

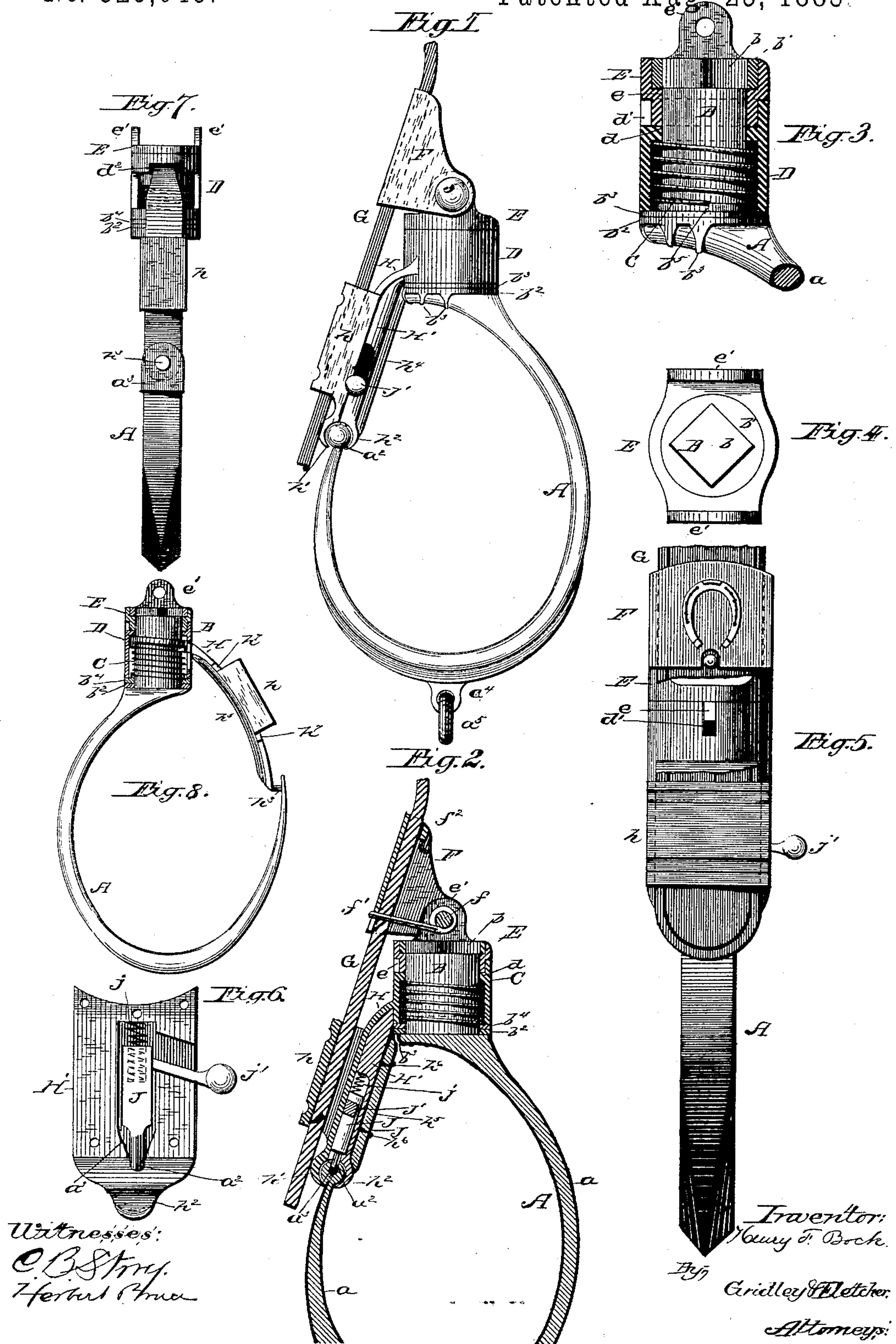
(No Model.)

H. F. BOCK.

SHAFT LOOP.

No. 325,045.

Patented Aug. 25, 1885.



UNITED STATES PATENT OFFICE.

HENRY F. BOCK, OF LANSING, ILLINOIS.

SHAFT-LOOP.

SPECIFICATION forming part of Letters Patent No. 325,045, dated August 25, 1885.

Application filed January 23, 1885. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. BOCK, of Lansing, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Shaft-Loops, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of said loop. Fig. 2 is a central longitudinal vertical sectional view
10 of the same. Fig. 3 is a detail view, partly in section, of the head or swivel. Fig. 4 is a plan view of the same with the buckle removed. Fig. 5 is a front view representing the strap partially broken away to show the
15 front of said swivel. Fig. 6 is a plan view in detail of the interior of the lock-plate removed from its position. Fig. 7 shows a front view of a modification of said device, and Fig. 8 is a side view thereof, partly in section.

20 Like letters of reference indicate like parts in the different figures.

The object of my invention is to so construct a harness shaft-loop that the same may be strong and durable, and into which the shafts
25 may be dropped with ease and facility, instead of requiring to have their ends inserted therein in the usual manner.

A further object is to so lock said loop that the shaft may be securely retained therein,
30 while the loop may be unlocked at will and the shaft released without the annoyance and inconvenience which are attendant upon the use of straps and buckles, all of which will be hereinafter more fully described, and definitely
35 pointed out in the claims.

