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H. H. HEEMAN

2,125,783

DOOR HANDLE

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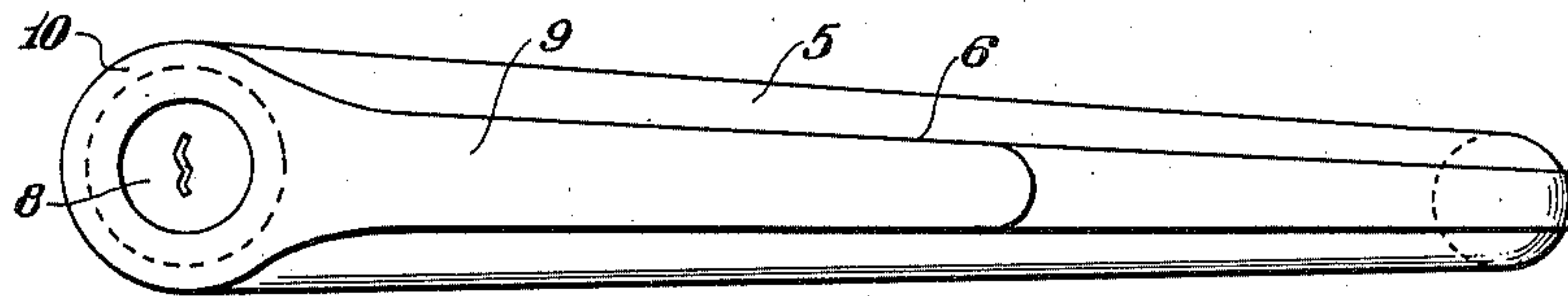


