March 11, 1958 I. E. BLACK 2,825,915

WINDSHIELD TOWEL HOLDER

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FIG. 1.

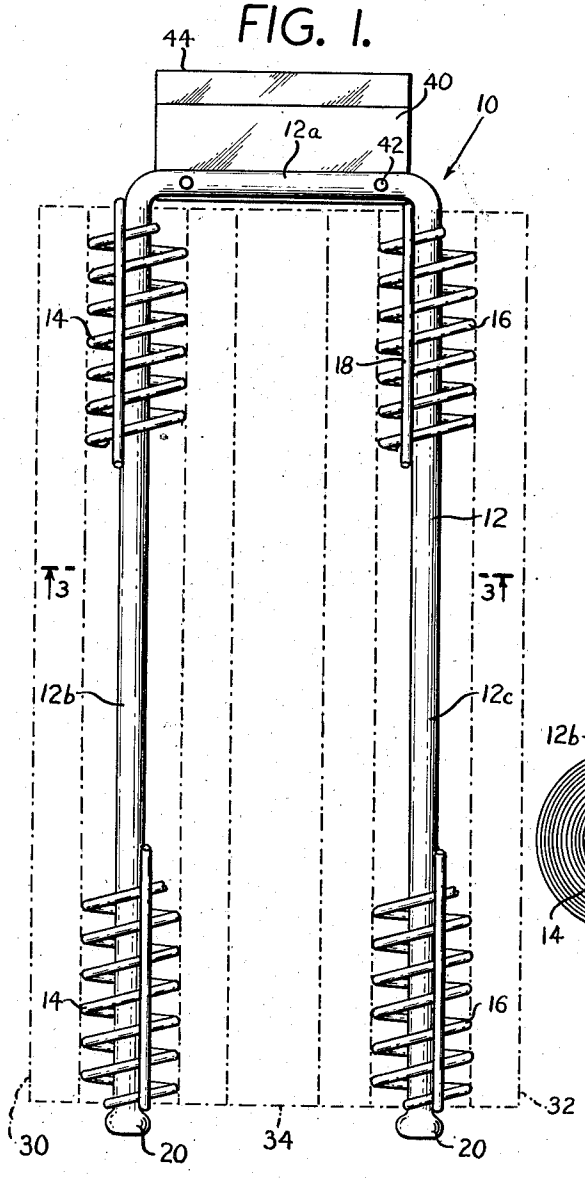


FIG. 2.

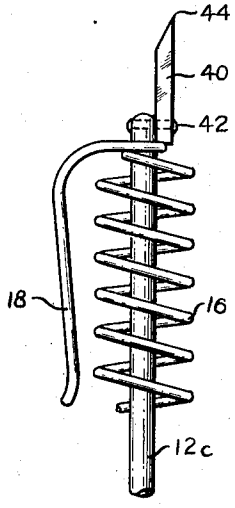
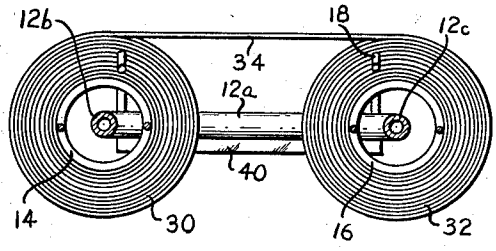


FIG. 3.



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WINDSHIELD TOWEL HOLDER

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2 Claims. (Cl. 15—232)

This invention relates to a windshield towel holder.

It is desirable, in the cleaning of motor vehicle windshields, to use cloth towels or wiping cloths. Reference is here made both to commercial practices at gasoline service stations and garages and similar establishments, and to private use by the vehicle owner himself. Conventional towels and wiping cloths may, of course, be used for this purpose. But the nature of the operation is such that this becomes a rather wasteful process, or an ineffective one, since the wiping cloths are not uniformly soiled in all their parts but instead may be soiled excessively in limited areas while left relatively clean elsewhere. The excessively soiled portions tend to keep the windshield in soiled condition and this is especially true of wiping cloths soiled with oil or grease. Thus, a wiping cloth which is excessively soiled in only a limited area may be discarded before it is fully utilized.

The object of the present invention is the provision of a towel holder which is adapted to receive a relatively narrow elongated towel rolled into a convenient, compact roll adapted to be fed in limited or metered lengths or portions, and supported in such portions in proper cleaning position.

More specifically, the holder is provided with a pair of spaced, parallel arms. A clean roll is placed upon one of these arms and the end of the roll is drawn across to the other arm and rolled or wound thereon. The portion of the towel between the two rolls is the portion which is used for cleaning purposes at any given time. When this portion is soiled, the towel is unrolled further from the first roll and the soiled portion is wound upon the second roll and again a clean portion becomes available between the two rolls for cleaning purposes.

