June 18, 1963 C. RACOOSIN 3,094,185

POWERED-WHEEL ATTACHMENT FOR GOLF BAG CARRIER

Filed April 3, 1961 2 Sheets-Sheet 1

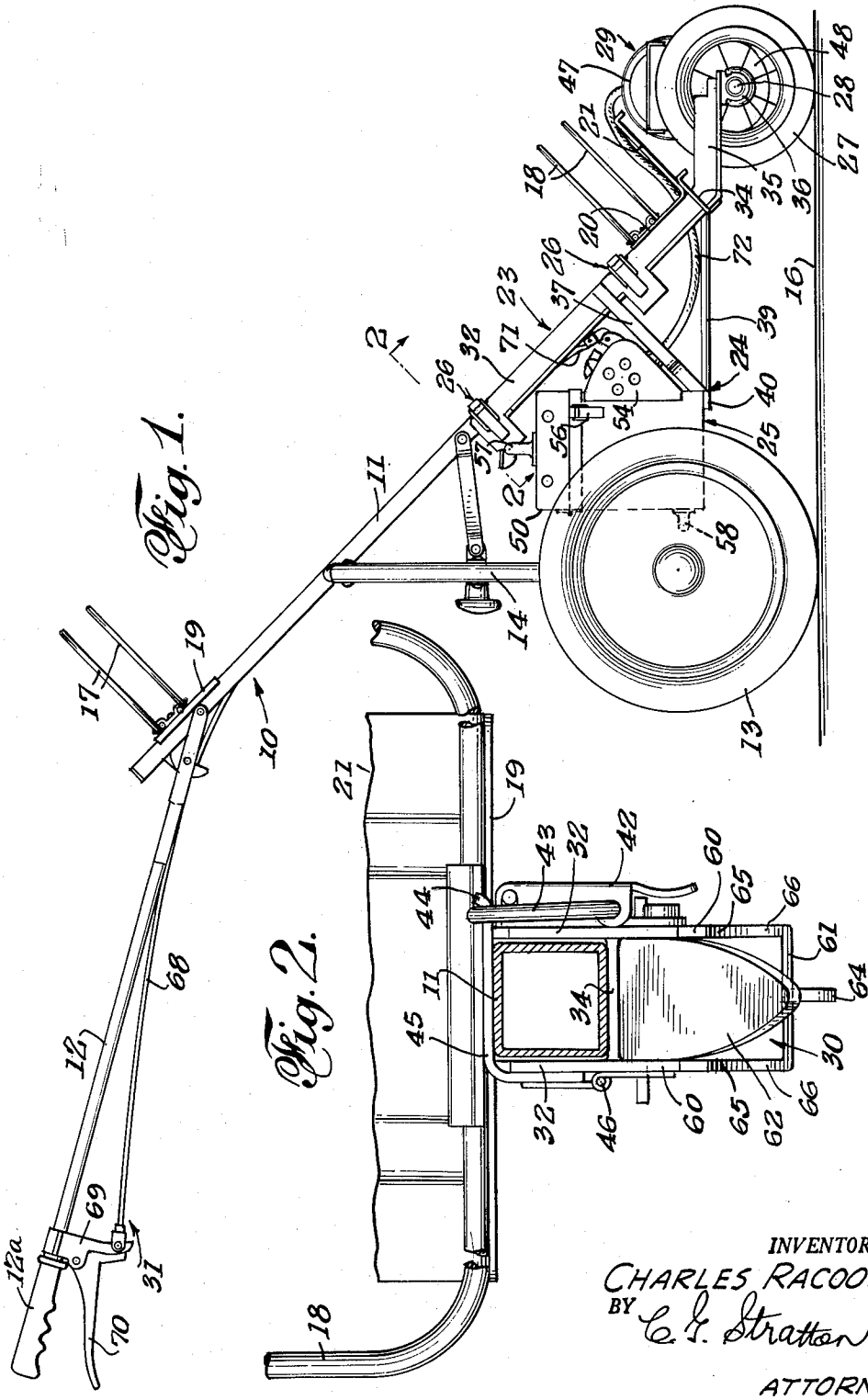


Fig. 1.

Fig. 2.

