No. 641,265. Patented Jan. 16, 1900.

J. DE G. BRASSINGTON.

SNAP CATCH, &c.

(Application filed Mar. 20, 1899.)

(No Model.)

FIG. 2.

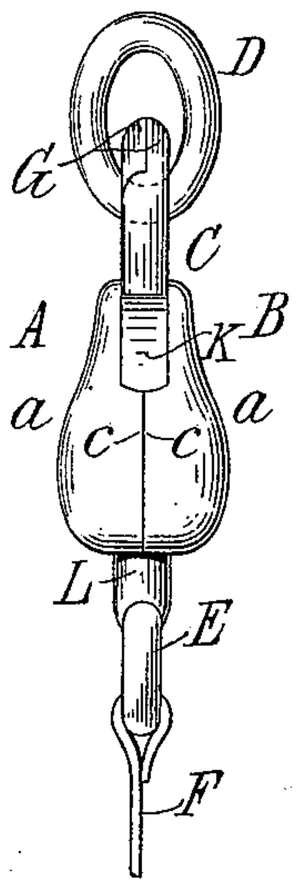


FIG. 1.

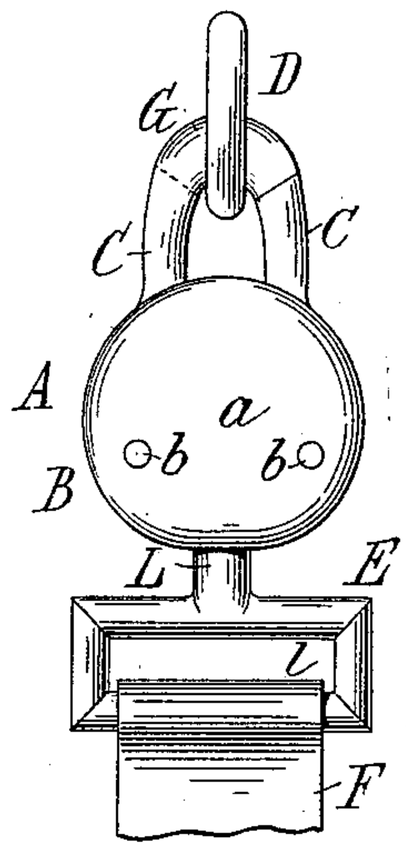


FIG. 3.

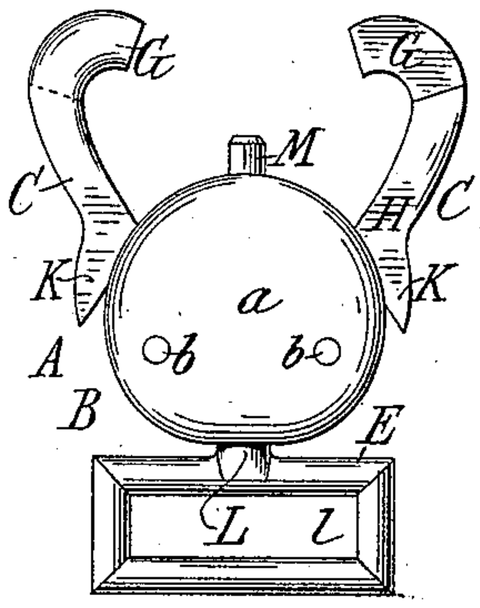


FIG. 5.

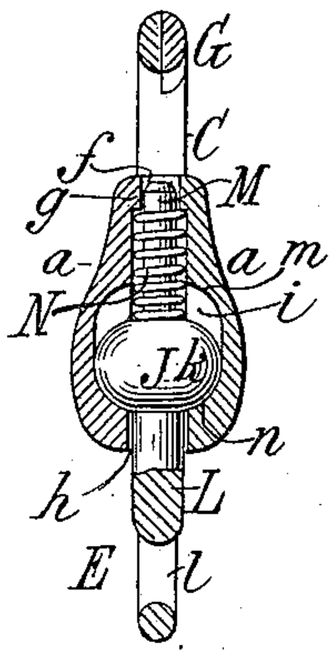


FIG. 4.

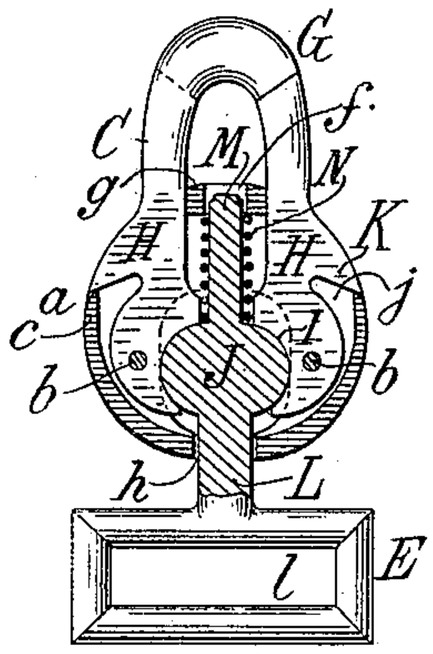


FIG. 6.

