

Jan. 11, 1966

S. R. SKERRY

3,228,082

SEAT BELT BUCKLE

Original Filed Dec. 23, 1963

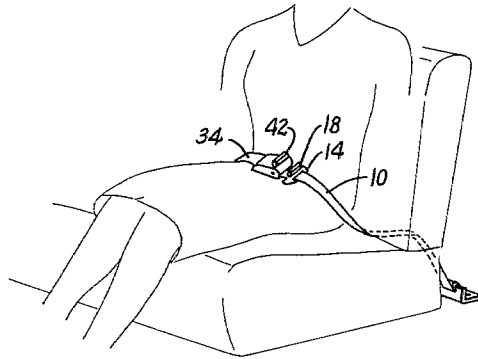


FIG. 1.

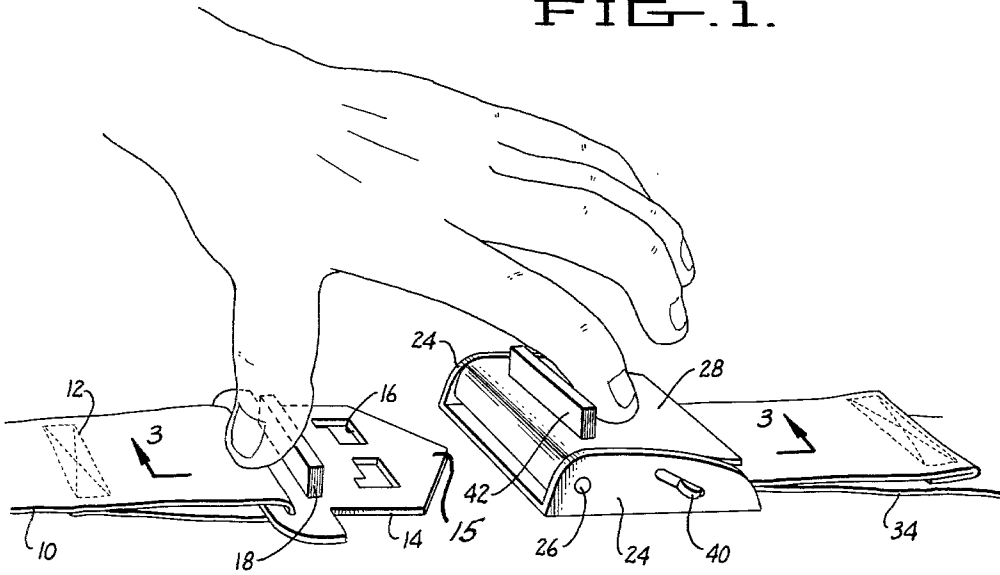


FIG. 2.

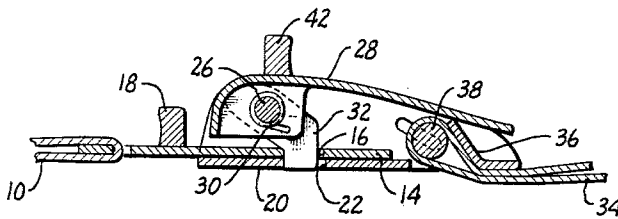


FIG. 3.

INVENTOR.
SUTHERLAND R. SKERRY
BY *E. J. Slick*
HIS ATTORNEYS

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3,228,082

SEAT BELT BUCKLE

Sutherland R. Skerry, P.O. Box 17, Olympic Valley,
Tahoe, Calif.

Continuation of application Ser. No. 332,407, Dec. 23,
1963. This application Mar. 12, 1965, Ser. No. 444,870
1 Claim. (Cl. 24—230)

This is a continuation of application Serial No. 332,407, filed December 23, 1963, now abandoned.

This invention relates in general to buckling means for automobile seat belts and particularly to means for permitting buckles to be interlocked with one hand.

A popular seat belt of the type used in automobiles has a metal tongue having one or more holes therethrough to which is secured one end of a length of webbing material which is in turn secured to the frame of the auto. The other length of webbing is provided with a mating buckle element for the first. The second buckle element is attached to the webbing in such a fashion that the webbing may slide therethrough at certain times so as to permit adjustment and a suitably tight fit about the user.

It often happens that it becomes desirable to buckle the belt while the car is moving. Since both hands, however, are required for this operation, it is neither convenient nor safe for the driver to attempt to buckle his seat belt after the car is in motion.

It is therefore an object of this invention to provide a seat belt structure which permits the two buckle elements to be interlocked with one hand.

Further objects of this invention, if not specifically set forth, will become apparent in the course of the description which follows.

Generally, the buckle to which the elements of this invention have been added may be any of the conventional buckles used in automobile seat belts which have a tongue element fixed at the end of a length of webbing and a second buckle element adapted to engage with and interlock the first, the second element having means permitting the terminal end of a length of webbing to be slid therethrough so as to permit adjustment of the effective length of the second piece of webbing. Each of the tongue and mating buckle elements is equipped with an upstanding lug, against which one's fingers or thumb may rest so that the two buckle elements may be pulled together and interlocked with one hand.