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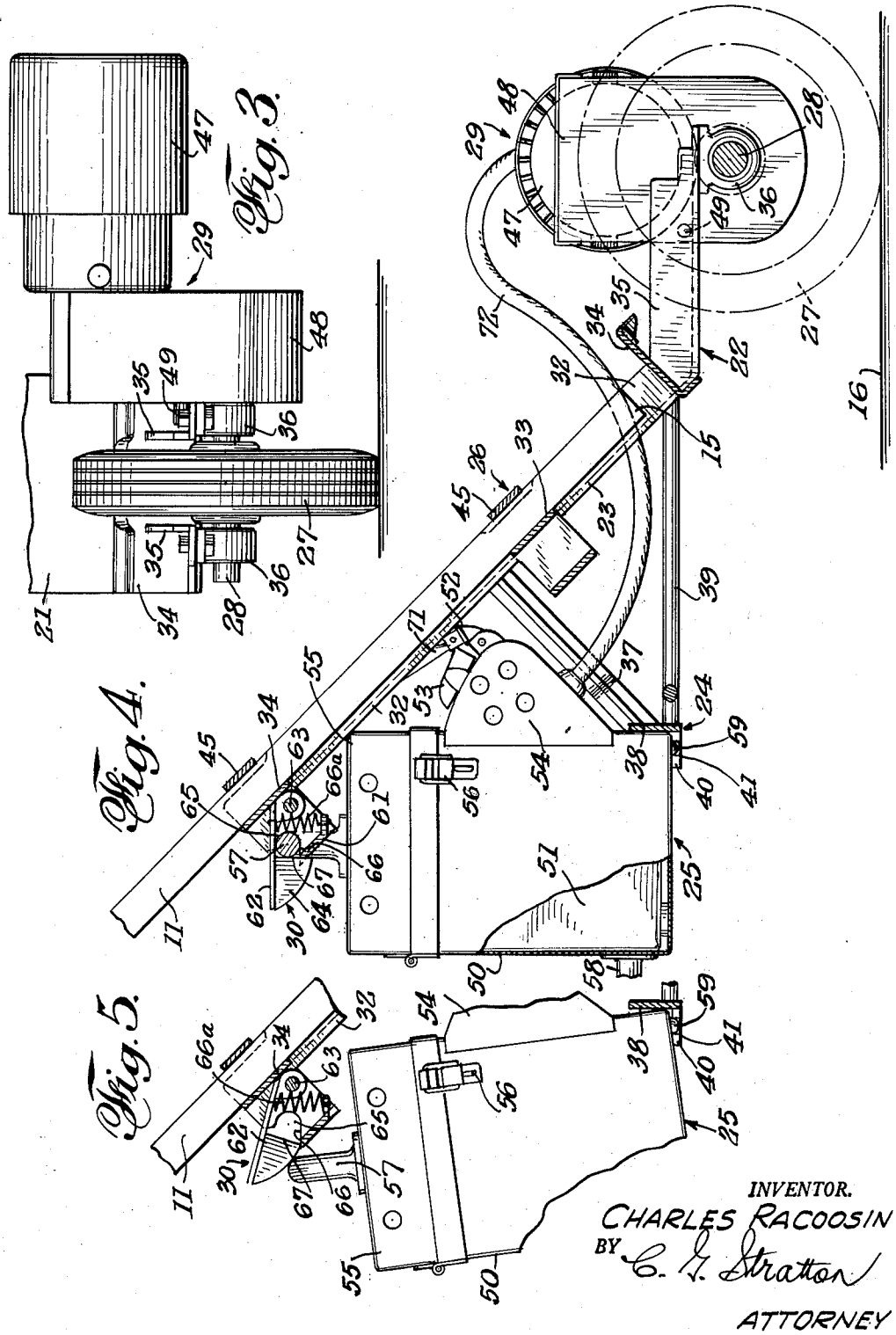


Fig. 3.

Fig. 4.

Fig. 5.

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POWERED-WHEEL ATTACHMENT FOR GOLF BAG CARRIER

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3 Claims. (Cl. 180—11)

This invention relates to a golf cart, particularly for carrying a golf bag, and has for an object to provide power means that is adapted to be separably connected to existing hand-manipulated bag carriers, thereby rendering the same easy to handle and control over sloping terrain as well as on level ground.

Another object of the invention is to provide a power-provided attachment that not only is capable of converting hand-manipulated wheeled carriers to powered vehicles, but is further capable of facilitating exchange of the current source, usually a storage battery. Such flexibility of exchange enables retention of the same attachment on a hand cart and easy exchange of batteries, whenever desired.

A further object of the invention is to provide an attachment of the character above referred to that is adapted to convert a two-wheeled bag carrier into a three-wheeled and powered carrier that is manipulated with easy facility whether along a straight course or around turns.

This invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description and which is based on the accompanying drawings. However, said drawings merely show, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

FIG. 1 is a side elevational view of a golf bag carrier provided with a power-driven attachment according to the present invention.

FIG. 2 is an enlarged and broken cross-sectional view as taken on the line 2—2 of FIG. 1.

FIG. 3 is an end view of said attachment as seen from the front of the carrier.