Fig. 1

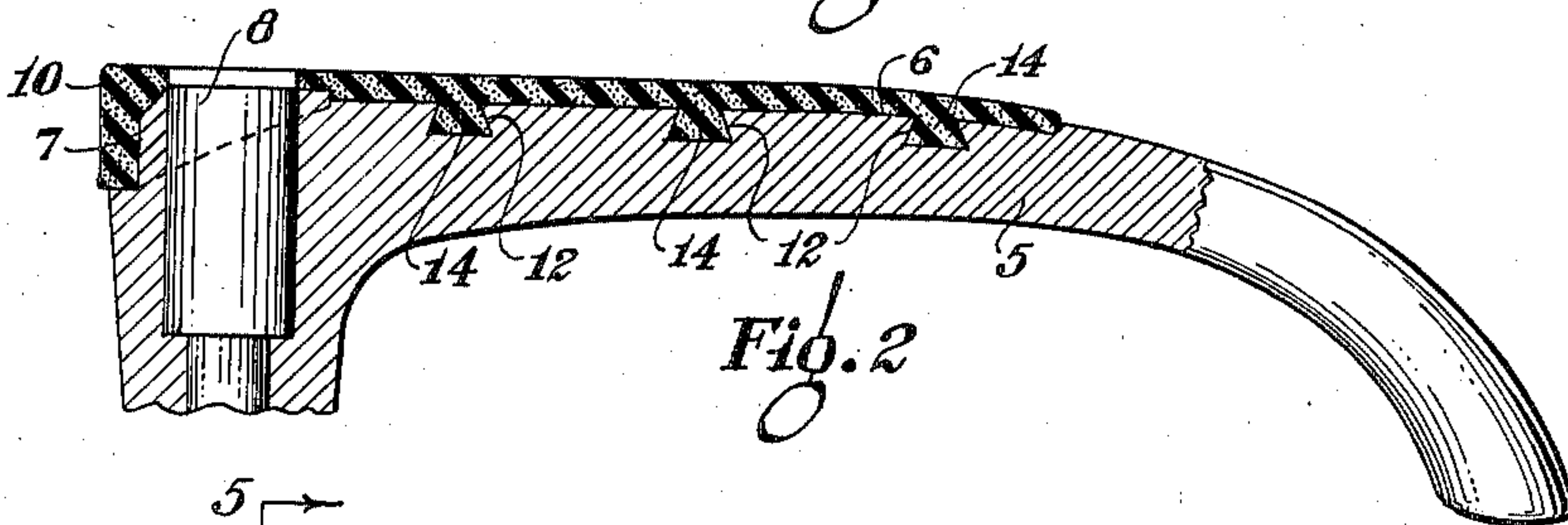


Fig. 2

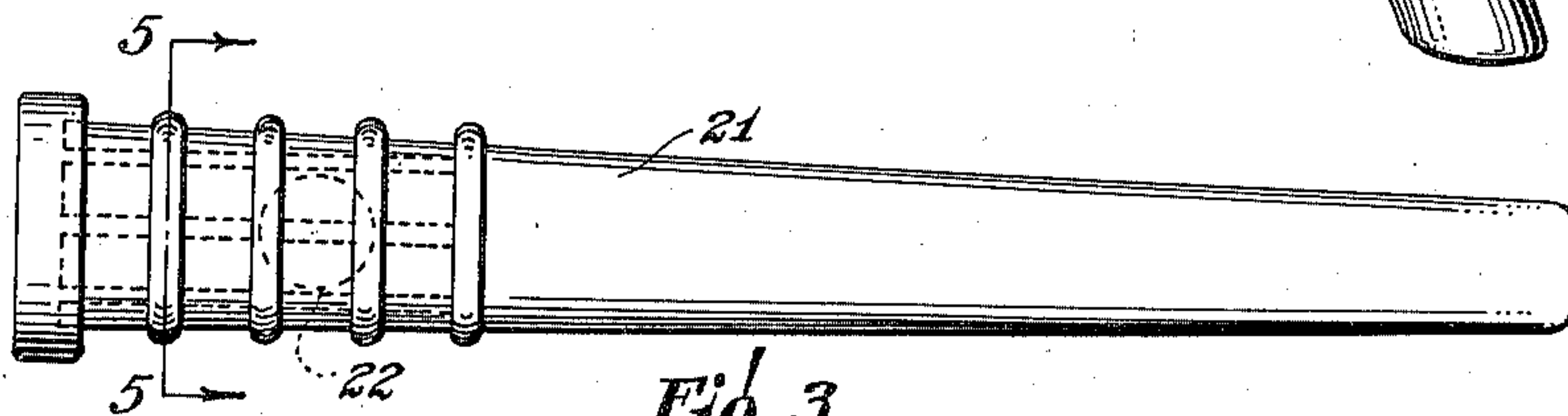


Fig. 3

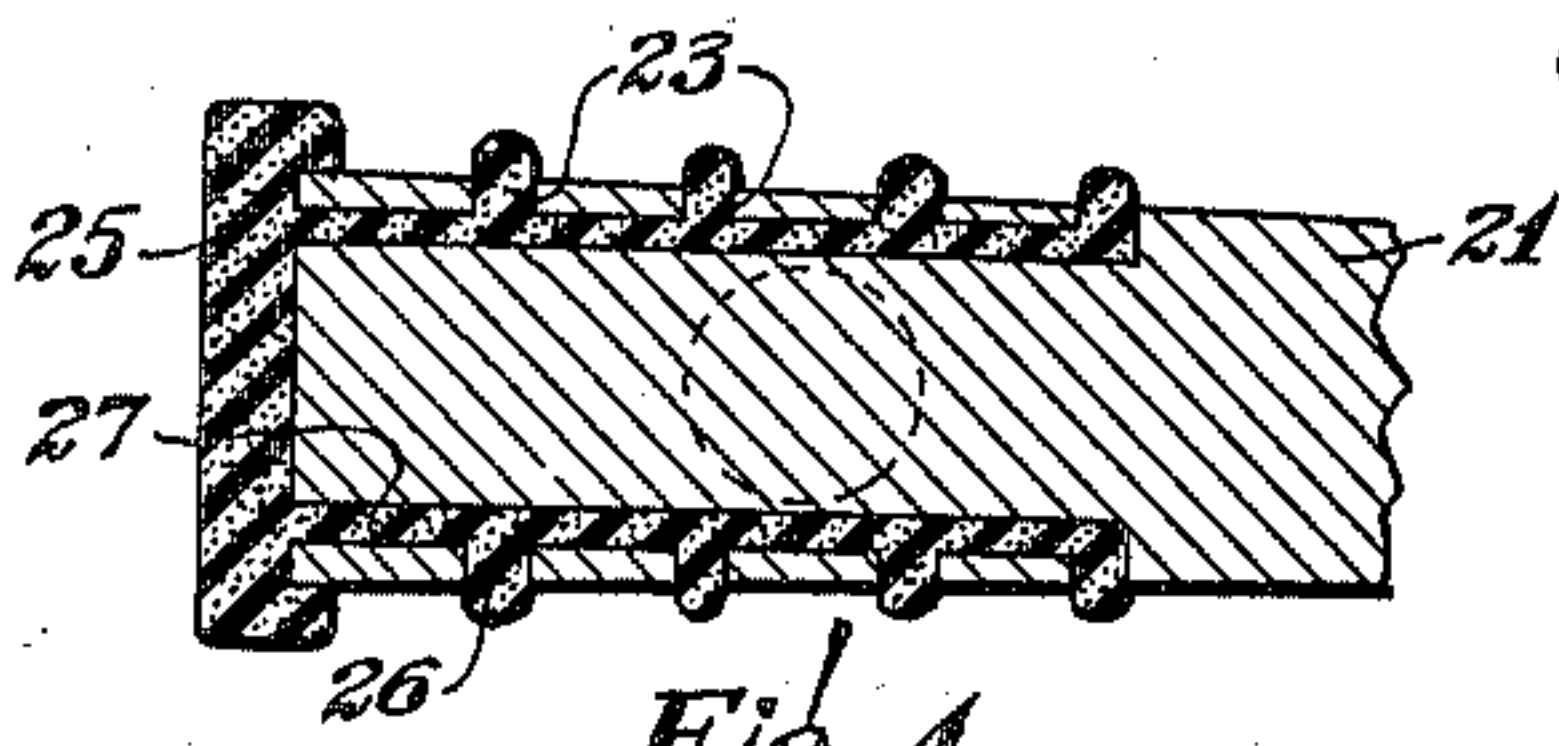


Fig. 4

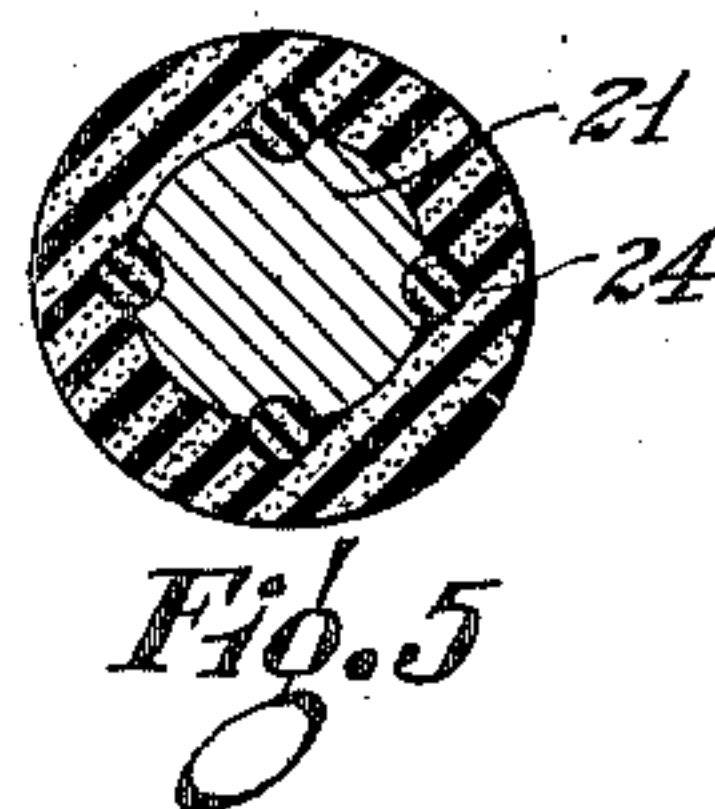


Fig. 5

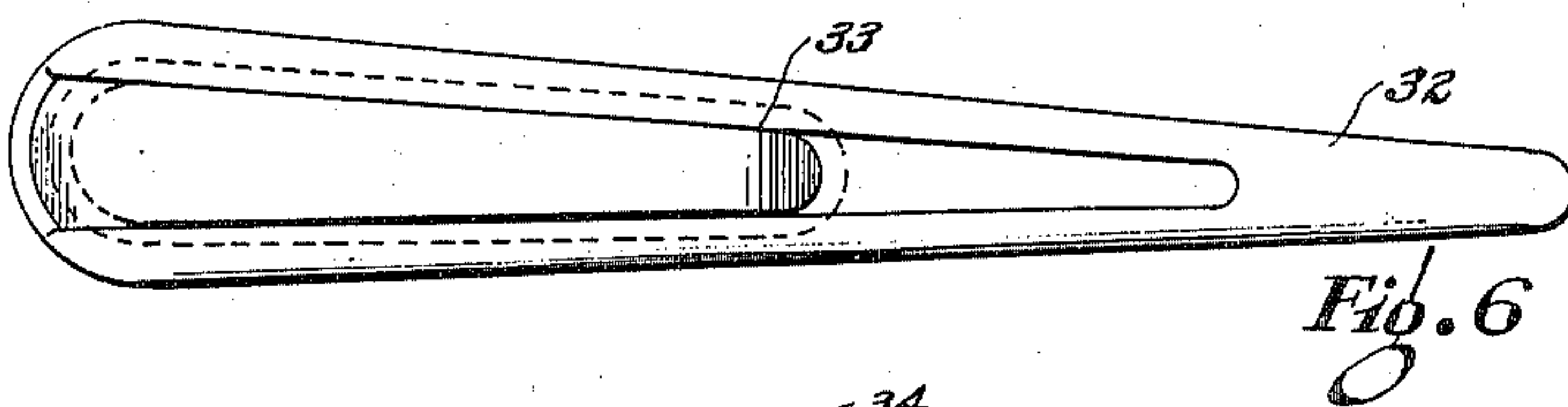


Fig. 6

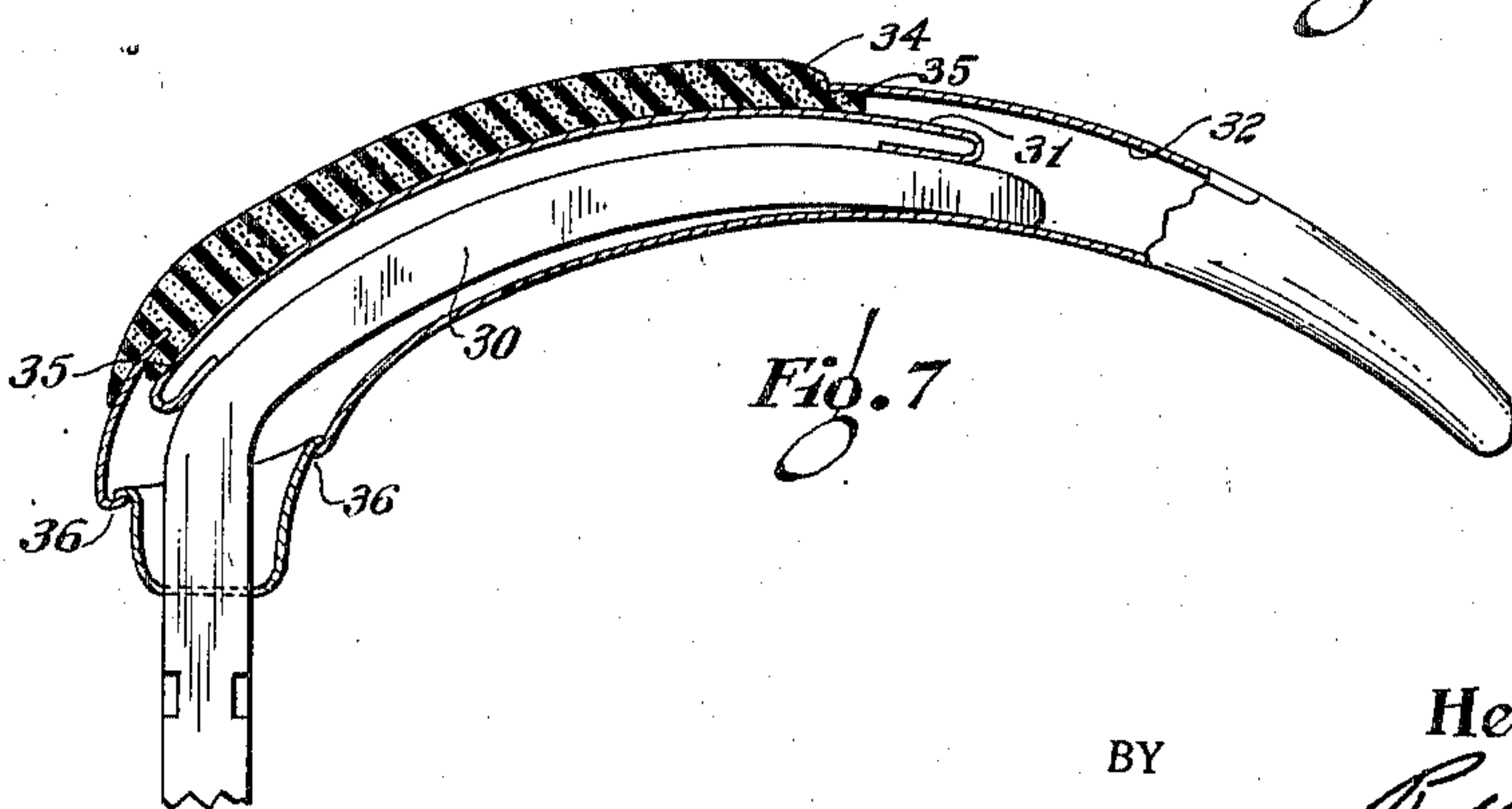


Fig. 7

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DOOR HANDLE

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11 Claims. (Cl. 292—347)

This invention relates to automobile door handles and more particularly to a door handle having a cushioning structure incorporated therein so as to prevent damage to the bodies of adjacent automobiles when the door is swung open.

Due to the current extensive use of the automobile and the congested conditions existing in automobile parking lots where it is necessary to park the vehicles parallel to each other, damage is being done to automobile bodies by the door handles which project beyond the door in a manner so as to dent or gouge the body of adjacent vehicles when the doors are swung open. It is among the objects of my invention to provide a door handle in which that portion of the handle which may come into contact with an adjacent vehicle is cushioned by rubber or like resilient material so as to prevent any damage to the vehicle body contacted. It is a further object of my invention to provide a door handle in accordance with the preceding object which is attractive in appearance and in which the cushioning material is so embedded or secured to the body of the door handle as to become a part thereof. It is a further object of my invention to provide a door handle for an automobile or the like in which a metal body is recessed or cut away on its outer face so as to receive and anchor a cushion or buffer device. It is a further object of my invention to provide a door handle for an automobile or the like in which a unitary rubber cushioning device is vulcanized within re-entrant portions of the metal body of the handle. It is also among the objects of my invention to provide a door handle in which a sheet metal handle cover portion is slotted or cut away to receive a cushion or buffer adapted to project beyond the outlines of the body of the handle.

