Jan. 9, 1940. W. B. KAMEN 2,186,586

ATTACHING CLIP

Filed Dec. 22, 1937

Fig. 1.

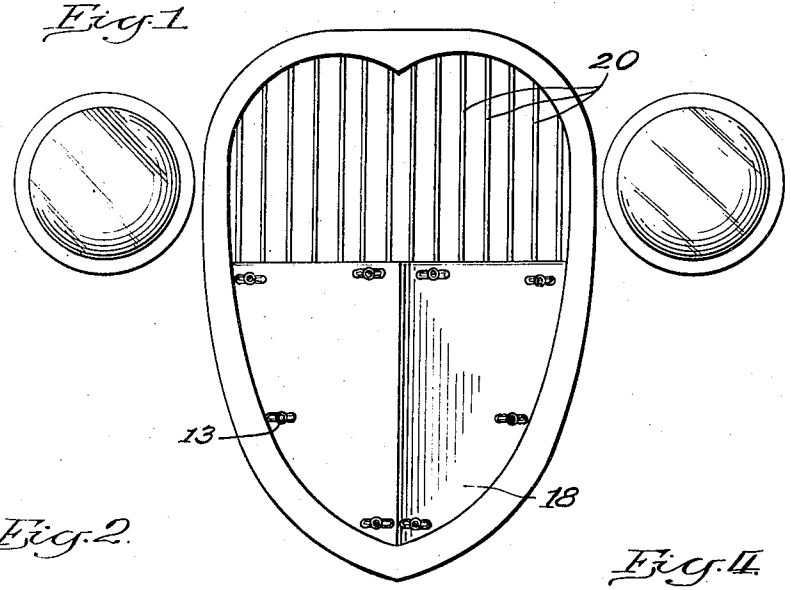


Fig. 2.

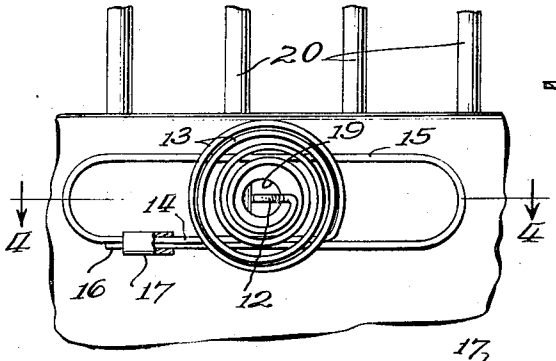
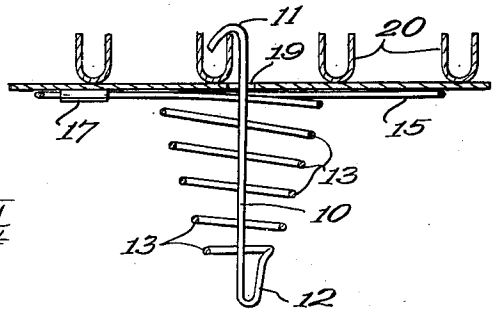


Fig. 4.



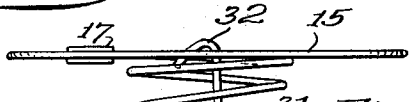


Fig. 3.

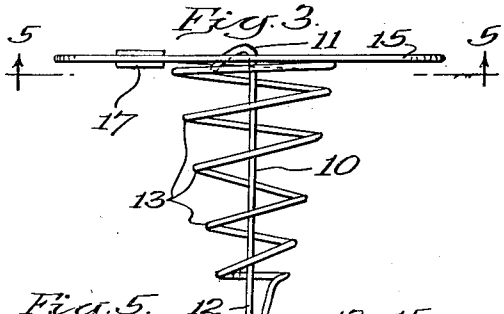


Fig. 6.

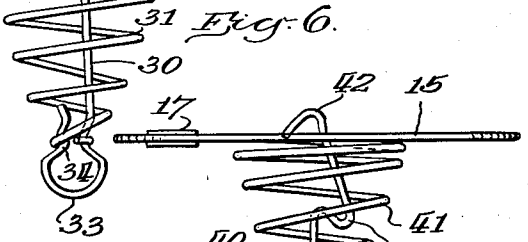
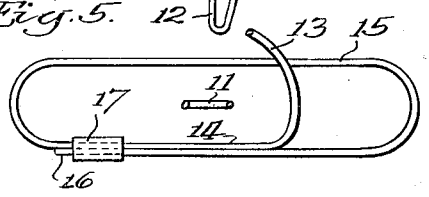


Fig. 7.

Fig. 5.



Inventor:
Willard B Kamen
By Munn & Cayne
Attys.

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UNITED STATES PATENT OFFICE

2,186,586

ATTACHING CLIP

Willard B. Kamen, Chicago, Ill.

