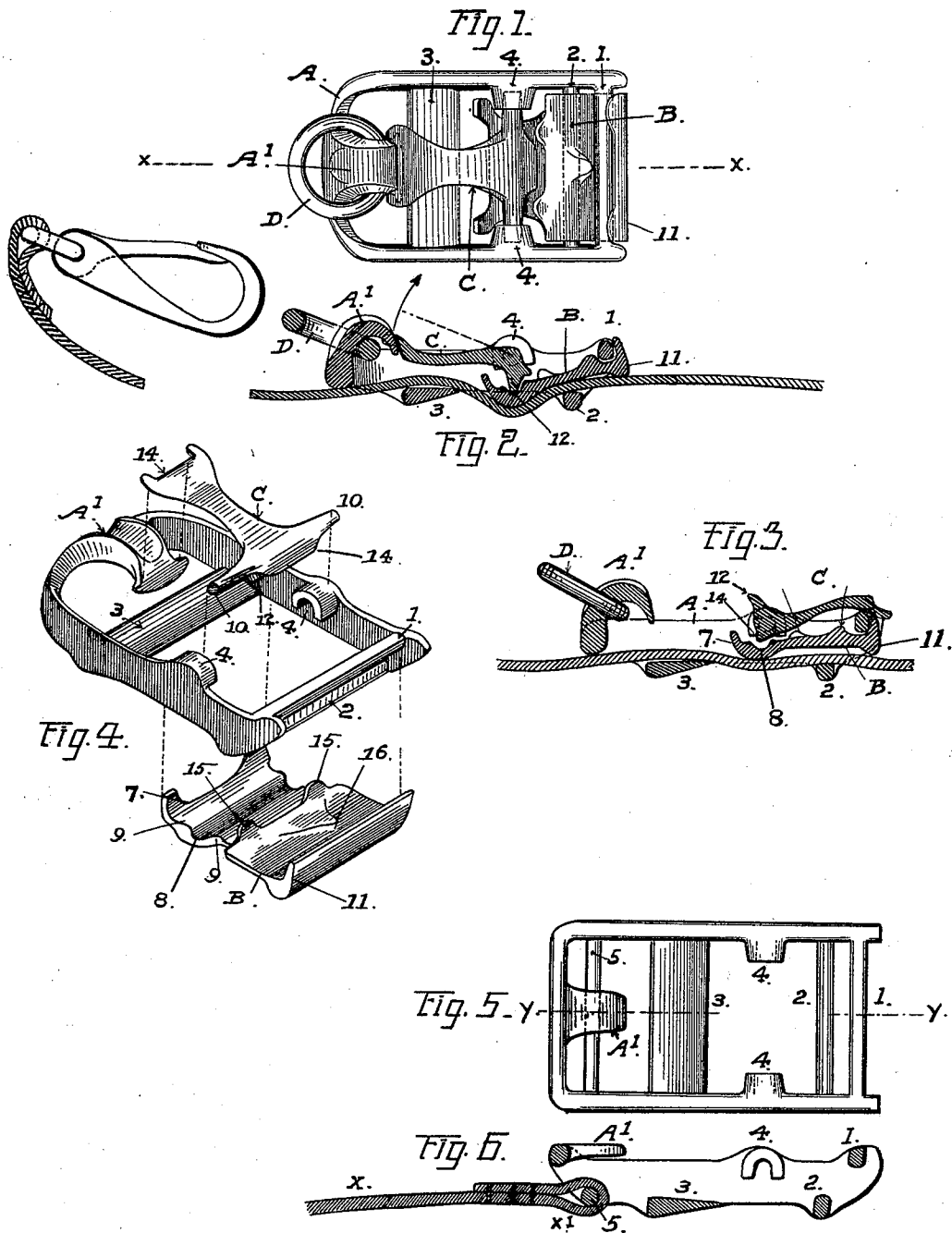


(No Model.)

C. A. CONGER.
BUCKLE.

No. 520,588.

Patented May 29, 1894.



Witnesses:
M. Regner
Daniel B. Richards

Inventor:
Charles A. Conger
By Smith & Babson his Attys.

UNITED STATES PATENT OFFICE.

CHARLES A. CONGER, OF SAN FRANCISCO, CALIFORNIA.

BUCKLE.

SPECIFICATION forming part of Letters Patent No. 520,588, dated May 29, 1894.

