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(54) **RIM-DETAILING DEVICES, KITS, AND METHODS FOR CLEANING TIRE RIMS**

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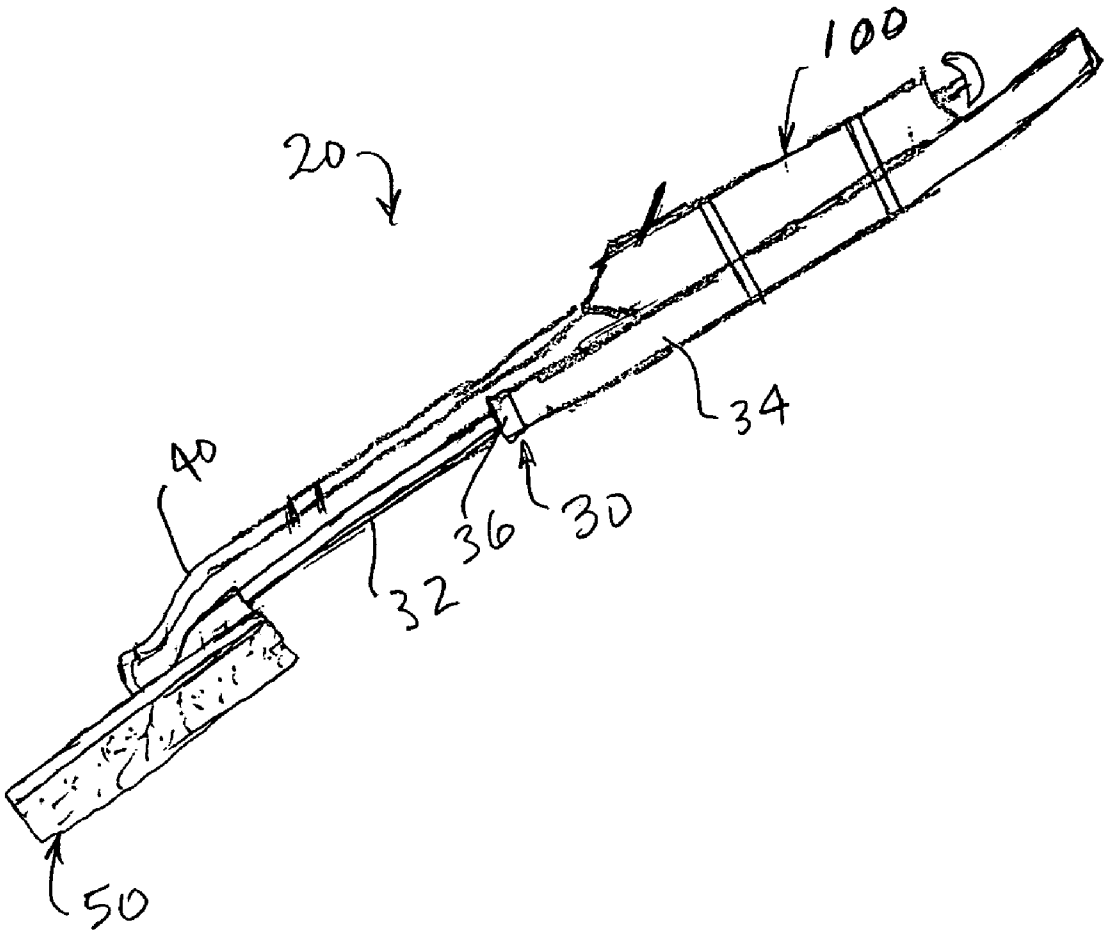
(57) **ABSTRACT**

A rim-detailing device includes an elongated member such as a telescopic member, a quick-disconnect cleaning member releasably attachable to first end portion of the telescopic member, a self-pressurizable canister disposed at a second end of the telescopic member. A tube conveys rim cleaning liquid from the self-pressurizable canister to the cleaning member. The rim-detailing device is operable for cleaning a tire rim including adjacent to a brake caliper without removing the wheel from a vehicle. The cleaning member may include a plurality of different sized quick-disconnect cleaning members or a quick-disconnect scraper.



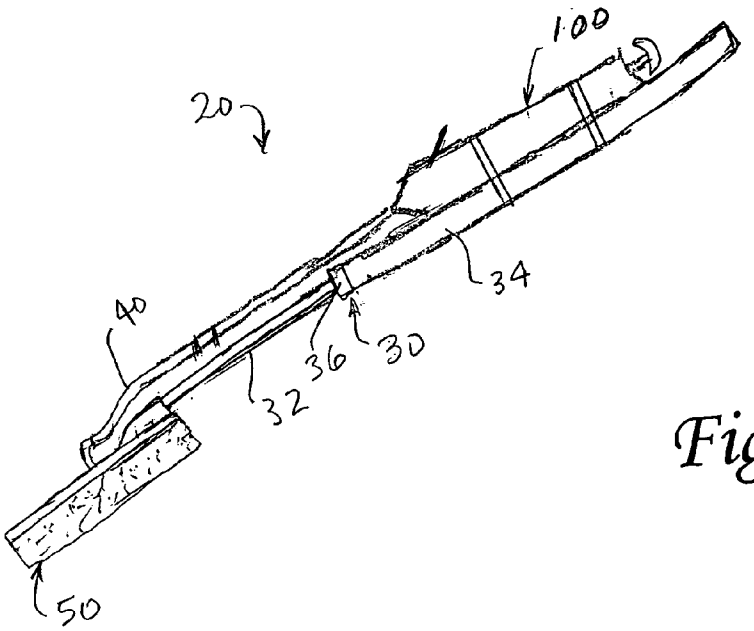
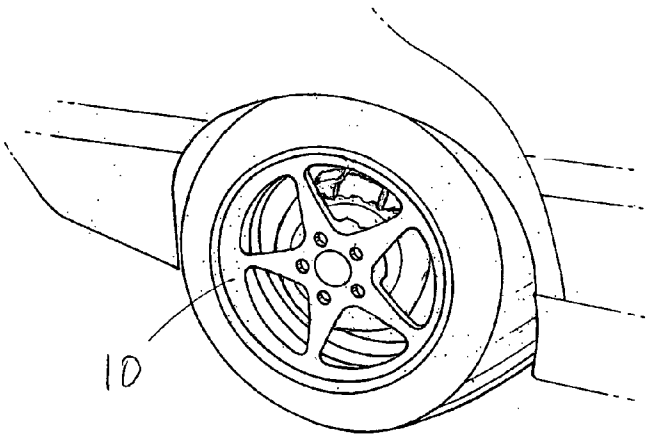
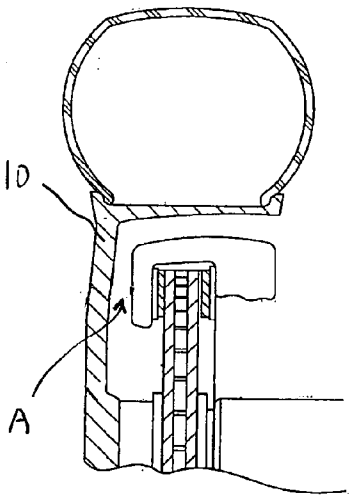


