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**Robinson**

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(54) **DOOR PAINTING AND DRYING ASSEMBLY**

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(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,750,807 A \* 3/1930 Lichtman ..... C25D 17/08  
211/124  
1,937,439 A \* 11/1933 Schacht ..... B05C 9/08  
118/500  
2,258,391 A \* 10/1941 Novitsky ..... C25D 17/08  
204/297.1  
2,512,554 A \* 6/1950 Schneider ..... C25D 17/08  
204/297.09  
2,858,265 A \* 10/1958 Max ..... C25D 17/08  
204/297.09

2,904,492 A \* 9/1959 Hans ..... C25D 17/06  
248/302

3,029,952 A \* 4/1962 Bagdon ..... B65G 17/20  
211/117

3,294,668 A \* 12/1966 Linquist ..... C09C 3/08  
204/297.1

3,357,913 A \* 12/1967 Zavarella ..... C25D 17/08  
204/297.06

3,981,471 A \* 9/1976 Currier ..... B65G 17/323  
294/93

4,033,288 A \* 7/1977 Woellhaf ..... B05C 11/08  
118/316

4,115,083 A \* 9/1978 Huppi ..... B03C 3/86  
96/93

4,128,078 A \* 12/1978 Stoltz ..... B05B 7/1404  
118/316

4,181,553 A \* 1/1980 Hogg ..... A47G 1/17  
156/247

(Continued)

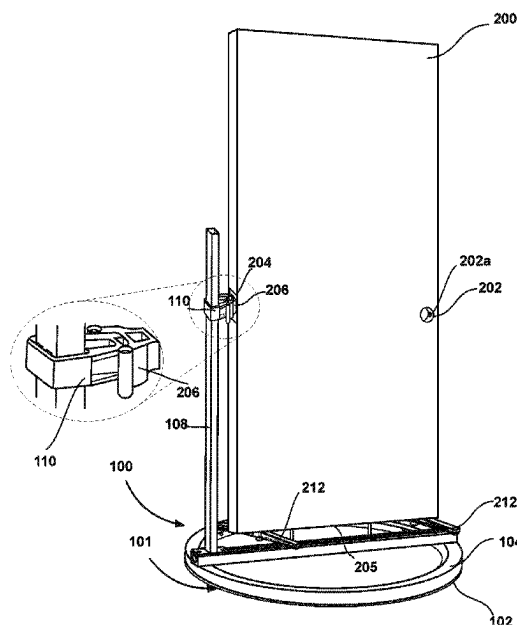
Primary Examiner — Jethro M. Pence

(57)

# **ABSTRACT**

Presented is a door painting and drying assembly configured to hold an unfinished door for finishing by a single painter. The assembly includes an inner rim having a first rim member and a second rim member oriented perpendicular to one another, an outer rim consisting of a third rim member, and a fourth rim member oriented perpendicular to one another. The outer rim is rotatably configured over the inner rim such that the outer rim remains concentric with the inner rim during rotation. The assembly includes a beam attached across the fourth rim member, a sliding member slidably configurable on the beam. The sliding member includes slots for receiving a door support member to support a base portion of an unfinished door. The assembly further includes a vertical door support with a bracket adjustably mounted thereto to clamp to a mount attached on a hanging stile of the unfinished door.

**20 Claims, 11 Drawing Sheets**



(56)	<b>References Cited</b>		6,699,327 B2 *	3/2004	VanRossen	B05B 12/20
	U.S. PATENT DOCUMENTS		7,022,189 B2 *	4/2006	Delle Vedove	B05B 14/30
	4,213,418 A * 7/1980 Oswald	B05B 5/082 248/312.1	7,105,057 B1 *	9/2006	Colussi	B05B 12/29
	4,217,853 A * 8/1980 Davitz	B05B 5/082 204/297.09	9,016,664 B1 *	4/2015	Powers	B05B 13/0285
	4,527,694 A * 7/1985 Bolt	B42F 15/0094 211/162	9,302,288 B2 *	4/2016	Waterston	B25H 1/06
	4,605,988 A * 8/1986 Nienhuis	H05F 3/02 361/829	10,934,766 B2 *	3/2021	Gouge	E06B 3/56
	4,628,859 A * 12/1986 Hines	B05B 5/082 118/500	11,203,036 B1 *	12/2021	Lin	B05C 13/02
	4,773,172 A * 9/1988 Fast	A47F 5/0838 248/222.12	11,484,902 B2 *	11/2022	Ahn	A43D 95/06
	4,872,963 A * 10/1989 Van Horn	C25D 17/08 118/503	11,583,888 B2 *	2/2023	Green	B05C 3/02
	5,908,120 A * 6/1999 Yates	B05B 5/082 118/500	12,103,028 B2 *	10/2024	Buckel, Jr.	B05C 17/0217
			2012/0273439 A1 *	11/2012	Beavers	C25D 17/08
			2023/0286014 A1 *	9/2023	Vieluf	C23C 14/00

