

No. 647,773.

Patented Apr. 17, 1900.

G. T. TRAVIS.
TIRE SEAL FEEDER.

(Application filed Aug. 26, 1899.)

(No Model.)

Fig. 1.

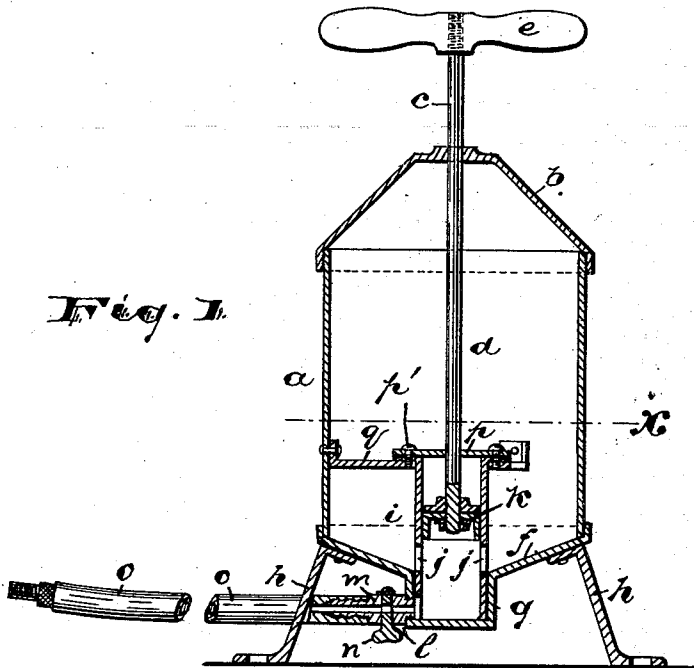


Fig. 3.

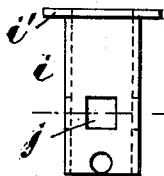
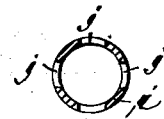


Fig. 4.

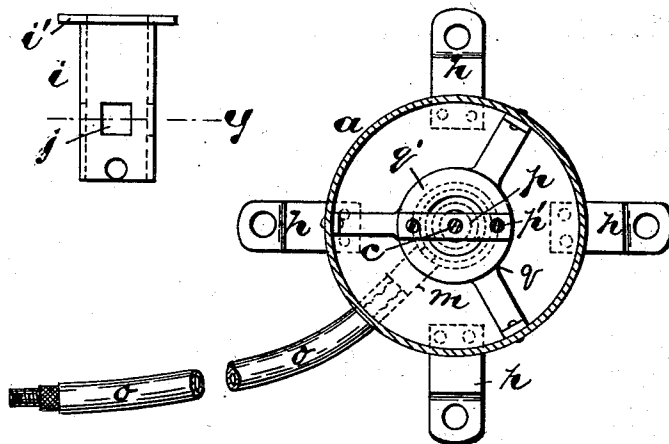


Fig. 2.

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TIRE-SEAL FEEDER.

SPECIFICATION forming part of Letters Patent No. 647,773, dated April 17, 1900.

Application filed August 26, 1899. Serial No. 728,585. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. TRAVIS, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Tire-Seal Feeders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide for bicycle-repair shops and the like a device for charging bicycle-tires with any of the well-known forms of liquid tire-seal which are commonly forced into the interior of tires to prevent leakage of air, to enable a fixed amount of said seal to be conveniently supplied to each tire, to provide means for automatically measuring a charge of seal, forcing the same into the tire, and at the same time preventing the flow of more seal into the measuring-chamber, to provide a device which shall contain a considerable quantity of the seal and need no further attention than filling with a gallon or more of the liquid whenever required, and to secure other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved tire-seal feeder and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a central vertical section of my improved device. Fig. 2 is a sectional view on line *x*, Fig. 1. Fig. 3 is a detail view of a certain tubular slideway; and Fig. 4 is a section of the same, taken upon line *y*, Fig. 3.

In said drawings, *a* indicates the body of the feeder, which body provides a can-like receptacle capable of holding a gallon or more of the tire-seal, it being understood that

by "tire-seal" is meant any of the various liquid compounds which are forced into the interior of bicycle tires to render them air-tight. Said body *a* is provided at the top with a removable cover *b*, fitted upon the top in any ordinary manner and perforated at the center to provide a slideway for the shank *c* of the piston or plunger *d*. The outer end of said shank or rod *c* has a removable handle *e*, screwed or otherwise fastened upon the rod, and by unscrewing or removing said handle *e* it is evident that the cover *b* may be removed to permit a filling of the body portion *a*.

The bottom or floor of the body *a* is preferably inclined inwardly downward toward the center, as at *f*, and at said center is a downward cylindrical extension *g*, having vertical walls and a closed bottom. Said cylindrical extension is made of the proper size to contain about the quantity of liquid which is considered a charge for a tire, and in the process of manufacture said downward extension *g* and sloping bottom *f* are preferably cast in one integral piece, having means at the edges for attaching the upright walls of the can in any suitable manner common to the art. Legs *h* project outwardly downward from the bottom of the body portion *a* of the can and serve to support said can upon the floor or bench, the feet of said legs being perforated, as at *h*, and adapted to be screwed to the floor. Into the said downward extension *g* of the bottom of the can is inserted the lower end of an upright cylindrical tube *i* in the preferred construction, which tube fits into the interior of the said cylindrical extension and at its upper end projects into the interior of the can in a central vertical position. Said tube *i* is open at the top and bottom and rests at its lower end upon the floor or bottom of the cylindrical extension. The tube fits snugly into the cylindrical extension *g*, so as to stand upright therein in a firm position; but at the same time said tube can be readily removed from its seat in case a separation of the parts of the device is necessary for cleaning or for repair.

