

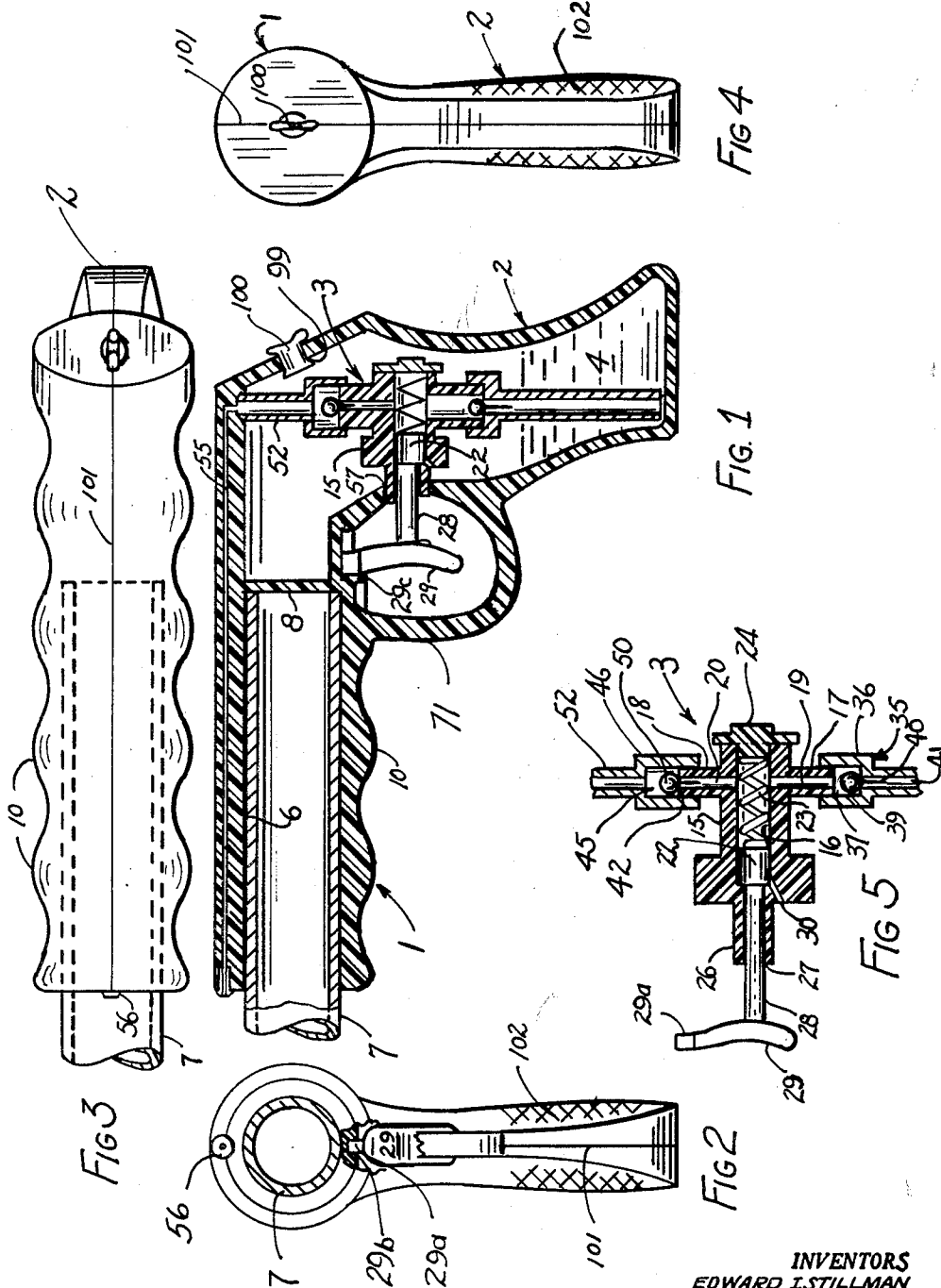
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E. I. STILLMAN ETAL

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HANDLE BAR GRIP

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INVENTORS
EDWARD I. STILLMAN
RICHARD R. ZACHOWSKI.
BY *George B. Kasik*
GEORGE B. KASIK
ATTORNEY

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HANDLE BAR GRIP

Edward I. Stillman, 2472 Overlook Road, Cleveland Heights, Ohio, and Richard Robert Zachowski, 4415 Pearse Ave., Newburgh Heights, Ohio
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This invention relates to handle grips employed on handle bars for children's play vehicles and more particularly to such handle grips as are used on bicycles, tricycles and other like vehicles incorporating handle bars in the steering mechanism.