\* cited by examiner

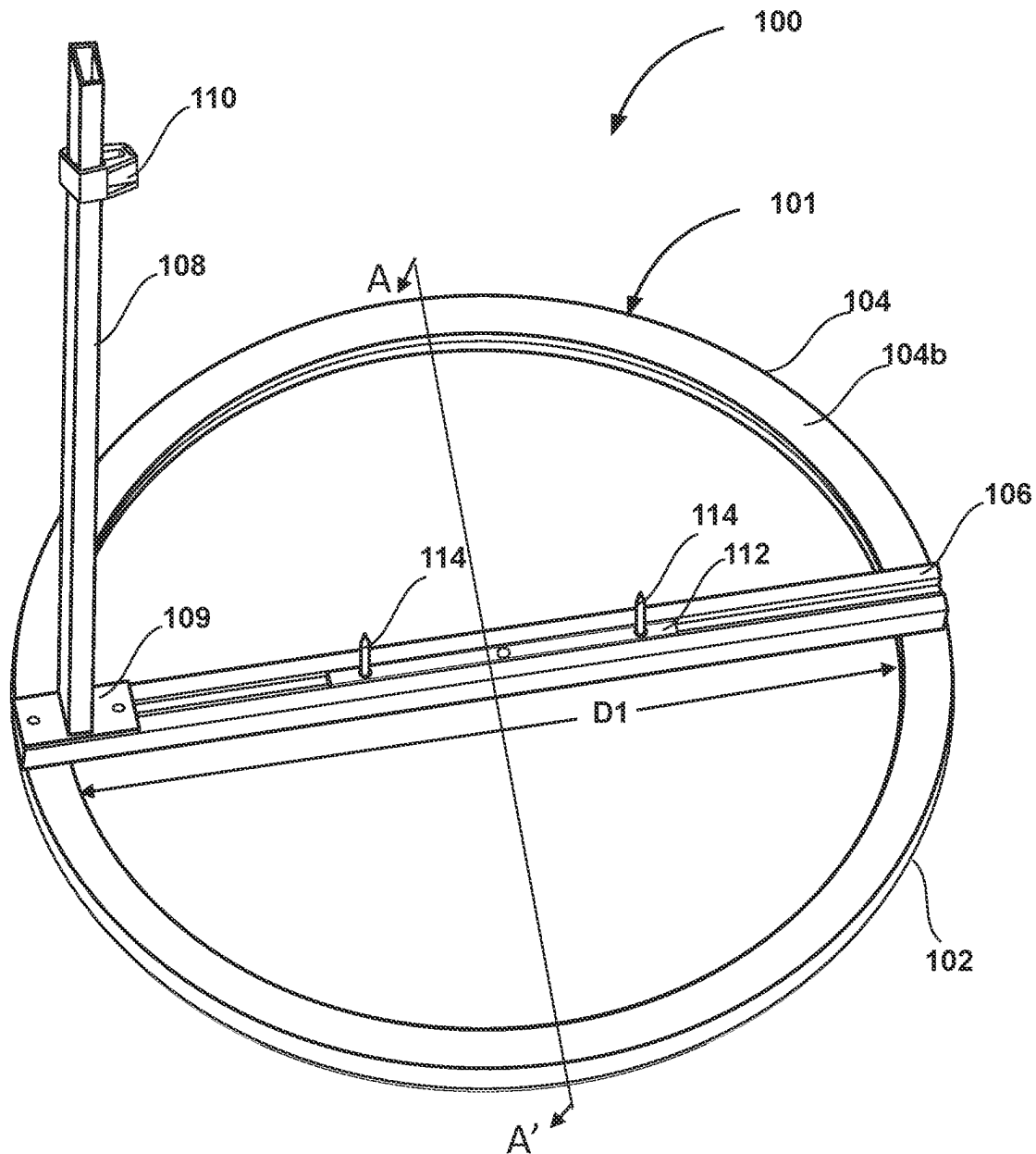


FIG. 1

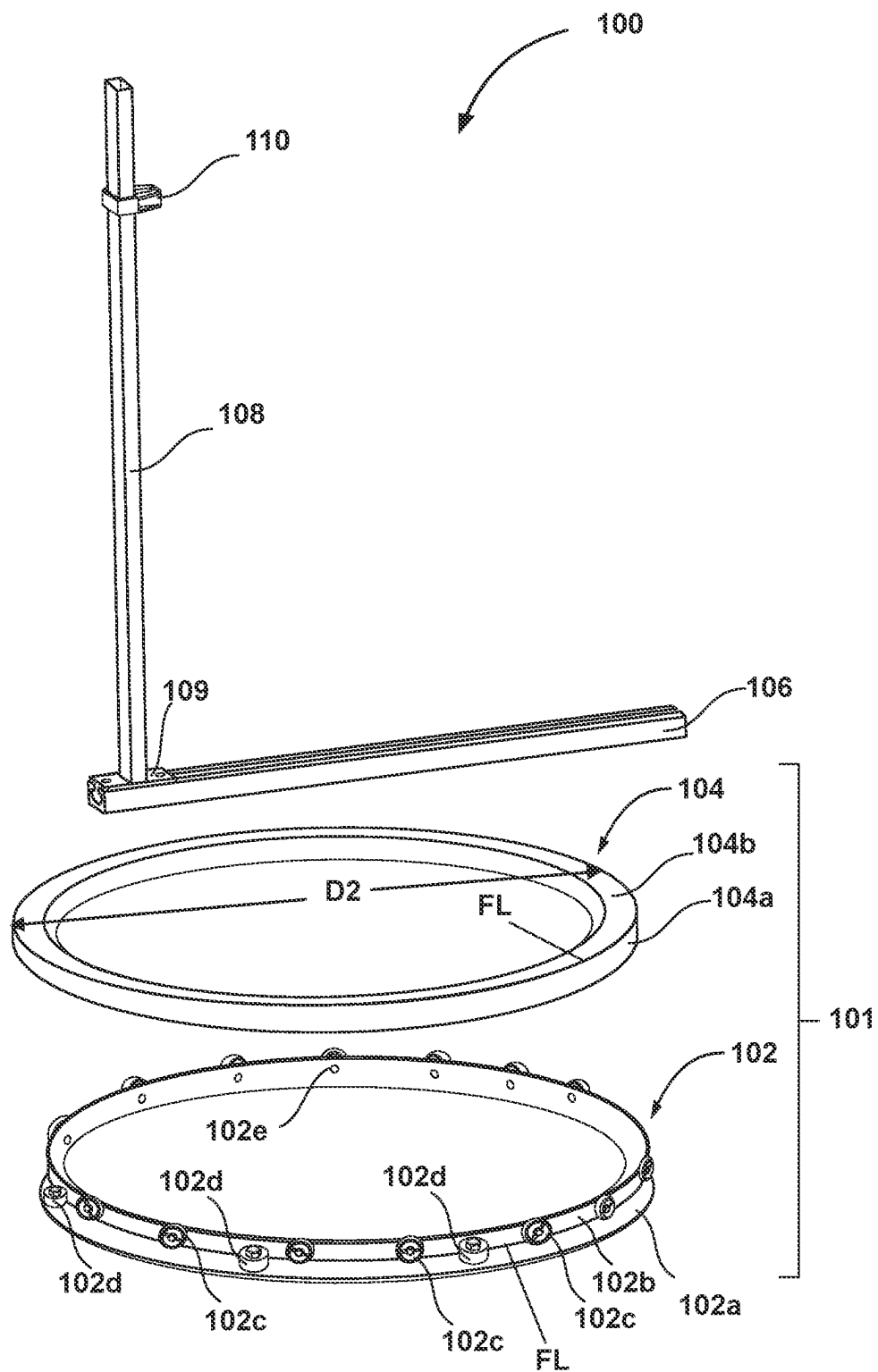


FIG. 2

