

I. STEINBERG.
 PACKAGE DELIVERY BICYCLE.
 APPLICATION FILED MAR. 25, 1912.

1,050,311.

Patented Jan. 14, 1913.

Fig. 1.

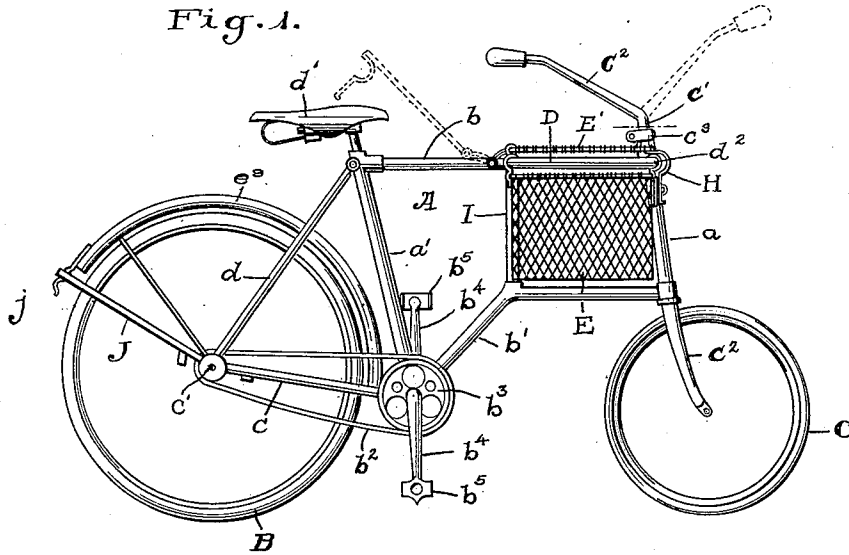


Fig. 2.

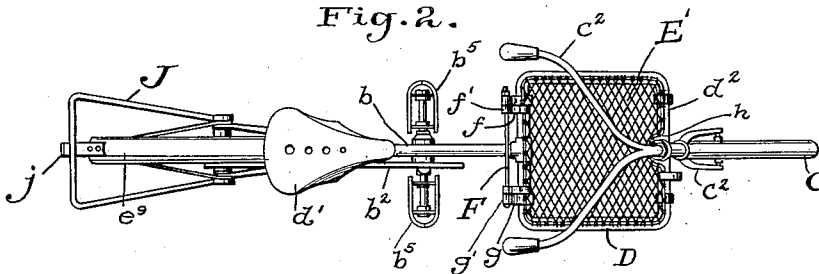


Fig. 3.

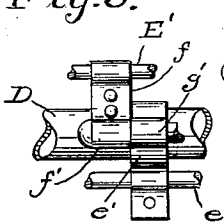


Fig. 4.

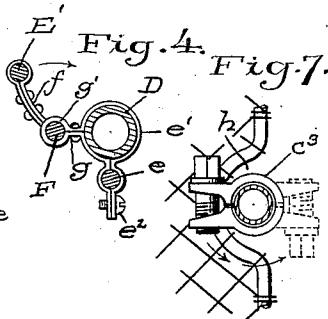
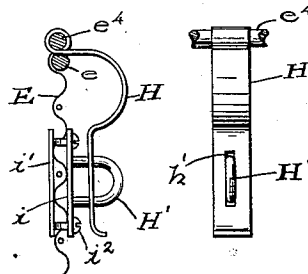


Fig. 5. Fig. 6.



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PACKAGE-DELIVERY BICYCLE.

1,050,311.

Specification of Letters Patent.

Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, ISRAEL STEINBERG, a citizen of the United States, residing at the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Package-Delivery Bicycle, of which the following is a specification.

This invention is a package delivery bicycle, and the object of the invention is to enable packages to be safely and securely carried and without material hindrance or inconvenience to the rider.

With these objects in view, the invention consists in a novel construction of the frame of the bicycle, whereby a relatively large package holder may be securely fastened thereto and carried thereby and without exerting undue strain on the mechanism of the bicycle. The bicycle is of the "safety" type except that the front wheel is made materially smaller than the rear wheel, and, further, a considerably larger wheel base is provided. These differences in construction permit of securing a very considerable depth or distance between the upper and lower members of the frame, and, moreover, a much greater distance between the steering head and the saddle post. This construction of frame provides a sufficient space intermediate the upper and lower members and between the steering head and saddle post to introduce a relatively large package holder without interfering with the rider.

The forward or looped portion of the upper member of the frame is preferably made substantially rectangular in shape, whereby the package receptacle may be suspended therefrom, and in the preferred form of construction I provide a supporting member extending between the upper and lower members of the frame just rearwardly of the package carrier. This latter feature of construction greatly adds to the weight sustaining power of the upper member of the frame, and, to a great extent, relieves vibration and strain from the lower member of said frame.

Other features of the invention, and the

advantages thereof, will appear from the following detailed description.