Application December 22, 1937, Serial No. 181,066

8 Claims. (Cl. 24—73)

This invention relates to an improved construction of clip fastener particularly adapted for detachably securing a fabric or pliable covering over the front of an automobile radiator or guard grill thereof for the purpose of holding said fabric or covering in operative position on the grill.

The main object of the invention is to provide a clip fastener of the character described, which will be simple and inexpensive to make and which will be so constructed as to adapt it for use on radiator guard grills of different sizes and when attached in place will have a sufficiently large base so as to substantially prevent lateral displacement of the clip fastener.

Another object of the invention is to provide an attaching clip of the character described comprising a conically coiled wire spring in which the terminal of the largest convolution is extended to form an elongated loop substantially twice the length of the diameter of the largest convolution whereby said loop will be of a size capable of spanning the distance between the grill bars and at the same time will form a substantial base for the clip fastener to prevent the latter from lateral displacement when in operative position.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists in certain novel features of construction, arrangement and combination of parts hereinafter more fully described, illustrated in the accompanying drawing, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawing preferred embodiments thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawing in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawing:

Fig. 1 is a diagrammatic front elevational view of the front of an automobile, illustrating a radiator cover applied and securely held in place over the front part of the radiator guard by a plurality of my improved clip fasteners.

Fig. 2 is an enlarged elevational view of the fastener in position for securing a cover to the bars of a grill guard of an automobile radiator front.

Fig. 3 is a plan view of my improved fastener.

Fig. 4 is a sectional view taken substantially on the line 4—4 of Fig. 2.

Fig. 5 is a sectional view taken substantially on the line 5—5 of Fig. 3.

Fig. 6 is a modified form of my improved fastener showing the hook member detachably secured to the coil spring.

Fig. 7 is a still further modified form of my clip fastener showing the hook member provided with a hook at its free end and a second hook intermediate the ends thereof.

It is customary to protect the front of an automobile radiator both in summer and in winter by applying a suitable covering over the grill guard of the radiator, which covering in the winter time may be of such a character as to prevent the cold air from striking the radiator and in the summer may be in the form of a wire screen fabric to prevent insects or the like from clogging the front of the radiator. In the manufacture of automobiles at the present time there is provided a grill guard for the radiator, which comprises a series of either vertically or horizontally spaced bars of substantially U-shaped formation in cross section, said bars being spaced from each other at varying distances, depending upon the make of the car. The fastener heretofore used, and which is disclosed in my Patent No. 2,076,726, issued April 13, 1937 comprised a conical spring, the largest convolution of which is approximately one inch in diameter, this convolution forming the base for the fastener when the same is in operative position.

I have found that these clips worked satisfactorily when the distance between the grill bars was less than an inch, however, when the distance between the bars was greater than that these clip fasteners were, of course, unsuitable for the purpose for which they were designed. The distance between the grill bars does vary, in some instances said distance being as large as two and one-half inches and it is impractical to make a conical spring for use as a clip fastener with the bottom or largest convolution having a diameter of substantially two and one-half inches or more, because of the large proportions that a spring of this character would assume. I have provided a fastener clip of this character

having an elongated loop which may be formed from the terminal of the largest convolution, which loop may be of a length of substantially three inches, with the result that the over-all dimensions of the conical spring will be substantially the same as those heretofore used.

Referring to the drawing more specifically by characters of reference, the character 10 designates generally a stem or hook member formed of wire, bent at one end to provide a suitable hook 11 for engaging a grill bar or the like of a radiator guard, or bars or tubes of a radiator. The opposite end of said stem 10 is bent downwardly upon itself to form a head or finger hold 12, from which portion it is bent to produce a series of convolutions to produce a conically coiled wire spring and in which the terminal 14 of the largest convolution is bent in the form of an elongated loop 15 as shown in Fig. 5, the length of which is approximately two and one-half to three times that of the diameter of the largest convolution 13.

The extreme free end 16 of the wire may be secured to one side of the loop 15 by means of a sheet metal clip 17 as shown in Fig. 5 or in some other suitable and well known manner.

By reason of the construction hereinabove described, it will be apparent that the clip fastener may be employed for use with radiator grill guards, the bars of which may be spaced apart a distance anywhere from one-quarter inch up to approximately three inches, thus rendering the device capable of use with radiator grill guards of substantially all makes of cars on the market at the present time without necessitating the manufacture of clip fasteners of varying sizes, as this one size of fastener will fit substantially all cars. It will also be noted that by reason of the large area which will be covered by the loop 15, a substantially rigid base will be provided for the fastener, thereby preventing the same from lateral displacement in use. It will also be noted that in providing the end elongated loop, the size of the fastener will be comparatively small although the distance that it will be capable of spanning between bars may be comparatively large.

To attach the covering which may be designated by the reference character 18 to the radiator or guard grill, the hook end 11 of the stem 10 is inserted through an aperture 19 provided in the cover 18, and the hook member passed inwardly between a pair of bars 20 of the grill guard, to a depth which will enable the hook end 11 to be hooked to the rear side of a bar as shown in Fig. 4.

