VACUUM HOSE STORING DEVICE

Inventors: Steven D. Small, Novato, CA (US);
Landen Higer, Alameda, CA (US);
Charles Wade Albritton, Hercules, CA (US)

Correspondence Address:
PERKINS COIE LLP
P.O. BOX 2168
MENLO PARK, CA 94026 (US)

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ABSTRACT
A method and apparatus for vacuum hose management is illustrated and described. In one embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a holding component coupled to the hose. The holding component is tension mounted to a housing of the vacuum appliance. The holding component has a first and a second position, the first position corresponding to the hose within the housing, and the second position corresponding to the hose partially outside the housing. The apparatus also includes a connector connected to the second end of the hose, the connector sized larger than an opening in the housing through which the hose is threaded. The holding component may be a wheel mounted on an arm, with the arm rotatably coupled to the housing through a pivot and a spring.
Hold hose in housing

Move hose holding component to release

Apply vacuum

End vacuum

Release hose from jar

Move hose holding component to return hose to appliance

FIG. 6
1800

Hold hose in housing compartment

1810

Remove hose in housing compartment

1820

Attach hose to container

1830

Apply vacuum

1840

End vacuum

1850

Detach hose from container

1860

Store hose in housing

1870

FIG. 18
Hold hose on housing

Remove hose from housing

Attach hose to container

Apply vacuum

End vacuum

Detach hose from container

Store hose on housing

FIG. 19
VACUUM HOSE STORING DEVICE

REFERENCE TO RELATED APPLICATIONS AND CLAIM OF PRIORITY

[0001] The present application claims priority to Hiuer et al.'s Provisional App. No. 60/491,785, filed on Jul. 31, 2003, and entitled VACUUM HOSE MANAGEMENT, and to Small's Provisional App. No. 60/556,338, filed on Mar. 24, 2004 and entitled RETRACTABLE CANISTER HOSE AND FITTING, both of which are incorporated herein by reference.

FIELD

[0002] The present invention relates to the field of storage technology. More particularly, the present invention relates to managing a hose in a vacuum appliance for consumer and industrial applications.

BACKGROUND

[0003] Consumer products involving vacuuming and sealing plastic bags have grown in popularity over the years. The basic model available includes a seal wire, which seals the length of the bag, and a vacuum pump which pumps air out of the bag before sealing. This model works well enough to have sold and inspired imitation.

[0004] Unfortunately, the model described provides vacuum capability only for plastic bags. Much food and similar material is better stored in jars. Jars with a lid having an aperture or one-way vent of some form may be vacuumed through use of a hose, but cannot be inserted into a slit-shaped opening for this purpose.

[0005] Adding a hose to a vacuum appliance provides another part that may be lost, located away from the appliance, or damaged during storage. Accordingly, it may be preferable to implement a system in which a hose for a vacuum appliance may be stored or managed in a useful manner for a consumer. Moreover, containing the hose may be more difficult or different from containing a cord, as the cord may have different properties and may be subject to flexing motion such as winding.

SUMMARY

[0006] A method and apparatus for vacuum hose management is illustrated and described. In one embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a holding component coupled to the hose. The holding component is tension mounted to a housing of the vacuum appliance. The holding component has a first and a second position, the first position corresponding to the hose within the housing, and the second position corresponding to the hose partially outside the housing. The apparatus also includes a connector connected to the second end of the hose, the connector sized larger than an opening in the housing through which the hose is threaded. The holding component may be a wheel mounted on an arm, with the arm rotatably coupled to the housing through a pivot and a spring.

[0007] In an alternate embodiment, the invention is a method of managing a vacuum hose in a vacuum appliance housing. The method includes moving a hose-holding component responsive to tension on the vacuum hose, thereby allowing extension of the hose outside of the housing. The method also includes moving the hose-holding component responsive to release of tension on the vacuum hose, thereby allowing retraction of the hose into the housing.

[0008] In yet another embodiment of the invention, the invention is an apparatus for managing a vacuum hose in a vacuum appliance. The apparatus includes a means for holding the hose within the vacuum appliance, with the means for holding also for moving responsive to tension on the hose from outside the vacuum appliance. The apparatus also includes a means for guiding the hose through an opening in a housing of the vacuum appliance.

[0009] In another alternate embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the hose, the bracket to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose, the connector coupled to a vacuum pump of the vacuum appliance.

[0010] In still another alternate embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the hose, the bracket to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose, the connector coupled to a vacuum pump of the vacuum appliance.

[0011] In an embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the vacuum appliance. The bracket is to hold the hose in proximity to the vacuum appliance. The apparatus also includes a nozzle mounted on the vacuum appliance. The nozzle is suitable for connection to the second end of the hose. The nozzle couples to a vacuum pump of the vacuum appliance.