It is an object of the invention to provide an amusement device in the form of a handle grip having the appearance of a firearm and provided with means to simulate the action of such firearm including the ejection of either particles, liquid, smoke or sparks and which may be accompanied by noise.

It is a further object to provide a handle grip for a vehicle wherein said grip has the appearance and mechanism to simulate a firearm with means by which the operator of the vehicle can actuate the device without relinquishing his grip on the handle grip.

It is a further object of the invention to provide an amusement device in the form of a gun grip which is safe in use and which avoids any hazard to the user if actuated when the vehicle is in motion.

It is a more specific object of the invention to provide in combination with the standard handle grip a liquid "squirt gun" device; a further object of the invention being to provide a handle grip of the above type incorporating means for actuating the liquid ejection mechanism by manipulation of the operator's fingers without disengaging them from the handle grip portion.

It is a further object of the invention to provide a means for the handle grip device which will enable the operator to direct the ejected stream at will in various directions with respect to the direction of travel of the vehicle.

It will be recognized that the invention in its broadest scope contemplates forming a handle grip to imitate any form of firearm, but for sake of illustration, and to afford a clear description of the invention it will be described as applied to a "squirt gun"; thus—

FIG. 1 illustrates a side elevation view with parts cut away to expose the principal mechanical operating features.

FIG. 2 illustrates a front elevational view with parts broken away to show trigger guide.

FIG. 3 is a top view of the device.

FIG. 4 is a rear end view.

FIG. 5 shows on an enlarged scale the structural features of the pump mechanism.

With reference to FIG. 1, the device is illustrated as comprising a forward portion 1 constituting a handle grip part adapted to fit over the end of the vehicle handle bars in the well known manner, and a rearward portion 2 fashioned in the form of the grip and trigger mechanism of the conventional pistol-shaped "squirt gun". Whereas the preferred form of the device has a configuration of a pistol, it will be appreciated that the invention comprehends other variations in form not necessarily limited to the pistol shape.

The forward barrel portion 1 is fabricated from a semi-flexible material and adapted to fit snugly over the end of the handle bar 7. This barrel portion 1 has a cylindrical recess 6 terminating its rearward end in a wall 8; the end of the handle bar 7 is adapted to abut said wall when the grip is properly fitted over the handle bar. This barrel portion 1 is provided with a series of ribs 10 running circumferentially about the barrel and spaced along the

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outer surface thereof in a manner well known to provide finger-gripping portions.

The rearward portion 2 of the grip supports a pump assembly 3 and is formed with an inner chamber 4 that constitutes a liquid reservoir.

The pump assembly 3 is best illustrated in FIG. 5. It consists of a main body member 15 having a cylindrical bore 16. An inlet nipple 17 and an outlet nipple 18 provided, respectively, with an inlet bore 19 and an outlet bore 20, are in communication with the cylindrical chamber 16 at one end thereof and at opposite sides of the cylinder. A floating piston 22 operates in the forward end of the cylinder—i.e., the end remote from the inlet and outlet ports—in opposition to a spring member 23 which bears it at its forward end against the rearward face of said piston 22 and at its other end against a plug 24 that closes the remote or opposite end of the cylinder. The cylinder 15 has an extending portion or sleeve 26 provided with a bore 27 that is in axial alignment with an opening in the piston end of the cylinder. This sleeve 26 furnishes a guide way for the stem 28 of a triggering device 29. Thus the piston is actuated by driving the trigger against the same in opposition to the spring 23. Since the piston 22 fits fairly snugly in the cylinder 16, a vent opening 30 is provided at the forward end of the cylinder chamber in order to relieve the space in front of the piston during its travel.

An inlet valve mechanism 35 is carried by the inlet nipple 17. The inlet valve is made up of a cup-shaped member 36 that fits over the lower end of nipple 17 and forms therewith an inlet chamber 37 and a valve seat 38 on which rests a valve member 39 having a tail piece 40 that extends loosely down into the inlet line 41 attached to and in communication with the lower end of the cup member 35.

