

Nov. 12, 1963

G. U. A. CARREBERG

3,110,072

BUCKLES

Filed Jan. 30, 1961

FIG. 1

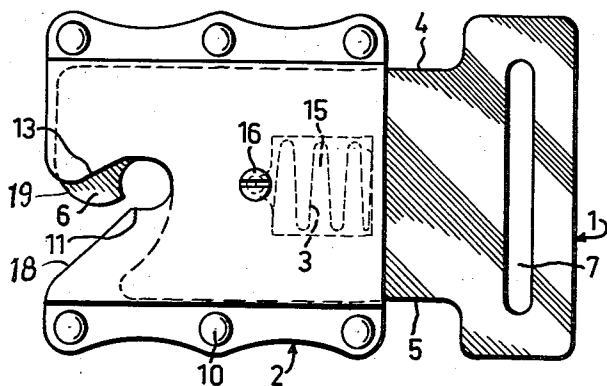


FIG. 3

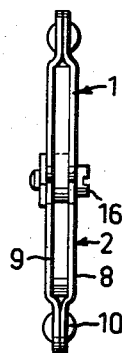
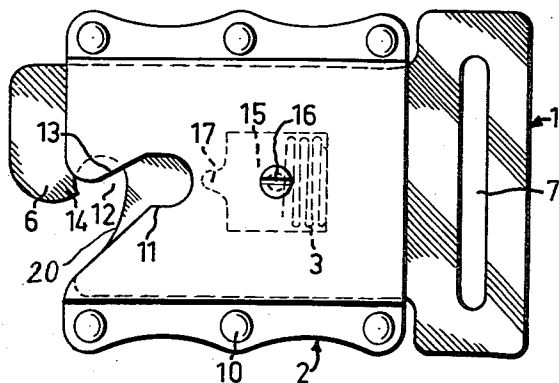


FIG. 2



Inventor:
Gustaf Uno Agne Carreberg
By Karl W. Flocks
Attorney

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BUCKLES

Gustaf Uno Agne Carreberg, Ringvagen, Monsteraas, Sweden, assignor to Aktiebolaget Industrifadarr, Monsteraas, Sweden, a corporation of Sweden

Filed Jan. 30, 1961, Ser. No. 85,684

Claims priority, application Sweden Feb. 1, 1960

4 Claims. (Cl. 24-239)

This invention relates to a buckle for safety belts for motor vehicles, preferably automobiles, of the type comprising hook means with the hook of which a U-shaped member or eye is adapted to engage, and an element movable relative to the hook means and adapted normally to be held in locking position by a spring, thereby closing the opening of the hook, and against the action of the spring said movable element can be brought into open position for uncovering the opening of the hook. The essential characteristic feature of the invention is that the movable element is provided with a cam or like means which is adapted, when said element is moved into open position, to disengage the U-shaped member or eye from the hook. This arrangement ensures a safe release of the buckle according to the invention.

For a better understanding, the invention will be described more in detail in the following, reference being made to the accompanying drawing which illustrates an embodiment, chosen by way of example, of the buckle. In the drawing:

FIG. 1 is a side elevational view of the buckle in locking position;

FIG. 2 is a side elevational view of the buckle in open position;

FIG. 3 is a front elevational view of the buckle.

The buckle shown in the drawing comprises hook means 1 and a sleeve 2 which is movably mounted on the hook means and adapted to be held in locking position by a spring 3. The sleeve 2 can be brought into open position against the action of the spring 3.

The hook means 1 is a plate having parallel edges 4 and 5. At one end the plate is formed with a partial hook 6, as shown in FIGS. 1 and 2, and at the other end with a fastening 7 for a belt or the like. The sleeve 2 consists of two plates 8 and 9 which are united at the parallel edges 4 and 5 of the hook means 1, the plates 8 and 9 being there bent together. In the embodiment illustrated the bent-together portions are united by means of rivets 10 or like means.

At their ends facing the partial hook 6 the plates 8 and 9 are formed with a recessed portion 11 which in locking position is adapted to close the opening 12 of the hook 6. Beyond said portion 11 the plates 8 and 9 are of such a shape that the sleeve 2 is automatically moved aside along hook means 1, when a U-shaped member or eye is pushed against surface 18 of plates 8 and 9 guided by cam surface 19 of partial hook 6 and thereby is engaged with the buckle. Opposite the portion 11 the plates 8 and 9 have a cam or like means 13 which is adapted with the cooperation of a cam surface 20, at the movement of the sleeve 2 into open position, to disengage the U-shaped member or eye from the partial hook 6. As will appear from FIG. 2 the end 14 of the hook is a direct extension of the cam 13 when the sleeve 2 is in the open position.

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The hook means 1 formed by the plate has a central hole 15 for accommodating the spring 3 with which an abutment 16 on the inner side of the sleeve 2 is adapted to cooperate. The spring 3 is bent into zig-zag shape and has its one end supported on one edge of the recess 15 and its other end engaged with the abutment 16. In the embodiment illustrated the abutment 16 is formed by a through screw. In locking position said abutment abuts the other edge of the hole 15. Said other edge is recessed at 17 to receive the abutment 16 therein.

As will appear from the drawing, the edges of the sleeve 2 are conformed to the fingers of the hand grasping the sleeve 2 in order to provide a good grip.

The above embodiment of the invention was described for purpose of illustration rather than limitation. All possible variations or modifications of the invention are understood as being included within the scope of the appended claims.

What I claim and desire to secure by Letters Patent is:

1. A safety belt buckle adapted to receive a cooperating U-shaped element or eye comprising

a first member including a first slot in said first member extending from one end thereof,

a hooked portion having a camming surface bounding one side of said slot, said first slot being formed with a first recessed portion extending from said camming surface and adapted to engage with the cooperating U-shaped element or eye;

a second, movable locking member adapted to be moved relative to said first member in a direction along the longitudinal axes of said first and second members including a second slot extending in the general direction of the axis of said second member from one end thereof,

said second slot being formed with a second recessed portion having walls extending therefrom, and first and second cam means forming the walls from said second recessed portion;

and a spring normally urging said second member to a position with respect to said first member corresponding to a locking position for locking the U-shaped element or eye with respect to said first member;

said first and second recessed portions being adapted to form a partial enclosure for the U-shaped element or eye, and said camming surface of said first member located in opposing spaced relationship from said second cam means and forming a substantially converging passageway therewith to said recessed portions when said second member is in a locking position with respect to said first member whereby said camming surface and said second cam means coact to receive the U-shaped element or eye in said recessed portions;

and said first cam means extending within the area of said first recessed portion to eject the U-shaped element or eye from said first recessed portion when said second member is moved against said spring to a release position.

2. The safety belt buckle of claim 1 further including a third cam means on said first member forming a wall substantially opposing said camming surface and extending substantially transversely of said first and second cam

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means when said second member is opposing the action of said spring in a release position.

3. The safety belt buckle of claim 1 further characterized by said second recessed portion opening in a direction substantially along the longitudinal axis of said second member. 5

4. The safety belt buckle of claim 3 further characterized by said second member having its surface contoured with concave surfaces to form a handle.

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