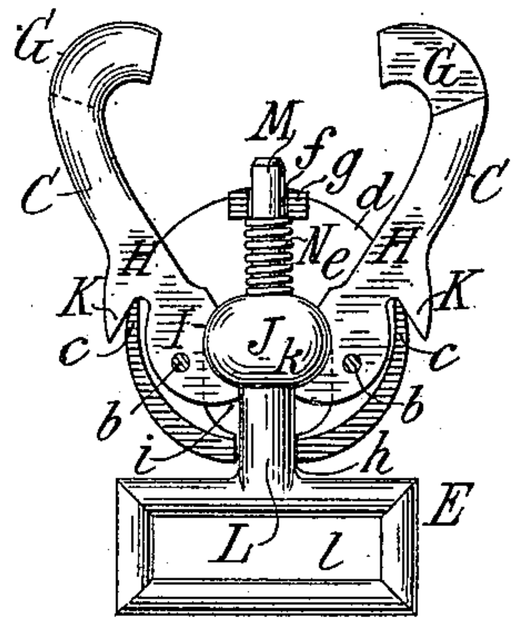
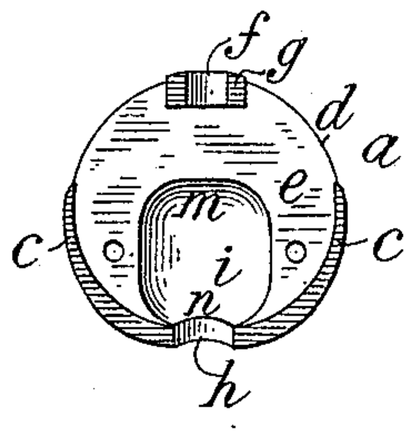


FIG. 7.



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UNITED STATES PATENT OFFICE.

JOHN DE GROAT BRASSINGTON, OF NEW YORK, N. Y.

SNAP-CATCH, &c.

SPECIFICATION forming part of Letters Patent No. 641,265, dated January 16, 1900.

Application filed March 20, 1899. Serial No. 709,752. (No model.)

To all whom it may concern:

Be it known that I, JOHN DE GROAT BRASSINGTON, a citizen of the United States, residing at New York, Port Richmond, in the borough and county of Richmond, and State of New York, have invented certain new and useful Improvements in Snap-Catches and Similar Devices, of which the following is a specification.

This invention relates to snap-catches and the like, and aims to provide certain improvements in such devices, especially applicable to swivel-catches.

Heretofore snap-catches have been variously constructed, one type comprising two jaws or hooks, one or both swinging toward and from a closed position, a shell in which the hooks are mounted, a loop for connecting the catch to a strap or other article, a block within the shell for swinging the hooks, and a swivel connection between the block and the shank or loop, so that the body and loop members can be relatively rotated. The block has had cam-faces passing between and reciprocal to similar faces on the insides of the hooks, these faces being adapted, when the block is pushed toward the body, to throw the hooks to the open position by crossing to the front side of their axes, and when the loop is pulled outward to hold the hooks in a closed position by crossing to the rear side of their axes. A snap-catch of this general character is shown in my Patent No. 622,201, dated April 4, 1899, on which my present invention is especially an improvement.

This invention aims to simplify, improve, and strengthen the construction of such snap-catches, and to this end in carrying out the invention I provide an annular cam-face on the shank, preferably integral therewith and capable of revolving between the jaws when the loop member is rotated in the body, and I provide the body with a cam-socket for holding and permitting movement of this block, the rear end of which socket by engaging the block takes part of the tension strain on the catch and receives the wear incident to rotation of the loop, and I provide a loop member consisting of an eye, shank, cam, and pin of improved and preferably integral construction.

In the accompanying drawings, Figure 1 is a face view of my improved catch in the locked position. Fig. 2 is an edge view thereof. Fig. 3 is a face view showing the catch open. Fig. 4 is a longitudinal section on the line of the jaws, showing the catch closed. Fig. 5 is a longitudinal section taken at right angles to Fig. 4. Fig. 6 is a similar view to Fig. 4, showing the catch open; and Fig. 7 is a view of the inner face of one of the shell members.

Referring to the drawings, let A indicate the improved catch; B, its body; C, its jaws; D, a link engaged by the jaws; E, the swivel-loop piece, and F a strap or other article connected thereto.

The body B preferably consists of the light cast-metal halves *a a*, which are united by two studs or pins *b* or in any suitable manner, and have projecting flanges *c* abutting at their side edges. Within these flanges each shell has a recess *d*, having a flat bearing-face *e*, which recess opens out through the flange at each side of the center of the body. Between the recesses the halves *a* have a socket *f* at the top extending through a projection *g* and communicating with the recess *d*. At the bottom each half has a semicircular socket *h* extending from the recess *d* through the wall. Between and in line with the sockets *f h* each half is formed with a concave internal chamber *i*.