An important feature of this invention is the fact that the two rolls serve as the handles by which the device is held in the hand during a cleaning operation. When the two rolls are gripped tightly between the fingers of one hand, the two rolls tend to turn in such direction that the portion of the towel between them is held relatively taut and this renders it possible to apply the entire area of said intermediate portion to the windshield. Furthermore, the rolls themselves may be pressed against the windshield during the cleaning operation in order to effect a rubbing action upon the windshield. The rolls possess sufficient body for this purpose, which is something a towel alone does not have.

Another important feature of the invention is the fact that the arms of the holder are relatively resilient and yielding. Consequently, not only does the web portion of the towel between the arms conform to the curvature and contours of the windshield, but so do the roll portions of the towel since the arms on which they are wound are readily flexed to conform to such curvature and contours.

A further feature of the invention is the use of a plurality of coil springs and spring arms for mounting a towel in rolled condition upon the arms of the holder. The coil springs serve as resilient bearings or supports for the

towel rolls and the spring arms which project from the springs serve as fingers which hold the ends of the rolls engagement with said arms of the holder, the springs being deemed parts of said arms.

The invention is illustrated in the accompanying drawing in which:

Fig. 1 is a plan view of a windshield towel holder made in accordance with this invention.

Fig. 2 is a fragmentary side view thereof.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

It will be seen in the drawing that the windshield towel holder **10** herein claimed comprises the following elements: a U-shaped member **12** and two coil springs **14** and **16** mounted on the arms or legs of said U-shaped member, each said spring having a pair of end portions which are bent into generally bowed spring fingers or arms **18** which extend along the side of the coil spring in spaced relation thereto.

The U-shaped member **12** may be made of any suitable material, such as steel, aluminum or plastic rod or tubing. Preferably, steel tubing is used and it is cadmium plated for protection against rust and corrosion. But whatever material is used, it is desirable that it be structurally strong and capable of maintaining its shape under the strain and stress of rough handling.

As a matter of preference, the yoke **12***a* of U-shaped member **12** may be approximately two inches long between the two legs or arms **12***b* and **12***c* of said U-shaped member. These legs or arms **12***b* and **12***c* are approximately eight inches long below the yoke. In the preferred embodiment, the U-shaped element is made of tubing three sixteenths of an inch O. D. Said legs or arms **12***b* and **12***c* are, of course, disposed in parallel relation to each other and occupying a common plane, preferably with the yoke as well. The free ends of said legs or arms may be deformed to provide button portions **20** which serve as retaining members to prevent the coil springs from slipping off said arms or legs **12***b* and **12***c*.

It will now be observed that each coil spring is substantially as long as the arm or leg on which it is mounted. At one end the spring abuts yoke **12***a* and at its opposite end it abuts button **20**. The springs may be maintained under any desired tension between these abutments.

In the preferred form of this invention, the coil springs are approximately three-quarters of an inch in diameter and they are made of .081 guage wire. There are approximately twenty-six coils or convolutions in each spring. But these specifications, as the specifications of the U-shaped element **12**, are purely illustrative and merely indicate a most satisfactory arrangement.

Since the legs or arms **12***b* and **12***c* are approximately eight inches in length, so will the two coil springs approximate the same length since their respective ends bear against the yoke **12***a* at the one end of said U-shaped member **12** and the buttons **20** at the opposite end thereof. The two ends of each coil spring are reduced in diameter to fit snugly, yet slidably and rotatably, around the arms or legs **12***b* and **12***c*. These reduced ends of the springs serve as bearings which support the springs on said legs or arms and normally maintain them in concentric relation to said legs or arms.

It will now be observed that the coil springs are considerably larger in inside diameter than the arms or legs **12***b* and **12***c* are in outside diameter. Reference is here made to the main body of said coil springs intermediate their reduced ends. It therefore becomes possible for these coil springs to flex toward or away from said arms or legs **12***b* and **12***c* in order to conform to the contours or curvature of a modern motor vehicle windshield.

The device above described may be utilized in connec-

tion with a towel approximately eight inches in width and several feet in length. To apply such towel to this device, one end of the towel is slipped under the spring fingers 18 of one of the coil springs, say coil spring 14. Said coil spring is then rotated about its supporting arm or leg 12*b* until a roll of said towel is formed on said spring. Such roll is indicated by the interrupted lines 30 in Fig. 1.

The free end of towel roll 30 is then drawn across to the other coil spring 16 and it is inserted under the spring fingers 18 of said coil spring. Coil spring 16 is then rotated to draw the towel from roll 30 and to form a second roll indicated by the interrupted lines 32. The portion or web of said towel between the two rolls 30 and 32 is indicated by interrupted lines 34.

