

R. H. PHILLIPS.
HANDLE GRIP.
APPLICATION FILED OCT. 28, 1919.

1,421,098.

Patented June 27, 1922.

Fig. 1

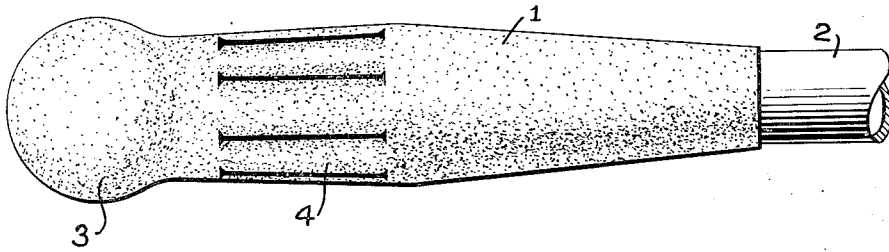


Fig. 2

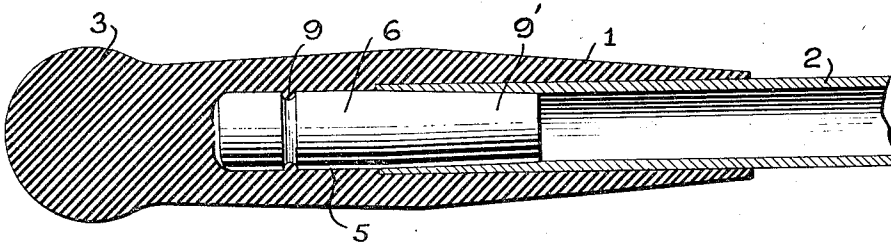
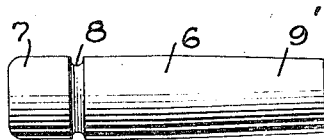


Fig. 3



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HANDLE GRIP.

1,421,098.

Specification of Letters Patent. Patented June 27, 1922.

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To all whom it may concern:

Be it known that I, RAYMOND H. PHILLIPS, a citizen of the United States, and a resident of the city of Trenton, county of Mercer, and State of New Jersey, have invented an Improvement in Handle Grips. of which the following is a specification.

This invention relates to flexible hand grips.

10 It further relates to hand grips as applied to handles and more in particular to grips made of flexible material and especially to those grips which are reinforced.

15 One of the objects of this invention is to provide a grip for assembly on handles which will not be broken or cut through by the sharp edges of the handles; and which will not depend upon an adhesive to hold it in contact with the handle.

20 Another and important object of this invention is to provide a grip which is reinforced for purposes of increasing the general strength; for preventing the grip from being bent over the sharp edge of the handle; and for assisting in the holding of the grip to the handle.

The drawing herein attached and forming a part of this disclosure is illustrative of a preferred form of embodiment, wherein:

30 Figure 1 is a view of the grip mounted on a handle.

Figure 2 is a section of the grip and handle and a showing in full of one of the reinforcing members, and

35 Figure 3 is a view of one form of reinforcing member.

40 It is customary where handles are provided to operate certain mechanisms, including mechanical machinery, elevators, automobile driving handles, motorcycle and bicycle handles, to provide the end of the handle with a protector usually made of a flexible material such as rubber. Generally the handles are made of metal and are of tubular construction. It has been found that the use of rubber grips on the end of the handle has certain objections as, for instance, the sharp edge of the handle cuts through the grip within a short time; and again, the adhesive which is employed to hold the grip to the handle loosens and the grip is lost or cannot be used in turning the bar to regulate certain parts of a mechanism such as the controls of the spark and gas on a motorcycle.

The disadvantages above mentioned have been overcome by one method and that is the employment of a reinforcing member which contacts with both the bar and the grip and prevents the flexible member from bending at the sharp edge of the handle thereby preventing the handle from cutting the flexible material. The grip is held in position by reason of positive engagements between the grip and reinforcing member and the association of these parts with the handle. This invention possesses many other and advantageous features, some of which, together with the foregoing, will be set out more at length in the following description wherein will be outlined in full that form of the invention which has been selected for illustration in the drawing accompanying and forming a part of the present specification.

75 Referring now to the drawings, in Figure 1 the grip 1 is shown as mounted on handle 2, which is generally of tubular construction. The external portion of the grip has one end 3 rounded in spherical shape and generally solid and then tapers toward the other end and has a portion 4 which is corrugated so that a positive engagement between the hand of the operator and the grip may be maintained. The portion of the grip in front of the corrugated portion tapers off to a thin end. In Figure 2 the construction of the preferred embodiment of this invention is readily appreciated and the opening 5 receives the reinforcing member 6 and the handle 2. The opening in the grip is of nonuniform dimension as it is made to receive the reinforcing member and the handle, both of which are of different diameters and may have various indentations and protrusions. Figure 3 discloses the reinforcing member as provided in this instance. This member has a rounded end 7 which contacts with the flexible material and when this material is bent over the end there is no sharp contact which will cut the flexible material; rubber being generally used. A groove 8 provided in the reinforcing member receives an annular bead 9 which is generally integral with the flexible material. This arrangement allows a positive connection between the grip itself and the reinforcing member. It is to be understood that the bead may be made on the reinforcing member instead of on the in-