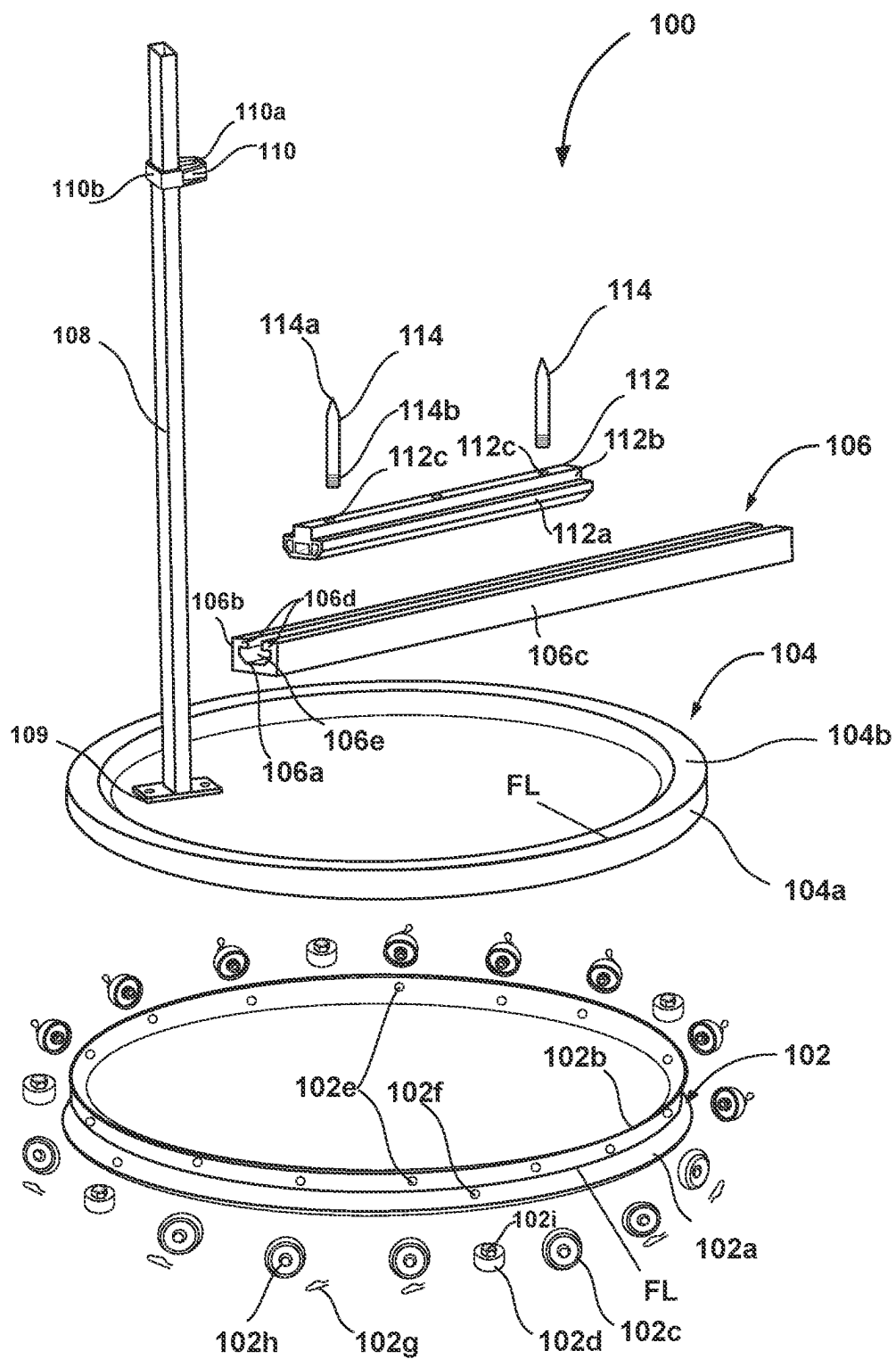


FIG. 3

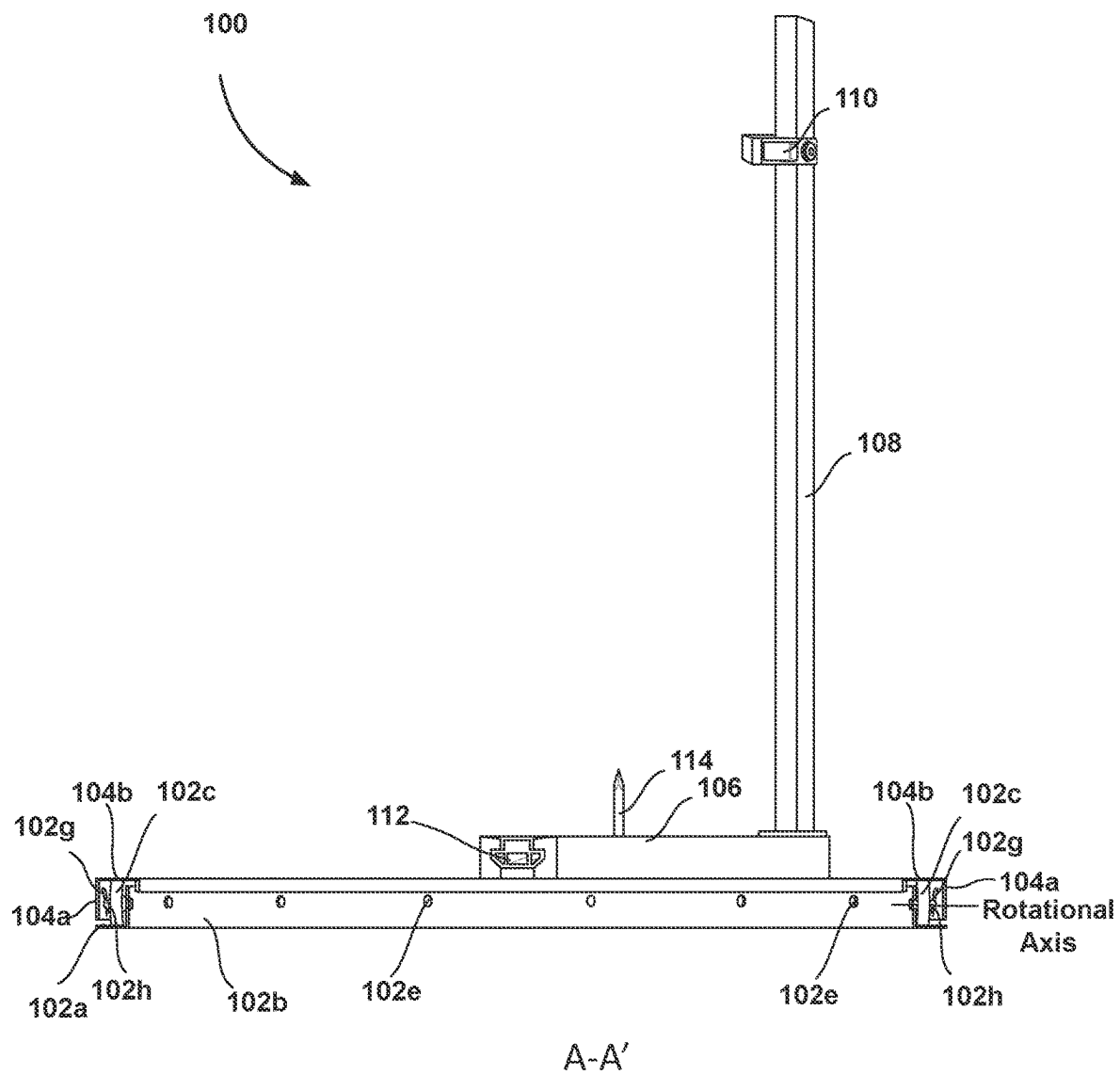


FIG. 4

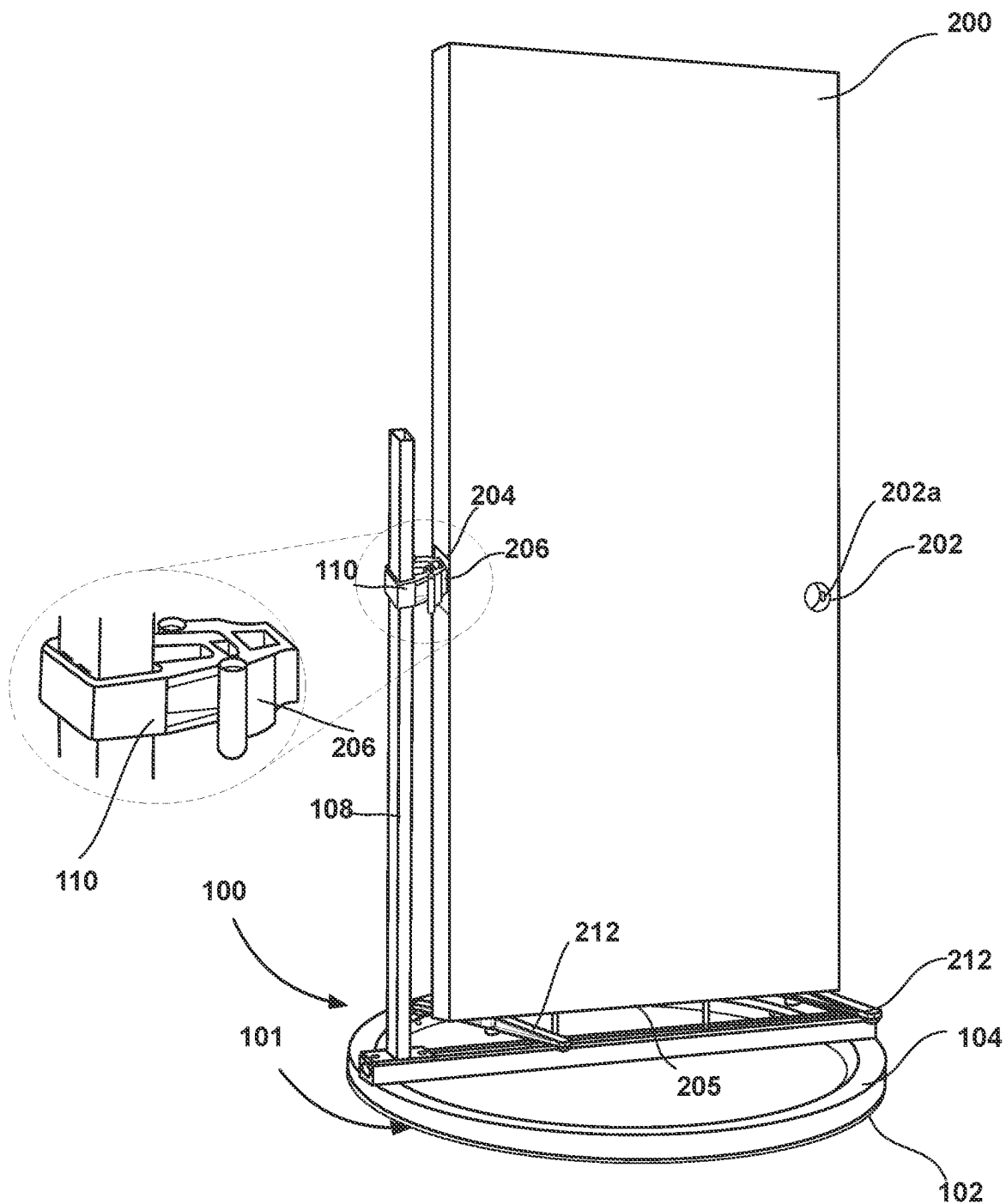


FIG. 5