In the accompanying drawings, I have illustrated one practical embodiment of the invention, but the construction shown therein is to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a side elevation of a package delivery bicycle embodying the present invention. Fig. 2 is a plan view thereof. Fig. 3 is a fragmentary view in elevation, illustrating one embodiment of means for detachably and hingedly connecting a cover to the package holder. Fig. 4 is a cross section through the device of Fig. 3. Figs. 5 and 6 are detail views in section and elevation, respectively, of a means for locking the cover to the package holder. Fig. 7 is a detail view, partly in section, illustrating means on the steering spindle of the bicycle for retaining the cover of the package holder in a closed position when the front steering wheel is in an operative position, said means being adapted for releasing the cover when the front steering wheel and steering spindle are turned to occupy the position indicated in dotted lines in Fig. 1.

The general form of the bicycle shown in Figs. 1 and 2 of the drawings is similar to the ordinary safety bicycle, but in adapting the package holder to such a bicycle it has been found necessary to modify the construction of the frame and to reduce the diameter of the front steering wheel, whereby the frame, as constructed by me, is adapted to accommodate a package holder of comparatively large dimensions, thus increasing the load carrying capacity of the bicycle, without, however, involving any substantial increase in the weight of the machine, or in any way interfering with the free operation of the pedals by the rider.

The bicycle frame A embodies a steering head *a*, a saddle post *a'*, an upper member or reach *b*, extending from the steering head to the saddle post at the upper parts thereof, a lower member or reach *b'*, extending from the lower part of the steering head to the

crank hanger, a rearwardly extending reach c positioned between the crank hanger and the bearings c' for the rear axle, and a rear brace d extending from the bearings of the rear axle to the upper part of the saddle post a' . As is usual, the saddle post supports a saddle d' , and over the rear wheel is a mud guard e^0 .

B is the rear driving wheel, and C is a front steering wheel, the diameter of said front steering wheel being substantially less than that of the rear driving wheel, it being preferred to employ a front wheel which is from four to six inches smaller in diameter than the rear wheel. The axle of the front steering wheel is supported in a steering fork c^2 which forms a part of a steering spindle C'. The steering spindle is connected operatively with the stem of a handle bar C² by means of a clamp c^3 , the construction of which parts are well known to those skilled in the art. The rear wheel is rotated by a chain b^2 driven from a sprocket b^3 on a crank shaft journaled in the crank hanger, said crank shaft having cranks b^4 and pedals b^5 , all as is usual in the art.

The employment of a front wheel C of less diameter than rear wheel B enables me to employ a steering head a which is considerably longer than the steering heads used in ordinary safety bicycles, and thus the lower reach b' is positioned a considerable distance below the upper reach b , for the purpose of accommodating a package holder the depth of which greatly exceeds the depth of a package holder which can be used on an ordinary bicycle frame. It will be observed that in the construction shown the upper frame member is horizontal, and that the forward portion of the lower member is in a plane substantially parallel with the looped portion of the upper member. This is an important factor in the construction of bicycles adapted for the delivery of merchandise by storekeepers and merchants, for the reason that many business houses find it necessary to employ a package holder of relatively large capacity in order to meet the demands of their business.

The upper member or reach b of the frame is provided with a loop or substantially rectangular portion D, said loop being positioned at the front part of reach b , and directly at the rear of steering head a , it being observed that loop D is in the same horizontal plane as reach b . In fact, it may be stated that the front bar d^2 of loop D is joined directly to the steering head, the two parts of said front bar extending in opposite directions from the steering head, as shown in Fig. 2.

E designates the package holder, and E' the top or cover thereof. The package holder is positioned within the rectangular

portion or loop D of upper reach b , said package holder extending through the loop and substantially filling the space in the front part of frame A between the upper and lower reaches b, b' , and steering head a . The package holder E is shown as consisting of an open-work or foraminous fabric, preferably composed of crossing or intersecting wires attached to a suitable marginal frame e . The package holder is closed at its bottom, front, sides and rear, the top thereof being open. Said package holder is fastened by suitable devices to the loop or rectangular portion D of the frame, preferably by means of clamps e' , as shown in Figs. 3 and 4. Each clamp is fitted around the loop or rectangular portion D, and it embraces the marginal frame e , the parts of the clamp being fastened together by a screw or bolt e^2 , see Fig. 4. It will be understood that a series of clamps e' are attached at proper intervals to the looped portion D of the upper frame reach b and the marginal frame e of the package holder, whereby said package holder is securely and detachably fastened to the upper reach b , for the purpose of suspending the package holder and its load directly from reach b and independently of the lower reach b' .

Cover E' of the package holder is hinged at its rear edge to the holder E, it being preferred to detachably connect said cover to the holder by means illustrated in Figs. 3 and 4. The cover is provided with arms f having eyes f' , and frame e of the package holder is provided with arms g having eyes g' , the arms f', g' being in alinement with each other so that a single hinge rod can pass through said eyes. The hinge rod F thus operates to connect the cover to the package holder, but said rod can be withdrawn from the eyes of the cover and the package holder, thus removing the rod and disconnecting the cover. It is evident that the cover may be easily and quickly removed from the package holder, so that the package holder can be used without employing the cover, although for safety in delivering the packages, it is preferred to use the hinged cover to close the top of the package holder.