[0012] In another embodiment, the invention is a method of storing a vacuum hose on a housing of a vacuum appliance. The vacuum appliance has a first bracket and a second bracket. The first bracket mounts opposite the second bracket. The first bracket is facing away from the second bracket and the second bracket is facing away from the first bracket. The method includes wrapping the vacuum hose around the first bracket. The method also includes wrapping the vacuum hose around the second bracket.

[0013] In still another embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the vacuum appliance. The bracket is to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose. The connector couples to a vacuum pump of the vacuum appliance.

[0014] In yet another embodiment, the invention is a method of storing a vacuum hose on a housing of a vacuum appliance. The vacuum appliance has a first external bracket and a second external bracket. The first external bracket mounts opposite the second external bracket. The first external bracket faces away from the second external
bracket. The second external bracket faces away from the first external bracket. The method includes wrapping the vacuum hose around the first external bracket. The method also includes wrapping the vacuum hose around the second external bracket.

[0015] In another embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus further includes a first bracket mounted on the vacuum appliance. The first bracket is to hold the hose in proximity to the vacuum appliance. The apparatus also includes a second bracket mounted on the vacuum appliance. The second bracket is also to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose, the connector coupled to a vacuum pump of the vacuum appliance.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1A illustrates an embodiment of an apparatus with a retraction vacuum hose in a first configuration.

[0017] FIG. 1B illustrates an embodiment of an apparatus with a retractable vacuum hose in a second configuration.

[0018] FIG. 2A illustrates an alternate embodiment of an apparatus with a retractable vacuum hose in a first configuration.

[0019] FIG. 2B illustrates an alternate embodiment of an apparatus with a retractable vacuum hose in a second configuration.

[0020] FIG. 3A illustrates another alternate embodiment of an apparatus with a retractable vacuum hose in a first configuration.

[0021] FIG. 3B illustrates another alternate embodiment of an apparatus with a retractable vacuum hose in a second configuration.

[0022] FIG. 4 illustrates an embodiment of a vacuum appliance that may include a vacuum hose management system.

[0023] FIG. 5 illustrates an embodiment of a vacuum appliance with a vacuum hose management system.

[0024] FIG. 6 illustrates an embodiment of a method of managing a vacuum hose.

[0025] FIG. 7 illustrates another embodiment of a vacuum appliance with a vacuum hose management system.

[0026] FIG. 8 shows an enlarged view of a portion of the vacuum appliance of FIG. 7.

[0027] FIG. 9 shows a perspective view of the vacuum appliance of FIG. 7 with the base plate removed.

[0028] FIG. 10 shows another perspective view of the vacuum appliance of FIG. 7 with the base plate removed.

[0029] FIG. 11 illustrates the vacuum appliance of FIG. 7 with a hose pulled out of the appliance and extended to attach to an embodiment of a canister lid.

[0030] FIG. 12 illustrates another embodiment of a vacuum appliance with a vacuum hose management system.

[0031] FIG. 13 illustrates the vacuum appliance of FIG. 12 in a different configuration.

[0032] FIG. 14 illustrates the hose and canister fitting of the appliance of FIG. 7 connecting to a stem feature on an embodiment of a canister lid.

[0033] FIG. 15 illustrates the hose and canister fitting of the appliance of FIG. 7 in an exploded view.

[0034] FIG. 16 illustrates a hose pulled out of an appliance and extended to attach to another embodiment of a canister lid.

[0035] FIG. 17 illustrates a hose pulled out of an appliance and attached to another embodiment of a canister lid.

[0036] FIG. 18 illustrates an alternate embodiment of a process of managing a vacuum hose.

[0037] FIG. 19 illustrates another alternate embodiment of a process of managing a vacuum hose.

[0038] FIG. 20 illustrates a storage side of an attachable hose storage apparatus according to one embodiment of the present invention.

[0039] FIG. 21 illustrates one suitable attachment side of the attachable hose storage apparatus of FIG. 20, according to one aspect of the present invention.

[0040] FIG. 22 illustrates another suitable attachment side of the attachable hose storage apparatus of FIG. 20, according to another aspect of the present invention.

[0041] FIG. 23 illustrates the attachable hose storage apparatus of FIG. 20 attached to the back of a vacuum packaging appliance.

[0042] FIG. 24 illustrates a hose storage system disposed in an underside of a lid of a vacuum packaging appliance according to the present invention.