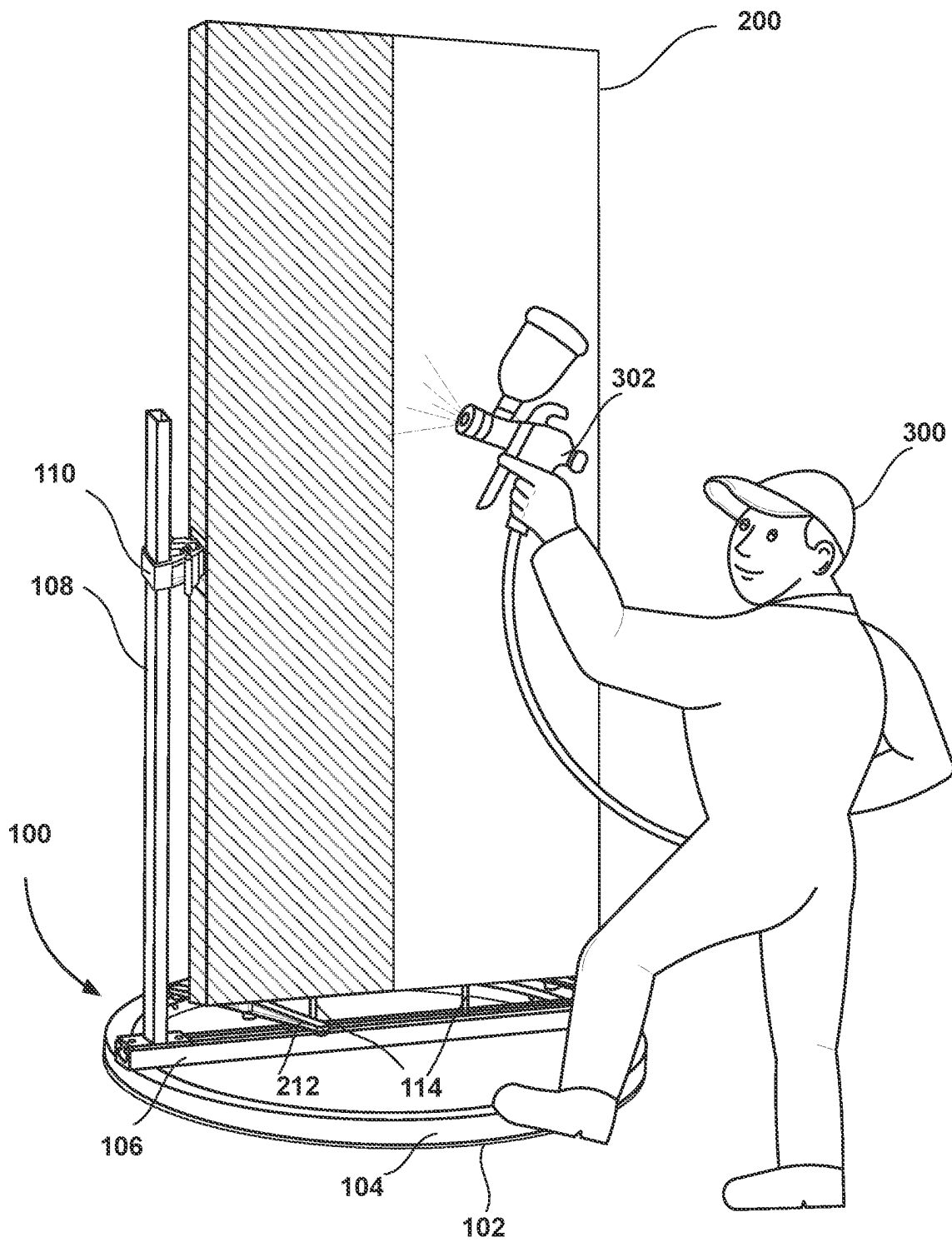


FIG. 6



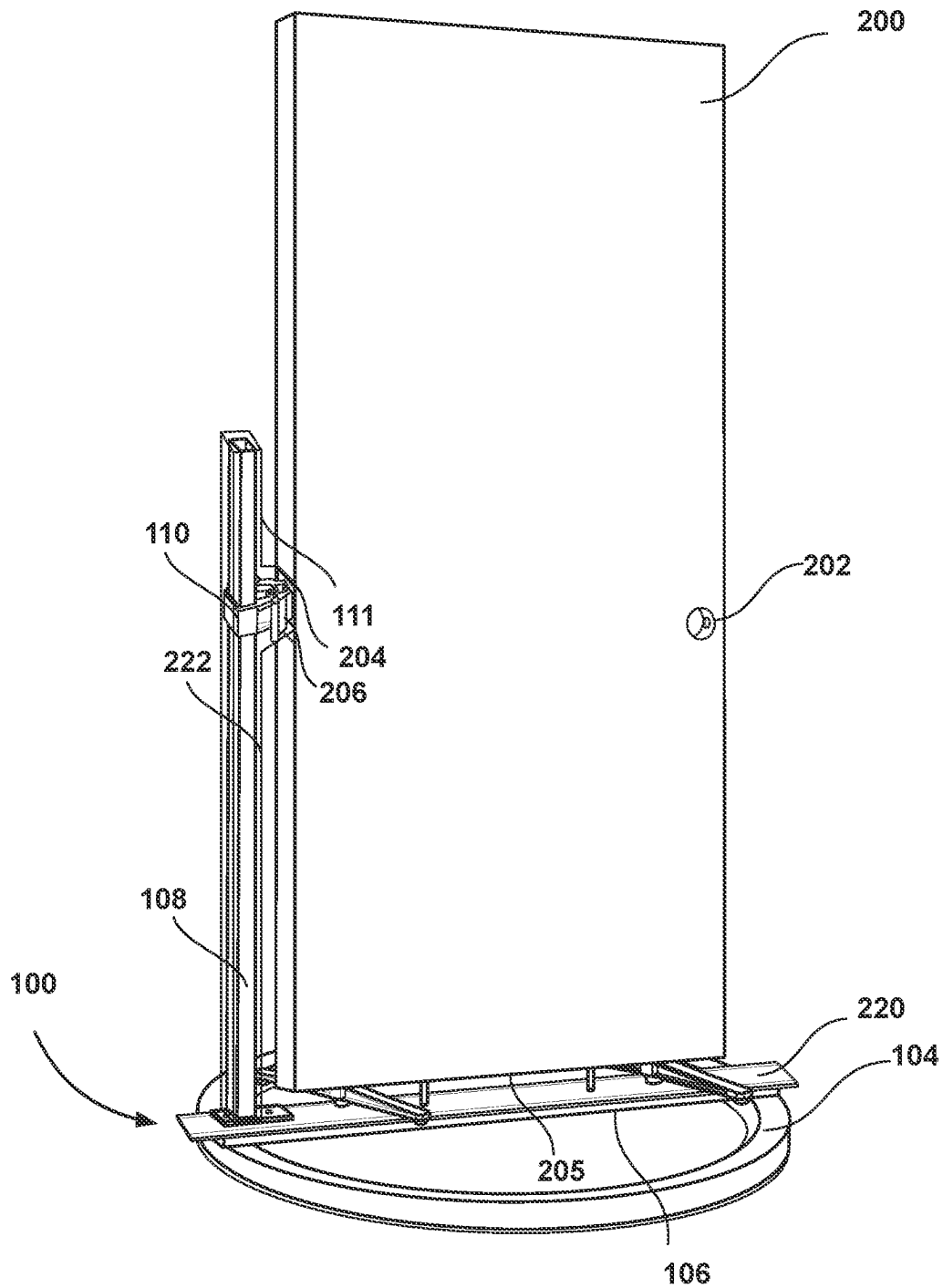


FIG. 7

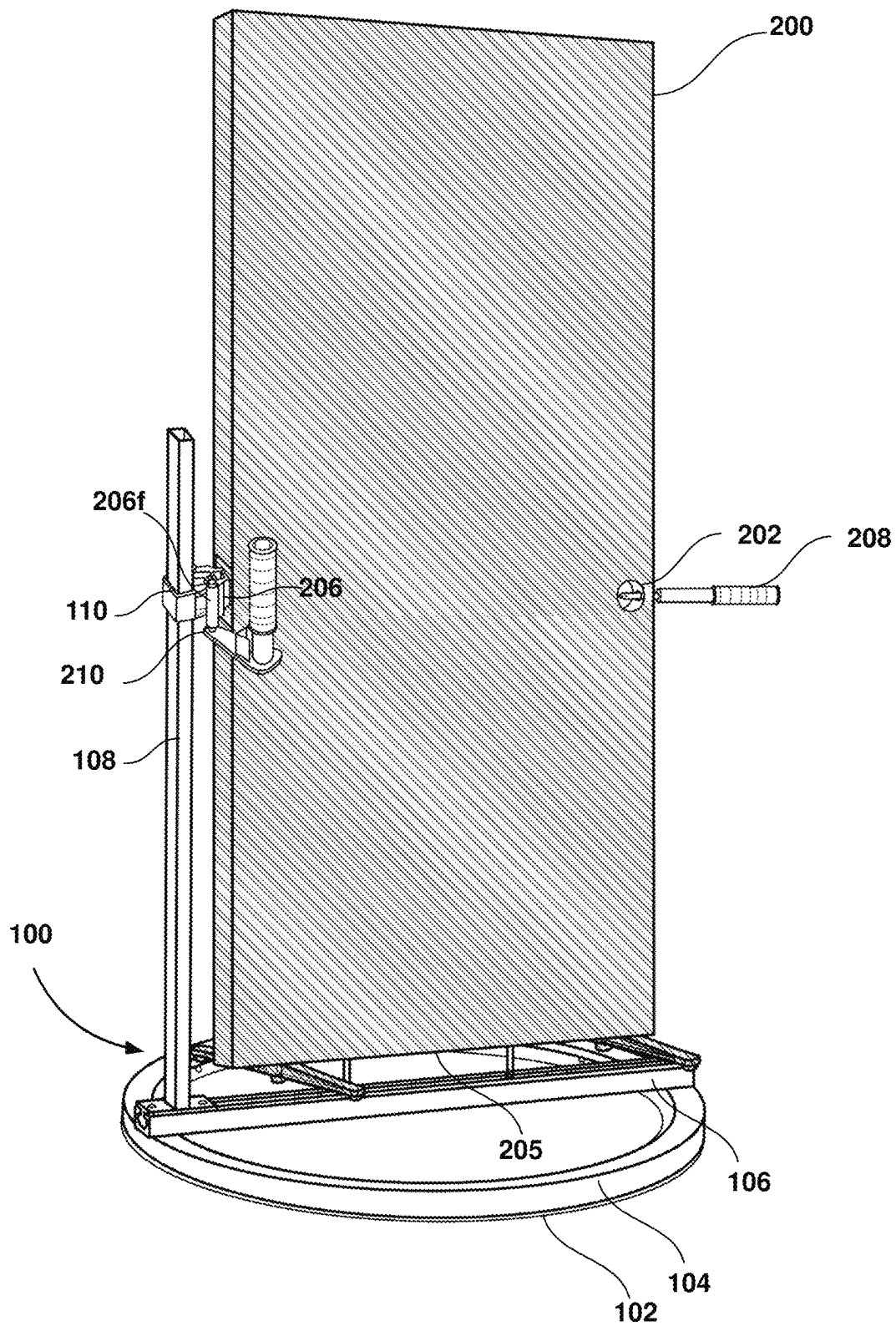


