Nov. 22, 1932. W. J. SUMMERBELL 1,888,703

GLARE SHIELD

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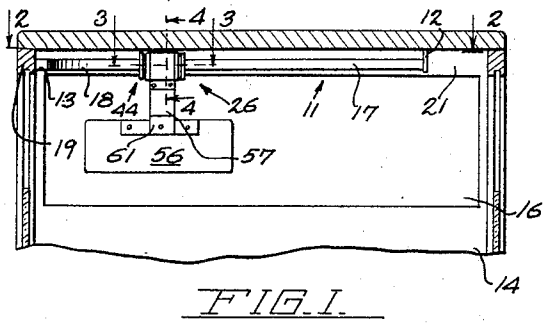


FIG. 1.

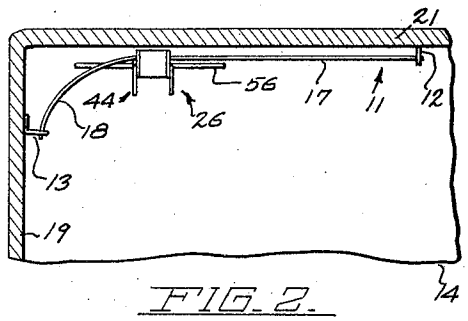


FIG. 2.

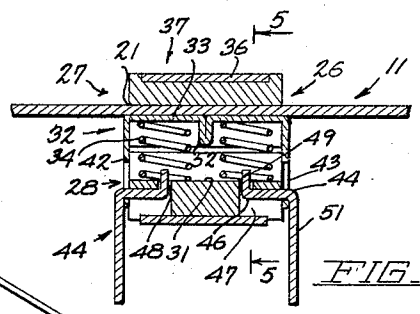


FIG. 4.

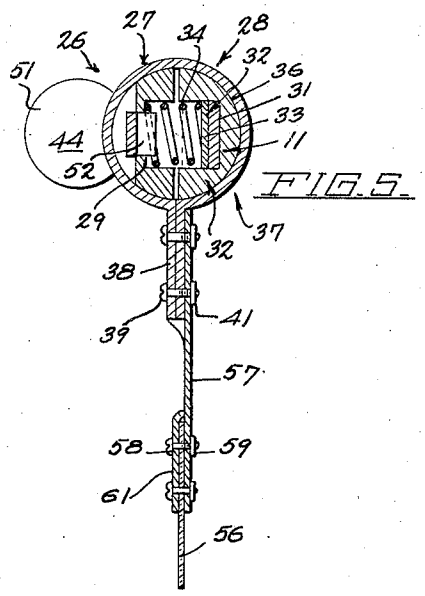


FIG. 5.

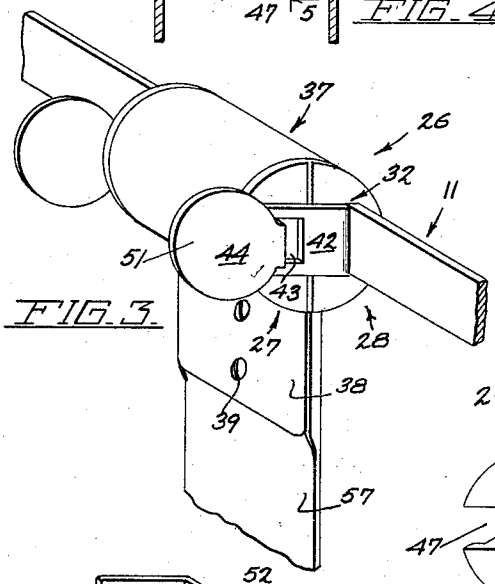


FIG. 3.

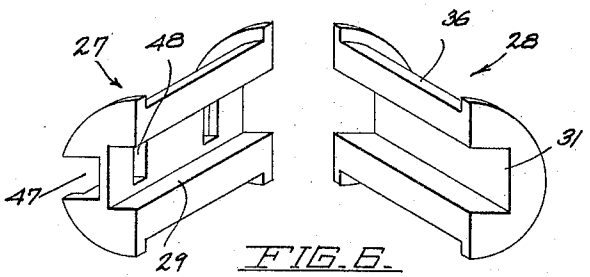


FIG. 6.