DETAILED DESCRIPTION

[0043] The present invention teaches a variety of apparatus and methods for vacuum hose management. In one embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a holding component coupled to the hose. The holding component is tension mounted to a housing of the vacuum appliance. The holding component has a first and a second position, the first position corresponding to the hose within the housing, and the second position corresponding to the hose partially outside the housing. The apparatus also includes a connector connected to the second end of the hose, the connector sized larger than an opening in the housing through which the hose is threaded. The holding component may be a wheel mounted on an arm, with the arm rotatably coupled to the housing through a pivot and a spring.

[0044] In an alternate embodiment, the invention is a method of managing a vacuum hose in a vacuum appliance housing. The method includes moving a hose-holding component responsive to tension on the vacuum hose, thereby allowing extension of the hose outside of the housing. The method also includes moving the hose-holding component responsive to release of tension on the vacuum hose, thereby allowing retraction of the hose into the housing.
In yet another embodiment of the invention, the invention is an apparatus for managing a vacuum hose in a vacuum appliance. The apparatus includes a means for holding the hose within the vacuum appliance, with the means for holding also for moving responsive to tension on the hose from outside the vacuum appliance. The apparatus also includes a means for guiding the hose through an opening in a housing of the vacuum appliance.

In another alternate embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the hose, the bracket to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose, the connector coupled to a vacuum pump of the vacuum appliance.

In another embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the hose, the bracket to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose, the connector coupled to a vacuum pump of the vacuum appliance.

In an embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the vacuum appliance. The bracket is to hold the hose in proximity to the vacuum appliance. The apparatus also includes a nozzle mounted on the vacuum appliance. The nozzle is suitable for connection to the second end of the hose. The nozzle couples to a vacuum hose of the vacuum appliance.

In another embodiment, the invention is a method of storing a vacuum hose on a housing of a vacuum appliance. The vacuum appliance has a first bracket and a second bracket. The first bracket mounts opposite the second bracket. The first bracket is facing away from the second bracket and the second bracket is facing away from the first bracket. The method includes wrapping the vacuum hose around the first bracket. The method also includes wrapping the vacuum hose around the second bracket.

In still another embodiment, the invention is an apparatus for use with a vacuum appliance. The apparatus includes a hose having a first end and a second end. The apparatus also includes a bracket connected to the vacuum appliance. The bracket is to hold the hose in proximity to the vacuum appliance. The apparatus further includes a connector connected to the second end of the hose. The connector couples to a vacuum pump of the vacuum appliance.

In yet another embodiment, the invention is a method of storing a vacuum hose on a housing of a vacuum appliance. The vacuum appliance has a first external bracket and a second external bracket. The first external bracket mounts opposite the second external bracket. The first external bracket faces away from the second external bracket. The second external bracket faces away from the first external bracket. The method includes wrapping the vacuum hose around the first external bracket. The method also includes wrapping the vacuum hose around the second external bracket.
vacuum hose in a second configuration. Spring 228 is compressed, thereby holding bar 226 against block 218b, and thereby holding hose 214 inside of cartridge 225. Hose 214 may have a connector 236 that holds a portion of hose 214 outside of cartridge 225, allowing access to hose 214. Moreover, connector 236 may have a cap 235 that eliminates the entry of unwanted material into hose 214 and any connected vacuum pump.

In another alternate embodiment, a spiral holder for a vacuum hose may be used in a vacuum appliance 300. FIG. 3A illustrates another alternate embodiment of an apparatus with a retractable vacuum hose in a first configuration. Vacuum pump 310 has a connector 312 that is connected to the first hose 313. First hose 313 is connected to a connector on the end of hose 314. The connector is also mounted on platform 315, which is mounted on a rotatable spring (not shown). Hose 314 is wound around the connector on platform 315 and is threaded through rollers 330a and 330b and through outlet 332 of housing 325. Rollers 330a and 330b are fixedly mounted on pins connected to housing 325. When hose 314 is pulled out of housing 325 in the first configuration, platform 315 rotates in direction 317, thus allowing hose 314 to be uncoiled under tension. Hose 314 has at one end a connector 336 that may be coupled to a lid of a jar 340 to evacuate the contents of jar 340.

When hose 314 is stored, it is stored in a second configuration. FIG. 3B illustrates another alternate embodiment of an apparatus with a retractable vacuum hose in a second configuration. When hose 314 is not in use, it is pulled back inside housing 325 as platform 315 rotates in direction 319 (opposite direction 317). Hose 314 stops coming in when connector 336 reaches housing 325, as connector 336 has an annular ring larger than the size of opening 332. Connector 336 may have a covering that is pushed aside by contact with a connector of a lid, but otherwise blocks the entry of particles into hose 314.