The outlet nipple 18 is formed at its upper terminus with a valve seat 42. An outlet valve chamber 45 is provided by an inverted cup member 46 that is adapted to telescopically fit over the end of outlet nipple 18; member 46 as an opening in its upper surface communicating with an outlet tube 52. A valve ball 50 having a tail piece 50a rests on the valve seat 42 and operates within the outlet valve chamber 45 in a manner to be described.

The upper end of tube 52 connects with a fluid passageway 55 in the form of a bore that extends along the barrel of the gun and through the handle grip portion terminating in a nozzle 56 at the forward end of said grip portion and on the upper side thereof. Whereas, in the embodiment shown, a formal nozzle piece is incorporated, it will be understood that the invention comprehends any terminal formation of the passageway 55 which will provide a constricted part and thus assure a fine, ejected stream.

In the form shown in FIG. 1, the trigger arrangement comprises a finger engaging member or trigger 29 enclosed within the guard ring 71. The upper end of the trigger 29 is formed with a part 29a, that is adapted to ride in a guide 29b carried by the under body of the gun. The forward extent of travel of the trigger 29 is limited by projections 29c on the guide.

It will be observed that the pump assembly 3 is rigidly mounted within the reservoir 4; the body extension 26 projects through an opening 15 in the gun handle and is cemented in place. The reservoir is provided with a filler opening 99 closed by a removable plug 100.

The gun handle 2 is provided with serrations 102 to simulate the form of a conventional firearm. The grip is formed in two halves by well known injection molding or like-molding processes. After inserting the pump and trigger in proper place the halves are assembled and cemented together. The parting line 101 indicates the cemented joint.

The pump mechanism operates in a well known manner,

but for purposes of explanation let it suffice to say that when the reservoir is filled with liquid and the trigger mechanism is actuated, the piston is driven to the right, as viewed in FIG. 1, thereby ejecting liquid from the cylinder chamber 16 through the outlet valve 46 into the outlet line 52 and passageway 55, and out the nozzle 56. During this ejection stage, the inlet valve 39 closes against its seat 38 to prevent return of liquid to the reservoir 4. Upon releasing the trigger 29, spring 23 quickly returns the piston to the forward end of the cylinder, venting being accomplished through opening 30, during the piston's travel to its forward (starting) position the outlet valve 50 closes against its seat 42 and the vacuum created within the cylinder 16 draws the liquid from reservoir 4 through inlet valve 39 to recharge the cylinder. The aforesaid action is repeated as the trigger is subsequently actuated.

The operation of the device is more or less self evident. For that form shown in FIG. 1 it will be noted that the rider or operator normally grips the handle bar at the barrel portion of the gun. When it is desired to actuate the gun he moves his hand to the gun grip portion at which time he grasps the trigger mechanism with one finger while using his remaining fingers to hold the gun grip portion. Thus it will be seen that when his hands are in the "firing position" the operator has full control of his vehicle just as he would with his hands gripping the barrel portion. This safety feature is highly desirable.

Having thus described a preferred embodiment of our invention, but without intending to limit the scope of the invention to the said described form, what we claim is:

What we claim is:

1. A handle bar grip for bicycles or the like shaped to simulate a firearm and normally grasped by an operator of the bicycle, including a barrel portion adapted to fit over the end of the handle bar, and a body portion integral with the barrel and having a mechanism for simulating the action of a firearm including the ejection of particles, sparks, liquid and/or smoke, and said mechanism including triggering means incorporated in the grip which can

be activated by the operator while the handle bar grip is being held, whereby the action of the firearm mechanism is initiated.

2. A device of claim 1 wherein the barrel portion is relatively resilient to afford gripping action on the handle bar, and the body portion is relatively rigid to provide support for the pump and triggering means.

3. A handle bar grip for children's vehicles, having a first portion simulating the barrel of a pistol and formed to receive and be supported by the end of the vehicle handle bar, a liquid passageway terminating in a nozzle associated with said portion, a second portion integral with the first portion and shaped to simulate a pistol grip, the second portion incorporating a liquid reservoir and pumping means, a line of communication between said pumping means and the passageway, and a trigger mechanism supported by said second portion and operable by the operator without removing his grasp upon the grip to effect actuation of the pumping means whereby a stream of liquid may be ejected from the handle bar grip.

4. A device of claim 3 wherein the nozzle is located proximate to the forward end of the grip and is provided with means for directing the liquid stream in a selected direction.

5. The device of claim 3 wherein a portion of the liquid reservoir comprises a chamber that extends inside the handle bar grip second portion and is in communication with said reservoir.

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