It will be understood that the coil springs may be made to exert considerable force against the abutments 12*a* (yoke) and 20 (buttons) so as to provide a frictional engagement therewith to resist rotary movement of said springs about their respective arms or legs 12*b* and 12*c*. It is this resistance to rotary movement that prevents accidental unraveling of the towel rolls 32 and 30 and it assists in some degree in holding the intermediate web or portion 34 under tension. It is this intermediate portion or web which is applied to the windshield for cleaning purposes. The two rolls 30 and 32 are held in the hand during such application and it will be apparent from examination of Fig. 3 that when the entire device is held in the right hand, the hand being below the device as viewed in Fig. 3, the palm facing upwardly and the thumb curling around roll 30 while the other four fingers curl around roll 32, roll 30 will be urged to turn in counterclockwise direction and roll 32 in clockwise direction, thereby maintaining the intermediate web 34 under tension and preventing unraveling of either of said rolls.

As the intermediate web portion 34 is soiled, it may be wound upon roll 32 and a fresh portion of the towel is thereby drawn from roll 30 and said fresh portion then becomes the intermediate web 34 ready for further use.

An additional feature may be found in scraper 40 which is attached by means of rivets 42 to the yoke 12*a* of U-shaped member 12. This scraper is a generally rectangular member having one edge beveled down to form a scraping edge 44. To avoid scratching the windshield when the scraper is used, for example, to remove ice therefrom, said scraper is made of a plastic material which is softer than the glass of which the windshield is made. In utilizing this scraper, the two rolls 30 and 32 are held in the hand in substantially the same manner as above described in connection with the use of the device as a wiping or cleaning means.

The foregoing is illustrative of a preferred form of this invention and it will be understood that this form may be modified and other forms may be provided within the broad spirit of the invention and the broad scope of the claims.

I claim:

1. A cleaning device of the character described, comprising a U-shaped holder, a towel-supporting element rotatably mounted on one arm of said U-shaped holder, a second towel-supporting element rotatably mounted on the other arm of said U-shaped holder, and a towel wound into a roll on the first towel-supporting element, the free end of said towel extending across to the other towel-supporting element and being wound into a roll thereon, the portion of said towel extending between the two rolls comprising a web which may be applied to the work for cleaning purposes when the entire device is held in the hand by means of said rolls, each towel-supporting element comprising a coil spring which extends substantially the same length as the arm of said U-shaped holder on which it is rotatably mounted, the yoke of said U-shaped holder serving as an abutment at one end of said spring, a button on the free end of said arm serving as an abutment at opposite end of said spring, said spring being adapted to bear against said abutments with sufficient pressure to develop frictional engagement therewith to resist rotary movement of said spring about said arm and thereby to prevent accidental unraveling of the towel roll thereon, each said coil spring being relatively small in inside diameter at its end portions, whereby said end portions serve as bearings for the spring on the arm of said U-shaped holder on which it is rotatably mounted, the intermediate portion of said coil spring being relatively large in inside diameter with sufficient space between its convolutions and said arm to enable said intermediate portion of the coil spring to flex toward and away from said arm in order to conform to the contours of the work.

2. A cleaning device of the character described, comprising a U-shaped holder, a towel-supporting element rotatably mounted on one arm of said U-shaped holder, a second towel-supporting element rotatably mounted on the other arm of said U-shaped holder, and a towel wound into a roll on the first towel-supporting element, the free end of said towel extending across to the other towel-supporting element and being wound into a roll thereon, the portion of said towel extending between the two rolls comprising a web which may be applied to the work for cleaning purposes when the entire device is held in the hand by means of said rolls, each towel-supporting element comprising a coil spring which extends substantially the same length as the arm of said U-shaped holder on which it is rotatably mounted, the yoke of said U-shaped holder serving as an abutment at one end of said spring, a button on the free end of said arm serving as an abutment at the opposite end of said spring, said spring being adapted to bear against said abutments with sufficient pressure to develop frictional engagement therewith to resist rotary movement of said spring about said arm and thereby to prevent accidental unraveling of the towel roll thereon, each said coil spring being relatively small in inside diameter at its end portions, whereby said end portions serve as bearings for the spring on the arm of said U-shaped holder on which it is rotatably mounted, the intermediate portion of said coil spring being relatively large in inside diameter with sufficient space between its convolutions and said arm to enable said intermediate portion of the coil spring to flex toward and away from said arm in order to conform to the contours of the work, each said coil being provided with a spring finger at each end thereof to engage and hold the end of a towel being wound into a roll upon said coil spring.

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