March 22, 1966 R. J. JOHNSON 3,241,175

PAINT RECEPTACLE AND PAINT ROLLER DEVICE

Filed June 1, 1964

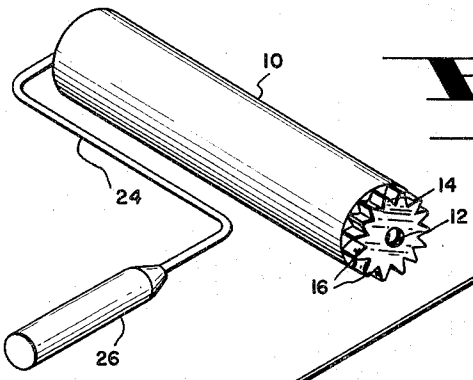


Fig 1

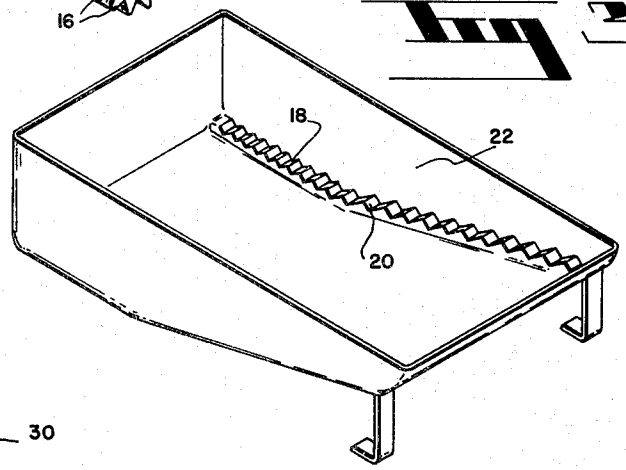


Fig 3

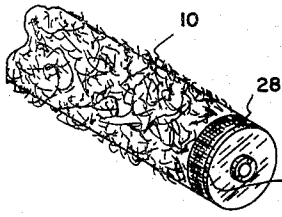


Fig 2

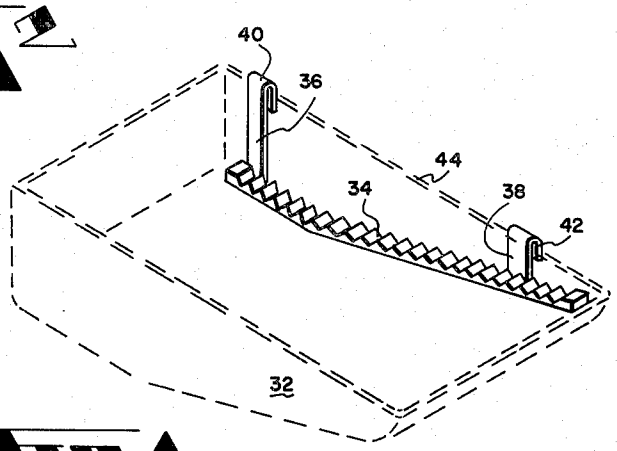


Fig 4

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United States Patent Office 3,241,175
Patented Mar. 22, 1966

3,241,175

PAINT RECEPTACLE AND PAINT ROLLER DEVICE

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Filed June 1, 1964, Ser. No. 371,253
5 Claims. (Cl. 15—520)

This invention relates to a paint receptacle and paint roller device, and, more particularly, to a paint receptacle and paint roller device wherein a means in the receptacle is subject to rotary engagement of a rotating element on the paint roller to insure rotation of the roller when it is picking up slick paint in the receptacle, and more specifically the invention relates to a spur gear on the roller engaged with a complemental gear rack stationarily held in the receptacle.

In conventional paint receptables and paint rollers great difficulty has been encountered in the operation of these devices when attempting to rotate a roller in a respective receptacle wherein slick paint is contained. In many instances the roller becomes eccentrically loaded with heavy slick paint and the coefficient of friction is so low that the roller cannot be completely rotated to cause an entire peripheral coating on the roller, and this difficulty prevents normal uniform coating of the roller and therefore wastes considerable time of the painter.

Accordingly, it is a object of the present invention to provide a paint receptacle and paint roller device which insures complete peripheral coating of a paint roller with slick paint when the roller is moved back and forth in the receptacle.

Another object of the invention is to provide a novel paint receptacle and paint roller device wherein traction means in the receptacle is engaged by a relatively hard generally circular traction portion of a soft paint pickup roller to thereby insure complete rotation of the roller in the receptacle when picking up slick paint.