FIG. 8

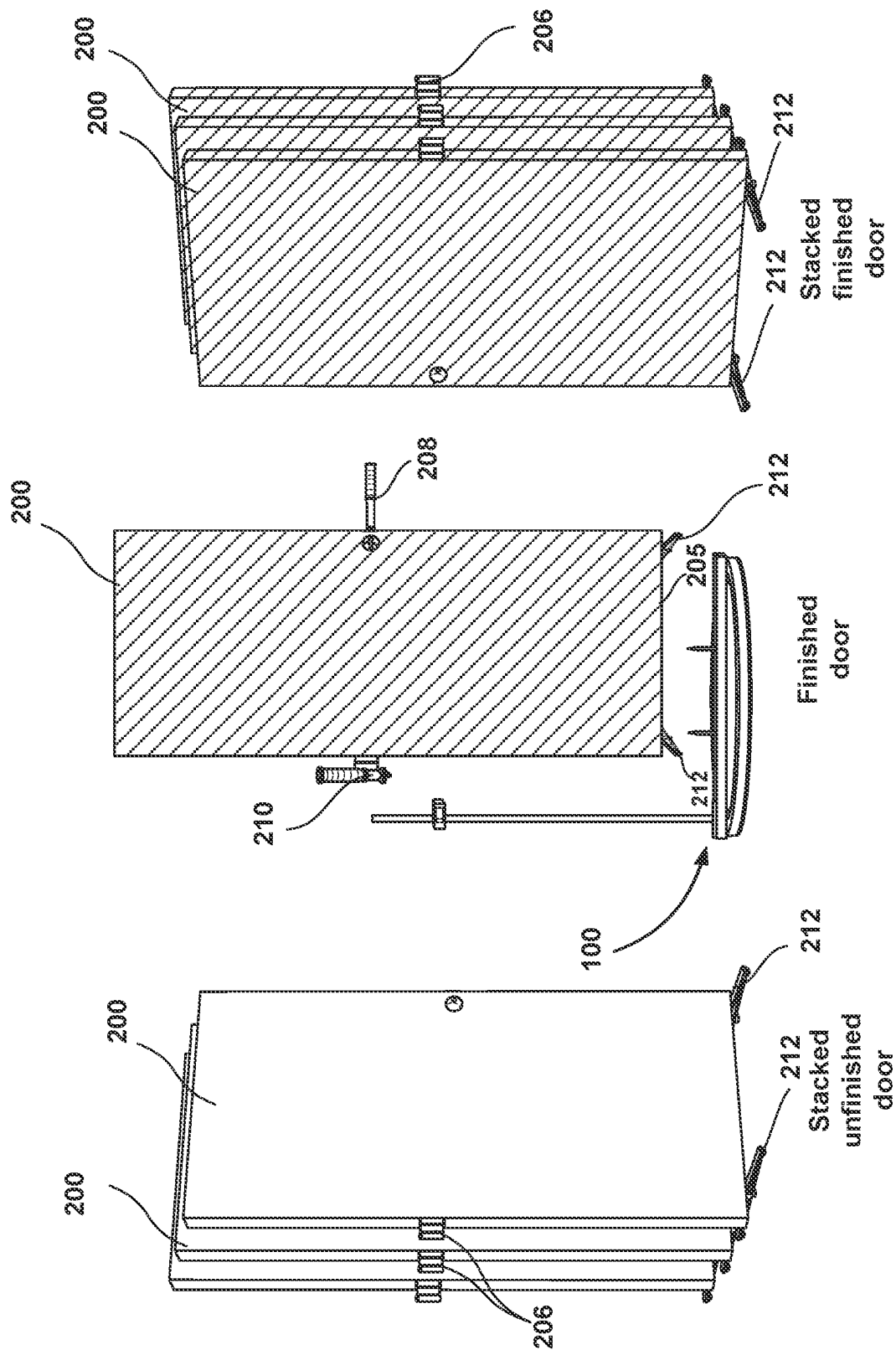
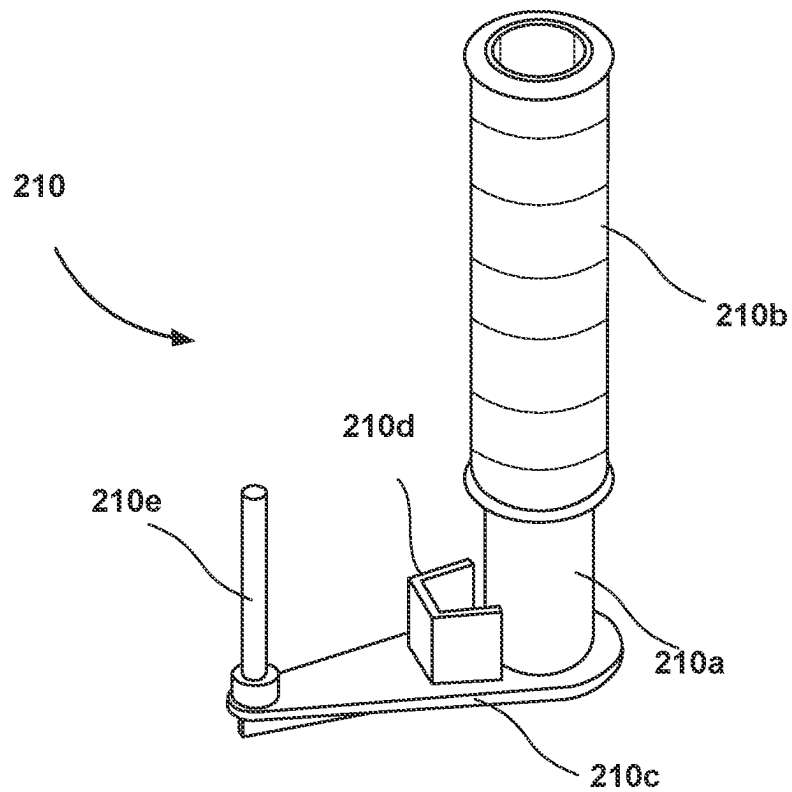
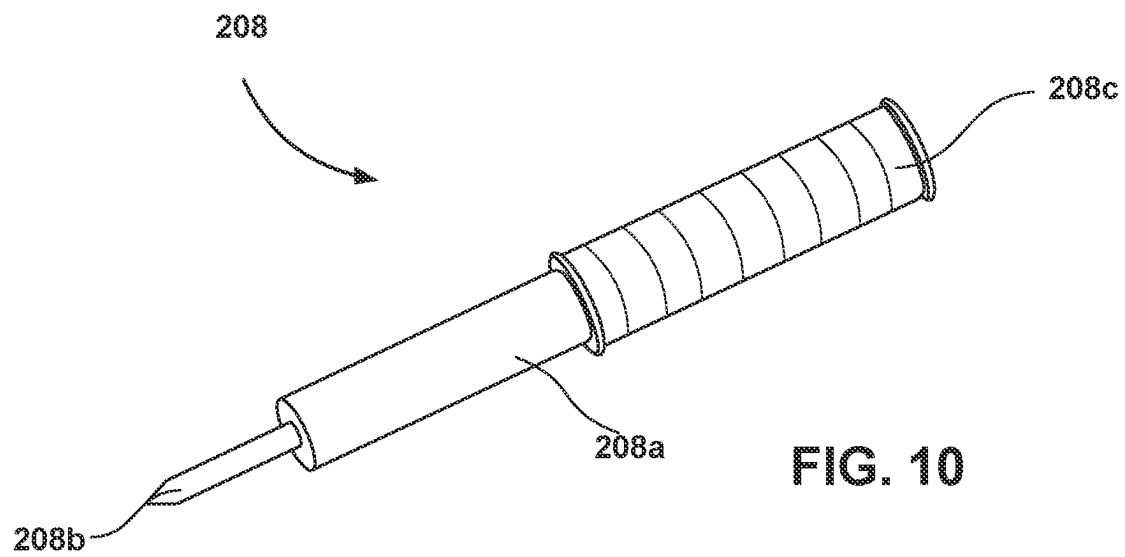


