

Feb. 27, 1923.

1,446,740.

H. EUMMELEN.

TROUGH FOR USE IN CONNECTION WITH CAGES OR THE LIKE.

FILED AUG. 22, 1921.

Fig. 1.

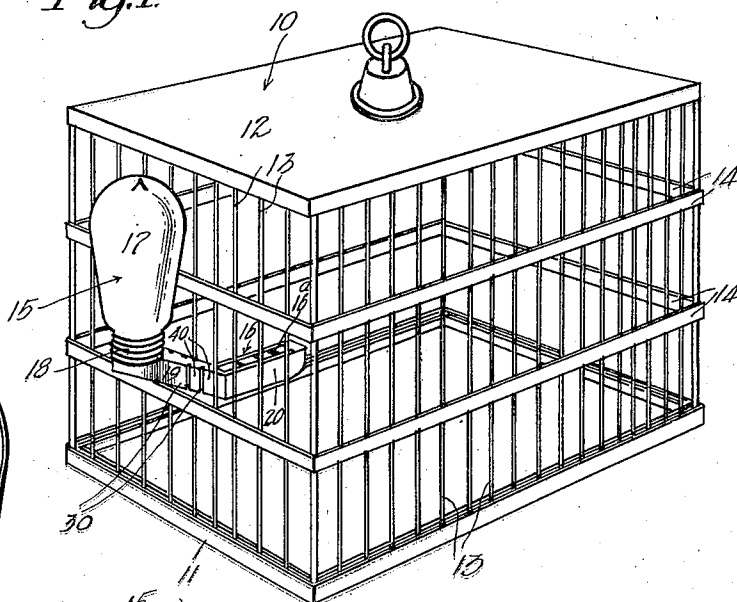


Fig. 2.

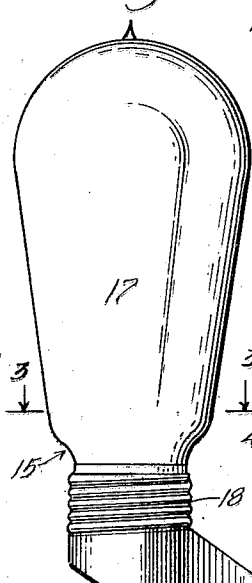


Fig. 3.

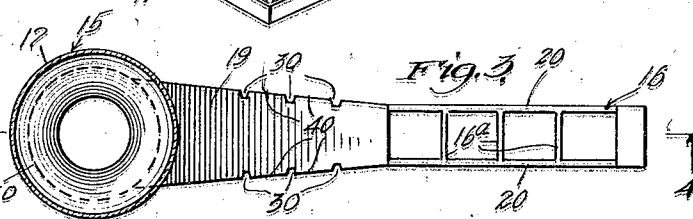
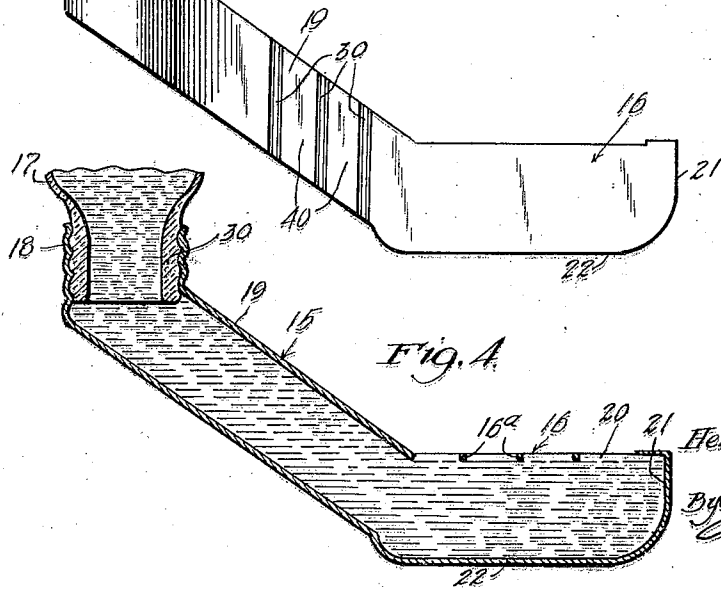


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TROUGH FOR USE IN CONNECTION WITH CAGES OR THE LIKE.