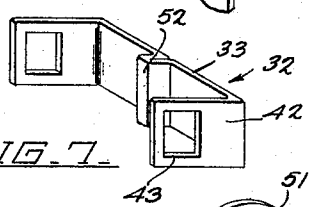


FIG. 7.

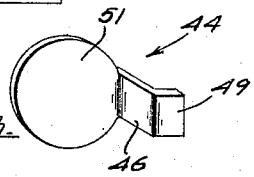


FIG. 8.

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FIG. 9.

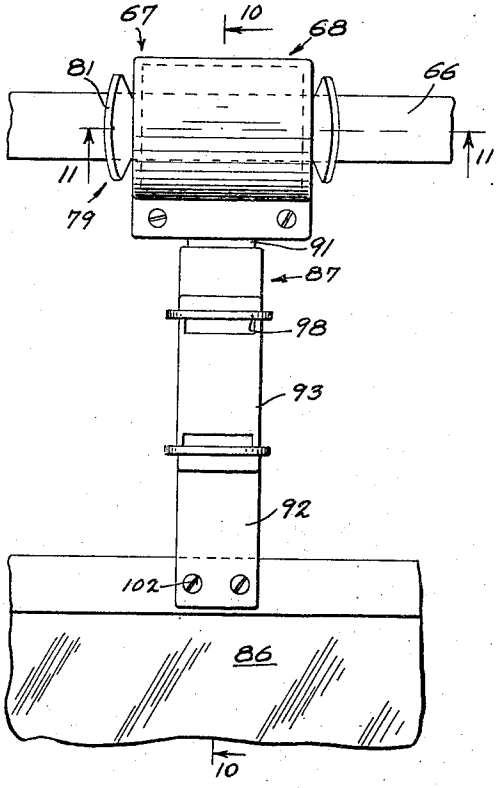


FIG. 10.

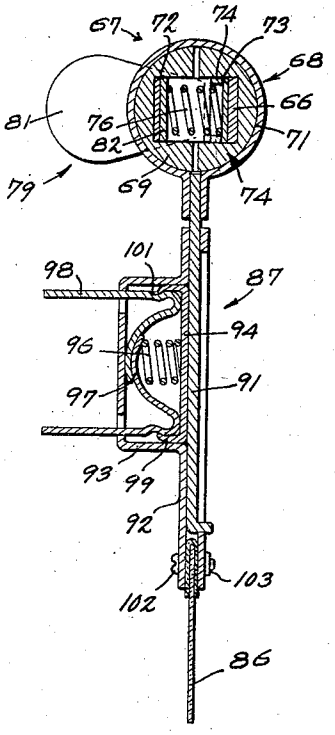


FIG. 11.

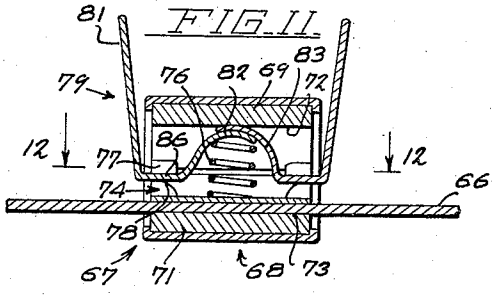
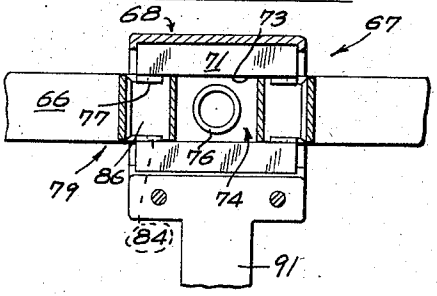


FIG. 12.



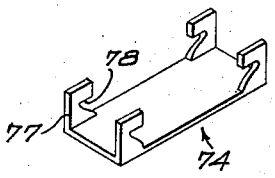
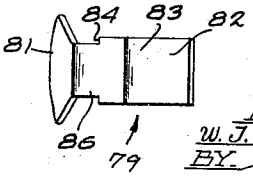


FIG. 13.