Application filed February 27, 1894. Serial No. 501,661. (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.

My invention relates to improvements made in buckles for horse hitching-straps and other articles that require a strong and firmly holding buckle; but the improvements are as well applicable to the production of buckles of lighter description, such as those manufactured for skate-straps and shawl-straps and other light leather straps.

The said improvements have for their object, mainly, the production of a buckle having all the holding properties or qualities of the ordinary tongue-buckle without any of the limitations in adjustment which are associated with the application and use of a tongue-buckle and spaced holes in the strap, and possessing besides, the qualities of holding the strap with a firm grip under excessive strains and a readiness of adjustment under all conditions on a thick or stiff strap.

My said improvements consist in certain novel construction and combination of parts, as hereinafter fully described producing a positive grip, of improved construction with which said grip is combined producing an improved buckle for use either on the end of a strap as on skate-straps and shawl-straps or at a point in the length of a strap more or less distant from the ends as in a hitching strap for horses.

These improvements and the manner in which I proceed to construct and apply the same in the manufacture of buckles for straps and harness are fully explained in the following description, in which reference is had to the accompanying drawings that form part of this specification.

In the said drawings:—Figure 1 is a plan or top-view of a buckle for a horse hitching strap embodying my improvements. Fig. 2 is a longitudinal section of Fig. 1 taken through the line $x-x$ with the "grip" closed on the strap. Fig. 3 is a similar section showing the position of the parts when the "grip" is off. Fig. 4 represents in perspective the buckle frame and the parts composing the

grip separated from one another. Fig. 5 is a plan or top view of a buckle-frame in which provision is made for sewing or otherwise permanently securing it on the end of a strap. Fig. 6 is a longitudinal section through Fig. 5 on the line $y-y$.

Referring to the drawings it will be seen that the buckle is composed of a frame A having cross-bars that sit in alternate order over and under the strap when the same is passed through the frame, and a movable pressure-plate B arranged between two of the bottom cross-bars to bear upon the strap from above, and a cam-lever or eccentric-lever C pivoted in the frame and adapted to press down and hold the part B between the cross-bars that support the strap.

In the case of a buckle intended for a hitching strap, or to be used with a snap-hook, I construct the frame A as shown in Figs. 1, 2, 3 and 4 with a hook or turned beak A' to take a ring D . But where a buckle is designed for use on the end of a strap I substitute for the hook on the frame a cross-bar 5 across that end to which the strap x is secured by passing its end around the bar in a loop x' and then fastening the end by stitching or rivets. This last described construction is shown in Figs. 5 and 6 . The arrangement of the remaining cross-bars and the construction of the parts B and C are the same in both forms or styles of buckle-frame described. At the opposite end, or what may be termed the front end of the buckle, are two bars $1-2$ one at the top across the end of the frame and the other 2 at the bottom and somewhat to one side of the top-bar 1 when looking at the side of the frame as in Figs. $2-3$ and substantially parallel with the top bar. Between this front end and the back end of the frame is a second cross-bar 3 also across the bottom or the under side of the frame at a point about one-third the length of the frame distant from the back end. This second bar 3 is broader than the other bars before described, as will be seen in Figs. 1, 4 and 5, and in cross-section it resembles a wedge with the acute angle lying toward the front end of the frame. About midway between the line of this last-mentioned edge of the broad cross-

bar and the line of the other bottom cross-bar —2— at the front, there are open sockets —4—4— on the inner faces of the side-bars of the frame with circular recesses and slots 5 opening from them or to the inside of the frame downward.

The part —B— which I have termed the pressure plate is formed with a curved cradle-piece —7— of suitable breadth to sit 10 loosely into the open space between the two cross-bars —2—3— with a convex bottom-face next the strap and a concave top-face having a groove or depression —8— along the lowest part of the concavity and ridges or raised 15 portions —9—9— along the edges of the depression. The body of this plate from the curved portion, or cradle, before mentioned, to the front end is substantially straight, and at that end it is turned up and stands about 20 perpendicular, so that when the cradle is in place with the straight portion of the plate resting in the opening between the bars of the frame and upon the bottom cross-bars —2— this turned-up end 11 of the plate will 25 sit against the top cross-bar —1— from the outside.