Fig. 1



PRIOR ART

Fig. 2



PRIOR ART

Fig. 3

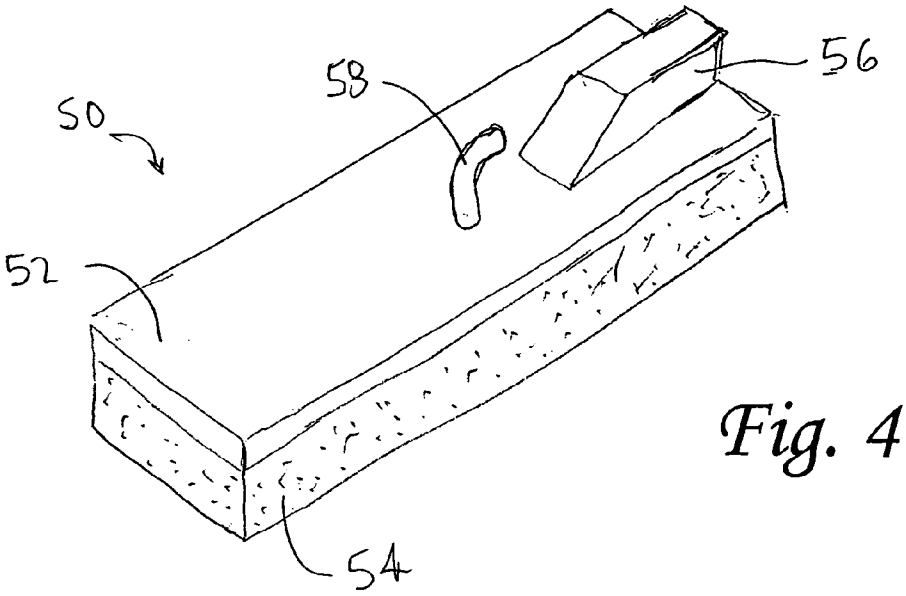


Fig. 4

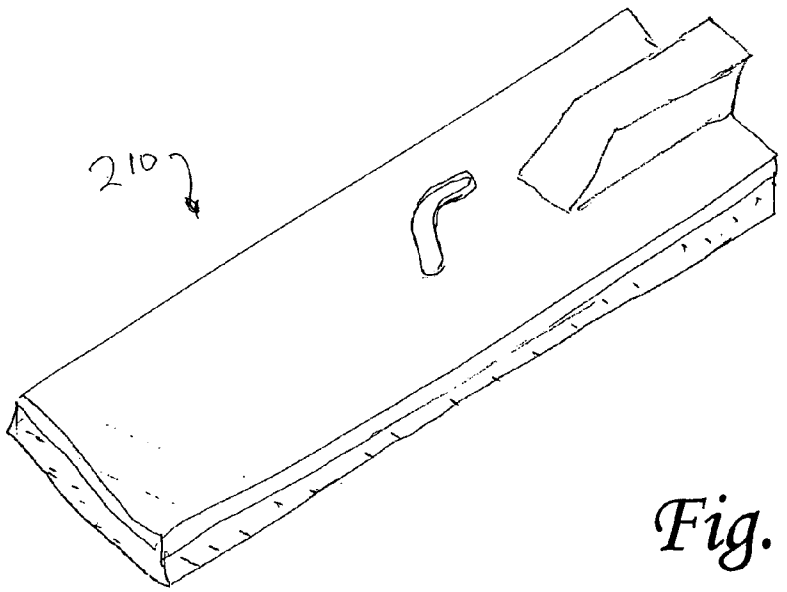


Fig. 6

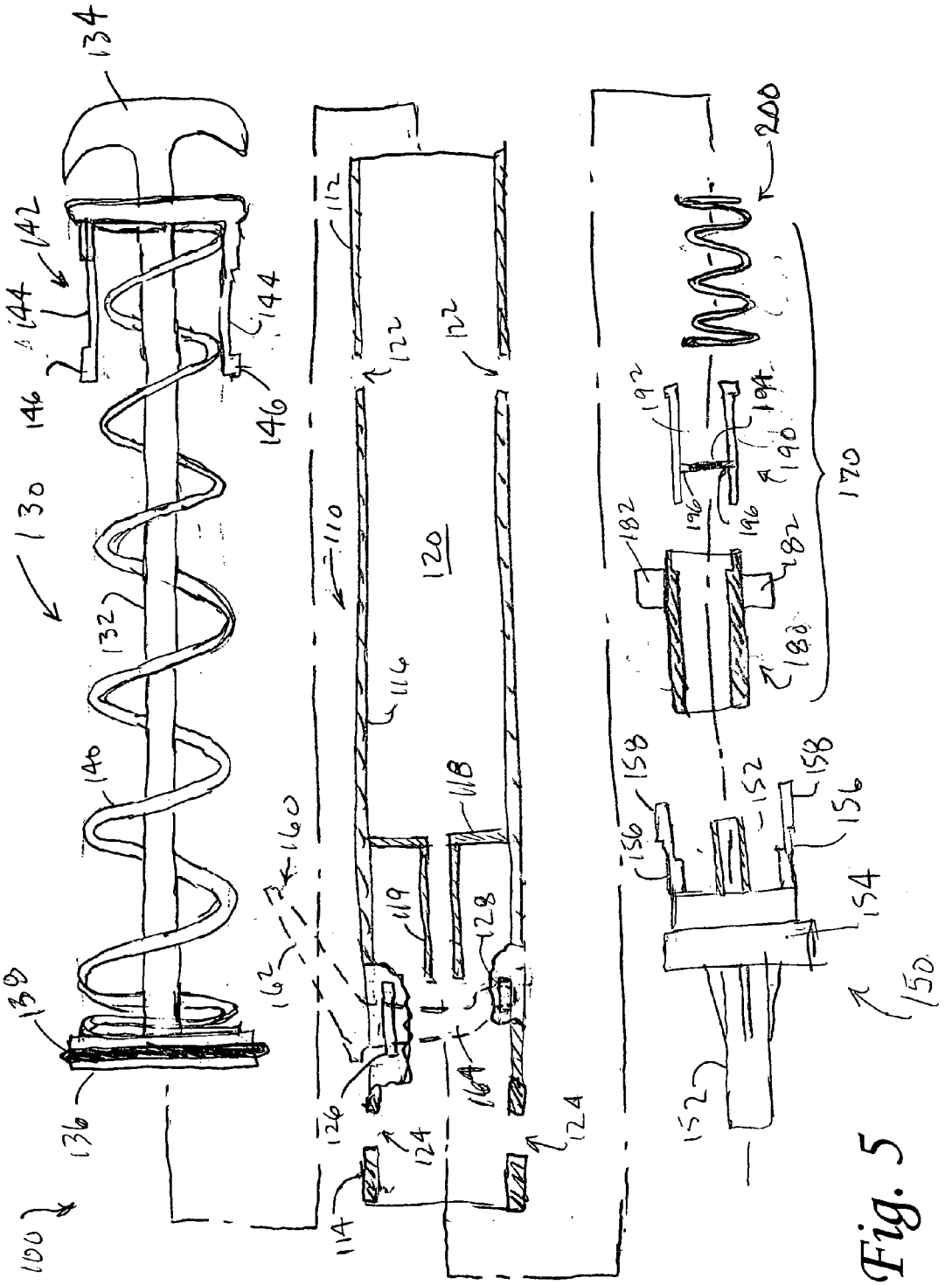

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Fig. 5

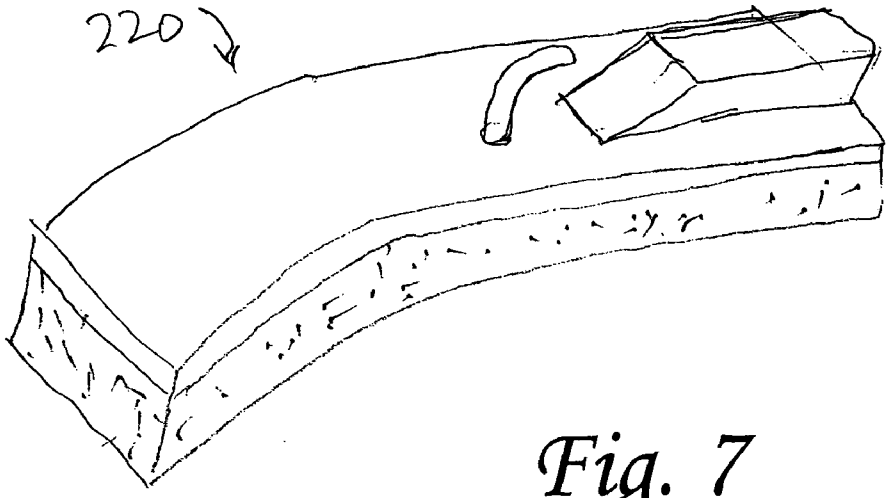

Fig. 7

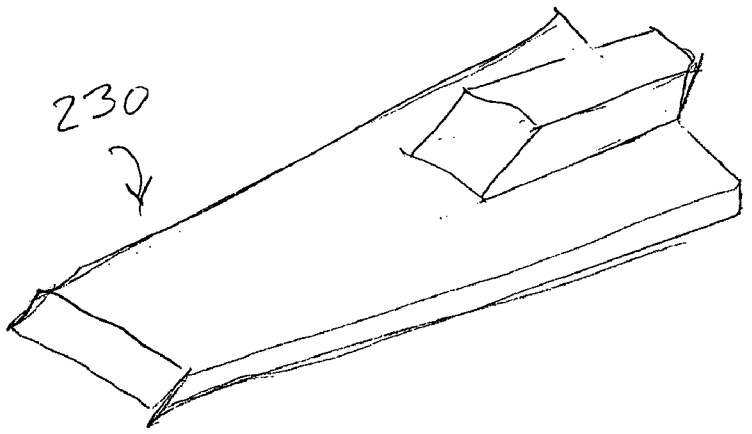

Fig. 8

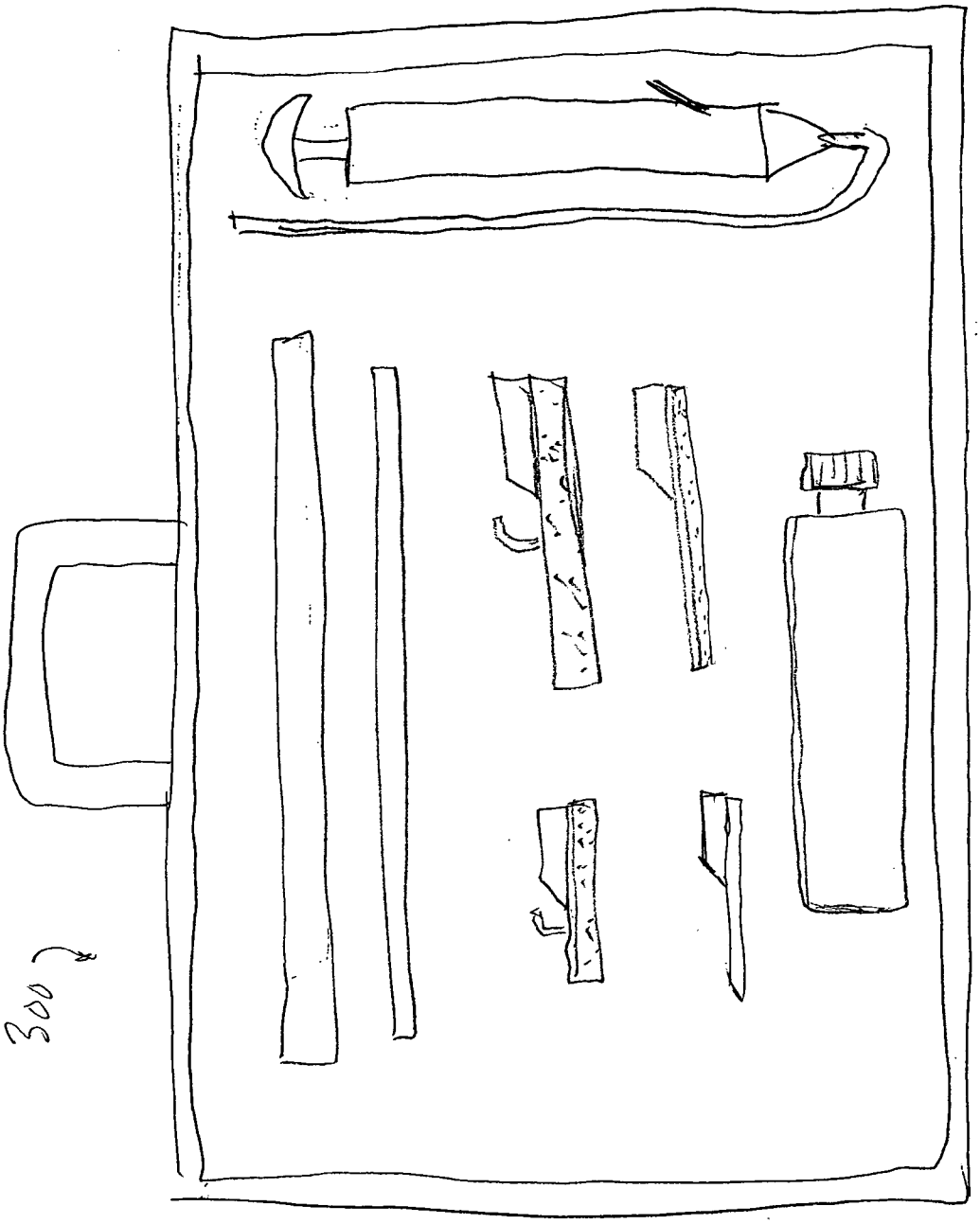

Fig. 9

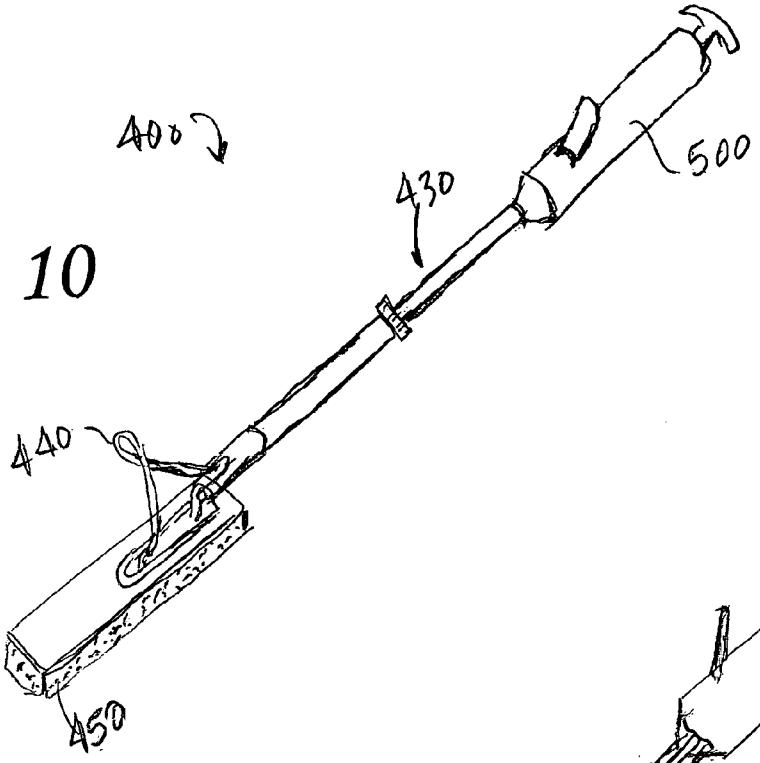

Fig. 10

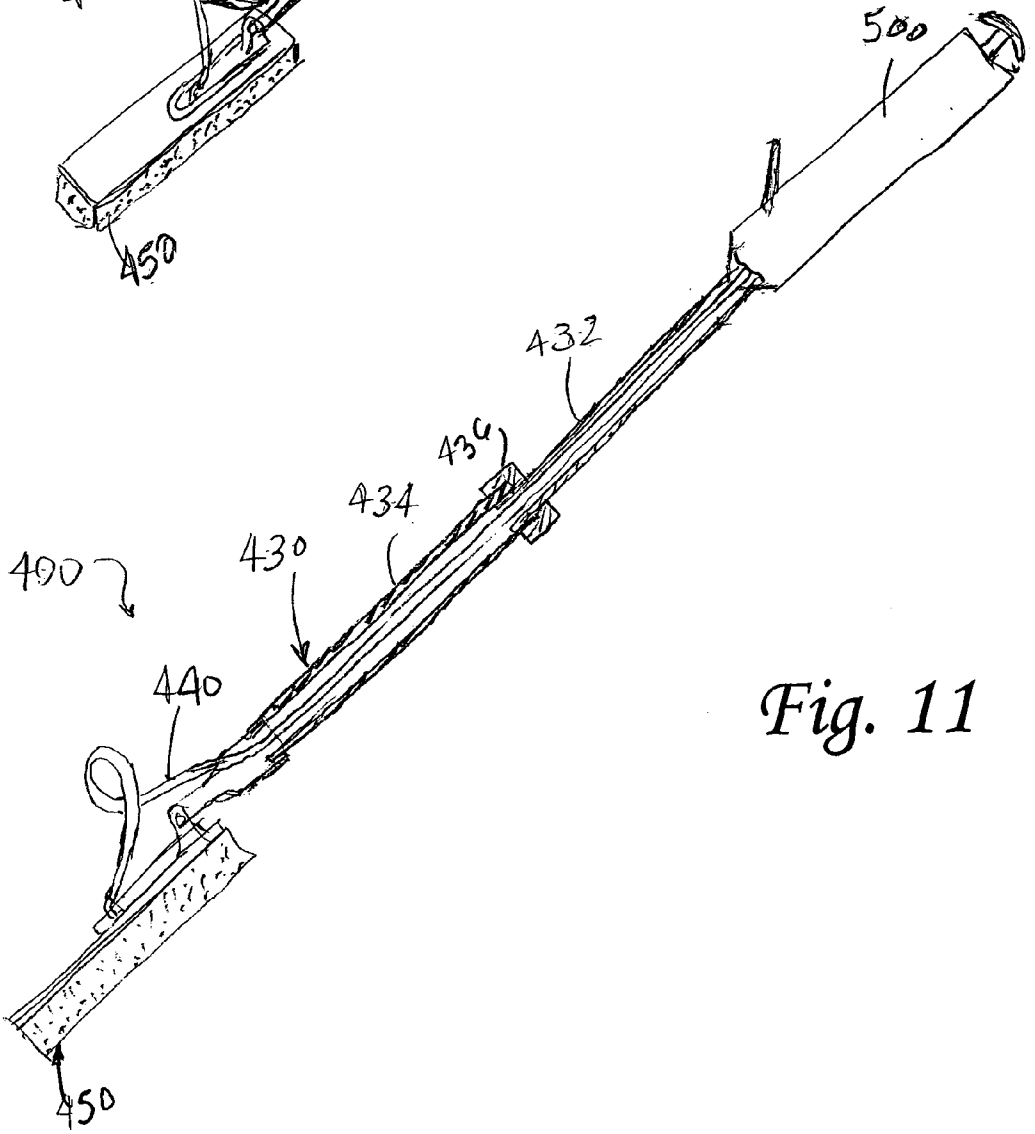

Fig. 11

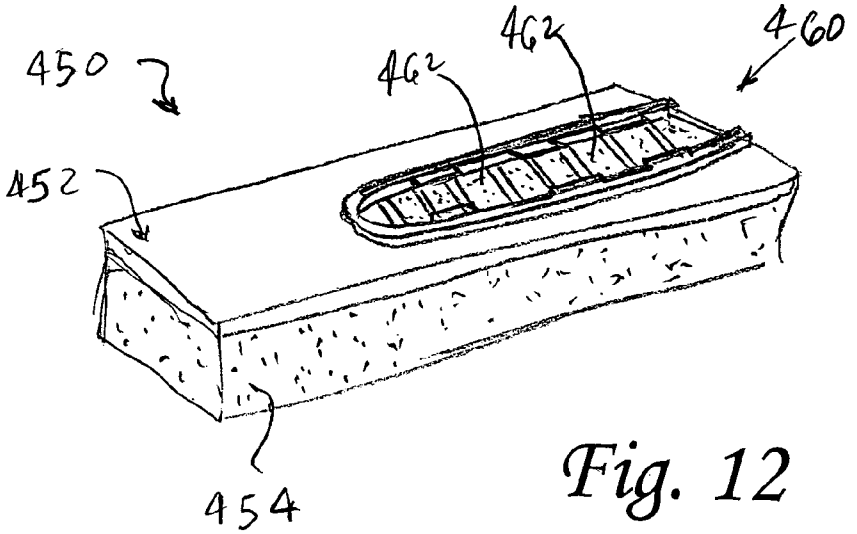

Fig. 12

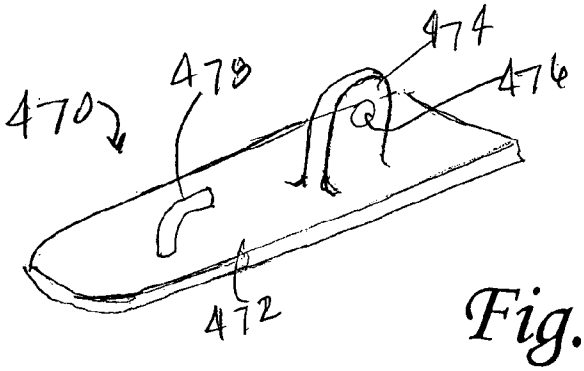

Fig. 13

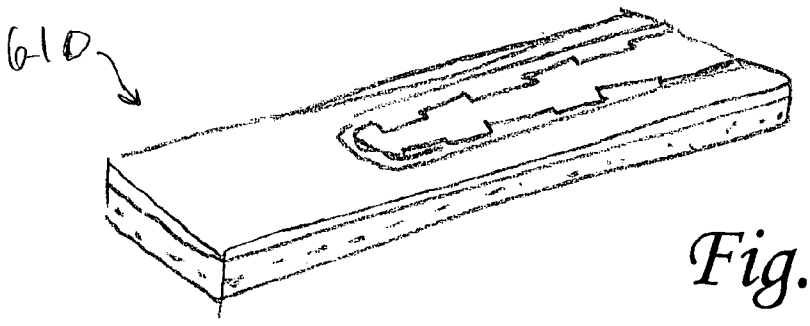

Fig. 14

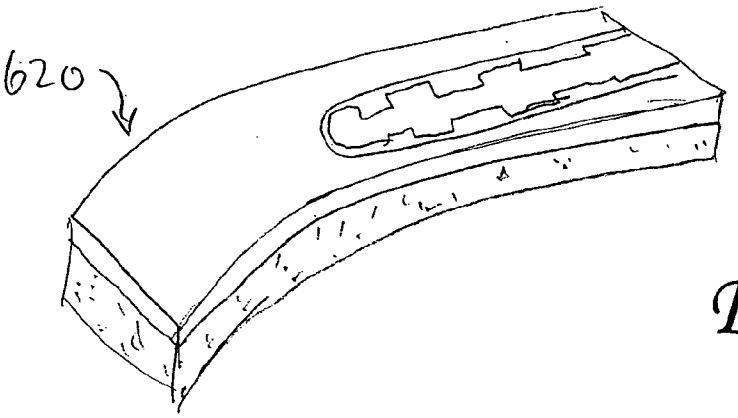

Fig. 15

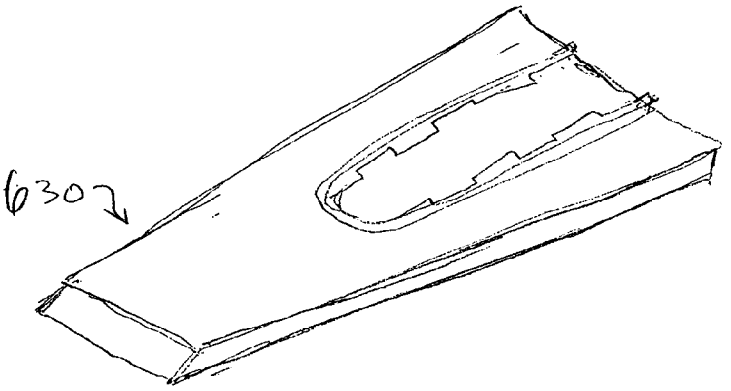

Fig. 16

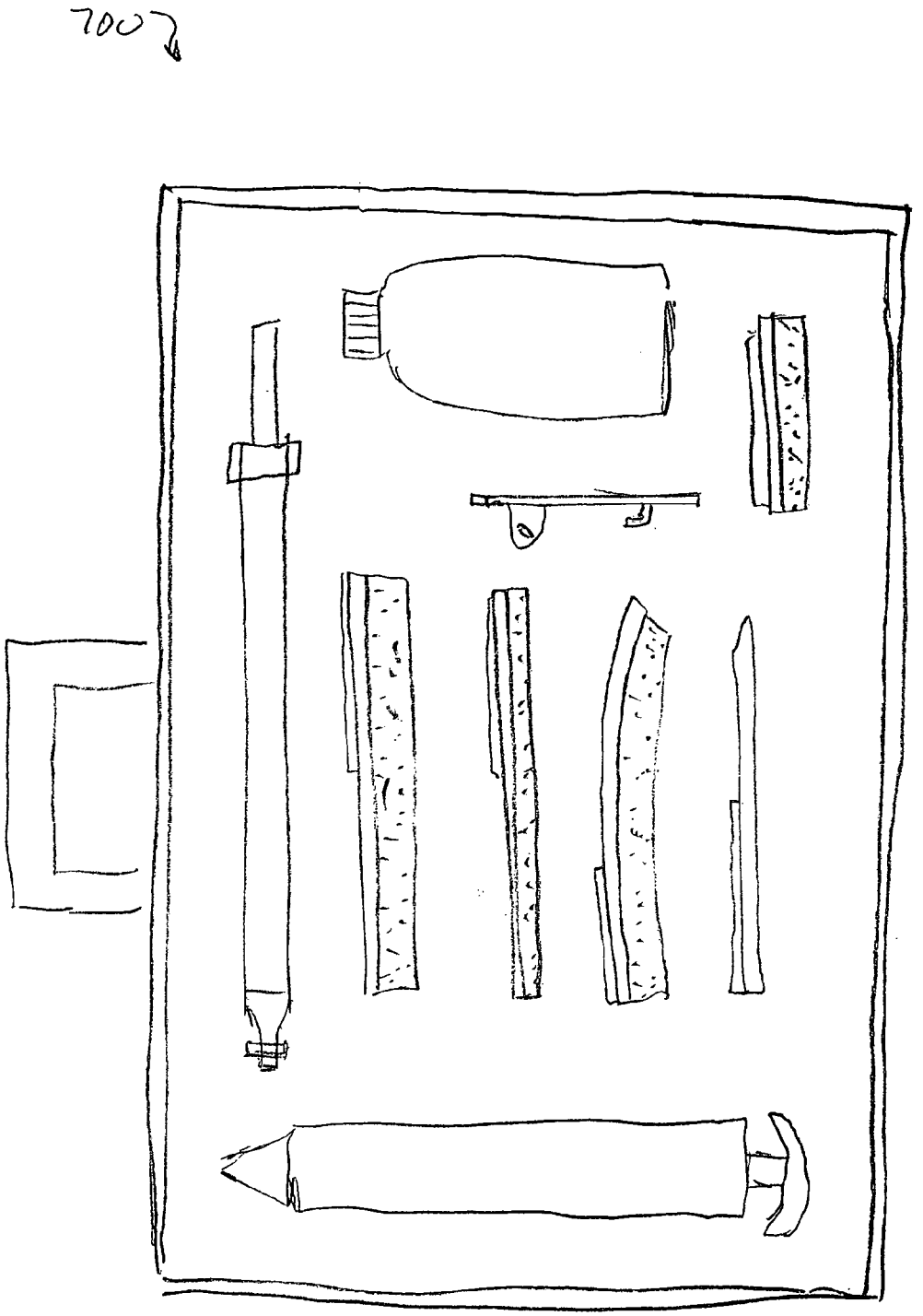

Fig. 17

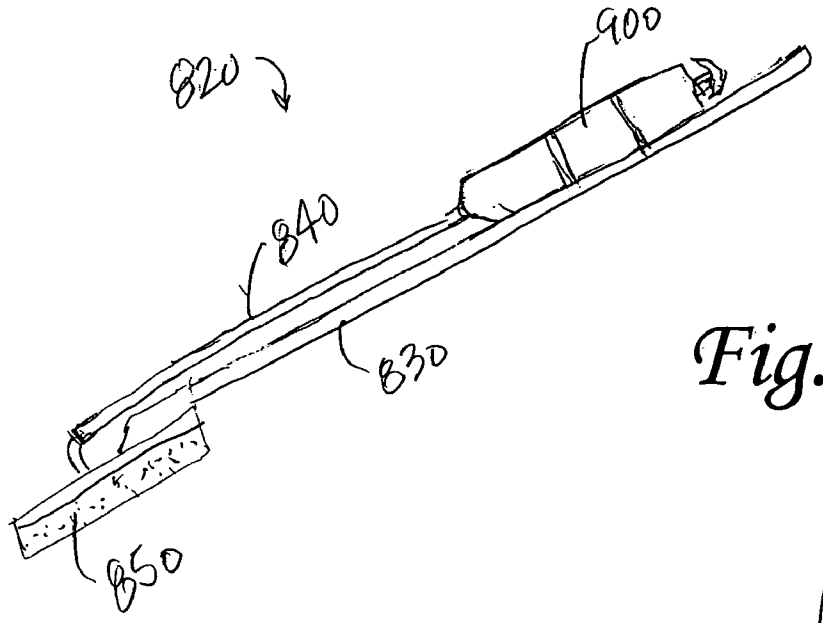

Fig. 18

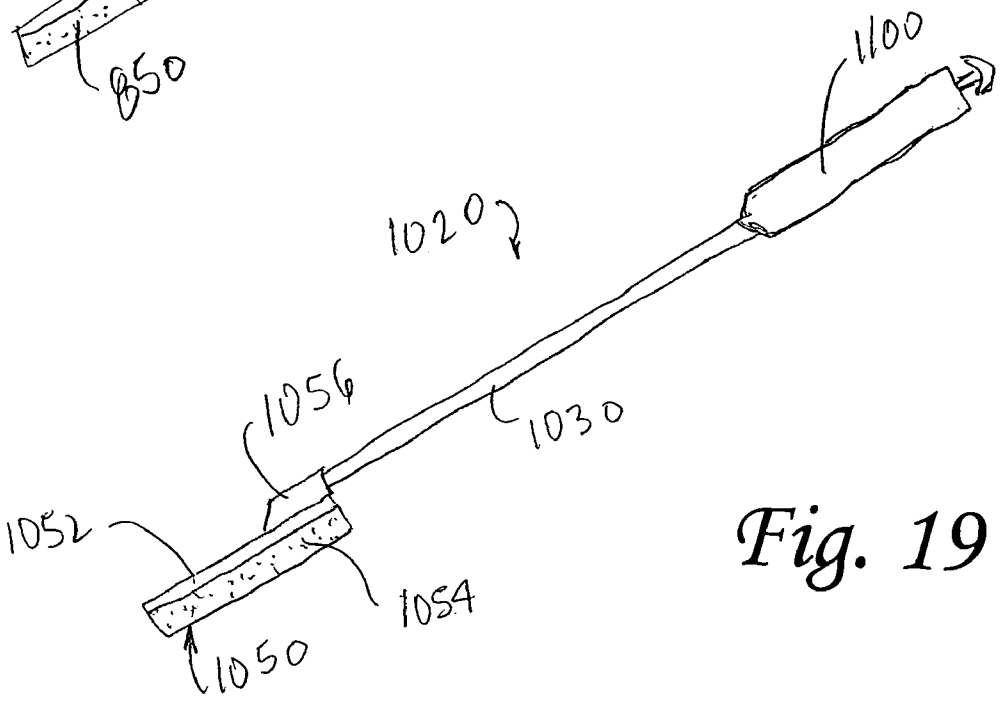

Fig. 19

RIM-DETAILING DEVICES, KITS, AND METHODS FOR CLEANING TIRE RIMS

FIELD OF THE INVENTION

[0001] This invention relates to cleaning of vehicle tire rims, and in particular, to rim-detailing devices, kits, and methods for cleaning vehicle tire rims.

BACKGROUND OF THE INVENTION

[0002] A problem with cleaning tire rims is the need to remove brake dust and road grime adjacent to the brake calipers and along the inside of the tire rim. Automobile detail shops, in cleaning a vehicle, typically remove all the tires from the vehicle in order to thoroughly clean the tire rims. This is a timely process, and can cause damage to the rims. For example, the lug nuts may become stripped. In addition, not properly tightening the lug nuts can cause a driving hazard.

[0003] Where the tires are not removed, one typically manually cleans the rims with a sponge or brush. Due to the limited spaces between the rim and the brake calipers, it is difficult to clean the tire rims adjacent the brake calipers. In addition, it is easy to damage one's hands or fingers when trying to reach between the rim and the brake calipers. Further, the cleaning liquid is typically sprayed on the tire rims and the cleaning liquid often irritates one's skin.