FIG. 4 is a longitudinal sectional view of the attachment to about double the size of FIG. 1.

FIG. 5 is a similar, but fragmentary, view showing quick-detach means for separably connecting the power pack for the present attachment.

Referring more particularly to FIG. 1, a representative form of hand-manipulated bag carrier **10** is shown. Conventionally, the same comprises an elongated body **11** having a handle extension **12**, and supported by a pair of free-turning wheels **13** on a foldable carriage **14** connected to said body **11**. The lower end **15** (FIG. 4) of the body **11** is adapted to rest on the ground **16** when the handle **12** is released, the carrier being so weighted by a golf bag thereon as to normally assume a three-point position of support on said end **15** and the two wheels **13**. Thus, a golf bag retained on the body **11** by longitudinally spaced retaining wires **17** and **18** and resting on the respective support plates **19** and **20**, and held against endwise displacement by a wall **21** on support plate **20**, is adapted to be moved from place to place on the wheels **13** and have a position of rest when the body end **15** touches the ground.

The above generally described hand-pulled carrier may

be varied and yet be capable of operative connection with the present improved attachment **22**, providing the body **11** is of generally elongated form irrespective of its cross-sectional form, and the handle extension **12** is a longitudinally angularly adjustable extension of said body and terminates in a bicycle type of hand grip **12***a*.

The powered attachment **22** comprises, generally, a mounting bracket **23** for engaging the lower portion of the carrier body **11** and is provided with a support portion **24** for a power pack unit **25**, means **26** to releasably lock said bracket **23** to the body **11**, a wheel **27** carried by said bracket **23** on an axle **28**, a geared motor unit **29** receiving its electrical power from the power pack unit **25** and mounted on the lower forward end of the bracket **23**, the wheel axle **28** comprising the output shaft of said motor unit **29**, releasable catch means **30** for connecting the power pack unit **25** to the mounting bracket **23**, and means **31** extending between the unit **25** and the handle extension **12** adjacent the hand grip **12***a* for controlling flow of electric power from the unit **25** to the motor unit **29**.

In this case, the carrier body **11** comprises a length of square tubing. The mounting **23** is formed accordingly to have side walls **32** and a lower support portion shown as longitudinally spaced transverse walls **33** and **34**. The mentioned lower end **15** of the carrier body carries the golf bag support plate **20**, the end wall **21** of said plate being engaged against a transverse wall **34** at the ends of side walls **32**. Thus, the bracket **23** has a position on the end of the body **11** that is limited by engagement, as in FIG. 1, of the walls **21** and **34**. In the present case, the bracket **23** is extended forwardly of the wall **34** by means of side wall extensions **35**, an angle between said extensions and the side walls **32** being formed so that the latter are disposed at an upward and rearward angle with the former horizontal, as shown. Aligned axle bearings **36** are carried by said wall extensions **35**.

The support portion **24** is shown as a rigid pair of arms **37** that extend substantially normal to the bracket walls **32** downwardly and rearwardly, a transverse wall member **38** that rigidly connects the lower ends of arms **37**, suitable braces **39** that extend from such points of connection forwardly to one or both of the bracket walls **32**, and a pair of support pads **40** at the ends of wall **38** and having seats **41** formed therein.

The releasable locks **26** are shown as generally conventional trunk catches that by toggle action of their members **42** and bails **43** releasably catch the ends **44** of the retaining members **45** carried on pivots **46**. These catches close the channels formed by side walls **32** and transverse wall portions **33** of the bracket **23** and, thereby, clamp the carrier body **11** in said channel.

The wheel **27** is disposed between said wall extensions **35**, as can be seen in FIG. 1. Therefore, the bearings **36** are arranged, one on each side of said wheel, which, of course, is affixed to the axle **28** to be driven thereby.

The geared motor unit **29** is shown as an electric motor **47**, and a gear box **48** that converts the speed to a slower speed of the axle **28**, which is the output shaft of said gear box. While the unit **29** may be mounted on the bracket **23** in various ways, the same is here shown as mounted only by means of the axle **28**, a stop lug or lugs **49** on the box **48** engaging the wall extension **35** on the side of the unit **29** to prevent rotation of the unit bodily on axle **28**.

The power pack unit **25** is shown as a rectangular housing **50** that encloses a storage battery **51** and is provided with a rheostat-controlled current regulator, represented by the element **52** and with a reversing switch **53**, indicated by a control knob. Said regulator **52** and switch **53** may be enclosed in a forward extension **54** of the housing **50**.