FIG. 14.



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UNITED STATES PATENT OFFICE

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GLARE SHIELD

Application filed October 9, 1931. Serial No. 567,879.

This invention relates to glare shields of the type adapted for use on closed automobiles.

An object of the invention is to provide a glare shield of the class indicated, which represents an improvement over the glare shields forming the subject matter of my copending applications Serial No. 555,515, filed August 6, 1931, and Serial No. 560,788, filed September 2, 1931.

A more detailed object is to provide a glare shield in the form of a head slidably mounted upon a track extending transversely of a vehicle and including an element which is rotatable about an axis extending substantially parallel to the track, this rotatable element carrying the glare-reducing screen, so that the screen is adjustable in rotary motion about an axis parallel to or coincident with the track, and also longitudinally with respect to the track.

A further object is to provide an improved and simplified adjustable friction gripping device, one of the specific uses of which is to carry the glare-reducing screen of a glare shield in a manner permitting the above described adjustments of the screen.

A further object is to provide an adjustable friction gripping device of the character indicated, which is of an exceedingly simple construction, and which, accordingly, lends itself well to economical production, and yet which is capable of operating with a high degree of efficiency in performing the functions for which it has been designed.

The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the invention's particular embodiments which are illustrated in the drawings accompanying and forming a part of the specfication.

Referring to the drawings:

Fig. 1 is a transverse vertical sectional view taken through the upper portion of the body of a closed automobile and showing a glare shield of the present invention operatively installed therein.

Fig. 2 is a horizontal sectional view taken upon the line 2—2 of Fig. 1, with the direction of view as indicated.

Fig. 3 is an enlarged perspective view of the adjustable friction gripping device and a portion of the track upon which it is mounted.

Fig. 4 is a horizontal medial sectional view taken through the gripping device and track of Fig. 3.

Fig. 5 is a transverse vertical sectional view taken upon the line 5—5 of Fig. 4, with the direction of view as indicated.

Fig. 6 is a perspective view of the two shoes which form a portion of the gripping device.

Fig. 7 is a perspective view of the slipper.

Fig. 8 is a perspective view of one of the handles of levers whereby the friction device may be operated.

Fig. 9 is a view in rear elevation of a glare shield having a modified form of gripping device incorporated therewith.

Fig. 10 is a vertical sectional view taken upon the line 10—10 of Fig. 9 with the direction of view as indicated.

Fig. 11 is a horizontal sectional view taken upon the line 11—11 of Fig. 9 with the direction of view as indicated.

Fig. 12 is a vertical sectional view taken upon the line 12—12 of Fig. 11 with the direction of view as indicated.

Fig. 13 is a perspective view of the slipper which is used in conjunction with the modification of Figs. 9 to 12 inclusive.

Fig. 14 is a view in elevation of one of the operating levers used in conjunction with the slipper of Fig. 13.

Specifically described, the glare shield of the present invention comprises a track 11 adapted to be mounted by means of a pair of brackets 12 and 13 in the forward portion of a closed automobile body 14, preferably just inside and adjacent the upper edge of the windshield 16 thereof. The track 11 is preferably a strip of suitable metal, and includes a straight portion 17 extending transversely of the vehicle substantially parallel with the upper edge of the windshield 16, and a curved portion 18 at one end of the straight portion 17, it being understood that the bracket 13 whereby the curved portion 18 of the track 11 is secured to the body 14,

is fastened to one of the side walls 19, whereas the bracket 12 is secured to the front wall 21. The provision of the curved portion 18 at one end of the track 11 permits positioning the glare shield between the eyes of the operator of the vehicle and a source of light at one side of the vehicle, by sliding the glare shield onto the curved portion 18, whereas the eyes of the driver may be protected from light emanating from a source in front of the vehicle by sliding the glare shield onto the proper section of the straight portion 17, as will readily be understood.