[0004] There is a need for rim-detailing devices, kits, and methods for cleaning tire rims without the need to take the tires off the vehicle.

SUMMARY OF THE INVENTION

[0005] The present invention provides, in a first aspect, a rim-detailing device for containing a rim cleaning liquid and operable for cleaning a tire rim including adjacent to a brake caliper without removing the wheel from a vehicle. The rim-detailing device includes an elongated member, a quick-disconnect cleaning member releasably attachable to a first end portion of the elongated member, and a self-pressurizable canister for holding the cleaning liquid and having a release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to the cleaning member. The self-pressurizable canister is disposed at a second end portion of the elongated member, and the cleaning member has a support and a cleaning material. The cleaning member is configured to receive cleaning liquid from the self-pressurizable canister and to deliver the cleaning liquid directly to the cleaning material, and the cleaning member having at least one of a thickness and being compactable to a thickness to be positionable between the tire rim and the brake caliper.

[0006] The present invention provides, in a second aspect, a rim-detailing device for containing a tire rim cleaning liquid and operable for cleaning a tire rim adjacent to a brake caliper without removing the wheel from a vehicle. The rim-detailing device includes an adjustably telescopic member, a quick-disconnect cleaning member comprising a support and a cleaning material, a mount attachable to a first end portion of the telescopic member and releasably attachable to the support of the cleaning member, and a self-pressurizable canister for holding the cleaning liquid and having a release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to the cleaning member. The self-pressurizable canister is supported by the telescopic member. The cleaning member has at least one of a thickness and being compactable to a thickness to be positionable between the tire rim and the brake caliper. A tube conveys cleaning liquid from the self-pressurizable canister to the mount. The support of the cleaning member is configured to receive cleaning liquid and deliver the cleaning liquid from the mount directly to the cleaning material of the cleaning member.

