

E. A. BENJAMIN.

SNAP.

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932,673.

Patented Aug. 31, 1909.

Fig. 1.

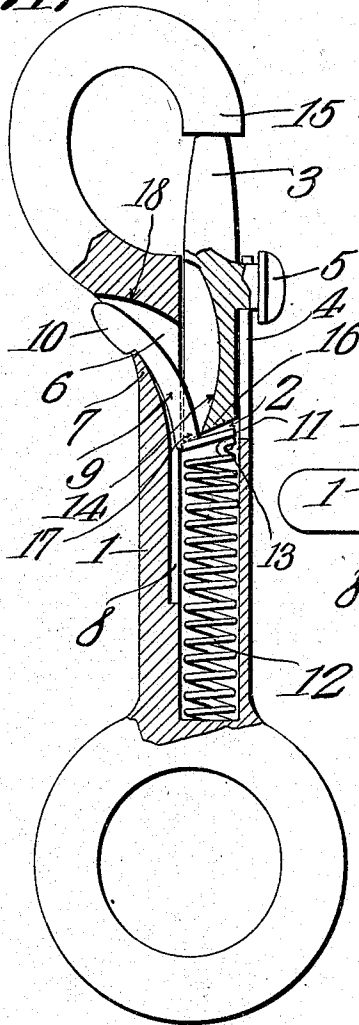


Fig. 2.

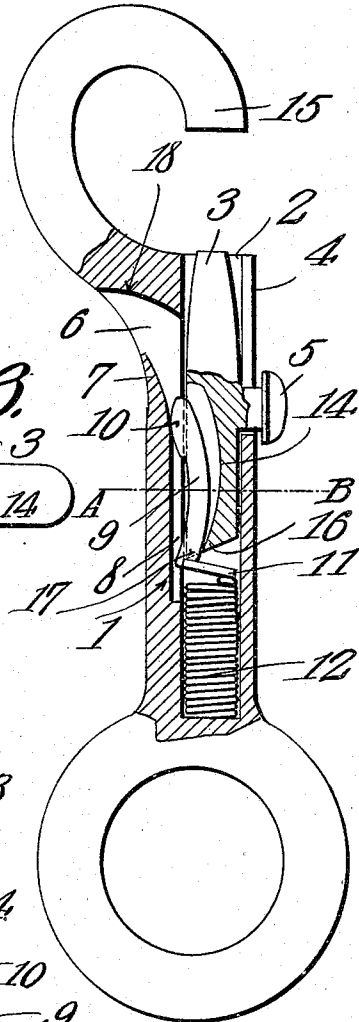


Fig. 3.

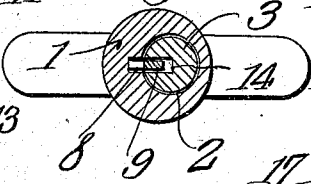
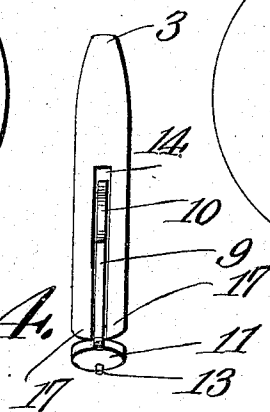


Fig. 4.



Witnesses

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SNAP.

932,673.

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To all whom it may concern:

Be it known that I, EDWIN A. BENJAMIN, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a new and useful Snap, of which the following is a specification.

The improved snap herein described is designed as a safety pattern which requires simultaneous pressure on opposite sides to open the same, which action is natural to the hand but unlikely to be exerted by any other agency.

The objects of the invention are, generally, the provision in a merchantable form, of a device of the above-mentioned class, which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of a snap body and bolt of new and improved construction, and of novel means for locking the said bolt; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that divers changes in the form, proportions, size, and minor details of the structure may be made, without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings, Figure 1 shows my invention in side elevation, portions being broken away better to illustrate the structures, the bolt being in the locked position; Fig. 2 is a side elevation, portions being broken away as in Fig. 1, the bolt being in the depressed or unlocked position; Fig. 3 is a transverse section on the line A—B of Fig. 2; Fig. 4 is a front elevation showing in detail, the locking bolt and the stop assembled therewith.

I am aware that my invention may be embodied in a variety of forms and I do not limit myself in its application. However, in order to present a concrete embodiment for illustration, I have shown a snap comprising

a body portion 1 and a hooked terminal 15, the body portion 1 being provided with an axial bolt-way 2. The walls of the body portion 1 are pierced to form a stop chamber 6, communicating with the axial bolt-way 2. The stop chamber 6 terminates anteriorly in the portion 8 which forms a slot disposed longitudinally upon the inner surface of the axial bolt-way 2. The stop chamber 6, where it pierces the walls of the snap, forms a shoulder 7 having functions hereinafter described.

Slidably mounted in the axial bolt-way 2 is the bolt 3 having the usual thumb-piece 5 arranged to reciprocate in the slot 4 longitudinally disposed in the walls of the snap. The lower end of the bolt 3, is cut off at an angle to the axis of the bolt, and the face of the bolt is provided with a longitudinally disposed slot 14, extending from a point intermediate the ends of the bolt to the lower end thereof, and preferably arcuate in form.