Access for exchange and servicing of the battery **51** is afforded by means of a hinged cover **55** on housing **50**, catches **56** being used to releasably lock the cover in battery-enclosing position. In this case, the battery housing **50** is shown with a bail-like handle **57** at the top of cover **55**, and a similar handle **58** extending rearwardly from the lower rear side of the housing **50**. The two forward corners at the bottom of the housing **50** are each provided with a projection **59**, the same being adapted to engage in the mentioned seats **41**, as shown in FIGS. 4 and 5.

The releasable catch means **30** is provided on the forward end of the mounting bracket **23** and is designed to engage the handle **57** of the power pack unit **25** to hold said unit in support position with the projections **59** thereof in seats **41**, as clearly shown in FIGS. 1 and 4. Said catch means **30** comprises extension walls **60** of the side walls **32**, a transverse connecting wall **61** cooperating with said walls **60** and the transverse wall **34** to define an enclosure in which is mounted a latch lever **62** on a pivot **63** extending between the extension walls **60**. Said lever is provided with a forwardly disposed, downwardly facing cam **64**. The rearward edges of said extension walls **60** are provided with seats **65** that have horizontal upwardly facing support edges **66**. A spring **66***a* biases the latch lever **62** to a position to enclose the bail **57** after the same is entered into seats **65** and in support engagement with edges **66**, a forward edge **67** on the cam so engaging said bail as to prevent rearward displacement thereof and of the power pack unit, except when said lever **62** is raised on its pivot, in which case the unit **25** can be tilted forwardly, pivoting on the projections **59** until the handle **57** is out of the seats **65**. Now, the two handles **57** and **58** may be used to lift the pack unit off its support pads **40**. As seen in FIG. 5, the power pack unit is replaced by tilting the same rearwardly while supported on the pads **40**, the handle **57** camming the cam **64** upwardly against the bias of spring **66***a* until the handle enters the seats **65**. The lever drops automatically to lock the connection **30**, as in FIG. 4. Thus, for replacement, recharging, or for any other reason, the power pack unit may be easily removed and replaced.

The means **31** is here shown as a flexible sheath **68** that is connected to the body **11** and its extension **12**, and terminates at a bracket **69** affixed to said extension adjacent hand grip **12***a*, an actuating cable or wire connected to a lever **70** pivoted to the bracket **69** and cooperating with said hand grip to be pressed and released by the hand engaged with the grip and a hook end **71** at the end of said cable or wire adjacent element **52** and separable from said element upon removal of the power pack unit.

A cable **72** from the motor **47** has a plug-in connection at **73** with the power pack unit. It will be clear that, with switch **53** turned on, the rheostat control afforded by the means **31** will control current flow to the motor according to the resistance imposed by the rheostat and the motor **47** will run slower or faster, accordingly. When the lever **70** is released, as when the carrier is brought to rest, the rheostat cuts out all current and the carrier remains in its at rest position.

While the foregoing has illustrated and described what is now contemplated to be the best mode of carrying out the invention, the construction is, of course, subject to modification without departing from the spirit and scope of the invention. Therefore, it is not desired to restrict the invention to the particular form of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. An attachment for a golf bag carrier that has an elongated body terminating at its upper end in a manipulating handle and supported by a pair of free-turning wheels on a foldable carriage connected to an intermediate portion of the body, said attachment being adapted to convert said carrier from a manually movable vehicle to a powered vehicle, said attachment comprising an elongated bracket generally coextensive with the end of the body that extends downwardly from the wheel-mounting foldable carriage, a pair of longitudinally spaced catches provided on said elongated bracket for separable engagement around the carrier body, a forward extension on the lower end of the bracket below the lower end of the body, a single wheel carried by said extension in aligned relationship with the body and bracket, a geared motor to drive the latter wheel and having an output shaft constituting the axle of said wheel, bearings on the bracket extension to mount said axle, a power pack unit disposed rearwardly of the mentioned bracket and separably electrically connected to the geared motor to provide electrical power therefor, a support on the bracket for the lower forward portion of the power pack unit, and releasable catch means on the bracket engaged with the upper end of said unit to retain the unit in position on said support.

2. An attachment according to claim 1 in which the mentioned support of said power pack unit and the lower forward portion of said unit are provided with separable interengaging projection and seat means that retains the power pack unit against rearward displacement from the bracket support during engagement of the power pack unit with the releasable catch means on the bracket.

3. An attachment for a golf bag carrier according to claim 1 in which the power pack unit is provided with a current regulator,

(*a*) means extending between said regulator and the manipulating handle of the carrier body for manual control of said regulator by the operator at the handle end of said carrier body, and

(*b*) a separable connection between the last-mentioned means and the current regulator to release said last-mentioned means from the current regulator and thereby free the power pack unit for removal from the attachment.

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