The head *k* of the piston *h*, before referred to, slides in the tube *i*, said head forming a water-tight fit in said tube in any manner common to the art. To hold the upper end

of the tube *i* rigidly in alinement with the piston or plunger *d*, I preferably employ a spider *q*, having its legs fastened at their extremities to the walls of the body *a* and providing a central ring *q'*, encircling the tube *i*. Said tube preferably has a horizontal peripheral flange *i'* at the top which rests upon said ring *q'*. To permit inadvertent withdrawal of the piston-head *h* entirely out of the tube *i*, a stop *p* is arranged across the top of said tube and held at its opposite ends by screws *p'*, which pass through the piece *p*, flange *i'* of the tube, and ring *q'* of the spider, thus holding the parts firmly in their proper operative relation.

The sides of the tube *i* are perforated, as at *j*, on a level with the sloping floor *f* of the body, whereby the liquid may flow into and fill the lower end of the tube, which is inclosed in the cylindrical extension *g*. Said cylindrical extension is provided with a threaded perforation *l* at one side and near its bottom, and into this perforation is screwed the correspondingly-threaded end of a connection *m*, having a stop-cock *n* and at its outer end adapted to receive a tube *o*, which can be screwed to the valve of a bicycle-tire in the ordinary manner. The lower end of the tube *i* is perforated in line with the perforation *l* in the cylindrical extension, and it will thus be evident that when the stop-cock *n* is open liquid may flow out of the cylindrical extension *g* through the tube *o* into the tire.

The cylindrical extension *g* is made of the proper size to contain a single charge of seal below the bottom of the can, and in operating my device when the plunger *d* is forced downward it drives the contents of the cylindrical extension through the tube into the tire, said plunger at the same time closing the perforations *j* and preventing a flow of more seal from the body of the can into the measuring-chamber.

The plunger is left in its extreme downward position, where it prevents the escape of seal through the tube *o* until the operator is ready to charge another tire, when it is drawn upward to allow the cylindrical extension *g* or measuring-chamber to fill, and the above-described operation is repeated.

In shipping or when the apparatus stands a long time without use it may be desirable to close the stop-cock *n*, or this may be done to enable the plunger to be removed for repair or otherwise when there is some seal still remaining in the bottom of the can.

In some cases I may dispense with the cylindrical extension *g* of the body bottom and simply screw the tube *i* through a threaded perforation in the bottom of the can, the lower part of the tube in this case being stopped at the end and receiving the connection *m* directly at the side. Various other modifications may be made from the exact construction described without departing from the spirit and scope of the invention, and I do not wish to be understood as limiting myself by

the foregoing description, except as the state of the art may require.

Having thus described the invention, what I claim as new is—

1. The herein-described tire-seal feeder, consisting of a body-receptacle having its bottom provided with a depending cylindrical extension perforated at one side, a connecting-nipple inserted in said perforation and adapted at its outer end to receive an outflow-tube, a stop-cock in said nipple, a tube open at both ends and stood vertically in said depending cylindrical extension and projecting upward into the interior of the receptacle, said tube fitting snugly in said extension and having in its walls perforations on a level with the floor of the receptacle and a perforation in alinement with the said nipple, a spider made fast to the interior walls of the receptacle and having an annular portion inclosing the vertical tube, said tube having a peripheral flange at the end which engages said spider, a piston or plunger working in said vertical tube and means for limiting movement of said plunger, and legs supporting the body-receptacle at a sufficient height to provide space beneath for the cylindrical extension and outflow-tube, substantially as set forth.

2. The herein-described tire-seal feeder comprising a body-receptacle having its bottom provided with a depending cylindrical extension laterally perforated, a nipple inserted in said perforation and a stop-cock in said nipple, a vertical tube removably fitted into said cylindrical extension with its upper end projecting upward in the receptacle, said tube being perforated on a level with the floor of the receptacle and in line with the said nipple, a plunger working in said tube, means for holding the upper end of the tube and the lower end of the plunger in alinement, and legs supporting the body-receptacle at a height sufficient to provide space for the said cylindrical extension, substantially as set forth.

3. In a tire-seal feeder, the combination of a body-receptacle, having in its bottom a downward cylindrical extension, a nipple inserted in a perforation in the walls of said extension and a stop-cock in said nipple, a vertical tube removably inserted in said cylindrical extension and having its walls perforated on a level with the floor of the receptacle and at a point opposite the nipple, the lower part of said tube serving as a measuring-chamber and the upper part as a slideway, a piston working in said slideway, and legs supporting the receptacle at such a height as to provide space for the cylindrical extension beneath, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of August, 1899.

GEORGE T. TRAVIS.

Witnesses:

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