The third one of the parts composing this buckle which I have termed the eccentric lever is set in the frame above the pressure-plate 30 —B— already described, and is retained in place principally by the open sockets —4—4— on the sides of the frame, but also by the end of the lever engaging with the hook or part —A'— on the end of the frame. This part 35 —C— is a lever with pivots or journal portions —10—10— on the broad end fitted loosely into the sockets —4—4— on the frame and an eccentric portion —12— on the under side projecting downwardly from the pivot-bearing 40 end into the concavity of the cradle beneath and sitting toward the front slightly out of the direct perpendicular under the pivots. The lever is of proper length to rest at the end against the hook or part —A'— and 45 an open slot or rectangular notch —14— is made in the end to take over that part, so that the lever when turned down cannot move sidewise. On the back of the lever —C— or that end which is presented to the front of the 50 buckle when the lever is in place, there is a projecting rib or fin —14— of suitable length to fit loosely between two lips or stops —15—15— on the top of the piece —B. The office of these stops is to confine this broader end 55 of the lever in like manner as the hook or projection —A'— confined the lever at the outer end. A lug or stop —16— on the top-face of the plate behind the upwardly turned end sits against the back of the top cross-bar 60 —1— when the plate —B— is in place, and between these standing parts or projections —11— and —16— the cross-bar is confined, so that the plate is kept from moving longitudinally from between the two cross-bars 65 —1—2.

The parts of the buckle are put together by setting the plate —B— between the two cross-

bars —1—2— from the front end of the frame and dropping the curved cradle under the sockets —4—4— into the opening between the 70 bottom bars or cross-pieces —3—4. After this, the pivots of the lever are inserted from below into the sockets —4—4— and the end of the lever is thrown back toward the front end of the frame against the top-cross bar as represented in Fig.—3. In this position the buckle is ready to receive the strap. 75

Figs.—2— and —3— clearly show the manner of setting the strap through the buckle. Its end is inserted through the slit or opening 80 between the two cross-bars —1—2— at the front of the frame and beneath the plate —B— and is passed over the broad cross-piece —3— and finally under the cross-bar at the back end of the frame. The cradle-piece at this time lies 85 loosely on the strap without pressure, but as the outer end of the lever —C— is turned on the pivot and brought down into position toward the rear of the frame, the cradle is pressed down between the two cross-bars —2—3— and 90 the strap is seized and held with a firm grip and a continuous pressure. In this position the end of the eccentric portion of the lever below the pivots rests in the groove or depression in the cradle and is so confined by 95 the ridges or raised parts in front of and behind the groove that it cannot move to one side or to the other until the lever is raised and thrown over by hand; therefore, the cradle is held down and securely locked in position. 100

It will be noticed that no rivets or fastenings are used in this buckle to attach the parts together; they are confined however by virtue of their peculiar arrangement of the 105 stops and projections engaging the bars of the frame.

Having thus fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is— 110

1. The herein described buckle consisting of the frame —A— having the cross-bars —1—2— at one end, between which the end of the strap is inserted, the bottom cross-bar —3— between the bar —2— and the opposite 115 end of the frame and the inwardly turned hook or beak —A'— on the top of the frame, in combination with the plate —B— having the cradle-piece and the upwardly turned end fitted between the cross-bars of the frame 120 and the lever —C— pivoted in the frame and having an eccentric portion extending below the pivots and resting in the cradle-piece and adapted by the pivotal movement of the lever to press the cradle piece down between 125 the cross bars of the frame, substantially as hereinbefore set forth.

2. The combination substantially as hereinbefore set forth, of the frame having cross-bars and openings as described, of the loose 130 pressure-plate having a curved cradle-piece adapted to fit into the opening between two parallel cross-bars on the frame and provided with a groove or depression in its concave

upper-face and the pivotal lever having an eccentric portion below the line of its pivot adapted to sit in the depression of the cradle and by the pivotal movement of its lever
5 to press the cradle outward through the opening between the cross-bars of the frame.

3. The combination substantially as hereinbefore set forth, of a suitable frame, a pivoted lever having an eccentric projection on
10 its under side below the line of the pivot, and a curved cradle-piece fitted loosely into an opening in the frame between cross-bars thereof on either side of and below the piv-

otal points of the lever having a groove or depression in its concave upper face into
15 which the eccentric portion of the lever rests; the pivotal movements of the lever acting to press and hold the said cradle-piece outward in the said opening of the frame.

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

CHARLES A. CONGER. [L. S.]

Witnesses:

EDWARD E. OSBORN,
R. M. EDWARDS.