terior surface of the flexible material, and this invention is not limited to the annular bead but any arrangement for holding the reinforcing member in positive contact with the grip is considered to be within the scope of this invention. Section 9' of the reinforcing member is tapered so that it may be inserted in the end of a tubular handle. This likewise is not limited to the design shown, as the reinforcing member may surround a portion of a handle, should the same be of solid construction, or the member may be attached in any positive manner. In this instance the reinforcing member has been made of wood as the same is easily fabricated and cheap of manufacture and performs the function of reinforcing in a very satisfactory manner. Any other material which will positively engage the handle and the grip after assembly may be employed in place of the wood and it is to be understood that the invention is not limited to the use of wood. The reinforcing member may be corrugated along parts or all of its length to receive and to be received by portions of the grip so that there will be a positive connection between the grip and the handle and thereby provide the transmission of forces required to rotate the bar in order to operate the control as is necessary in operating a motorcycle.

In assembling the grip where a hollow handle is used, the tapered end 9 of the reinforcing member is forced into the handle and there is a positive connection between the two as the wood during assembly is squeezed and tends to expand. The bead 9' of the grip is received by the groove 8 in the reinforcing member and any tendency to withdraw the grip from the handle would require the extraction of the reinforcing member from the handle. It has been found that if the handle is of tubular construction and the other end thereof is closed either by another grip as in handle bars for motorcycles or bicycles, or closed as is often the case in the steering handle of electric automobiles, there is created a suction which will prevent the grip and reinforcing member from being withdrawn and it becomes necessary to roll back the thin edge of the rubber in order to remove the grip from the handle. This is a distinct advantage for the reason that no adhesive is required to hold the grip in contact with the handle and the handle may be rotated with ease, although an adhesive may be employed if desired. The use of a reinforcing member which prevents the flexible material, as rubber in this instance, from being bent over a sharp edge of the handle gives greater length of life to the grip especially as the edge 7 of the reinforcing member is rounded so that there are no sharp points which tend to cut the material. The external surface

of the grip has been shown as one design which is pleasing to the operator and provides corrugations which allow a very positive gripping connection between the operator's hand and the grip when necessary; however, this invention is not limited to this design. It is to be understood that other types of reinforcing members are included by the disclosure hereinbefore set forth and includes that type which may be molded in the grip at the time of fabrication. Further, the scope of this invention includes reinforcing members assembled in an opening of the grip which have positive connection between the grip and the reinforcing member, and it also includes a reinforcing member held in positive contact with the grip by having the grip opening smaller than the external diameter of the member contacting therewith.

I claim:

1. In a handle grip the combination of a gripping member of flexible material having an opening therein, a portion of said opening being adapted to receive a handle, and a reinforcing member also held in said opening and being provided with a tapered portion for engaging within said handle, said gripping member and said reinforcing member having interengaging annular rib and groove connection at a point intermediate the inner end of the opening and the handle receiving portion of the opening for forming a positive holding means between said members.

2. In a handle grip the combination of a gripping member of flexible material having a portion of its outer surface roughened and having another portion tapered, said gripping member having an opening therein extending more than half its length, a portion of said opening being interrupted by a narrow annular bead extending inwardly, and a reinforcing member held in said opening and provided with a groove to receive said bead, said reinforcing member having one end tapered to fit handles of varied diameters.

3. In a handle grip the combination with a gripping member having a longitudinal opening therein of a reinforcing member having an inner section fitting tightly within the longitudinal opening at the inner portion thereof and having an outer section of smaller diameter than the corresponding outer portion of the opening and tapered to provide between the reinforcing member and the gripping member an annular opening of tapered cross section to receive a hollow handle substantially as described.

4. In a handle grip the combination of a flexible rubber member having one end solid and of spherical shape and the other end open to receive a handle, said opening extending substantially to the spherical-

shaped part, said flexible rubber member having a narrow annular bead extending into said opening at right angles to the axis of said opening, the exterior of said rubber member being provided with corrugations and a long tapered surface extending to said open end, and a wooden reinforcing member positively held in said opening by having a groove therein for receiving said bead, the wooden member having a tapered portion a substantial part of which is held in said handle to prevent said rubber member from being sharply flexed at the end of said handle.

5. In a handle grip the combination with a flexible rubber member having one end solid and of substantially spherical shape and the other end open to receive a handle and a reinforcing member positively held in the opening and arranged to extend into a handle inserted into the flexible member, the spherical end of the flexible rubber member and a portion adjacent thereto being solid and projecting beyond the reinforcing member to provide a relatively yielding end portion.

In testimony whereof, I have signed my name to this specification this 25th day of October, 1919.

RAYMOND H. PHILLIPS.