[0007] The present invention provides, in a third aspect, a method for cleaning tire rims. The method includes providing a rim-detailing device having a telescopic member, a quick-disconnect cleaning member releasably attachable to a first end portion of the telescopic member, and a self-pressurizable canister containing rim cleaning liquid. The self-pressurizable canister is disposed at a second end of the telescopic member and includes release is activated to transfer cleaning liquid from the self-pressurizable canister to the cleaning member and directly to the cleaning material of the cleaning member. The cleaning member is positioned between the rim and a brake caliper of the vehicle, and the rims adjacent to the brake calipers are cleaned without removing the wheels from a vehicle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The present matter which is regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The present invention, however, may best be understood by reference to the following detailed description of various embodiments and the accompanying drawings in which:

[0009] FIG. **1** is an elevational view of one embodiment of a rim-detailing device in accordance with the present invention;

[0010] FIG. **2** a perspective view of a wheel of a vehicle;

[0011] FIG. **3** is a partial, cross-sectional view of the wheel of FIG. **2** illustrating the rotor and the brake caliper;

[0012] FIG. **4** is an enlarged, perspective view of the quick-disconnect cleaning member of FIG. **1**;

[0013] FIG. **5** is an enlarged, exploded view, in part cross-section, of the self-pressurizable canister of FIG. **1**;

[0014] FIG. **6** is a perspective view of another embodiment of a quick-disconnect cleaning member in accordance with the present invention;

[0015] FIG. **7** is a perspective view of another embodiment of a cleaning member in accordance with the present invention;