FIG. 9



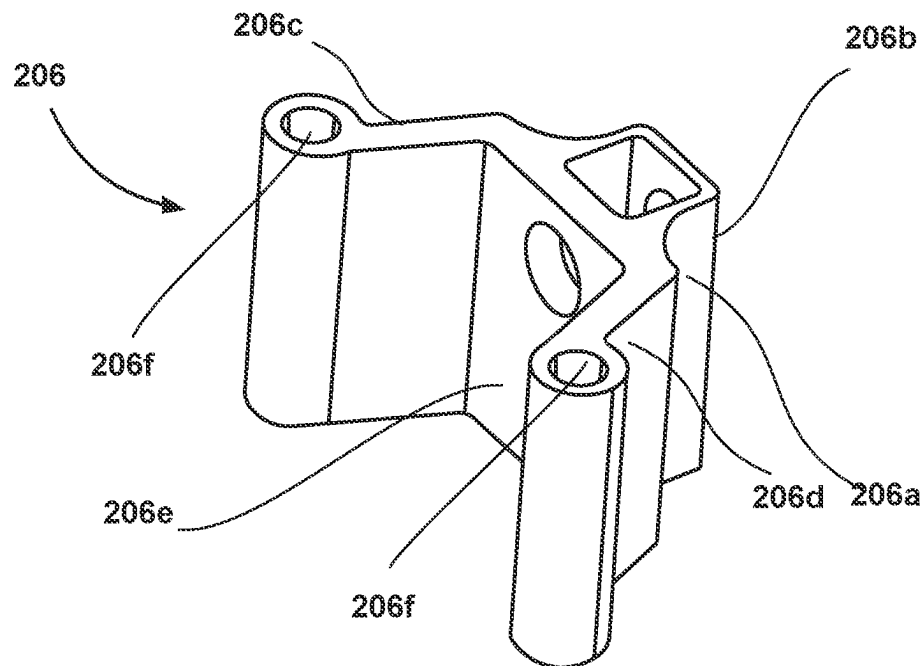


FIG. 12

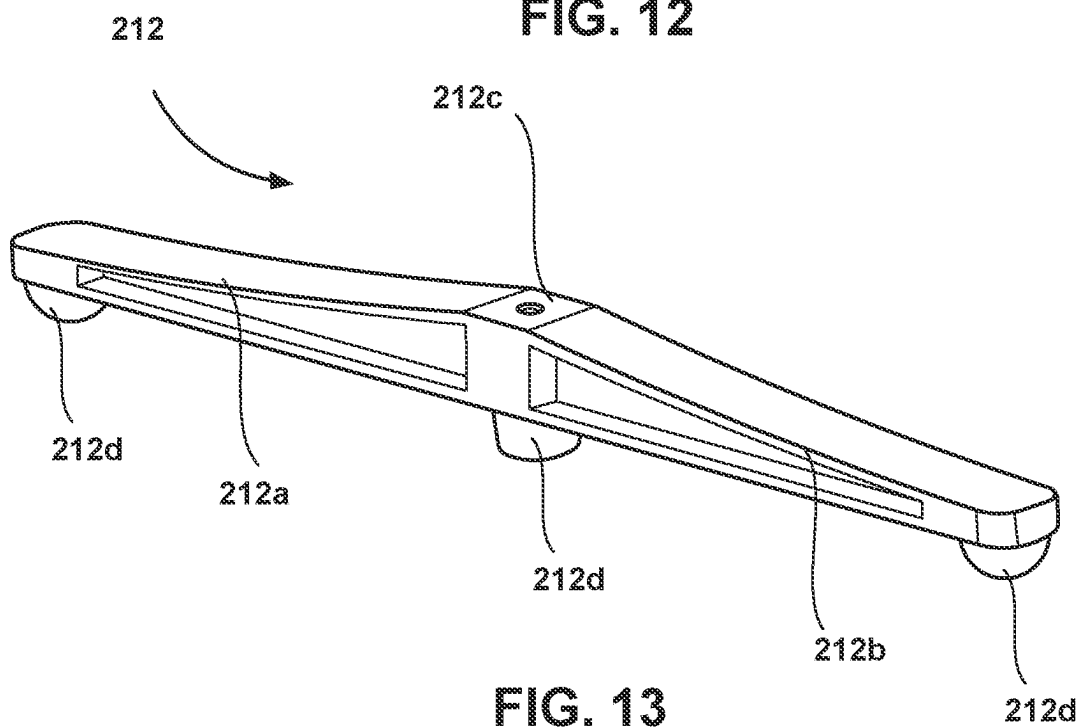


FIG. 13

1

**DOOR PAINTING AND DRYING ASSEMBLY****TECHNICAL FIELD OF INVENTION**

The present invention relates to door painting, staining, finishing, and drying devices, and more particularly the present invention relates to a new door painting and drying assembly for mounting the door thereon such that the door may be rotated to facilitate painting the door then moving the freshly painted door to a drying area.

**BACKGROUND**

Painting or finishing new doors, and refinishing existing doors, requires time-consuming labor and enough space to accommodate both the painting and drying processes.

Typically, this work involves activities related to preparing or masking off the room where the painting will be done, then standing the doors up by attaching them to each other at the top. In this method, the painter will then navigate the room while painting each door, being careful not to touch freshly painted doors with the spray gun hose or to overspray a surface onto a neighboring door. This often requires a large amount of space and a lot of preparation. In another common method, brackets are attached to the top and bottom of the door and the door is placed between two sawhorses. The painter will then walk around the door while painting and when done, will then flip the door to paint the opposite side. Once fully painted, the door is then lifted and stacked on another door separated by the width of the bracket. Issues arising from this method are that it requires a co-worker to flip and to stack the doors, and that the doors must be the same height in order to stack.

In the past, door painting racks have been proposed wherein the door is hung from a rack and is completely finished/painted while held within the rack. While such racks work with varying degrees of efficiency, they tend to suffer from one or more drawbacks. Many such door painting racks are complex in design and construction, making these racks expensive to manufacture and time-consuming to assemble and use. Most of these door painting racks are designed to hold the doors in a horizontal position as disclosed in US20150283574. U.S. Pat. Nos. 8,066,267, 4,491,308.

Another problem of significance is that freshly painted doors should be allowed to dry in a location removed from the painting rack. Moving a freshly painted door is difficult and most often requires two workers.

Solutions presented for door painting disclosed in U.S. Pat. Nos. 6,702,130, 8,707,976, and 6,338,758 which help in placing the door in a vertical position, suffer from numerous limitations such as design complexity, requiring a lot of human effort in handling doors on the rack, and so on. Usually, such racks require multiple user operations in order to paint the door.

None of the prior art offers the functionality, flexibility of use, and simplicity in design as is presented herein by the inventor.

**SUMMARY**

In brief, it is an object of the present invention to provide a door painting and drying assembly that allows a door to be mounted thereon with ease such that the door may be rotated by a single painter and painted from a single position. Once painted, the assembly also allows a freshly painted door to be removed from the painting assembly for drying sepa-

2

ately. The assembly is also capable of allowing the freshly painted door to dry on the assembly without the necessity to remove it.

It is another object of the present invention to provide a door painting and drying assembly that is portable and can be easily assembled and disassembled.

Another object of the present invention is to provide a door painting and drying assembly that requires minimal space for installation and use compared to door painting racks available in the prior art.

Another object of the present invention is to provide a door painting and drying assembly that requires comparatively less handling of the door from a painter.

It is another object of the present invention to provide a door painting and drying assembly that can be operated by a single person.

It is another object of the present invention to provide a door painting and drying assembly that can work with varying door sizes (varying in height and width) and thicknesses.

It is another object of the present invention to provide a door painting and drying assembly that uses paint shields for overspray protection of the assembly and the door, while the door is painted.

Embodiments of the present invention disclose a door painting and drying assembly comprising a base structure comprising an inner rim having a first rim member and a second rim member oriented perpendicular to the first rim member; an outer rim having a third rim member and a fourth rim member oriented perpendicular to the third rim member; wherein the outer rim is rotatably configured over the inner rim such that the outer rim remains concentric with the inner rim during rotation.

In an embodiment, the door painting and drying assembly further includes a beam attached across the fourth rim member, and a sliding member slidably configurable on the beam, the sliding member comprising at least two slots for receiving a door support member there inside, wherein the door support member supports a base portion of an unfinished door.

In an embodiment, the door painting and drying assembly further includes a vertical door support with at least one bracket adjustably mounted thereto. The bracket is configured to clamp to a mount attached to a hanging stile of the unfinished door, wherein the mount is attached for ease of mounting and dismounting the unfinished door (200) to and from the assembly.

These and other features and advantages along with other embodiments of the present invention will become apparent from the detailed description below, in light of the accompanying drawings.

**BRIEF DESCRIPTION OF DRAWINGS**

In the drawings:

FIG. 1 is an assembled view of a door painting and drying assembly according to an embodiment of the disclosure.

FIGS. 2-3 are exploded views of the door painting and drying assembly of FIG. 1.

FIG. 4 is a cross-sectional view of the door painting and drying assembly of FIG. 1 taken along A-A'.

FIG. 5 is an in-use view of the door painting and drying assembly with an unpainted door held on the assembly.

FIG. 6 is an in-use view of the door painting and drying assembly with the door getting painted by a painter.

3

FIG. 7 is an in-use view of the door painting and drying assembly with paint shields to safeguard the assembly and the door getting finished from over-spraying of the paint.

FIG. 8 is an in-use view of the door painting and drying assembly with a painted door and hand tools used to remove the door from the assembly without compromising the finish of the door.

FIG. 9 shows a view of the door painting and drying assembly with a painted door being removed from the assembly and stacked with other finished doors.

FIGS. 10-11 shows hand tools for use with the doors to mount or dismount the doors to and from the door painting and drying assembly.

FIG. 12 shows a mount attachable on a hanging stile of the unfinished door for ease of mounting and dismounting the door to and from the door painting and drying assembly.

FIG. 13 shows a footrest on which the unfinished and finished doors usually stand whether or not they are on the door painting and drying assembly.

### DETAILED DESCRIPTION

Some embodiments, illustrating its features, will now be discussed in detail. The words “comprising,” “having,” “containing,” “including,” “consisting,” and other forms thereof, are intended to be equivalent in meaning and be open ended in that an item or items following any one of these words is not meant to be an exhaustive listing of such item or items, or meant to be limited to only the listed item or items. It must also be noted that as used herein and in the appended claims, the singular forms “a,” “an,” and “the” include plural references unless the context clearly dictates otherwise. Although any methods, and systems similar or equivalent to those described herein can be used in the practice or testing of embodiments, the preferred methods, and systems are now described. The disclosed embodiments in description and drawings are merely exemplary.

References to “one embodiment,” “an embodiment,” “another embodiment,” “an example,” “another example,” “some embodiment,” “yet another embodiment”, and so on, indicate that the embodiment(s) or example(s) so described may include a particular feature, structure, characteristic, property, element, or limitation, but that not every embodiment or example necessarily includes that particular feature, structure, characteristic, property, element or limitation. Furthermore, repeated use of the phrase “in an embodiment” does not necessarily refer to the same embodiment. Unless stated otherwise, terms such as “first,” “second,” “third,” are used to arbitrarily distinguish between the elements such terms describe. Thus, these terms are not necessarily intended to indicate temporal or other prioritization of such elements.