A head 26 is slidably mounted upon the track 11. This head comprises a pair of opposed shoes 27 and 28 having registering grooves 29 and 31, respectively, in their proximal faces, these grooves extending longitudinally of the shoes. The track 11 extends through the groove 31 of the shoe 28, and one face of the track frictionally engages the bottom of that groove, as clearly shown upon Figs. 4 and 5. The opposite face of the track 11 is engaged by a slipper 32, the body portion 33 of which also lies within the groove 31 of the shoe 28. This slipper 32 is pressed toward and into engagement with the track 11 by preferably a pair of coil springs 34 under compression between the slipper 32 and the bottom of the groove 29 of the other shoe 27.

The outer faces 36 of the shoes 27 and 28 are arcuate about a common axis which extends longitudinally thereof, i. e., in parallelism with the track 11, and a housing 37 of circular cross sectional configuration is mounted for rotational adjustment upon the outer surface 36 of the shoes. Preferably the housing 37 is formed from a flat strip of metal bent to circular configuration, with flanges 38 extending radially outwards at the joined edges of the circular portion. Screws 39 and nuts 41 releasably clamp the flanges 38 together, but permit separation of the flanges for the purpose of assembly and disassembly of the head 26. The housing 37 holds the shoes 27 and 28 against separation, the result being that the action of springs 34 is to press the slipper 32 against its associated face of the track 11, and also to press the shoe 27 outwards against the housing 37. This causes the housing 37 to be pressed with equal force against the outer surface of the other shoe 28, pressing the shoe 28 against the opposite face of the track 11 from that which is engaged by the slipper 32.

Thus it may be seen that the springs 34 serve the dual function of resisting longitudinal sliding movement of the head 26 with respect to the track 11, and also rotational movement of the housing 37 about the shoes 27 and 28.

Means are provided for drawing the slipper 32 toward the shoe 27 against the action of the springs 34, and thereby relieving the pressure of the slipper 32 and shoe 28 against the track 11, and also the outward pressure of both shoes 27 and 28 against the housing 37. An ear 42 extends laterally from each end of the body portion 33 of the slipper 32, and each ear 42 is provided with an aperture 43 therein.

A lever 44 extends through each of the apertures 43 with its inner end 46 extending into a notch 47 which is formed in the associated end of the shoe 27 and in the outer surface of that shoe. In order to retain each of the levers 44 in operative position, an aperture 48 extends through the shoe 27 from each notch 47 to the groove 29, and the inner end 46 of each lever 44 is deflected as indicated at 49, and seats within the associated aperture 48, as clearly shown upon Fig. 4. Hence, the inner end 46 of each lever 44 is fulcrumed upon an outer surface of the shoe 27, so that when the outer ends 51 of the levers 44 are pulled outwards away from the track 11, the levers 44 which are in engagement with the ears 42, will draw the slipper 32 outwards from the track. When such a condition obtains, the entire force of the springs 34 will be neutralized by the shoe 27, the slipper 32 and the levers 44 preventing any portion of the force exerted by the springs from pressing the slipper 32 against the track, or the shoes 27 and 28 against the housing 37, the result being that the head 26 may then easily be slid longitudinally of the track, or the housing 37 may be rotationally adjusted about the shoes 27 and 28 and track 11.

In order to facilitate manipulation of the levers 44, the outer ends 51 have been deflected into perpendicularity with the body portions of the levers 44, and substantially into parallelism with each other, and inasmuch as the end 51 of each of the levers 44 is exposed exteriorly of the housing 37, as clearly shown in Figs. 3, 4 and 5, they may easily be grasped between the thumb and forefinger of one hand and thus squeezed toward each other, causing the levers to fulcrum about their inner ends and thus compress the springs 34 by drawing the slipper 32 toward the shoe 27. Preferably, a bead 52 is formed on the body portion 33 of the slipper 32 intermediate the ends thereof, in order to retain the springs 34 in proper relative position.