Referring to Fig. 4, it will be seen that the lower face of the locking bolt is disposed at an acute angle to the axis of said bolt, whereby pointed terminals 17 are formed in the lower extremity of the bolt, upon either side of the slot 14, the said slot at its lower extremity lying within the contour of the lower face 16 of the bolt.

I further provide a stop denoted generally by the numeral 9. This stop 9 is slidably mounted in the stop chamber 6, and is provided with a lug 10 arranged to engage the shoulder 7 of the body of the snap. The lower terminal 11 of the stop is disposed in a plane substantially at right angles to the stop proper and is arranged to project into the axial bolt-way 2 beneath the bolt 3. The lower face of the member 11 carries a stud 13 arranged to receive one end of a resilient element 12 having its lower end in abutment against the lower end of the axial bolt-way 2.

Referring now to Fig. 1, it will be seen that when the snap is grasped, the forefinger, moving down the curved portion 15 of the snap at its back, will engage the lug 10 freeing the same from the shoulder 7. When the thumb is applied to the member 5, the bolt 3 will move downward in the axial bolt-way 2, the element 12 being compressed in the process. The stop 9 moving downward, will occupy the portion 8 of the

stop chamber, ultimately arriving in the position shown in Fig. 2. As the stop 9 moves from its locked position and passes downward into the bolt-way, the lower end 11 of the stop will fulcrum upon the portions 17 of the bolt. By thus causing the member 11 to fulcrum at the extreme periphery of the bolt the power arm of the resilient element 12 is made as long as the construction of the device will permit, thereby securing a rapid and positive action of the lug 10 in engaging the shoulder 7. Any dirt or dust which may accumulate in the axial bolt-way beneath the bolt, will readily find its way out of the bolt through the slot 14 and the stop chamber 6.

Referring now to Fig. 2, it will be seen that when the thumb is removed from the member 5 the resilient element 12 will cause the bolt 3 to move upward in the axial bolt-way 2, the stop passing into the stop chamber 6, and the lug 10 engaging the shoulder 7, whereupon the bolt will be firmly locked in the position shown in Fig. 1.

As the stop 9 moves downward with the bolt 3, fulcruming upon the terminals 17 of the bolt, it will recede into the slot 14 in the bolt, which is disposed and shaped to receive it. As the stop 9 moves upward with the bolt 3, passing out of the slot 14, its upper terminal will engage the upper curved face 18 of the stop chamber, whereby it will be deflected outward and into locking position.

By cutting away at an angle the lower terminal of the bolt, clearance is provided for the lower terminal 11 of the stop. It will be seen that the spring 12 rises into connection with the stud 13 without touching the stop at any other point. By this construction the resiliency of the spring is brought to bear at the extreme end of said stop where it will be most effective in operating the member.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A snap hook comprising a body and a locking bolt slidably mounted therein; a stop fulcrumed intermediate its ends upon the lower end of the locking bolt and tiltable to engage at its upper end, the body of the snap hook to hold the locking bolt in locked position, the stop being slidable with the bolt into the body-engaging position.

2. A snap hook comprising a body and a locking bolt slidably mounted therein; a stop fulcrumed intermediate its ends upon the lower end of the locking bolt and tiltable to engage at its upper end, the body of the snap hook to hold the locking bolt in locked position; and resilient means assembled with the lower end of the stop for lift-

ing the stop and the bolt, and tilting the stop to engage the body of the snap hook.

3. A snap hook comprising a body having a bolt-way and a stop chamber communicating therewith, the stop chamber being prolonged to form a longitudinal slot in the wall of the bolt-way; a locking bolt slidably mounted in the bolt-way; a stop extending beneath the bolt and arranged to slide in the chamber proper, and in the slotted portion of the wall of the bolt-way; the stop, at its upper end, being arranged to engage the body to hold the locking bolt in locked position.

4. A snap hook comprising a body, and a locking bolt slidably mounted therein; a stop fulcrumed intermediate its ends upon the lower end of the bolt and slidable therewith, the stop being arranged to engage, at its upper end, the body of the snap to hold the bolt in locked position; the bolt being cut away to receive the upper end of the stop.

5. A snap hook comprising a body having a bolt-way and a stop chamber communicating therewith, the stop chamber being prolonged to form a longitudinal slot in the wall of the bolt-way; a stop extending beneath the bolt and arranged to slide in the chamber proper, and in the slotted portion of the wall of the bolt-way; the stop, at its upper end being arranged to engage the body to hold the locking bolt in locked position; and the bolt being cut away to receive the upper end of the stop.

6. A snap comprising a body portion having an axial bolt-way and being provided with a stop chamber communicating with the bolt-way and extending through the walls of the body portion to form a shoulder therein; a stop slidably mounted in the stop chamber and arranged to project into the bolt-way; a lug carried by the stop and arranged to engage the shoulder in the body portion; a bolt slidably mounted in the bolt-way and arranged to engage the stop; and resilient means for raising the stop.

7. A snap comprising a body-portion having an axial bolt-way and being provided with a stop-chamber communicating therewith; a bolt slidably mounted in the bolt-way; a stop slidably mounted in the stop chamber and engageable at its lower end by the lower end of the bolt; resilient means for raising the stop; and means for locking the stop beneath the bolt at the limit of the up travel of the bolt.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWIN A. BENJAMIN.

Witnesses:

G. T. LEDELL,
SYLVESTER ARTLEY.