Application filed August 22, 1921. Serial No. 494,164.

To all whom it may concern:

Be it known that I, HENRY EUMMELEN, a citizen of the United States, residing in Santa Ana, in the county of Orange and State of California, have invented new and useful Improvements in Troughs for Use in Connection with Cages or the like, of which the following is a specification.

This invention has to do with a trough useful in connection with a bird-cage or the like. It is an object of the invention to provide a particularly simple, effective and convenient device of this character.

The device of the present invention is adapted to be used in connection with a cage to carry material such for instance, as water, seed, etc. It is to be understood, however, that the device of the present invention is not limited to carrying any particular material nor to use in connection with any specific form or kind of cage.

A particular feature of the invention is the means provided for attaching the device to a cage so that it will be maintained in the proper operative position and so that it can be readily and effectively arranged in cages of various sizes.

Another feature of the invention is the provision of a neck between the reservoir and the trough which will allow material to flow readily from the reservoir to the trough. This particular feature of the invention is noteworthy in that it permits of the device being used to carry material, such as comparatively coarse seed, or the like, which otherwise could not be used in an ordinary device of this character.

The objects and features of the invention, including those hereinabove pointed out, will be best and more fully understood from the following detailed description of a typical embodiment of the invention throughout which reference is had to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a typical bird-cage showing the device of the present invention in operative position therein; Fig. 2 is an enlarged side elevation of the device provided by the present invention; Fig. 3 is a plan section taken as indicated by line 3—3 on Fig. 2; and Fig. 4 is a vertical central section taken as indicated by line 4—4 on Fig. 3.

Throughout the drawings numeral 10 designates a typical bird-cage comprising, generally, a bottom 11, a top 12, a plurality of

vertical regularly spaced bars 13 extending between the edges of the bottom 10 and the edges of the top 12, and a plurality of transverse bars 14 arranged intermediate the bottom 11 and top 12 and forming connections between the vertical bars 13. It will be understood, of course, that this particular form and construction of cage is merely typical of that in connection with which the device of the present invention may be used and that the device is, in fact, not limited to use in connection with any particular cage, for in practice cages vary considerably in design, form and proportion depending upon the situation in which they are to be arranged and upon the birds or animals to be confined in them.

The device 15 provided by the present invention for use in connection with a cage such as the cage 10 comprises, generally, an open top trough 16 adapted to be arranged within a cage 10, a reservoir 17 carried at the outside of the cage, a socket 18 adapted to removably carry the reservoir 17, and a neck part 19 connecting the trough 16 with the socket 18 and adapted to extend outwardly and upwardly from the connecting part to the socket 18 in the manner clearly illustrated in the drawings.

The trough 16 comprises two flat parallel vertical sides 20, an outer end 21, and a somewhat cupped, or downwardly curved, bottom 22. The sides 20 are spaced apart so that the trough can be moved between two adjacent vertical bars 13 of the cage 10 when in the upright or operative position. The sides 20 are comparatively high, making it obvious that the trough cannot be moved between the bars 13 when in a horizontal position, or in any position other than a vertical position. The bottom 22 being somewhat cupped downwardly in the manner clearly shown in Figs. 2 and 4, makes the trough comparatively deep and therefore capable of holding or carrying a comparatively large amount of water or feed, as the case may be. When the bottom 22 is formed in a manner such as is shown in the drawings the trough can be sufficiently narrow to be moved between the closest vertical bars ordinarily found in a bird-cage, or the like, without making it too small or of too little capacity for practical use. In accordance with the invention a plurality of spaced bars 16^a extend transversely across the top of the trough between the top edges

of the sides 20. The bars prevent the birds in the cage from scratching the feed out of the trough yet allow them to eat it freely.