In the drawings:

FIGURE 1 is a perspective view showing the general structure of the buckle elements of this invention and their appearance when in use;

FIGURE 2 is an enlarged perspective view showing the manner of interlocking the buckle elements modified in accordance with the teachings of this invention; and

FIGURE 3 is a sectional side elevation taken through the line 3—3 of FIGURE 2 showing interlocked buckle elements having the lug elements of this invention.

Referring now to the drawings wherein like characters refer to like parts throughout, there is seen a standard length of webbing 10, opposite faces of which are sewn together at 12 to form a loop which passes through the slot of the tongue 14 thus fixing the length of webbing 10 with respect to tongue 14. The tongue has locking holes 16 and an upstanding lug 18 thereon which is shown adjacent the thumb of the user in FIGURE 2. One further departure from the conventional in the construction of the tongue shown in FIGURE 2 is in the fact

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that it is shown as having rounded or V-shaped leading edges 15 as contrasted with the conventional seat belt tongues having straight leading edges. Where the buckling operation is to be performed with one hand, it is facilitated somewhat if the pointed tongue shown in FIGURE 2 is used.

A typical buckle element consisting of a base plate 20 having holes 22 therein are adapted to register with those 16 of the first buckle element 14 also has a pair of upstanding ears 24 at either side thereof. Pivoting about pin 26 which is journaled in these ears is the buckle lever 28 which is provided with a helical spring 30 which ordinarily tends to keep the lever in the position shown in FIGURE 3. The lever also supports a tooth 32 which can be caused to engage holes 16 and 22 so as to lock the buckle elements together as shown in FIGURE 3. The other length of webbing 34 passes beneath the L-shaped brace 36 which abridges the distance between the upstanding ears 24 and passes about the knurled pin 38 which is supported in the slot in the ears 24 by means of the semicircular projections 40. By sliding the knurled pin 38 out of the position seen in FIGURES 2 and 3, the frictional engagement of the webbing between the pin 38 and the cross piece 36 is broken and the webbing 25 may be pulled in one direction or another to supply more or less of the fabric. The lever 28 has an upstanding lug 42 at the top thereof.

As seen in FIGURE 2, the upstanding lugs 18 and 42 extend substantially the entire width of the buckle elements. As the person attempting to buckle the two elements ordinarily is unable to look down at the buckle elements as he or she is engaging them, it is desirable that the lugs 18 and 42 be sufficiently large that they can be readily found by touch.

The lugs should be between ¼" and ½" in height and somewhere around 1½" in length, with perhaps a thickness of ¼".

The manner of use of the belt equipped with the upstanding lugs is seen in the FIGURE 2 wherein the person, usually the driver, wishing to use only one hand to engage the two buckle elements places the two opposite one another in his or her lap. The person then spans the distances from one side of the lug 42 to the opposite side of the lug 18 with the thumb and forefinger and with the one hand is able to snap the two buckle elements together.

From the foregoing it will be seen that an improvement in the construction of seat belt buckles is provided which permits the buckles to be interlocked with safety even though only one hand is free to bring the two buckle elements together. Both hands are not required for the operation and, further, the elements intended to be gripped by the fingers or thumb are sufficiently large and properly placed as to make the operation possible even at night or where the driver must keep his or her eyes on the road.

Obviously, many modifications and variations of this invention may be made without departing from the spirit and scope thereof, and therefore only such limitations should be imposed as are indicated in the appended claims.

I claim:

An auto seat belt having a buckle element and a plate-like tongue element, each of said elements being secured at the ends of flexible webbing material, said tongue element having forwardly converging edges defining a pointed end whereby insertion into said buckle element is facilitated, said tongue element and said buckle

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element each having a single upstanding narrow lug extending substantially the entire width of each of said elements along the surfaces thereof normally uppermost, whereby said upstanding lugs can be engaged by one hand to insert the pointed end of the tongue element into the buckle element and to interlock said tongue and said buckle elements; said buckle element having a base plate and opposed upstanding ears on the side thereof defining a channel for receiving the tongue element at the forward end thereof, a pivot pin connecting said ears at said end, a buckle lever having a width equal to the distance between said ears and positioned therebetween with the forward end thereof pivotally mounted on said pin, said lug on said buckle element being fixed on the top of said buckle lever substantially over said pin, a toothed latch for said tongue element carried by said lever in pivoted relation to said pin, a helical spring mounted on said pin and operating to hold said lever and toothed latch in operative position with the teeth interlocking with said tongue element and said buckle lever being operable to

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move said toothed latch out of operative position to release the tongue element.

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WILLIAM FELDMAN, *Primary Examiner.*

20 B. A. GELAK, *Assistant Examiner.*