Before describing the present invention in detail, it should be observed that the present invention relates to a door painting and drying assembly. Accordingly, the components have been represented, showing only specific details that are pertinent for an understanding of the present invention so as not to obscure the disclosure with details that will be readily apparent to those with ordinary skill in the art having the benefit of the description herein. As required, detailed embodiments of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments are merely exemplary of the invention, which can be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting but as a representative basis for teaching one skilled in the art to variously employ the present

4

invention in virtually any appropriately detailed structure. Further, the terms and phrases used herein are not intended to be limiting but rather to provide an understandable description of the invention. For the purpose of this application, “finished door”, “unfinished door”, or “door”, all of these terms are interchangeably used and in the description, if it is mentioned, “the door”, it may be unfinished/unpainted door or finished/painted door.

Referring to drawings, and in particular to FIGS. 1 through 5 thereof, a novel door painting and drying assembly embodying the principles and concepts of an embodiment of the invention designated by the reference numeral 100 will now be described. The door painting and drying assembly 100 includes a base structure 101 configured to be rested on a surface such as a floor. The base structure 101 includes an inner rim 102 and an outer rim 104.

As seen, the inner rim 102 includes a first rim member 102a and a second rim member 102b. The rim members 102a, and 102b are oriented perpendicular (90 degrees) to one another. In an embodiment, the rim members 102a, and 102b may be made of a single metal sheet that may then be folded along a fold line (FL) to form the rim members 102a and 102b. In some other embodiment, two separate rim members 102a, and 102b may be formed using thin metal sheets and then they may be conjoined at 90 degrees using known techniques such as welding. Further, as seen in FIGS. 2-3, a plurality of fastener openings 102e are formed and located on the second rim member 102b, and a plurality of fastener openings 102f are formed and located on the first rim member 102a.

As seen, the inner rim 102 includes a plurality of rollers 102c, each of which is capable of freely rotating along its rotational axis. In an embodiment, each of the rollers 102c is configured on an interior surface of the rim member 102b using a fastener 102h, and a locking pin 102g. During assembly, each of the fasteners 102h extends through the rollers 102c (via a central opening (not seen) provided in the rollers 102c) and through the fastener openings 102e located on the interior surface of the rim member 102b to rotatably lock the rollers 102c using the locking pins 102g. The rollers 102c as used are of a height substantially the same as that of the rim member 102b such that when assembled on the interior surface of the rim member 102b, the roller 102c is in contact with the rim member 102a and a rim member 104b of the outer rim 104. The rollers 102c are strategically chosen to be in contact with the rim members 102a, and 104b to facilitate the outer rim 104 to rotate with respect to the inner rim 102 when the outer rim 104 is mounted over the inner rim 102.

As seen in FIGS. 2-3, the inner rim 102 includes a plurality of spacers 102d configured on the rim member 102a of the inner rim 102. The spacers 102d facilitate in keeping the outer rim 104 concentric with the inner rim 102 during rotation of the outer rim 104. The spacers 102d are configured on the rim member 102a using fasteners 102i that extend through the spacers 102d and fastener openings 102f. In an embodiment, the spacers 102d are cylindrically shaped.

As stated, the base structure 101 includes the outer rim 104. The outer rim 104 includes a third rim member 104a and a fourth rim member 104b. In an embodiment, the rim members 104a, 104b are oriented perpendicular (90 degrees) to one another. In an embodiment, the rim members 104a, and 104b may be made of a single metal sheet that may then be folded along a fold line (FL) to form the rim members 104a, and 104b as seen. In some other embodiment, two separate rim members 104a, and 104b may be formed using

5

a thin metal sheet and then they may be conjoined at 90 degrees using known techniques such as welding. The outer rim 104 is essentially the same in structure as that of the inner rim 102 except lacking the fastener openings 102e, and 102f located on the inner rim 102 as discussed above.

In an assembled configuration, the underside of the outer rim 104 is in contact with the rollers 102c configured on the inner rim 102. In operation, as may be understood from FIG. 6, a painter 300 puts his leg on the outer rim 104 and rotates it using the leg, the outer rim 104 starts rotating because of the rollers 102c rolling along their rotational axis. The outer rim 104 rotates and always remains concentric with respect to the inner rim 102 due to the presence of nylon spacers 102c mounted on the rim member 102a of the inner rim 102. The nylon spacers 102 ensures that the rim member 104a remains spaced apart from the rim member 102b and the rim member 104a of the outer ring 104 does not try to shift towards the rim member 102b of the inner rim 102. Although FIG. 6 suggests rotation of the outer rim 104 in a clockwise direction (as indicated by arrows). It should be understood that the outer rim 104 may be rotated in a clockwise or anticlockwise direction or a combination thereof. The outer rim 104 when configured over the inner rim 102 forms a square cross-section or a rectangular cross-section as seen in FIG. 4.

Referring to FIGS. 1-3, the assembly further includes a beam 106 attached across the rim member 104b of the outer rim 104. In a preferred embodiment, the beam 106 is made equal in length to the outer diameter D2 of the base structure 101. In another embodiment, the beam 106 is made greater in length than the inner diameter D1 of the base structure 101. In an embodiment, the beam 106 is fixedly attached to the outer rim (particularly over the rim member 104b). For example, the beam 106 may be welded on a top surface of the rim member 104b of the outer rim 104. In another embodiment, the beam 106 may be removably fixed the rim member 104b of the outer rim 104 using some fasteners. As seen in FIG. 3, the beam 106 includes a base 106a, a first side wall 106b, and a second side wall 106c extending upwardly from the base 106a. The base 106a, and the side walls 106b, 106c extend longitudinally to form a channel 106e for receiving a sliding member 112 therein. The side walls 106b, 106c include an inwardly protruding extension 106d. The inward protruding extension 106d functions to retain the sliding member 112 inside the channel and allows to slidably insert and move the sliding member 112 within the channel 106e. The beam 106 further comprises an opening on either side of the channel 106e.

Referring to FIGS. 1-4, the assembly further includes the sliding member 112 that's slidably configured within the channel 106e of the beam 106. The sliding member 112 includes at least two slots 112c. In an embodiment, the slots 112c are threaded slots. Although three slots 112c are shown configured on the sliding member 112, it should be understood that two or more than two slots may be present on the sliding member 112. These slots 112c are for receiving a door support member 114. The door support member 114 includes a threaded end 114b that is received inside the slots 112c. The door support member 114 also includes a pointed tip 114a to support a base portion 205 of an unfinished door 200. The sliding member 112 includes a base portion 112a, and a top portion 112b. The top portion 112b extends upward from the base portion 112a. The base portion 112a is made substantially similar in cross-section and size to that of the channel 106e of the beam 106 to allow fitment and movement to the sliding member 112 within the channel 106e.

6

Referring to FIGS. 1-3, 5, and 12, the assembly further includes a vertical door support 108 with at least one bracket 110 adjustably mounted onto the vertical door support 108. The vertical door support 108 may be a single unitary element. In another embodiment, the vertical door support 108 may consist of two or more pieces connectable to one another. The vertical door support 108 is removably or fixedly mounted onto the beam 106 using a mounting plate 109 located at the bottom of the vertical door support 108. The vertical door support 108 is mounted at an extreme end of the beam 106 as shown in FIG. 1. Although the vertical door support 108 is shown mounted onto the left extreme end of the beam 106, it should be understood that it can be mounted on the right extreme end of the beam 106.

The bracket 110 mounted on the vertical door support 108 clamps to a mount 206 attached to a hanging stile of the unfinished door 200. The mount 206 is attached to the hanging stile of the door 200 for ease of mounting and dismounting of the unfinished door to and from the assembly 100. The bracket 110 can be adjusted to slide upward or downward along the vertical door support 108 to clamp onto the mount 206 attached to the door 200 to make the invention work for a variety of doors varying in sizes. As seen, the bracket 110 includes a head portion 110a that's substantially V-shaped, and a tail portion 110b that adjustably connects to the vertical door support 108. The head portion 110a is attachable to the mount 206, specifically attached within a V shaped cavity 206e of the mount 206. In an embodiment, the bracket 110 is attached into the V shaped cavity 206e using a fastener. In some other embodiment, the attachment may be by means of snap fit. The V-shaped cavity 206e of the mount 206 is formed by a pair of side supports 206c, 206d extending from an attaching portion 206a. The mount 206 is attached to the hanging stile of the door 200 through a front surface 206b of the attaching portion 206a.

Referring to FIGS. 7-11, the assembly 100 further includes a first hand tool 208. The first hand tool 208 includes a body portion 208a, a tip 208b protruding from one end of the body portion 208a, and a hand grip portion 208c extending from another end of the body portion 208a. The protruding tip 208b and/or the body portion 208a of the hand tool 108 is insertable within a hole 202a (that leads into an opening 202 for a lever handle (not seen)) located on a closing stile of the unfinished door 200 to facilitate mounting and dismounting of the finished or unfinished door 200 to and from the assembly 100. Depending upon the size of the opening 202 made for the lever handle on the door 200, one can insert just the tip 208b portion or the tip portion 208b and the body portion 208a (partially or fully) of the tool 208 within the hole 202a for removal or lifting of the door 200 from the assembly. The body portion 208a, and the tip 208b are made substantially lesser in diameter compared to the hole 202a.