The neck 19, in accordance with the invention, is preferably straight and extends upwardly and outwardly from the trough at an angle of about 45°. The neck 19 may, of course, be of any desired cross-sectional configuration and may be of a size and length which will best accommodate the other parts of the device and the particular class of material to be handled by the device. For instance, if the device is to be used to handle particularly coarse material, that is material which will not readily flow, it is desirable that the neck be arranged more nearly vertical than above specified and that it be comparatively large in cross sectional configuration. The lower end of the neck 19, of course, opens into the trough 16, while the upper end is open with the socket 18.

The socket 18 is shaped and proportioned to properly and accurately receive the base 30 of the reservoir 17, and therefore may in practice vary considerably in form, design and construction. The reservoir 17 may, in practice, be any desired size, shape, or formation, it being important only that it be formed with a base 30^a which will detachably and tightly fit the socket 18.

At opposite sides of the neck 19 there is a plurality of substantially vertical recesses or grooves 30 adapted to receive vertical bars 13 of the cage 10. The several grooves 30 at the two sides of the device are in register or directly opposite each other to form several pairs of grooves, any one of which is adapted to receive two adjacent bars 13 of a cage 10. The grooves 30 are sufficiently wide or large to receive the bars 13 of an ordinary cage and extend the entire height of neck 19. From inspection of the drawings, and particularly from inspection of Fig. 3 of the drawings, it will be noted that the neck 19 is substantially the width of the trough 16 where it joins the trough and that its sides diverge outwardly so that it is considerably wider than the trough 16 where it joins the socket 18. The pair of grooves 30 closest to the trough 16 are of such depth that their bottoms are substantially in line with the outer surfaces of the sides 20 of the trough 16. The sides of the neck 19 in diverging from the trough toward the socket cause the grooves 30 to be wider apart at the socket end of the neck than at the trough end. The sides of the neck in diverging from the trough toward the neck form inclined or wedge surfaces 40 between the pairs of grooves 30. The pair of grooves 30 closest to the trough is adapted to receive vertical bars 13 which are spaced apart just sufficiently to allow passage of the trough 16 between them. The other pairs of grooves are adapted to receive vertical bars which

are wider apart than those just described. In placing the device in the cage the trough is moved inwardly between the bars 13 until the bars engage the wedge surfaces 40 of the neck. Further inward movement of the device causes the wedge surfaces 40 to spring the bars 13 apart until they enter the grooves 30. The particular pair of grooves used in mounting the device in any particular cage will, of course, depend upon the spacing of the bars 13. If the device is to be placed in a cage where the bars are spaced a considerable distance apart a pair of grooves at the socket end of the neck will be used. In the drawings I have shown only three pair of grooves 30 as one of three pairs of grooves such as are shown in the drawings will ordinarily accommodate the bars of an average cage. It will be understood, of course, that any desired number of pairs of grooves may be readily formed in the device and that the inclination of the wedge surfaces 40 may be such that they will effectively wedge apart or spread the bars 13 to allow placement of the device in operating position. When two adjacent vertical bars 13 of a cage 10 are carried in a pair of grooves 30 the device will be properly held in an upright or operative position and no further means is necessary for the holding of the device. In practice, of course, the device is rested upon the bottom of the cage or upon one of the transverse bars 14 in the manner illustrated in Fig. 1. The device has somewhat more weight outward of the center of the neck than it has inwardly of it; thus tending to bend or spring the bars 13 so that the outer end of the trough extends upwardly or is somewhat higher than the inner end thereof. To compensate for this I prefer to form the grooves 30 at somewhat of an angle as shown in Fig. 2. The angle is made just sufficient to normally compensate for the springing of the bars due to the excess weight outward of the centers of the neck. From inspection of Fig. 2 it will be seen that the grooves 30 incline toward the trough 16.