[0016] FIG. **8** is a perspective view of an embodiment of a scraper in accordance with the present invention;

[0017] FIG. **9** is plan view of a case containing a disassembled rim-detailing device of FIG. **1** and quick-disconnect cleaning members in accordance with the present invention;

[0018] FIG. **10** is a perspective view of another embodiment of rim-detailing device in accordance with the present invention;

[0019] FIG. **11** is an enlarged, side elevational view, in part cross-section, of the rim-detailing device of FIG. **10**;

[0020] FIG. **12** is an enlarged, perspective view of the quick-disconnect cleaning member of FIG. **10**;

[0021] FIG. **13** is an enlarged, perspective view of the mounting member of FIG. **10**;

[0022] FIG. **14** is a perspective view of another embodiment of a quick-disconnect cleaning member in accordance with the present invention;

[0023] FIG. **15** is a perspective view of another embodiment of a quick-disconnect cleaning member in accordance with the present invention;

[0024] FIG. **16** is a perspective view of another embodiment of a scraper in accordance with the present invention;

[0025] FIG. **17** is plan view of a case containing the disassembled rim-detailing device of FIG. **10** and detachable cleaning members in accordance with the present invention;

[0026] FIG. **18** is an elevational view of another embodiment of a rim-detailing device in accordance with the present invention; and

[0027] FIG. **19** is an elevational view of still another embodiment of a rim-detailing device in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0028] FIG. **1** is a side elevational view of a first embodiment of a rim-detailing device **20** in accordance with the present invention for containing a rim cleaning liquid and operable for cleaning a tire rim including cleaning the tire rims adjacent to the brake calipers without removing the wheels from a vehicle. Rim-detailing device **20** generally includes an elongated member **30** such as a telescopic member, a quick-disconnect cleaning member **50**, and a self-pressurizable canister **100** for containing cleaning liquid.