The projecting flanges 38 of the housing 37 provide a convenient means for mounting a screen 56 of suitable translucent or transparent and preferably colored material, such as celluloid. A strip 57, preferably of metal, is anchored to the flanges 38 by the screws and nuts 39 and 41, respectively, whereby the flanges 38 are clamped together, and the screen 56 is fastened to the other end of the

strip 57 by screws 58 and nuts 59 and a clamping strip 61.

Figs. 9 to 14 inclusive illustrate a modified form of glare shield supporting structure, which is also mounted upon a track 66 arranged in suitable position inside an automobile body. A head 67 is slidably mounted upon the track 66 and comprises a housing 68 within which a pair of opposed shoes 69 and 71 are disposed, these shoes being preferably of construction identical with the corresponding elements of the previously described modification, each being provided with a groove 72, 73, respectively, in that face thereof which is proximal to the other shoe, and these grooves 72 and 73 being in registry with each other, as clearly shown upon Fig. 10. The track 66 extends through the groove 73 of the shoe 71, and slidably engages the bottom of the groove. A slipper 74 is in engagement with the other side of the track 66 and is pressed thereagainst by means of preferably a single coil spring 76.

This slipper 74 differs from the slipper 32 of the previously described modification in that it is provided with preferably a pair of opposed ears 77 adjacent each end thereof, these ears extending upwards from the plane of the body of the slipper 74 and along the side edges thereof. A notch 78 is formed in the inner edge of each ear 77. The operating levers 79 comprise handle portions 81 which extend through the ends of the housing 68 and are deflected into substantial parallelism, so that they may be squeezed together by grasping them between the thumb and forefinger of one hand. The inner ends 82 of the levers are deflected toward each other and then outwards again away from the track 66, as indicated at 83, these deflected portions, however, curving gradually into overlapping relationship, as clearly shown upon Fig. 11. Shoulders 84 are formed upon the side edges of each of the levers 79, these shoulders being engageable within the notches 78 of the associated ears 77 with the portions 86 of the levers of reduced width extending between the ears, the result being that the levers 79 are fulcrumed upon the slipper 74.

The spring 76 is under compression between the body portion of the slipper 74 and the overlapped ends 82 of the levers 79. Hence, the spring 76 continually urges the slipper 74 against the track and also presses the overlapped ends of the levers outwards so that one of these ends presses against the bottom of the groove 72 of the shoe 69, and thereby presses this shoe outwards against the housing 68. This causes the housing to urge the other shoe 71 in the same direction, the result being that this shoe is pressed against the other side of the track 66 from that which is engaged by the slipper 74.

When the handle portions 81 of the levers 79 are pressed together the levers fulcrum about their shoulders 84, pressing their overlapped ends 83 inwards against the action of the spring 76 and tending to pull the ears 77 of the slipper 74 outwards. Hence the entire quantity of force exerted by the spring 76 is neutralized by the slipper and the levers, the result being that the pressure of the slipper against the track, and also the pressure of the shoes against the housing, are relieved, permitting facile adjustment of the entire head 67 longitudinally of the track 66, and also permitting rotation of the housing 68 about the shoes.

This last mentioned adjustment, which is facilitated by compression of the spring 76, makes it possible to swing the glare shield 86 which is carried by an arm 87 secured to the housing 68, about a horizontal axis extending transversely of the automobile, so that the shield 86 may optionally be placed in operative position before the eyes of the driver, or swung upwards against the top of the car out of the way. However, I have also provided means for varying the elevation of the shield 86 when the arm 87 is extending downwards from the track 66.

For this purpose, the arm 87 consists of two portions, a strip 91 which is rigid with the housing 68, and a preferably tubular portion 92 into which the strip 91 extends. A housing 93 is formed on one side of the tubular portion 92, and a slipper 94 inside the housing 93 engages the strip 91, which in this instance corresponds to the track of the previously described modifications. The slipper 94 is pressed against the strip or track 91 by a spring 96 which is under compression between the slipper and the inner, overlapping ends 97 of levers 98 which are fulcrumed upon the ends of the slipper 94 through the expedient of ears 99 formed upon the ends of the slipper and seated within notches 101 in the levers 98.