Further objects and advantages will appear from the following description and the appended drawing wherein:

Figure 1 is an elevation of a door handle of the locking type embodying my invention;

Figure 2 is a longitudinal view, partly in section of the handle of Figure 1;

Figure 3 is an elevation of a modified form of door handle provided with a buffer device in accordance with my invention;

Figure 4 is a longitudinal sectional view of the handle of Figure 3;

Figure 5 is a sectional view taken along the line 5—5 of Figure 3;

Figure 6 is an elevation of a further modification of a door handle constructed in accordance with my invention;

Figure 7 is a view partly in section taken at right angles to the showing of Figure 6.

I have achieved the objects and advantages outlined above by cutting away a portion of a conventional door handle and vulcanizing or cementing within said cut away portion a rubber cushion material which is proportioned to project beyond the outlines of the door handle so that as the door is swung open that portion of the handle normally contacting an adjacent vehicle is cushioned by the projecting rubber.

In Figures 1 and 2 I have shown an embodiment of my invention wherein a door handle 5 of the locking type is die-cast or otherwise formed in a manner to provide a longitudinal groove 6 on the outer face thereof and an annular groove 7 joining the same adjacent the door shaft end of the handle. The handle may be provided with the conventional cylinder lock 8 and may otherwise conform in shape to the design adopted by the designer of the particular motor vehicle. A longitudinal strip of rubber 9 is arranged within the groove 6 and that end of the strip 9 adjacent the lock portion is given an annular form as at 10 to fit within the groove 7. Preferably the body of the handle 5 is die cast with re-entrant portions as at 12 to receive anchoring portions 14 integrally formed with the rubber strip 9. The integrally formed cushion comprising portions 9 and 10 may be vulcanized, cemented or otherwise suitably secured to the body of the handle.

My invention is also adapted to that type of door handle shown in Figure 3 wherein portions of the handle 21 project both forwardly and rearwardly from the door shaft 22. In this form of my invention I prefer to cut a plurality of annular grooves 23 into the body of the handle adjacent the door shaft and join the annular grooves 23 by longitudinal veins or bores 24. The handle may then be placed in a suitable rubber mold and the cushioning device integrally molded and interlocked about the handle. The large disc-like end portion 25 is secured to the smaller annular rings 26 through the medium of the longitudinal portions 27. In this type of handle it will be understood that the cushioning device is so interlocked by molding the same about the body of the vehicle that further securing means such as cementing or further vulcanization is unnecessary.

My invention is also suited to that type of door handle shown in Figures 6 and 7 wherein the bent end 30 of a rolled rod is covered by a rough stamping 31 which in turn is encased by a chromium or nickel-plated stamping 32. In this type of han-

dle I prefer to cushion the outer surface which may come in contact with an adjacent vehicle when the door is swung open by slotting the outer sheet metal covering 32 as at 33 and inserting therein a buffer 34. The buffer 34 is preferably provided with a flange 35 bearing against the inner surface of the sheet or cover 32 and the buffer in its entirety is held in place by the rough stamping 31. By assembling the cushion 34 with the outer cover 32 prior to the clinch or interlock of the metal as at 36 the buffer is immovably fixed to the handle and will function substantially as in the embodiments previously described.

In compounding the rubber which forms the buffers or cushions for the door handles according to my invention, I prefer to add mineral rubber in sufficient quantities to produce a relatively hard rubber. Those skilled in the art of rubber compounding will appreciate that the cushion or buffer may consist of such materials and be cured in a manner that will result in a product hard enough to resist cutting and yet soft enough to prevent damage to any vehicle body finish which it may contact. Synthetic rubber having the characteristics desired may also be employed. It will also be understood by those skilled in the art that the cushioning material may have incorporated therein or may be covered by such pigments or coloring matter as will match or harmonize with the general color scheme of the automobile.

Although I have shown and described three embodiments of my invention in considerable detail, it will be appreciated that modifications may be made therein by those skilled in the art without departing from the scope of the invention as defined in the following claims.

I claim:

1. A door handle having a rubber cushion about one end thereof and a plurality of spaced annular rubber cushions secured to each other and molded within the body of the handle.

2. A door handle having a plurality of annular grooves formed therein and a plurality of longitudinal bores connecting said grooves, an integrally formed rubber cushion device molded within said grooves and bores having portions thereof projecting through said grooves beyond the outline of the handle to cushion the same.

