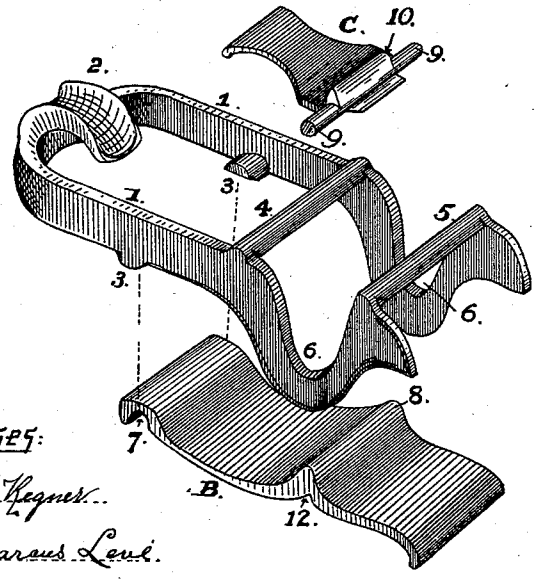


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES A. CONGER, OF SAN FRANCISCO, CALIFORNIA.

BUCKLE.

SPECIFICATION forming part of Letters Patent No. 536,267, dated March 26, 1895.

Application filed July 20, 1894. Serial No. 518,132. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. CONGER, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Buckles, of which the following is a specification.

This invention relates to improvements made in buckles of that kind or description which operate wholly by friction, or by gripping the strap, instead of by a tongue passing through the strap.

A buckle of the kind mentioned was patented to me on the 29th day of May, 1894, in Letters Patent of the United States No. 520,588; and it is to the improvements described and claimed in the said patent that my present invention particularly relates.

The present invention, which consists in certain differences in construction of the frame, the pressure-plate or gripping-piece, and the cam-lever, as will be more particularly described hereinafter, has for its object, mainly, to obtain increased gripping-power upon the strap and particularly upon a stiff and heavy strap, or where the strap by reason of its exposure to the weather becomes stiff and difficult to bend; but it has for its object also to simplify the shape of the parts and especially of the frame, so that the cost of manufacture is materially reduced.

The following description explains at length the nature of the present improvements in buckles of this class, and the manner in which I proceed to construct and apply the same, reference being had to the accompanying drawings.

Figure 1 represents in top-view a buckle for heavy hitching-straps, embodying these improvements. Fig. 2 is a longitudinal section through the buckle, with the parts set in position to grip the strap. Fig. 3 is a similar view showing the parts in the opposite position, or with the grip thrown off the strap. Fig. 4 shows in perspective the parts of the buckle separated from one another.

Referring to the several figures of the drawings:— A— indicates the frame of the buckle; B—, the gripping-plate or part that grips and holds the strap by bending it out of line in the frame.

—C— is the cam-lever or eccentric-lever that acts upon the gripping-plate both to press it against the strap and to lock it in position.

The frame —A— is constructed of parallel side-bars —1—2— united at one end by a hook which is bent over in a short curve and with a beak or point turned downwardly into the opening between the side-bars. The office of this hook —2— is to receive a ring —D— into which is inserted the snap-hook on the end of the hitching-strap after the strap is passed around the hitching-post, and while the ring is securely held in the frame by this hook it is sufficiently loose to accommodate itself to the strain on the strap, so that it always stands in direct line with the strain on the snap-hook. On the side-bars of the frame and below the point of the beak are short lugs 3—3— on the side-bars projecting inwardly and rounded on the upper surfaces to form pivots or bearings for the plate —B. The side-bars of the frame beyond these pivots are united by cross-bars —4—5— extending transversely across the top of the frame and joining the side-bars together only at the top. The portions of the side-bars lying between the cross-bars —4—5— are bent in a sharp curve downwardly in the same plane and rounded at the bottom of the curve to produce an open socket or bearing —6— for the cam-lever —C. This curved-shape given to the side-bars brings the sockets —6— the proper distance below the line of the cross-bars to let in the cradle or piece —B— under the cross-bars, and also to give sufficient space for the strap between this piece and the cross-bars. This frame thus constructed has no cross-bars at the bottom; and the cross-bars —4—5— being placed at the top only, the lower side of the frame between the side-bars is entirely open. This materially reduces the cost of manufacture, as it enables the frame to be molded without cores and the surfaces to be cast smooth, so that no finishing is required.