Although this friction gripping device is not provided with a cylindrical housing encircling a pair of opposed shoes, for the reason that it is not desired to attain adjustment about an axis parallel to or coinciding with that of the strip 91, this device is adjustable to permit movement thereof longitudinally of the track 91. This is attained by squeezing the outer portions of the levers 98 together, which will increase the compression of the spring 96 between the inner ends of the levers and the slipper, thereby relieving the pressure of the slipper against the track 91 and permitting easy adjustment of the tubular portion 92 of the arm 87 with respect to the portion 91. The screen or shield 86, which preferably is of colored, transparent material, is fastened to the lower end of the tubular portion 92 by means of a screw 102 having a nut 103 thereon, so that when the last described modification of friction gripping de-

vice is adjusted upon the strip or track 91, the shield is moved therewith.

It is to be understood that the details of the invention as herein disclosed, are subject to alteration within the spirit or scope of the appended claims.

I claim:

1. In a glare shield, a track, and a head comprising a housing encircling said track, a pair of opposed shoes disposed within said housing with said track extending between the shoes, one of said shoes engaging a face of said track, a slipper engaging the opposite face of said track, and a spring interposed between the other of said shoes and said slipper, and a shield carried by said head.

2. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a housing encircling said track, a pair of opposed shoes disposed within said housing with said track extending between the shoes, one of said shoes engaging a face of said track, a slipper engaging the opposite face of said track, and a spring under compression between the other of said shoes and said slipper.

3. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a housing encircling said track, a pair of opposed shoes disposed within said housing with said track extending between the shoes, one of said shoes engaging a face of said track, a slipper engaging the opposite face of said track, a spring under compression between the other of said shoes and said slipper, and means for withdrawing said slipper from said track.

4. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a housing encircling said track, a pair of opposed shoes disposed within said housing with said track extending between the shoes, one of said shoes engaging a face of said track, a slipper engaging the opposite face of said track, a spring under compression between the other of said shoes and said slipper, and means for compressing said spring to relieve the pressure of said slipper against said track.

5. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a housing encircling said track, a pair of opposed shoes disposed within said housing with said track extending between the shoes, one of said shoes engaging a face of said track, a slipper engaging the opposite face of said track, a spring under compression between the other of said shoes and said slipper, and a pair of levers fulcrumed on said other shoe and engaging opposite ends of said slipper, each of said levers having a handle exposed adjacent the associated end of said head whereby said slipper may be withdrawn from said track when said handles are forced toward each other.

6. An adjustable friction gripping device comprising a track, a housing encircling said track, means carried by said housing engaging one side of said track, a slipper within said housing, a spring pressing said slipper against the opposite face of said track, said slipper having an ear extending laterally from each end thereof, a lever engaging each of said ears, fulcrum means holding the inner end of each lever against moving toward said track, and a handle on the outer end of each lever.

7. An adjustable friction gripping device comprising a track, a housing encircling said track, means carried by said housing engaging one side of said track, a slipper within said housing, a spring pressing said slipper against the opposite face of said track, said slipper having an ear extending laterally from each end thereof, a lever engaging each of said ears, fulcrum means holding the inner end of each lever against moving toward said track, and a handle on the outer end of each lever, said handles being deflected into parallelism with each other whereby said slipper may be withdrawn from said track by forcing said handles toward each other.

8. An adjustable friction gripping device comprising a track, a housing encircling said track, a pair of opposed shoes extending longitudinally within said housing, the proximal faces of said shoes having registering grooves therein and said track extending through and engaging the bottom of one of said grooves, a slipper disposed within said groove and engaging said track, a spring under compression between the other of said shoes and said slipper, a laterally extending ear on each end of said slipper, and a lever engaging each of said ears, the inner end of each of said levers being fulcrumed on said other shoe and the other ends of said levers being deflected to provide handles substantially parallel with each other whereby said slipper may be withdrawn from said track by forcing said handles toward each other.

9. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a pair of opposed shoes arranged on opposite sides of said track, the outer faces of said shoes being arcuate about a common axis extending longitudinally of said head, a housing mounted for rotational adjustment upon said shoes about said axis, a slipper lying between said shoes and engaging said track, and a spring under compression between one of said shoes and said slipper to press said slipper against said track.

10. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a pair of opposed shoes arranged on opposite sides of

said track, the outer faces of said shoes being arcuate about a common axis extending longitudinally of said head, a housing mounted for rotational adjustment upon said shoes about said axis, a slipper lying between said shoes and engaging said track, a spring under compression between one of said shoes and said slipper to press said slipper against said track, and means for withdrawing said slipper from said track.

11. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a pair of opposed shoes arranged on opposite sides of said track, the outer faces of said shoes being arcuate about a common axis extending longitudinally of said head, a housing mounted for rotational adjustment upon said shoes about said axis, a slipper lying between said shoes and engaging said track, a spring under compression between one of said shoes and said slipper to press said slipper against said track, and means engaging the shoe associated with said spring for compressing said spring to relieve the pressure of said slipper against the track and the outward pressure of said shoes against said housing.

12. An adjustable friction gripping device comprising a track, and a head slidable with respect thereto, comprising a pair of opposed shoes arranged on opposite sides of said track, the outer faces of said shoes being arcuate about a common axis extending longitudinally of said head, a housing mounted for rotational adjustment upon said shoes about said axis, a slipper lying between said shoes and engaging said track, a spring under compression between one of said shoes and said slipper to press said slipper against said track, and a lever engaging each end of said slipper, the inner end of each lever being fulcrumed on the shoe associated with said spring and the outer end having a handle thereon whereby said slipper may be drawn toward the associated shoe to relieve the pressure of said slipper against the track and the outward pressure of said shoes against said housing.

13. In an adjustable friction gripping device, a track and a head slidable with respect thereto and comprising a housing having said track extending therethrough, a slipper disposed within said housing and slidably engaging a side of said track, a pair of opposed levers extending through a wall of said housing, and means resiliently pressing said slipper away from those portions of the levers which are disposed within said housing, and pressing said slipper against said track, said levers being adapted to compress said resilient means and relieve the pressure of said slipper against the track.

14. In an adjustable friction gripping device, a track and a head slidable with respect thereto and comprising a housing having said track extending therethrough, a slipper disposed within said housing and slidably engaging a side of said track, a pair of opposed levers extending through a wall of said housing, and means resiliently pressing said slipper away from those portions of the levers which are disposed within said housing, and pressing said slipper against said track, said levers being fulcrumed on said slipper whereby they are adapted to compress said resilient means and relieve the pressure of said slipper against the track.

15. An adjustable friction gripping device comprising a track, a housing encircling said track, a pair of opposed shoes disposed within said housing, the proximal faces of said shoes having registering grooves therein and said track extending through and engaging the bottom of the groove of one of said shoes, a slipper disposed within said groove and engaging said track, a lever fulcrumed on said slipper adjacent each end thereof and extending through a wall of said housing, and a spring under compression between said slipper and those portions of the levers which are disposed within the housing.

16. A glare shield comprising a noncircular track, a housing presenting a cylindrical interior and through which the track extends, shoes on opposite sides of the track in the housing, track engaging means engageable upon the track, and spring means between one of the shoes and the track engaging means urging the track engaging means to frictionally engage the track and urging the shoes apart into frictional engagement with the interior of the housing to frictionally hold the housing in adjusted position along the length of the track and in adjusted rotational position, and a glare shield carried by the housing.

17. A glare shield comprising a noncircular track, a housing presenting a cylindrical interior and through which the track extends, shoes on opposite sides of the track in the housing, track engaging means engageable upon the track, and spring means between one of the shoes and the track engaging means urging the track engaging means to frictionally engage the track and urging the shoes apart into frictional engagement with the interior of the housing to frictionally hold the housing in adjusted position along the length of the track and in adjusted rotational position, a glare shield carried by the housing, and handle means mounted to disengage the track engaging means from the track against the action of the spring means.

In testimony whereof I have signed my name to this specification.

WM. J. SUMMERBELL.