Another object of the invention is to provide a paint receptacle and roller device in which a toothed gear rack is stationarily disposed in connection with a paint receptacle, and this rack is engageable by a generally circular toothed spur gear connected to a soft surfaced paint pickup roller whereby the roller may be rolled laterally of its axis and positively rotated by means of traction between the spur gear and the rack so that the entire periphery of the roller may be coated with slick paint.

Another object of the invention is to provide a novel paint receptacle and paint roller device in which a gear rack may be integral with a paint receptacle, or removably connected thereto, and support therein to be engaged by a spur gear on a paint roller, thus permitting the invention to be installed in connection with existing paint receptacles or to provide for facility of manufacturing new ones.

A further object of theinvention is to provide a novel paint receptacle and paint roller device which is very economical to manufacture so that substantially no increase in cost will be incurred in producing the improvement of the invention.

Further objects and advantages of the invention may be apparent from the following specification, appended claims and accompanying drawings in which:

FIG. 1 is a perspective view of a paint roller having a spur gear in connection therewith in accordance with the present invention;

FIG. 2 is a fragmentary view similar to FIG. 1 showing a modified form of the roller including a substantially circular traction element connected to the end of a soft paint pickup roller in accordance with the present invention.

FIG. 3 is a perspective view of a paint receptacle showing a gear rack integral therewith and having teeth adapted to mesh with teeth of the roller shown in FIG. 1, or to be engaged by the circular traction element of the roller shown in FIG. 2; and

FIG. 4 is a phantom perspective view of a conventional paint receptacle showing a gear rack in accordance with the present invention provided with clips engaged with the side of the conventional paint receptacle for holding the gear rack therein and in position to mesh with the spur gear or the traction element of the roller shown in FIGS. 1 and 2 of the drawings.

As shown in FIG. 1 of the drawings, the invention comprises a generally circular in cross section cylindrical roller **10** which is adapted to pick up paint on its periphery. This roller is generally of soft absorbent material, but may be made of any suitable material as desired. An axle **12** is disposed centrally of the roller **10** and provides a rotating axle therefor so that the roller **10** is freely rotatable about this axle **12**.

Fixed to the roller **10**, and rotatable about the axle **12**, at one end of the roller **10** is a spur gear **14** having gear teeth **16** which are adapted to mesh with teeth **18** of a gear rack **20** formed integral with a paint receptacle **22**. The rack **18** may be formed by die work shaped to press the teeth **20** from the sheet metal of the pan structure of the receptacle.

The axle **12** is provided with an integral shank **24** connected to a handle **26** for manual rotary operation of the roller **10** in the receptacle **22**. The gear **14** at its gear teeth **16** may be meshed with the teeth **20** of the rack **18**, and as the roller is moved in the receptacle **22** laterally of the axis of the axle **12** the spur gear **14** connected to the roller **10** positively rotates its periphery in the pan or receptacle **22**, thereby insuring positive rotation of the roller even though the receptacle **22** contains very slick paint having a very low coefficient of friction.

In the modification, as shown in FIG. 2 of the drawings, the roller **10** is provided with a generally circular traction element **28** which is of relatively hard material and which may have a peripheral portion **30** suitably knurled or otherwise provided with a frictional surface adapted to engage the rack **18** or engage a comparable friction or traction rack portion formed or secured in the receptacle **22**. It will be appreciated by those skilled in the art that equivalents of the spur gear **14** and circular traction means **28**, and of the tooth rack **18** and any suitable friction or traction rack means may be considered to fall within the scope of the present invention simply to insure positive rotation of the roller **10** in the receptacle **22** when filled or partially filled with very thick paint having a low coefficient of friction. Thus the traction element on the roller and in the receptacle will have a higher coefficient of friction than the paint on the periphery of the pickup roller, and thus insure complete rotation of the roller to insure uniform coating of the periphery of the roller with the paint when the roller is moved laterally of the axis of the axle **12** and rotated thereabout.

As shown in FIG. 4 of the drawings, a conventional paint receptacle **32** illustrated by broken lines may be provided with a gear or friction rack **34** by suspending such a rack in the receptacle **32** by means of clips **36** and **38** having substantially U-shaped clips **40** and **42** engaging a normally upper edge **44** of the conventional paint receptacle. Thus, the gear or traction rack **34** is held in the receptacle and engageable with either the spur gear **14** or the circular traction element **28**, or any equivalent thereof, to provide a relatively higher coefficient of friction on the roller than would normally be encountered in the rolling of such a roller in slick paint which has a low coefficient of friction.