[0029] As best shown in FIGS. **2** and **3**, the rim-detailing device is operable to reach deep into a tire rim **10** to extract road grime, tar, and brake dust. The cleaning member of the rim-detailing device provides easy access to reach underneath tight fittings, the back of the tire, and in between the brake calipers and the rims as indicated by arrow A in FIG. **3**, as well as provide rim cleaning liquid directly to the cleaning member when cleaning the tire rims as described in greater detail below.

[0030] With reference again to FIG. **1**, telescopic member **30** may comprise a plurality of members, e.g., a first member **32** which is sized and receivable in a second member **34**. The size of the telescopic member may be selected by sliding one member into or out of the other member, and then tightening a locking nut **36**. Alternatively, a thumbscrew may be provided for locking the two members together. It will be appreciated that other locking mechanisms may be employed for suitably locking the telescopic member in a desired fixed length. The telescopic member may be formed from aluminum tubes or other suitable shapes and materials. A tube **40** conveys the rim cleaning liquid in self-pressurizable canister **100** to cleaning member **50**.

[0031] As shown in FIG. **4**, a cleaning member **50** is generally planar and may include a generally thin support **52** and a sponge **54**. Support **52** may be configured to include connector **56** for receiving and releasably attaching to the end of the telescopic member **30** (FIG. **1**) so that the cleaning member is generally parallel with the axis of the telescopic member. For example, connector **56** may be a quick-disconnect connector such as a snap-fit connector, a connector having a spring biased detent, or other suitable connector which is operable with the end of the telescopic member to provide a releasable attachment therebetween for holding the cleaning member in fixed position relative to the telescopic member. The support may also include, for example, a hollow L-shaped fitting **58** having an upper end which is attachable to tube **40** (FIG. **1**) and a lower discharge opening (not show in FIG. **4**) for discharging rim cleaning liquid directly to the top of sponge **54**.

[0032] The cleaning member may be sized and configured to be positioned between the tire rim and the brake caliper. For example, the cleaning member may be about 4 inches to about 7 inches long and about 3 inches wide. The cleaning member may have a thickness or be compactable to a thickness of about ½ inch. In addition, for cleaning between the calipers and the tire rim, the cleaning member may be about 6 inches to about 7 inches, e.g., the distal portion of the cleaning member after the hollow L-shaped fitting may be about 3 inches to about 4 inches long.

[0033] The sponge may be resilient synthetic (e.g., polyester) sponge which has a high degree of flexibility even after being wet and dried. Other cleaning members may include a fabric material such as micro fiber towel, or terry towel. In addition, the cleaning member may include a brush or other cleaning material.

[0034] With reference again to FIG. **1**, self-pressurizable canister **100** is disposed alongside one of the telescopic members. The self-pressurizable canister may be fixedly attached to the proximal telescopic member using clamps or by other suitable means. In addition, the self-pressurizable canister may be releasably attachable to the proximal telescopic member using a plurality of generally resilient U-shaped clips or other suitable means. A clamp or other means may also secure the tubing to one of the distal telescopic member. It will be appreciated that the housing of the self-pressurized canister may be integrally formed with the proximal end of the telescopic member, e.g., the housing of the self-pressurized canister and the hollow elongated member may be monolithic or one-piece.

[0035] FIG. **5** is an exploded view of self-pressurizable canister **100** which generally includes a housing **110**, a plunger **130**, a nozzle **150**, a trigger **160**, and a valve assembly **170**. Housing **110** includes an outer wall having a proximal end **112** and a distal end **114**. The outer surface of the housing may include a layer of rubber so that the housing acts a handle for gripping by a user. The outer wall may define a generally cylindrical inner surface, a portion of which defines a chamber **120** for storing rim cleaning liquid. Disposed in housing **110** is a stop **118** which spans across the inner surface **116** and includes an elongated tube portion **119** having a passageway therein.

[0036] Plunger **130** includes a shaft **132** having a proximal end attached to a handle **134**, and a distal end attached to a disk **136** having a peripherally-extending O-ring **138**. Disposed around shaft **132** is a spring **140** and a proximal end cap **142**. Cap **142** has an opening therein through which shaft **132** may slideably pass. Cap **142** also includes two generally resilient arms **144** having detents **146** which are received and releasably locked in openings **122** in housing **110**.

[0037] Nozzle **150** includes a hollow tube portion **152** and a distal end cap **154** having two generally resilient arms **156** having detents **158** which are received and releasably locked in opening **124** in housing **110**. The distal end of tube portion **152** is connected to tube **40** (FIG. **1**). Valve assembly **170** includes a valve housing **180**, a valve housing **190**, and a spring **200**. Valve **190** is formed from a resilient or elastomeric material and includes a generally hollow cylindrical member **192** and a centrally located disk **194** supported by a plurality of radially disposed supports **196**. As described below, disk **194** seals against the proximal end of tube **152**

of nozzle **150**. When the trigger is pressed, disk **190** is backed off from engagement with the proximal opening of tube **152** of nozzle **150** and liquid is allowed to pass through valve **190**, i.e., around radial supports **196** of valve **190**. Valve **190** is received in valve housing **180** formed from a generally rigid material. Valve housing **180** includes a generally hollow cylindrical configuration and includes two outwardly extending arms. Trigger **160** includes a thumb or finger release **162** and two downwardly-depending arms **104**, only one of which is shown in dashed lines in FIG. **5**. The nozzle, plunger, end cap, housing, valve housing, and trigger of the self-pressurizable canister may be formed from a generally rigid plastic material. The valve and O-ring are desirably formed from an elastic or rubber material and the springs are formed from a resilient metal material. The tube connecting the self-pressurizable canister to the cleaning member may be formed from a clear flexible plastic material.

[0038] Self-pressurizable canister **100** is assembled by inserting plunger **130** into the proximal end **112** of housing **110** and engaging detents **146** in openings **122** in housing **110**. Valve **190** is inserted into valve housing **180**. Spring **20** is inserted in the distal end **114** of housing **110** around tube portion **119**, and the assembled valve housing and valve are inserted in the distal end **114** of housing **110** against spring **200** and around tube portion **119**. The outwardly-extending arms **182** are aligned sideways in housing **110**. While pushing and holding the assembled valve housing, valve, and spring in the distal end **114** of housing **110**, arms **164** of trigger **160** are inserted first in a pair of first openings **126** (only one of which is shown in FIG. **5**), and a pair of a second opening **128** (only one of which is shown in FIG. **5**) in housing **110**. Thereafter, nozzle **150** is inserted in distal end **114** of housing **110** and detents **158** are disposed in openings **124** in housing **110**.

[0039] To fill reservoir **120** with rim cleaning liquid, the distal end of tube **40** is disconnected from the cleaning member and inserted into a container containing rim cleaning liquid. With the end of the tube in the rim cleaning liquid, the trigger of the self-pressurizable canister is pressed, the handle is pulled or withdrawn from the housing to create a vacuum drawing in the rim cleaning liquid into the reservoir, and then the trigger is released prior to releasing the handle. The end of the tube is then reattached to the cleaning member. With the trigger in its normal position, it is biased by spring **200** with disk **194** biased against the proximal end of tube **152** of nozzle **150**. Now, when the end of trigger **160** is pressed and angled toward housing **110**, downwardly-depending arms **164** move proximally, which in turn, move outwardly-extending arms **182** of valve housing **180** proximally along with valve **180**, thereby moving disk **194** of valve **190** away from the proximal end of tube **152** of nozzle **150**. Alternatively, a separate tube may be supplied and disposed in the container containing the cleaning liquid and an end of the supplied tube may be connected to tube **40** or directly to the self-pressurizable canister when filling the reservoir.

[0040] The self-pressurizable canister may hold about 5 ounces of cleaning liquid providing enough cleaner for four rims, which can be discharged into the tube and directly onto the sponge by the user. Where the rims are particularly dirty, it may be necessary to refill the reservoir. Different quick-disconnect cleaning members may be used during the cleaning of the tire rims. Desirably, there is no need for a separate spraying container when cleaning the rims of a vehicle. Various rim cleaning liquids may include Meguiar's Hot Rims Multi Piece Wheel Wash, a non-alkaline, non-acid formula designed to remove grime, grit and brake dust from polished/unpolished aluminum, powder-coated, multi-surface or anodized wheel rims, and Meguiar's Hot Rims Chrome Wheel Cleaner for chrome wheel rims.

[0041] The self-pressurizable canister may be based on the self-pressurizable TRIM-IT paint tool (model no. 513030) by Wagner Spray Tech Inc. of Plymouth, Mass. Other self-pressurizable canisters may be suitably employed. For example, a self-pressurizable canister may include a bladder or include an electrically powered pump for supplying the cleaning fluid to the cleaning member.