The door painting and drying assembly 100 of the present invention also uses a second hand tool 210. The hand tool 210 includes a body portion 210a, a hand grip portion 210b extending from one end of the body portion 210a, and a base plate 210c attached to another end of the body portion 210a. The base plate 210c includes a V shaped member 210d, and a vertical member 210e configured thereon and extends in an upward direction therefrom. In operation, the vertical member 210e of the tool 210 is insertable within an elongated hole 206f formed at a free end of each of the pair of side supports 206c, 206d of the mount 206 to facilitate mounting and dismounting of the finished or unfinished door 200 to and from the assembly 100.



The door painting and drying assembly **100** of the present invention further includes or uses a footrest **212**. The footrest **212** consists of a first arm **212a**, and a second arm **212b**. The arms **212a** and **212b** extend from a pivotal portion **212c** of the footrest **212**. The arms **210a** and **212b** are slightly slanted in configuration. The footrest **212** also consists of a plurality of rubber pads **212d** attached underside the arms **212a**, **212b**, and/or the pivotal portion **212c**. The rubber pads **212d** may be attached using glue or fasteners etc. The footrest **212** is attachable to the base portion **205** of the unfinished or finished door **200** to facilitate the door **200** to stand on a ground surface or floor or to allow the doors **200** to get stacked for drying or storage purposes.

In operation, a painter or his coworker **300**, first mounts the unfinished door **200** on the assembly **100**. During the mounting process, the base portion **205** of the door **200** is placed over the door support member **114**. The painter/user **300** then uses the paint spray gun **302** to paint the door **200**. The painter **300** paints the surface facing the painter **200**. Once the user **300** finishes spraying paint on the surface facing the painter **300**, the user **300** then rotates the outer rim **104** using his leg. The upper rim **104** may be rotated in a clockwise or anticlockwise direction so as to flip the surface of the door **200** and paint the other side of the door **200** to complete the paint application process so that the complete door gets painted (FIGS. 6 and 8). Optionally, as shown in FIG. 7, the assembly **100** may use paint shields **220,222** (before application of the paint) that may cover the beam **106** and the vertical support member **108** respectively to safeguard the assembly **100** and the door **200** getting finished/painted from over-spraying of the paint. The paint shields **220,222** may be a plastic cover, a plastic sheet. The paint shield **220** or **222** may be made of any other suitable material. Next, once the unfinished door **200** (unpainted door **200**) is painted, the door **200** may be left to dry or may be removed from the mount using hand held tools **208,210**. In operation, as seen in FIGS. 8-9, the hand held tool **208** is inserted into the hole **202a** configured on the closing stile of the finished door **200**. Likewise, the vertical member **210e** is inserted within an elongated hole **206** of the mount **206**. Once both the hand held tools **208,210** are inserted into the door **200** and the mount **206**, the user/painter **300** can hold the grip portions **208c,210b** of the hand tools **208,210** and remove the finished door **200** from the assembly **100** and stacked with other finished doors.

Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A door painting and drying assembly (**100**), comprising:

- (a) a base structure (**101**) comprising:
  - an inner rim (**102**) having a first rim member (**102a**) and a second rim member (**102b**) oriented perpendicular to the first rim member (**102a**);
  - an outer rim (**104**) having a third rim member (**104a**) and a fourth rim member (**104b**) oriented perpendicular to the third rim member (**104a**);
  - wherein the outer rim (**104**) is rotatably configured over the inner rim (**102**) such that the outer rim (**104**) remains concentric with the inner rim (**102**) during rotation;
- (b) a beam (**106**) attached across the fourth rim member (**104b**);
- (c) a sliding member (**112**) slidably configurable on the beam (**106**), the sliding member (**112**) comprising at

least two slots (**112c**) for receiving a door support member (**114**) there inside, wherein the door support member (**114**) supports a base portion (**205**) of a door (**200**); and

- (d) a vertical door support (**108**) with at least one bracket (**110**) adjustably mounted thereto, the at least one bracket (**110**) is configured to clamp to a mount (**206**) attached to a hanging stile of the door (**200**), wherein the mount (**206**) is attached for ease of mounting and dismounting the door (**200**) to and from the door painting and drying assembly (**100**).

2. The door painting and drying assembly (**100**) of claim 1, wherein the outer rim (**104**) when configured over the inner rim (**102**) forms a square cross-section or a rectangular cross-section.

3. The door painting and drying assembly (**100**) of claim 1 further comprising a plurality of rollers (**102c**) capable of freely rotating and configured on an interior surface of the second rim member (**102b**).

4. The door painting and drying assembly (**100**) of claim 3, wherein the plurality of rollers (**102c**) is configured on the interior surface of the second rim member (**102b**) using a plurality of fasteners (**102h**), and a plurality of locking pins (**102g**).

5. The door painting and drying assembly (**100**) of claim 4, wherein the plurality of fasteners (**102h**) extends through the plurality of rollers (**102c**) and through a plurality of fastener openings (**102e**) located on the interior surface of the second rim member (**102b**) to rotatably lock the plurality of rollers (**102c**) using the plurality of locking pins (**102g**).

6. The door painting and drying assembly (**100**) of claim 1 further comprising a plurality of spacers (**102d**) configured on the first rim member (**102a**) of the inner rim (**102**) to keep the outer rim (**104**) concentric with the inner rim (**102**) during rotation of the outer rim (**104**).

7. The door painting and drying assembly (**100**) of claim 6, wherein the plurality of spacers (**102d**) are configured on the first rim member (**102a**) of the inner rim (**102**) using a plurality of fasteners (**102i**) that extend through the plurality of spacers (**102d**) and a plurality of fastener openings (**102f**).

8. The door painting and drying assembly (**100**) of claim 1, wherein the beam (**106**) comprises:

- a base (**106a**);
- a first side wall (**106b**);
- a second side wall (**106c**); and
- wherein the base (**106a**), the first side wall (**106b**), and the second side wall (**106c**) extend longitudinally to form a channel (**106e**) for receiving the sliding member (**112**).

9. The door painting and drying assembly (**100**) of claim 8, wherein the beam (**106**) further comprises an opening on either side of the channel (**106e**).

10. The door painting and drying assembly (**100**) of claim 8, wherein the first side wall (**106b**) and the second side wall (**106c**) include an inwardly protruding extension (**106d**) to retain the sliding member (**112**) there inside and to slidably insert and move the sliding member (**112**) within the channel (**106e**).

11. The door painting and drying assembly (**100**) of claim 1, wherein the sliding member (**112**) comprises base portion (**112a**), and a top portion (**112b**) extending upwardly from the base portion (**112a**).

12. The door painting and drying assembly (**100**) of claim 11, wherein the base portion (**112a**) of the sliding member (**112**) is made substantially similar in cross-section and size

9

as that of the channel (106e) of the beam (106) to allow fitment and movement to the sliding member (112) within the channel (106e).

13. The door painting and drying assembly (100) of claim 1, wherein the door support member (114) comprises a pointed tip (114a) to support the base portion (205) of the door (200), and a threaded end (114b) to engage into the slots (112c) present on the sliding member (112).

14. The door painting and drying assembly (100) of claim 1, wherein the vertical door support (108) is removably or fixedly mounted onto the beam (106) using a mounting plate (109) located at the bottom of the vertical door support (108).

15. The door painting and drying assembly (100) of claim 14, wherein the vertical door support (108) is mounted at an extreme end of the beam (106).

16. The door painting and drying assembly (100) of claim 1, wherein the at least one bracket (110) is adjustable to slide upward or downward along the vertical door support (108) in order to align and clamp onto the amount (206) attached to the hanging stile of the door (200) depending upon a size of door (200).

17. The door painting and drying assembly (100) of claim 16, wherein the at least one bracket (110) includes a head portion (110a) substantially V-shaped, and a tail port (110b), the head portion (110a) is attachable to the mount (206) within a V-shaped cavity (206e) formed thereon surrounded by a pair of side supports (206c, 206d) extending from an attaching portion (206a).

18. The door painting and drying assembly (100) of claim 17 further comprising:

- a first hand tool (208) comprising
  - a body portion (208a),
  - a tip (208b) protruding from one end of the body portion (108a), and

10

a hand grip portion (208c) extending from another end of the body portion (208a), wherein the tip (208b) and/or the body portion (208a) of the first hand tool (108) is insertable within a hole (202a) configured on a closing stile of the door (200) to facilitate mounting and dismounting of the door (200) to and from the door painting and drying assembly (100) using the first hand tool (208);

a second hand tool (210) comprising

- a body portion (210a),
- a hand grip portion (210b) extending from one end of the body portion (210a),
- a base plate (210c) attached to another end of the body portion (210a), the base plate (210c) having a V-shaped member (210d), and a vertical member (210e) configured thereon and extending upwardly therefrom,

wherein the vertical member (210e) is insertable within an elongated hole (206f) formed at a free end of each of the pair of side supports (206c, 206d) of the mount (206) to facilitate mounting and dismounting of the door (200) to and from the door painting and drying assembly (100) using the second hand tool (210).

19. The door painting and drying assembly (100) of claim 1 further comprising a footrest (212) including a first arm (212a), a second arm (212b) extending from a pivotal portion (212c), and a plurality of rubber pads (212d) attached thereto.

20. The door painting and drying assembly (100) of claim 19, wherein the footrest (212) is attachable to the base portion (205) of the door (200) to facilitate the door (200) to stand or a plurality of doors (200) to get stacked for drying or storage.

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