In the drawings, A represents a loop or hook, preferably cast in malleable iron, and having a covering, *a*, Fig. 2, of leather or rubber, stitched or otherwise fastened thereover. If
40 the latter is used, it may consist of a simple rubber tube drawn over said hook. The upper end of said hook A is enlarged, and is provided with an upwardly-projecting pintle or neck, B, the top of which, *b*, Figs. 2, 3, and
45 4, is preferably square or of any irregular shape, so that a washer, *b'*, which is riveted thereon, may turn therewith. Before fastening said washer *b'* to the neck B, I place a washer, *b''*, thereover, said washer being formed
50 from thin sheet metal and provided with serrated points *b'''*, which overlap the shoulder of

said hook A, and serve to retain the top of the covering *a* firmly and securely in position. A second washer, *b''*, is then placed over said neck B, said washer having an upturned
55 flange, *b'''*, Fig. 3, which is fitted to said pin. A spiral spring, C, is then placed over said washer *b''*, after which a loose sleeve, D, having a suitable recess for the reception of the spring C, and an annular flange, *d*, which serves
60 as a shoulder or bearing for said spring, is adjusted upon said neck B, when a swivel-head, E, provided with an inwardly and downwardly turned flange, *e*, countersunk within the sleeve D, is likewise adjusted upon said neck, and
65 the whole secured in place by the washer *b'*, to which the part *b* of the neck B is riveted, as stated. The swivel-head E is provided with a tooth or projection, *e'*, Fig. 5, which fits into a corresponding notch, *d'*, in the sleeve D,
70 thus causing said head and sleeve to turn in unison. The object of the spring C is to prevent said parts from rattling when in use. Upon the swivel-head E are formed perforated lugs *e' e'*, to which a buckle, F, is attached by
75 means of a rivet, *f*, Figs. 1 and 2, to which the buckle-tongue *f'* is likewise attached. A cross-bar, *f''*, Fig. 2, serves to hold the strap G in place and to prevent unnecessary wear thereon.

To the sleeve D is rigidly attached a pro-
80 jecting plate or guard, H, having a loop, *h*, thereon, for the protection of the end of the strap. A second plate, H', is riveted beneath the part H, each of said plates being provided with curved lips *h' h''*, adapted to fit over a
85 rounded knob, *a''*, upon the end of the hook A. Within the plate H' is a recess, in which is inserted a retractile spring-catch, J, Figs. 2 and 6, pressed downwardly by a spiral spring, *j*, and the end of which is adapted to engage in
90 a socket, *a'''*, Fig. 2. Upon the end of a laterally-projecting arm is a knob, *j'*, Figs. 1 and 6, by which said catch is manipulated. In operating said shaft-loop the knob *j'* is pushed back, thus releasing the catch, when the part
95 H is moved or twisted laterally upon the swivel-joint described until it is sufficiently out of the way to permit the shaft to drop into the hook or loop A, when it is again turned back into its normal position, where it is locked
100 by said catch, and thus serves as a guard to prevent the shaft from being thrown out.

As a modification of said construction I dis-
 pense with said spring-catch and loosely se-
 cure the part H by means of an eye over the
 neck B and within the sleeve D, as clearly
 5 shown in Fig. 8, the spring C bearing directly
 against the same. The sleeve D is partially
 cut away, as shown in Fig. 7, to permit a lat-
 eral movement of the guard H. A notch, d^2 ,
 into which said guard is pressed by the spring
 10 C, serves to lock said part in its normal posi-
 tion, while a projecting stud, h^4 , passing into
 a perforation in the end of the hook A, securely
 connects the two. By pressing against the
 front of the guard H the stud h^3 is removed
 15 from engagement with the end of the hook A,
 while the guard H is likewise disengaged from
 the notch d^2 , when it is free to turn laterally
 in either direction upon said joint in the same
 manner as in the construction shown in Fig. 1.
 20 To prevent the leather covering from being
 worn by contact with said part H, I prefer to
 place a metallic tip, a^3 , Fig. 7, thereover, while
 to prevent the metal of the guard H from
 wearing the thill I place a leather or rubber
 25 pad, h^5 , beneath the same, said pad being se-
 cured by means of projecting metal points h^6
 h^6 , Fig. 2, which serve as rivets.

A lug and ring or loop, $a^4 a^5$, are attached
 in any well-known manner to the bottom of
 30 the loop A, to which the belly-band may be
 secured.

The loop h may be made loose, so as to have
 a slight longitudinal movement upon the
 guard H, said movement being limited by
 35 shoulders $h^7 h^7$, Fig. 8, or any other well-known
 means. The loop can then accommodate itself
 to the movement of the strap G, and thus pre-
 vent wear upon the latter.

It will be observed that the buckle F is of a

triangular shape, the point of suspension of 40
 the shaft-loop being such that the surface of
 the buckle that bears upon the strap G will
 assume the line, or substantially so, in which
 said strap is suspended, thus furnishing a
 large bearing-surface for said strap and pre- 45
 venting it from being rapidly worn.

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

1. A shaft-loop for harness, consisting of a 50
 rigid hook suspended by a swivel-joint from
 the saddle-strap buckle, and provided with a
 laterally-swinging guard, and means, substan-
 tially as described, for locking the same.

2. A harness shaft-loop consisting of a rigid 55
 hook suspended by a swivel-joint from the
 saddle-strap buckle, and provided with a lat-
 erally-swinging guard having a retractile
 spring-catch, whereby the same may be locked
 in position for securing the vehicle-shaft there- 60
 in, substantially as and for the purposes set
 forth.

3. The combination of the rigid hook A, con-
 nected by means of a swivel-joint with the
 saddle-strap buckle, and a guard, H, con- 65
 structed to swing laterally upon the neck of
 said swiveled hook, and means, substantially
 as described, for locking said guard to the end
 of said hook, substantially in the manner and
 for the purposes specified. 70

4. The combination of the rigid hook A,
 provided with a laterally-swinging guard, H,
 with the triangular-shaped buckle F, substan-
 tially as and for the purposes specified.

HENRY F. BOCK.

Witnesses:

D. H. FLETCHER,
 CLARENCE B. STORY.