3. An automobile door handle comprising a portion bent with respect to the door handle shaft, a sheet metal stamping encasing the bent portion, a slot formed through one face of said stamping and a buffer member secured between said casing and said bent end with a portion thereof projecting through said slot and beyond the outline of the casing, said buffer member constituting a permanent part of the handle.

4. A door handle having a metal body with an enlarged rounded portion at one end thereof adjacent the door handle shaft, said body provided with a groove extending longitudinally of the handle and an annular groove about said enlarged rounded end, and an integrally formed rubber cushion member arranged within said grooves, said member being proportioned to extend beyond the outline of the handle body.

5. An automobile door handle comprising a shaft portion adapted to extend into the door body and an integrally formed laterally extending end portion, a rough stamping arranged about said end portion and a covering shell arranged about said rough stamping, a slot formed in said covering shell and a resilient buffer having por-

tions disposed between said stamping and shell and a portion extending through said slot and beyond the outline of said shell.

6. A door handle comprising a shaft portion adapted to project into the body of a door and a laterally extending handle portion, a rough stamping shaped to conform generally to said handle portion and a covering shell arranged about said rough stamping and secured thereto, a slot formed in said covering shell and a resilient buffer secured to said rough stamping within the shell and arranged to project through the slot beyond the outlines of said shell.

7. A door handle comprising a shaft portion polygonal in cross section adapted to extend into the body of the door and an integrally formed handle portion extending laterally of said shaft, a shell-like stamping shaped to enclose said handle portion having an opening on the outer face thereof remote from the shaft, a resilient buffer secured between said shell and handle portion with portions of said buffer projecting through said opening and beyond the outlines of the shell, said resilient buffer constituting a permanent part of the handle.

8. An automobile door handle having a metal shaft portion extending outwardly from the door of the automobile and terminating in a laterally extending metal hand grip portion, the face of the grip portion opposite the shaft being formed with a re-entrant recess extending to one end of the grip portion and terminating short of the other end, and a resilient buffer secured within said recess and projecting beyond the outlines of said face and said first mentioned end of the grip portion, so as to resiliently contact a surface adjacent said first mentioned end of the grip portion and disposed at any position between perpendicular to, and at an angle of forty-five degrees to, said metal shaft portion, said resilient buffer constituting a permanent part of the handle.

9. An automobile door handle having a metal shaft portion extending outwardly from the door of the automobile and terminating in a laterally extending metal hand grip portion, said hand grip portion being recessed and a resilient buffer secured to said hand grip portion and within the recess thereof, said resilient buffer being spaced inwardly from the side edges of the face of said hand grip portion so as to leave the metal of said grip portion exposed to view on each side of said buffer and said buffer being proportioned so that it projects beyond the outlines of the face and one end of said hand grip portion so as to resiliently contact a surface adjacent one end of the grip portion and disposed at any position between perpendicular to, and substantially parallel with, said metal shaft portion, said resilient buffer constituting a permanent part of the handle.

10. An automobile door handle having a metal shaft portion extending outwardly from the door of the automobile and terminating in a laterally extending metal hand grip portion, the face of the grip portion opposite the shaft being formed with a re-entrant recess extending to one end of the grip portion and terminating short of the other end, and a resilient buffer secured within said recess and projecting beyond the outlines of said face and said first mentioned end of the grip portion, so as to resiliently contact a surface adjacent said first mentioned end of the grip portion and disposed at any position between perpendicular to, and substantially parallel with,

said metal shaft portion, said resilient buffer constituting a permanent part of the handle.

11. A metallic automobile door handle comprising a hand grip having a free end and an attached end, and a buffer secured in a recess in the outer face of the grip and projecting beyond the outer surface thereof, said buffer extending in

a direction lengthwise of the grip and around at least a part of the attached end at a sufficient angle to the lengthwise direction of the buffer so as to receive impacts delivered thereto at various angles within a 90° range.

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