The spring under its compressed condition will yieldingly bind the hook member to a bar and clamp the portion of the cover engaged against the front side of the bar of the radiator front. Any number of clips of the type illustrated sufficient to properly hold the cover in place may be employed, the said clips being arranged preferably about the margin of the cover and the approximate locations for the hooking of the bar of the radiator guard or radiator itself. By reason of the size of the loop portion 15, it will be readily apparent that a smaller number of clip fasteners may be employed and also that the edges of the covering may be more securely fastened in place to the guard grill than would be possible with the fasteners heretofore in use.

In the modified form shown in Fig. 6, the stem or key 30 is manufactured separately from the conically coiled spring 31, the stem 30 being provided at one end with a hook 32 and its opposite end with a hand hold 33, the latter being formed with a reduced neck portion 34, by means of which the smallest convolution of the conical spring 31 may be detachably assembled to the stem 30 by snapping the said smallest convolution in place over the reduced or neck portion of the hand hold 33.

In the modification shown in Fig. 7, the stem 40 is formed integral with the conical spring 41 in the same manner as that illustrated and described in connection with the modifications shown in Figures 1 to 5, except that the stem 40 is provided in addition to the hook 42 at one end thereof with a second hook 43 formed intermediate the ends thereof. The purpose of this construction is to enable this modified form of fastener to be used upon the grill guards, the depth of the bars of which may vary.

From the above it will be apparent that there are several advantages which may be had in the construction of a clip fastener in the manner disclosed herein. It will also be noted that a fastener constructed along the lines of my invention will be capable of use on substantially all makes of cars without necessitating the making up of a large number of different sized fasteners. It will also be apparent that a fastener of this character will be more effective in holding the covering member in place on a grill guard.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description and it should also be manifest that while preferred embodiments of the invention have been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims.

What I claim and desire to secure by Letters Patent of the United States is:

1. A fastener comprising, a conically coiled wire spring in which the largest convolution thereof has extended therefrom an elongated loop portion, the length of which is considerably greater than the diameter of the largest convolution and the diameter of which is considerably less than the diameter of the largest convolution, and a stem passing axially through said spring, said stem having a hand hold portion at one end and a hooked portion at the other end.

2. A fastener comprising, a conically coiled wire spring in which the largest convolution thereof has extended therefrom an elongated loop, the length of which is substantially greater than the diameter of the largest convolution and the width of which is normally less than the diameter of said largest convolution, said loop being arranged to lie substantially in the same plane with said largest convolution, and a stem having a hand hold portion at one end and a hook portion at the other end passing axially through said spring.

3. A fastener comprising, a conically coiled wire spring in which the largest convolution has extended therefrom an elongated loop, said loop being arranged to lie in substantially the same plane as the largest convolution and having a length substantially greater than the diameter of the largest convolution, and a stem passing axially through said spring, said stem having a hand hold at one end and a hook portion at the other end.

4. A fastener comprising, a conically coiled wire spring in which the terminal of the largest convolution thereof has extended therefrom an elongated loop arranged in the same plane with the said largest convolution and being substantially greater in length than the diameter of said largest convolution, and a stem passing axially through said spring, said stem having a hand hold at one end and a hook portion at the other end.

5. A fastener, comprising a conically coiled wire spring, in which the largest convolution thereof has extended therefrom an elongated loop portion, the length of which is considerably larger than the diameter of the largest convolution, and the diameter of which is considerably less than the diameter of the largest convolution, said loop being provided with a free end, said end being fastened upon said loop for permitting stability of said fastener, and a stem passing axially through said spring, said stem having a hand hold portion at one end and a hook portion at the other end.

6. A fastener, comprising a conically coiled wire spring, in which the largest convolution thereof has extended therefrom an elongated loop, the length of which is substantially greater than the diameter of the largest convolution, and the width of which is normally less than the diameter of said largest convolution, said loop being arranged to lie substantially in the same plane with said largest convolution, and having a free end fastened upon itself to prevent distortion of said conically coiled wire spring, and a stem having a hand hold portion at one end and a hook portion at the other end passing axially through said spring.

7. A fastener, comprising a conically coiled wire spring in which the largest convolution has extended therefrom an elongated loop, said loop being arranged to lie in substantially the same plane as the largest convolution and having a length substantially greater than the diameter of the largest convolution, said loop being provided with a free end fastened upon itself to further stability of the said fastener.

8. A fastener, comprising a conically coiled spring in which the terminal of the largest convolution thereof is bent to form an elongated loop arranged in substantially the same plane with the largest convolution, and being substantially greater in length than the diameter of said largest convolution, said terminal being fastened upon itself to prevent distortion of said fastener, and a stem passing axially through said spring, said stem having a hand hold at one end and a hook portion at the other end.

WILLARD B. KAMEN.