It will be obvious to those skilled in the art that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a paint receptacle and paint roller device the combination of: a paint receptacle for containing paint; a roller handle; a roller rotatably connected to said handle and having a paint pickup peripheral portion, said roller rollable in said receptacle; a toothed gear rack means stationarily carried by said receptacle; and a toothed spur gear coupled to said roller and meshable with said gear rack whereby rolling action of said roller in said receptacle is positively accomplished when slick paint is being picked up by the periphery of said roller; said gear rack means disposed near the inner bottom portion of said receptacle and, thus, below a normal paint level therein; said spur gear nearly the diameter of said roller whereby the periphery of said roller may reach close to the bottom of said receptacle when said spur gear is rolled in meshed relation to said gear rack; the bottom portion of said receptacle inclined for distributing the paint on the roller and said rack being positioned and extended along the inclined bottom portion of the receptacle.

2. In a paint receptacle and paint roller device the combination of: a paint receptacle for containing paint; a roller handle; a roller rotatably connected to said handle and having a paint pickup peripheral portion, said roller rollable in said receptacle; a toothed gear rack means stationarily carried by said receptacle; and a toothed spur gear coupled to said roller and meshable with said gear rack whereby rolling action of said roller in said receptacle is positively accomplished when slick paint is being picked up by the periphery of said roller; said gear rack means being integral with said receptacle; said gear rack means disposed near the inner bottom portion of said receptacle and, thus, below a normal paint level therein; said spur gear nearly the diameter of said roller whereby the periphery of said roller may reach close to the bottom of said receptacle when said spur gear is rolled in meshed relation to said gear rack; the bottom portion of said receptacle inclined for distributing the paint on the roller and said rack being positioned and extended along the inclined bottom portion of the receptacle.

3. In a paint receptacle and paint roller device the combination of: a paint receptacle for containing paint; a roller handle; a roller rotatably connected to said handle and having a paint pickup peripheral portion, said roller rollable in said receptacle; a toothed gear rack means stationarily carried by said receptacle; and a toothed spur gear coupled to said roller and meshable with said gear rack whereby rolling action of said roller in said receptacle is positively accomplished when slick paint is being picked up by the periphery of said roller; means connecting said gear rack with said receptacle; said gear rack means disposed near the inner bottom portion of said receptacle and, thus, below a normal paint level

therein; said spur gear nearly the diameter of said roller whereby the periphery of said roller may reach close to the bottom of said receptacle when said spur gear is rolled in meshed relation to said gear rack; the bottom portion of said receptacle inclined for distributing the paint on the roller and said rack being positioned and extended along the inclined bottom portion of the receptacle.

4. In a paint receptacle and paint roller device the combination of: a paint receptacle for containing paint; a roller handle; a roller rotatably connected to said handle and having a paint pickup peripheral portion, said roller rollable in said receptacle; a toothed gear rack means stationarily carried by said receptacle; and a toothed spur gear coupled to said roller and meshable with said gear rack whereby rolling action of said roller in said receptacle is positively accomplished when slick paint is being picked up by the periphery of said roller; means connecting said gear rack with said receptacle and holding said rack internally thereof; said gear rack means disposed near the inner bottom portion of said receptacle and, thus, below a normal paint level therein; said spur gear nearly the diameter of said roller whereby the periphery of said roller may reach close to the bottom of said receptacle when said spur gear is rolled in meshed relation to said gear rack; the bottom portion of said receptacle inclined for distributing the paint on the roller and said rack being positioned and extended along the inclined bottom portion of the receptacle.

5. In a paint receptacle and paint roller device the combination of: a paint receptacle for containing paint; a roller handle; a soft paint pickup roller rotatably connected to said handle, said roller rollable in said receptacle; a traction rack means stationarily carried by said receptacle; and a relatively hard generally circular traction element coupled to said roller and engageable with said traction rack means whereby rolling action of said roller in said receptacle is positively accomplished when slick paint is being picked up by the periphery of said roller; said gear rack means disposed near the inner bottom portion of said receptacle and, thus, below a normal paint level therein; said spur gear nearly the diameter of said roller whereby the periphery of said roller may reach close to the bottom of said receptacle when said spur gear is rolled in meshed relation to said gear rack; the bottom portion of said receptacle inclined for distributing the paint on the roller and said rack being positioned and extended along the inclined bottom portion of the receptacle.

References Cited by the Examiner

UNITED STATES PATENTS

1,228,829	6/1917	Schaller	101—338
1,903,152	3/1933	Watson et al.	15—210.5 X
2,838,781	6/1958	Molle	15—257.06

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