[0042] The cleaning member may include a plurality of quick-disconnect cleaning members having different sizes. As shown in FIG. **6**, a cleaning member **210** may include a thin sponge, brush, or other cleaning material. For example, cleaning member **210** may be about 8 inches long, about 1 inch wide, and ½ inch thick. Other sizes may be configured for easy access and/or hard to reach areas. As another example, as shown in FIG. **7**, a cleaning member **220** may include a curved cleaning member. As shown in FIG. **8**, a quick-disconnect scraper **230** may be formed from a TEFLON material or other suitable material for use in removing tar from the tire rims before or during the cleaning of the rims using a cleaning member having a sponge. A user may select a desired detachable cleaning member based on the size and/or type of the tire rim to be cleaned, and the condition of the tire rim.

[0043] As shown in FIG. **9**, in another aspect, a kit **300** may be configured for cleaning the tire rims in accordance with the present invention. For example, the rim-detailing device may be configured for traveling particularly to a car show for cleaning the wheels of a vehicle after arriving at the car show. The self-pressurizable canister may be removed, the telescopic member may be retracted or disassembled, and the cleaning member may be disconnected from the telescopic member and placed in the case and easily stored.

[0044] The self-pressurizable canister may be about 12 inches long, and the telescopic member may have a retracted size of about 20 inches and an extended size of about 25 inches. Each of the telescopic members may be about 15 inches long. Desirably, the proximal end of the telescopic member extends about 8 inches from the handle of the self-pressurized canister. This length of rim-detailing device allows a user to readily and easily reach behind the wheels to clean the inside of the tire rims.

[0045] FIG. **10** illustrates another embodiment of a rim-detailing device **400** in accordance with the present invention for containing a cleaning liquid and operable for cleaning a tire rim adjacent to the brake calipers without removing the wheels from a vehicle. Rim-detailing device **400** generally includes an elongated member such as an extendable and retractable telescopic member **430**, a quick-disconnect cleaning member **450**, and a self-pressurizable canister **500** for containing cleaning liquid. Self-pressurizable canister **500** is essentially the same as self-pressurizable canister **100** described above, with the exception of being secured to a proximal end of the telescopic member and coaxial therewith. It will be appreciated that the proximal telescopic member and the housing of the self-pressurized canister may

be integrally formed, e.g., the housing of the self-pressurized canister and the hollow elongated member may be monolithic or one-piece.

[0046] FIG. **11** is an enlarged, side elevational view of rim-detailing device **400**, portions of which are illustrated in cross-section. Elongated member **430** may comprise a telescopic member and include two pieces, e.g., a first member **432** which is sized and receivable in a second member **434**. The size of the telescopic member may be selected by sliding one member into or out of the other member, and then tightening a locking nut **436**. Alternatively, a thumbscrew may be provided for locking the two members together. It will be appreciated that other locking mechanisms may be employed for suitably locking the telescopic member in a desired fixed length. The telescopic member may be formed from aluminum tubes or other suitable shapes and materials.

[0047] A tube **440** conveys the rim cleaning liquid in self-pressurizable canister **500** to cleaning member **450**. Tube **440** may be disposed inside hollow first and second members **432** and **434**. Placing the tube inside the elongated member reduces the likelihood that the tube catches or snags the calipers or rotors of the vehicle when cleaning the tire rim.

[0048] As shown in FIG. **12**, cleaning member **450** may include a generally thin support **452** and a sponge **454**. Support **452** may be configured to provide a receptacle or slot **460** for receiving and releasably attaching to mount **470** (FIG. **13**) which attaches to telescopic member **430** (FIGS. **10** and **11**). The bottom of slot **460** may be provided with a plurality of openings **462** through which the rim cleaning liquid may pass to sponge **454**. The plurality of openings allows the cleaner to reach more of the sponge when a user presses the trigger compared to only a single opening corresponding to the size of the tube. Other cleaning members may include a support and a cleaning material as described above.

[0049] As shown in FIG. **13**, mount **470** may include a base **472**, a projection **474** having a hole **476** for attaching to the end of telescopic member **430**, and a hollow fitting **478** having a end which is attachable to tube **440** (FIGS. **10** and **11**) and having a lower discharge opening (not show in FIG. **13**) for discharging rim cleaning liquid to sponge **454** (FIG. **12**). The mount may be attached to the end of the telescopic member using a bolt, screw, or lockable ball joint which can be tightened by hand to desirably lock the mount and cleaning member in a fixed position relative to the telescopic member. The cleaning member may be sized and configured to be positioned between the tire rim and the brake caliper as described above. The mount may also be detachable with the telescopic member with a quick disconnect connector as described in greater detail above with reference to rim-detailing device **20**.

[0050] The cleaning member may include a plurality of detachable cleaning members having different sizes. As shown in FIG. **14**, a cleaning member **610** may include a thin sponge, brush, or other cleaning material. Other sizes may be configured for easy access and/or hard to reach areas. As another example, as shown in FIG. **15**, a cleaning member **620** may include a curved cleaning member. As shown in FIG. **16**, a detachable scraper **430** may be formed from a TEFLON material or other suitable material for use in removing tar from the tire rims before or during the cleaning of the rims using a cleaning member having a sponge.

[0051] As shown in FIG. **17**, in another aspect, a kit **700** may be configured for cleaning tire rims in accordance with the present invention. For example, rim-detailing device **400** may be configured for traveling particularly to a car show for cleaning the wheels of a vehicle after arriving at the car show. The self-pressurizable canister may be removed, the telescopic member may be retracted, and the cleaning member may be disconnected from the telescopic member and disposed in the case and easily stored.

[0052] FIG. **18** is a side elevational view of another embodiment of a rim-detailing device **820** in accordance with the present invention for containing a rim cleaning liquid and operable for cleaning a tire rim including cleaning the tire rims adjacent to the brake calipers without removing the wheels from a vehicle. Rim-detailing device **820** generally includes an elongated member **830**, a quick-disconnect cleaning member **850**, and a self-pressurizable canister **900** supported by elongated member **830** for containing cleaning liquid.

[0053] The elongated member may be a solid or hollow such as an aluminum tube or other suitable shapes and materials. A tube **840** conveys the rim cleaning liquid in self-pressurizable canister **900** to cleaning member **850**. Cleaning member **850** is essentially the same as cleaning member **50** described in greater detail above, and the self-pressurized canister is essentially the same self-pressurized canister **100** described above in greater detail. Such a rim-detailing device may be disassembled and contained in a case. It will be appreciated that the cleaning member may be configured and releasably attachable to a mount as described above, which mount attaches to the distal end of the elongated member. It will also be appreciated that the housing of the self-pressurized canister may be integrally formed with the proximal end of the elongated member, e.g., the housing of the self-pressurized canister and the hollow elongated member may be monolithic or one-piece.

[0054] FIG. **19** is a side elevational view of still another embodiment of a rim-detailing device **1020** in accordance with the present invention for containing a rim cleaning liquid and operable for cleaning a tire rim including cleaning the tire rims adjacent to the brake calipers without removing the wheels from a vehicle. Rim-detailing device **1020** generally includes an elongated member **1030**, a quick-disconnect cleaning member **1050**, and a self-pressurizable canister **1100** attached to the end of the elongated member and coaxially aligned.

[0055] Cleaning member **850** is essentially the same as cleaning member **50** described in greater detail above, and the self-pressurized canister is essentially the same self-pressurized canister **100** described above in greater detail. Such a rim-detailing device may be disassembled and contained in a case. It will be appreciated that the cleaning member may be configured and releasably attachable to a mount as described above, which mount attaches to the distal end of the elongated member. It will also be appreciated that the housing of the self-pressurized canister may be integrally formed with the proximal end of the elongated member, e.g., the housing of the self-pressurized canister and the hollow elongated member may be monolithic or one-piece.

[0056] In addition, the elongated member may be a hollow tube such as an aluminum tube or other suitable shapes and materials. The hollow tube may provide a passageway for transferring cleaning liquid in the self-pressurized canister to

the cleaning member. For example, quick-disconnect connector **1056** may include a passageway therein (not shown in FIG. **19**) and through support **1052** for delivering cleaning liquid in elongate member **1030** to a sponge **1054** of cleaning member **1050**. Either the hollow elongate member or connector **1056** may be provided with a seal such as an O-ring for forming a seal and inhibiting the likelihood of cleaning fluid leaking from the joint forming between the attachment of the elongated member and the cleaning member. Alternatively, a tube (not shown in FIG. **19**) may be disposed in the hollow elongated member for conveying cleaning liquid in self-pressurizable canister **1100** to cleaning member **1050**.

[0057] Further embodiments of a rim-detailing device may include such above-described cleaning members fixedly attached or threadably attached to the elongated member or a telescopic member as described above.