The front part of cover E' is provided with a recess h which is adapted to fit around the steering head a of the frame. The clamp c^3 which connects the steering bar to the steering spindle is adapted to project rearwardly over the recessed front edge h of this cover in the normal position of the front steering wheel, the steering spindle, and the steering bar, whereby the clamp c^3 acts to retain the cover E' in a closed position over the package holder. This makes it necessary, in the specific structure shown, for the operator to reverse the steering spin-

dle in order to throw wheel C somewhat below reach b' of the frame, and to turn the handle bars C^2 into the position shown in dotted lines in Fig. 1, thus moving the clamp c^3 to a position out of the path of the recessed front edge h of cover E' . The cover may now be raised on the axis afforded by the hinge rod F so as to assume the dotted line position of Fig. 1, whereupon the operator is enabled to obtain ready access to the packages within holder E. When the cover is closed, the steering spindle C' should be turned around in order to restore the steering wheel and handle bars to their operative positions, whereupon the clamp c^3 again projects over the cover so as to retain it in the closed position.

Under some circumstances it is desirable to provide means for locking cover E' to the package holder E, and in Figs. 5 and 6 I have shown a hasp H and a keeper H' adapted to cooperate with an ordinary padlock. The hasp is hinged on a rod e^4 at the front edge of cover E' , said hasp having a slot h' to receive the keeper H' . This keeper is shown as a staple attached to a plate i which cooperates with a plate i' and clamping screws i^2 , whereby keeper H' is easily and readily attached in a fixed position to the front wall of the package holder E.

The employment of a package holder suspended from the upper reach b of the bicycle frame imposes considerable weight upon the reach, particularly when the package holder carries a load of considerable weight. To prevent sagging of this reach b under the weight of the package holder and its load, I may employ a supporting member I which is positioned between the reaches b , b' , and at the rear of the package holder E. The upper end of this supporting member I is attached in a suitable way to the reach b , whereas the lower end of said member I is fastened to the lower reach b' , said member I being thus rigidly united to the upper and lower reaches intermediate the ends thereof. A strong and durable frame is thus provided for supporting the package holder.

When the rider dismounts from the bicycle preliminary to the delivery of the goods, it is desirable to provide means for precluding the machine from tipping over sidewise. To this end I employ a stand J, substantially triangular in shape. This stand is pivotally or loosely connected to the axle of the rear wheel or to the rearwardly extending reach c . When the rider dismounts the stand J is lowered to rest upon the ground, and thus support the bicycle from tipping over sidewise. Before mounting the machine, the operator should lift the stand J to the full line position of

Figs. 1 and 2, the free end of the stand being engaged by a catch j attached to the rear of mud guard e^9 for supporting the stand in a raised inoperative position.

The operation and advantages of the invention will be readily understood by those skilled in the art from the preceding description taken in connection with the drawings.

In the drawings the hinge rod F for connecting the cover to the package holder is positioned externally of the package holder, but it is preferred to dispose this hinge rod on the inside of the package holder, to accomplish which it is only necessary to arrange arms f and g to extend into the package holder, thus bringing the eyes f' , g' into alinement within the package holder for receiving the hinge rod F.

As shown, the arms g are parts of the clamps e' by which the package holder is fastened detachably to the looped part D of upper reach b , but, obviously, these arms g of the receptacle may be made separate from the clamps e' , although this is the preferred construction.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent is:—

1. In a package delivery bicycle, the combination of a frame provided with upper and lower members extending from the steering head to the saddle post, said upper member having at its forward end a loop-shaped portion for receiving a package holder, which loop-shaped portion is directly connected with and extends from the steering head, said looped portion being connected at another part thereof directly with that part of the upper member which extends to the saddle post, a driving wheel, a steering wheel, and a package holder positioned within said loop.

2. In a package delivery bicycle, the combination of a frame provided with upper and lower members extending from the steering head to the saddle post, said upper member having at its forward end a loop-shaped portion for receiving a package holder, which loop-shaped portion is directly connected with and extends from the steering head, said looped portion being connected at another part thereof directly with that part of the upper member which extends to the saddle post, a supporting brace extending between the upper and lower frame members and positioned rearwardly of said loop-shaped portion, a driving wheel, a steering wheel, and a package holder positioned within said loop.

3. In a package delivery bicycle, the combination of a frame having an upper substantially horizontal member extending from the steering head to the saddle post

and provided with a loop at its forward
portion, a lower member also extending
from the steering head to the saddle post,
said lower member having a forward por-
5 tion positioned in a plane substantially par-
allel to the plane of said loop, a driving
wheel, and a steering wheel substantially
less in diameter than the driving wheel.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

ISRAEL STEINBERG.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