Two jaws C are preferably used, both being shown as movable and having reduced overlapping hooked portions G at their outer extremities from which they extend inwardly, and have flat inner ends H fitting within the recesses *d* and fulcrumed therein in any suitable manner, as by means of the stud *b*, so that the jaws can swing toward and from each other to close and open the catch. In the closed position the inner ends of the jaws are relatively separated, and in the open position they are relatively adjacent. When closed, the inner faces of the jaw approach or bear against the sides of the projections *g*, and their outer edges close the entrance to the socket *d* by means of projections K, which are flush with the outer edge of the shells for closing these entrances when the jaws are closed and which swing outwardly over the edges of the walls *e* when the jaws are open. The jaws each have a notch *j* below the wing K for permitting their opening movement.

Each jaw has on its inner side a cam or bearing face I, which is concave and extends from front to rear past the pivotal axis of the jaw, these faces being opposed to each other and opposite the cavity in the shells. Between these faces I interpose a rotary block J, having an annular cam-face *k*, approximately spherical and corresponding in contour with the bearing-faces I of the jaws or of such reciprocal shape relatively thereto that as the block is moved forward and backward within the shell, the jaws must open or close by reason of the passage of the block to the front or rear of the axes of the jaws. The block J is moved by and preferably formed integrally with the shank L, which latter is connected with the eye *l* of the loop E, the shank passing through the socket *h* in the shell. The block J is movable inward a sufficient distance to open the jaws to the desired extent, and its inward movement is arrested by the top wall *m* of the cavity *i*. It is movable outward sufficiently to fully close the jaws, and its outward movement is limited by the wall *n* of such cavity, which wall takes all the thrust or tension strain on the catch and receives any wear due to rotation while the catch is under such strain.

I prefer to provide a guiding or holding pin M for the block J, which is shown as an integral part thereof, projecting as a cylinder from its front side and extending into the socket *f*. I also prefer to use a spiral spring N for throwing the catch to the closed position and to mount this spring on the pin M, compressing it between the block and the inner wall of the lug *g*. The forward wall *m* of the cavity *i* prevents undue compression of the spring N, and the rearward wall *n* resists the rearward thrust thereof.

In operation the forward movement of the block, which may be caused by pressing the loop toward the body, will open the jaws, and rearward movement of the block, which may be caused by the spring when this is used or by tension on the snap-catch in any case, will close the jaws, and the jaws will be held closed by the pull exerted on the snap-catch, thus, as heretofore, insuring their closure so long as the catch is under tension. Rotation between the body and loop may fully take place, and any resulting wear will be distributed over the circumference of the block and the inner wall of the cavity *i*.

The improved snap-catch consists of very few parts, all of which are of great simplicity, strength, and durability.

What I claim is—

1. In snap-catches, the combination with a body and hook-jaws pivoted thereto and having opposed bearing-faces, of a rotary block between said jaws having a cam-face acting against the faces thereof, and a shank connected to said block for operating it.

2. In snap-catches and the like, the combination with a body, of two jaws pivoted thereto and having opposing bearing-faces, of a block between said faces of said jaws having an annular cam-face engaging said faces for opening and closing the jaws, and a shank for operating said block.

3. In snap-catches and the like the combination with a body and two jaws pivoted therein and having opposing cam-faces, of an approximately spherical cam between and engaging said faces, and movable forwardly and rearwardly for opening and closing the jaws, and a shank connected to said cam for operating it.

4. In snap-catches and the like, a body and two jaws pivoted thereto and having opposing cam-faces, in combination with a rotary block between and engaging said faces and movable to open and close said jaws, and a shank formed integrally with said block for operating it.

5. In snap-catches and the like, a body having sockets *f* and *h* and a recess between said sockets, two jaws pivoted thereto within said recess, and having opposing cam-faces, of a rotary loop member connected to said body and consisting of a single integral part having a shank L within said socket *h*, a block J forming part of and rotating with said member between said jaws and having a cam-face bearing against the cam-faces thereof, and a pin M extending from said block into said socket *f*, said member movable forwardly and rearwardly to open and close said jaws.

6. In snap-catches, the combination with two pivoted jaws of a body carrying said jaws and consisting of two halves having internal cavities *i*, said jaws pivoted at opposite sides of said cavities and having opposing cam-faces opposite the cavities, a circular rotary block J within said shell between and engaging said cam-faces, and movable forwardly and rearwardly to open and close said jaws, and a shank connected to said block for operating the latter.

7. The improved snap-catch consisting of two jaws, a body carrying said jaws and consisting of two half-shells having opposite jaw-recesses *d*, and opposing cavities *i*, of a block J between said half-shells and having an annular face fitting and rotative in said cavity, a shank L fixed to said block, and an eye *l* connected to said shank outwardly of said body, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN DE GROAT BRASSINGTON.

Witnesses:

GEORGE H. FRASER,

THOMAS F. WALLACE.