From the foregoing description the operation of the device will be obvious. The reservoir 17 is filled with material, say for instance water or a suitable feed and is arranged in connection with the socket 18 while the device is completely detached from the cage. The reservoir 17, is, of course, held in an inverted position while being filled and the entire device is not turned to an upright position until the base of the reservoir is in place in the socket 18. When the device is turned to the upright position the fluid or material from the reservoir will flow into the trough 16 until the trough is approximately full or until the material in the trough seals the end of the neck 19 to stop the flow from the reservoir into the trough. The trough 16 is then moved be-

tween two adjacent bars 13 until the bars are engaged by the wedge surfaces 40 of the neck. Inward pressure on the device will then cause the wedge parts to spread the bars 13 until the bars enter the pair of grooves 30 best adapted to receive them.

From the foregoing description it will be understood how the trough, neck, and socket may be cast or otherwise formed as a unit, for instance, how they may be formed of a single body of glass or metal, and that the device is not only particularly simple and convenient of operation but is simple and inexpensive of manufacture. The neck 19 being straight and disposed at an angle allows material to readily flow from the reservoir to the trough and permits of the device being used to carry material which could not be handled in an ordinary device of this character.

Having described only a preferred form of my invention I do not wish to limit myself to the particular details herein set forth but wish to reserve to myself any changes or variations that may fall within the scope of the following claims.

Having described a preferred form of my invention, I claim:—

1. A device adapted to be used in combination with a cage having vertical bars, comprising, a trough adapted to be passed horizontally between adjacent bars in an upright position, and a reservoir in connection with the outer end of the trough, the structure being provided at the outer end of the trough with a plurality of pairs of oppositely disposed grooves adapted to receive bars to hold the structure in position with the trough extending into the cage, the grooves of the plurality of pairs being spaced different distances apart to receive bars spaced different distances apart.

2. A device to be used in combination with a cage having vertical bars, comprising, a trough adapted to be passed horizontally between adjacent bars in an upright position, and a reservoir in connection with the outer end of the trough, the structure being provided at opposite sides at the outer end of the trough with straight grooves inclined slightly toward the trough and adapted to receive the bars to hold the structure in upright position with the trough extending into the cage.

3. A device adapted to be used in combination with a cage having straight vertical spaced bars, comprising, a trough of a width which allows it to be freely passed horizontally into the cage between adjacent bars when in operative position, a reservoir in connection with the outer part of the trough, and a part at the outer end of the trough wider than the trough and provided at op-

posite sides with vertical grooves adapted to receive the bars to hold the structure in upright position with the trough extending into the cage.

4. A device adapted to be used in combination with a cage having straight vertical spaced bars, comprising, a trough adapted to be freely passed horizontally into the cage between adjacent bars in an upright position, a reservoir in connection with the outer end of the trough, and a part at the outer end of the trough wider than the trough and provided at opposite sides with oppositely disposed vertical grooves adapted to receive the bars to hold the structure in upright position with the trough extending into the cage, said part having an inclined surface adapted to cause spreading of the bars upon placement of the structure between the bars so that the bars are received by the grooves.

5. A device adapted to be used in combination with a cage having straight vertical spaced bars, comprising, a trough adapted to be freely passed horizontally in the cage between adjacent bars in an upright position, a reservoir in connection with the outer end of the trough, and a part at the outer end of the trough wider than the trough and having outwardly diverging side walls with oppositely disposed vertical grooves adapted to receive the bars to hold the structure in upright position with the trough extending into the cage, the divergence of the side walls of said part being such as to cause spreading of the bars upon placement of the structure between the bars so that the bars are received by the grooves.

6. A device adapted to be used in combination with a cage having vertical bars comprising, a trough adapted to be passed horizontally into the cage between adjacent bars in an upright position, a reservoir in connection with the outer end of the trough, and a part of the outer end of the trough wider than the trough and having outwardly diverging side walls, there being a plurality of pairs of oppositely disposed vertical grooves in the side walls of said part adapted to receive the bars to hold the structure in an upright position with the trough extending into the cage, the pairs of grooves being located at points where the said part is of different widths so that they are adapted to receive bars spaced different distances apart.

In witness that I claim the foregoing I have hereunto subscribed my name this 16th day of August, 1921.

HENRY EUMMELEN.

Witness:

VIRGINIA BERINGER.