The plate —B— is formed with a groove or deep recess —7— in the lower face across the front end fitted to set on the lugs —3— and from that point in the frame the plate extends between the side-bars and under the cross-bars to the rear end of the frame, the plate being made of suitable width to fit and work easily between the side-bars. Across the top-face of that portion of the plate

which lies in the space between the two cross-bars —4—5— when the plate is set in place there is formed a narrow rib or standing projection —8— wedge-shaped in cross-section, extending transversely across the plate with its narrow edge standing above the face of the plate, and between this projecting edge beneath the strap and the two cross-bars upon it the strap is gripped and held by forcing the plate —B— upward toward the cross-bar by pressure applied against the back or under side of the plate. The pressure for this purpose is applied by the cam-lever —C— before mentioned, which is supported in the bent portions of the frame directly under the plate. This piece —C— is a lever with journal-portions or pivots —9—9— to rest in the sockets on the side-bars, and also an eccentric or cam —10— standing above and in line with the pivots, the edge of the said part having suitable projections above the pivots to produce the required extent of movement in the plate —B— when the lever is turned on its pivots. In one position of the lever the cam stands substantially perpendicular to the plate resting upon it, and the edge of the cam sets against the lower face of the plate under, but somewhat to one side of the line of the standing rib —8; but when the lever is thrown over against the rear end of the plate the cam is turned down in the opposite direction away from the plate. In the first of these two positions (Fig. 2) where the plate —B— is held up by the cam-lever the strap is gripped and held by the joint action of the plate and the cross-bars —4—5; and in the other position (Fig. 3) where the cam is turned back, the plate —B— is dropped sufficiently to let the strap draw straight over the ridge —8— and slip easily under the cross-bars.

In the bottom face of the plate under the standing-rib —8— is formed a hollow seat or depression —12— of suitable depth for the edge of the cam to rest in and be held from turning over on the center in either direction under the pulling strains which the strap and the buckle are called upon to bear, so that the cam-lever is locked and can not turn over when the grip is closed upon the strap.

It should be noticed that the lugs —3— which furnish a fulcrum and a support for the plate —B, are set forward in such near position to the inwardly-turned hook that the end of the plate lies under the point of the hook and sufficient room between the point and the plate beneath is afforded for the strap to be carried easily under the hook downward and out through the bottom of the frame, but at the same time the strap when in place prevents the plate —B— from rising off its pivots —3. Thus it will readily be seen that the plate —B— is confined in the frame by the strap and the cam-lever is confined in turn by the plate when the buckle is in place on the strap.

By the construction and arrangement of these parts as above described I have secured a powerful leverage sufficient to hold at all times a thick and heavy strap combined with such ease in operation that a strap rendered stiff and unyielding by exposure to the weather can be readily gripped and loosened without much exertion of strength.

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

1. In a buckle of the kind hereinbefore described, the open buckle-frame composed of parallel side-bars having at one end the inwardly-turned hook with a downwardly-bent beak that is adapted to receive a loose ring and near the opposite end the sockets below the bottom line of the frame, in combination with a plate fulcrumed in the frame immediately under the beak of the hook and extending rearwardly therefrom between the side-bars of the frame and a cam-lever pivoted in the sockets on the side-bars and adapted to bear against the said plate from below and press it upward on the frame.

2. The combination, substantially as hereinbefore set forth, of the frame A having side-bars with downwardly bent portion, top cross-bars 4—5— joining the side-bars on either side of the said portion, a hook with an inwardly turned and downwardly-bent beak and the lugs 3—3— on the side-bars below the beak, the plate B resting on said lugs and extending rearward between the cross-bars, and the standing rib on the top face of said plate; and a cam-lever C having pivots setting in the sockets on the side-bars and a projection which rests against the back of the plate and by the movement of the cam-lever is adapted to press up the said plate and force its rib into the space between the cross-bars.

3. The herein described buckle consisting of the frame A composed of side-bars 1—1— united at one end and by a hook 2 having a downwardly bent and inwardly-turned beak, the lugs 3—3— on the side-bars below said beak the cross-bars 4—5— and the bent portions 6—6— between the cross-bars; the plate B loosely set in the frame under the cross-bars having one end bearing on the lugs under the beak, the standing-rib 8 on the top face of said plate in the space between the cross-bars; the ring D loosely confined in the hook by the end of the said plate and the strap on which the buckle is placed; and the lever C pivoted in the frame under the plate B having a projecting cam or eccentric portion 10 bearing against the back of the said plate and adapted by the movements of the lever to press the plate upward and to lock it in that position.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

CHARLES A. CONGER. [L. S.]

Witnesses:

M. REGNER,

R. M. EDWARDS.