[0058] The process for cleaning the tire rims of a vehicle may include observing the tire rims and selecting one of the detachable cleaning members or a tar scraper. The telescopic member is adjusted for size and locked in place so the two telescopic members do not move relative to one another. The reservoir is then filled as described above. Thereafter, by pressing the trigger on the self-pressurizable canister, cleaning liquid can be supplied to the cleaning member when cleaning the tire rims. For example, a user need only place the sponge on the rim and begin cleaning while pressing the trigger slightly. When the user notices break up, for example, of brake dust and dirt, the user can let go of the trigger. During the cleaning of the tire rims and/or after cleaning the tire rims, the tire rims are rinsed with water. The time required by a user for cleaning the four tire rims of a vehicle may be about 20 minutes.

[0059] When a user is finished cleaning and rinsing the tire rims, the sponge, tube, and self-pressurizable canister are desirably rinsed with water to remove any cleaning liquid and to prolong the longevity of the rim cleaning device. The detachable cleaning members may be cleaned and reused, as well as the cleaning members may be disposable, used one or more times, and sold separately.

[0060] Benefits of the present invention include eliminating the need for removing the tires from the vehicle and controlling the amount of and when the cleaner is applied to the tire rim. By applying the cleaner directly to the cleaning member the likelihood of damage to paint and/or plastics is avoided compared to applying the cleaning liquid from a spray bottle. In addition, the cleaning liquid is not wasted. Furthermore, no power is required and the rim-detailing device has a compact size suitable for traveling particularly to car shows. The device can be used over and over again and aids in preventing a user's hands and/or fingers from being cut or coming in contact with the rim cleaning liquid.

[0061] Although various embodiments have been depicted and described in detail herein, it will be apparent to those skilled in the relevant art that modifications, additions, substitutions and the like can be made without departing from the spirit of the present invention and these are, therefore, considered to be within the scope of the present invention as defined in the following claims.

1. A rim-detailing device for containing a rim cleaning liquid and operable for cleaning a tire rim including adjacent to a brake caliper without removing the wheel from a vehicle, said rim-detailing device comprising:

an elongated member;

a quick-disconnect cleaning member releasably attachable to a first end portion of said elongated member, said cleaning member having a support and a cleaning material;

a self-pressurizable canister for holding the cleaning liquid and having a release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member, said self-pressurizable canister disposed at a second end portion of said elongated member; and

wherein said cleaning member is configured to receive cleaning liquid from said self-pressurizable canister and to deliver the cleaning liquid directly to said cleaning material, and said cleaning member having at least one of a thickness and being compactable to a thickness to be positionable between the tire rim and the brake caliper.

2. The rim-detailing device of claim **1** wherein said cleaning member comprises said at least one of said thickness and being compactable to said of about ½ inch.

3. The rim-detailing device of claim **1** wherein said cleaning member comprises a generally planar member and said cleaning member is fixedly supported generally parallel to an axis of said elongated member upon connecting said cleaning member to said elongated member.

4. The rim-detailing device of claim **1** wherein said elongated member comprises a length between about 20 inches to about 25 inches, and said cleaning member comprises a length of about 4 inches to about 7 inches and a width of about 3 inches.

5. The rim-detailing device of claim **1** further comprising a tube for conveying cleaning liquid from said self-pressurizable canister to said cleaning member.

6. The rim-detailing device of claim **1** wherein said elongated member comprises a hollow elongated member for conveying cleaning liquid from said self-pressurizable canister to said cleaning member.

7. The rim-detailing device of claim **1** wherein said elongated member comprises a telescopic member.

8. The rim-detailing device of claim **1** wherein said cleaning member comprises a plurality of quick-disconnect cleaning members having different sizes.

9. The rim-detailing device of claim **1** wherein said cleaning member comprises a curved cleaning member.

10. The rim-detailing device of claim **1** wherein said cleaning material comprises a sponge.

11. The rim-detailing device of claim **1** wherein said cleaning member comprises a plurality of different sized quick-disconnect cleaning members, and further comprising a detachable scraper, and a case for containing the disassembled rim-detailing device, the plurality of different sized quick-disconnect cleaning members, and the detachable scraper.

12. The rim-detailing device of claim **1** wherein said tube is disposed in said elongated member and said self-pressurizable canister is coaxially aligned with said elongated members.

13. The rim-detailing device of claim **1** wherein said release comprises at least one of a finger and thumb release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member.

14. The rim-detailing device of claim **1** wherein said cleaning member comprises a generally planar member and said cleaning member is fixedly supported generally parallel to an axis of said elongated member upon connecting said cleaning member to said elongated member, said cleaning material comprises a sponge, said cleaning member comprising at least one of a thickness and being compactable to a thickness of about ½ inch, said elongated member comprises a length between about 20 inches to about 25 inches, and said release comprising at least one of a finger and thumb release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member.

15. A rim-detailing device for containing a rim cleaning liquid and operable for cleaning a tire rim adjacent to a brake caliper without removing the wheel from a vehicle, said rim-detailing device comprising:

an adjustably telescopic member;

a quick-disconnect cleaning member comprising a support and a cleaning material, said cleaning member having at least one of a thickness and being compactable to a thickness to be positionable between the tire rim and the brake caliper;

a mount attachable to a first end portion of said telescopic member and releasably attachable to said support of said cleaning member;

a self-pressurizable canister for holding the cleaning liquid and having a release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member, said self-pressurizable canister supported by said telescopic member;

a tube for conveying cleaning liquid from the self-pressurizable canister to said mount; and

wherein said support of said cleaning member is configured to receive cleaning liquid from said mount and deliver the cleaning liquid directly to said cleaning material of said cleaning member.

16. The rim-detailing device of claim **15** wherein said mount comprises a locking member for locking said cleaning member in position relative to said telescopic member.

17. The rim-detailing device of claim **15** wherein said cleaning member comprises a generally planar member and said mount is fixedly supported to said telescopic member so that said cleaning member is generally parallel to an axis of said telescopic member upon connecting said cleaning member to said telescopic member.

18. The rim-detailing device of claim **15** wherein said cleaning member has at least one of a thickness and being compactable to a thickness less than about ½ inch.

19. The rim-detailing device of claim **15** wherein said telescopic member comprises a length of about 20 inches to about 25 inches.

20. The rim-detailing device of claim **15** wherein said cleaning member comprises a plurality of detachable cleaning members having different sizes.

21. The rim-detailing device of claim **15** wherein said cleaning member comprises a curved cleaning member.

22. The rim-detailing device of claim **15** wherein said cleaning material comprises a sponge.

23. The rim-detailing device of claim **15** further comprising a plurality of different sized detachable cleaning members, a detachable scraper, and a case for containing the disassembled rim-detailing device, the plurality of different sized detachable cleaning members, and the detachable scraper.

24. The rim-detailing device of claim **15** wherein said tube is disposed in said telescopic member, and said self-pressurizable canister is coaxially aligned with said telescopic member.

25. The rim-detailing device of claim **15** wherein said release comprises at least one of a finger and thumb release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member.

26. The rim-detailing device of claim **15** wherein said cleaning member comprises a generally planar member and said cleaning member is fixedly supported generally parallel to an axis of said telescopic member upon connecting said cleaning member to said telescopic member, said cleaning material comprises a sponge, said cleaning member comprising at least one of a thickness and being compactable to a thickness of about ½ inch, said telescopic member comprises a length of about 20 inches to about 25 inches, and said release comprising at least one of a finger and thumb release for allowing the user to controllably discharge cleaning liquid from the self-pressurizable canister to said cleaning member.

27. A method for cleaning tire rims, the method comprising:

providing a rim-detailing device of claim **1** having an elongate member, a quick-disconnect cleaning member having a cleaning material, and a self-pressurizable canister containing rim cleaning liquid;

activating a release of the self-pressurizable canister to transfer cleaning liquid from the self-pressurizable canister to the cleaning member and directly to the cleaning material of the cleaning member;

positioning the cleaning member between the rim and a brake caliper of the vehicle; and

cleaning the rims adjacent to the brake calipers without removing the wheels from a vehicle.

28. A method for cleaning tire rims, the method comprising:

providing a rim-detailing device of claim **15** having telescopic member, a quick-disconnect cleaning member having a cleaning material, and a self-pressurizable canister containing rim cleaning liquid;

activating a release of the self-pressurizable canister to transfer cleaning liquid from the self-pressurizable canister to the cleaning member and directly to the cleaning material of the cleaning member;

positioning the cleaning member between the rim and a brake caliper of the vehicle; and

cleaning the rims adjacent to the brake calipers without removing the wheels from a vehicle.

29. A method for cleaning a tire rim, the method comprising:

providing a rim-detailing device comprising an elongated member, a quick-disconnect cleaning member releasably attachable to a first end portion of the telescopic member, a self-pressurizable canister disposed at a second end of the telescopic member and having a release;

activating a release of the self-pressurizable canister to transfer cleaning liquid from the self-pressurizable canister to the cleaning member and directly to the cleaning material of the cleaning member;

positioning the cleaning member between the rim and a brake caliper of the vehicle; and

cleaning the rims adjacent to the brake calipers without removing the wheels from a vehicle.

30. The method of claim **26** further comprising adjusting a length of the telescopic member for reaching between caliper and the tire rim.

31. The method of claim **26** further comprising adjusting and locking the cleaning member relative to the telescopic member for reaching between the caliper and the tire rim.

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