FIG. 4 illustrates an embodiment of a vacuum appliance that may include a vacuum hose management system. In particular, FIG. 5 shows a perspective view of an embodiment of a vacuum appliance 500 having a base 505 and a movable top portion or hood 510 engaging a plastic bag 580 with at least two plastic layers 585 and 590. Two release buttons 515 and 520 are provided on the hood 510 to disengage the hood 510 from the base 505, thereby releasing the plastic bag 580 from the vacuum appliance 500. Touch buttons 530 and 540 may control operation of the vacuum appliance 32. The diode 525 that is indicated as an LED, may be positioned on the hood 510 as an indicator light for vacuum appliance 500.

In such an embodiment, a vacuum hose may be stored within appliance 500, such as within base 505 for example. In one embodiment, a vacuum hose for use with a vacuum pump of appliance 500 may be accessible through an opening in base 505, such as is illustrated with in FIGS. 1A, 1B, 3A and 3B for example. In an alternate embodiment, a cartridge such as that illustrated in FIGS. 2A and 2B may be stored within base 505 for use with a vacuum pump of appliance 500. Alternately, a nozzle or similar attachment may be mounted on the exterior of appliance 500 at an appropriate location, allowing for connection of a hose to the nozzle, with the nozzle internally connected or coupled to a vacuum pump of appliance 500.

FIG. 5 illustrates an alternate embodiment of a vacuum appliance with a vacuum hose management system. Vacuum appliance 500 includes connector 555 that is coupled or connected through an opening in base 505 to an internal vacuum pump. Also connected to connector 555 is hose 550, which may be used to evacuate containers as previously described with respect to the hoses of other embodiments. As illustrated, hose 550 is held against the exterior of base 505 through clips 560 and 565. Other brackets or mounting devices may also be useful for the same purpose. Note that in some embodiments, connector 555 may not be necessary, as hose 550 may be extended through base 505. Moreover, note that in other embodiments, hose 550 may not be permanently connected to appliance 500, rather it may be a hose which is either clipped to appliance 500, or removed from appliance 500 for connection to a nozzle such as that described above with respect to FIG. 4.

A method of managing a vacuum hose may be implemented using the devices described previously or using similar mechanical assemblies. FIG. 6 illustrates an embodiment of a method of managing a vacuum hose. At module 410, the hose is held within the housing of a vacuum appliance. The hose may be held using a hose-holding component, such as the previously described rotating platforms and tension mounted wheels. At module 420, the hose-holding component moves responsive to a tug on the hose and the hose is released from the housing for use. At module 430, the hose now connected to a jar for evacuation has vacuum applied through use of a vacuum pump. At module 440, the vacuum is stopped. At module 450, the hose is released from the now evacuated jar. At module 460, the hose-holding component moves and thereby pulls the hose back inside the housing.

Other embodiments of vacuum hose management systems may be used, along with similar or different embodiments of vacuum appliances. FIG. 7 illustrates another embodiment of a vacuum appliance with a vacuum hose management system. Appliance 700 includes a slot for vacuum sealing bags and an extendable hose for vacuuming air from containers, and may be an embodiment similar to the embodiment illustrated in FIG. 5, for example. In particular, appliance 700 includes housing 710, cover 720 coupled to housing 710 (such as through a hinge, allowing for rotation), slot 730 (defined by housing 710 and cover 720), recess 740 and canister fitting 750. Slot 730 may be the area where a bag is fed into appliance 700 for sealing, or where a bag is dispensed out of appliance 700 (or both) in various embodiments. FIG. 8 shows an enlarged view of a portion of the vacuum appliance of FIG. 7. As illustrated, fitting 750 nestles within recess 740, preferably allowing for access by a person to draw fitting 750 out of recess 740.

FIG. 9 shows a perspective view of the vacuum appliance of FIG. 7 with the base plate removed. As illustrated, appliance 700 also includes a bag distributor, a hose chamber, a pump assembly, and other internal components, along with a base plate (not shown). Bag distributor 945 may hold a spool of vacuum sealable bags, and may release those automatically. Internal wall 935 separates bag distributor 945 from hose chamber 913. Hose chamber 913 provides a space internal to appliance 700 in which hose 915 may be stored. Hose 915 is coupled at end 905 to fitting 750 and at end 925 to an internal fitting, which in turn is coupled.
to pump assembly 953, allowing for use of the hose 915 in vacuum operations. As illustrated, hose 915 doubles back along the length of chamber 913. Chamber 913 may be further defined by portions of housing 710, cover 720 (not shown) and one or more internal walls as necessary depending on internal configurations of various embodiments. For example, an internal wall may be provided by a vacuum or sealing trough in some embodiments.

[0065] Reversing the perspective provides an illustration of other aspects of the embodiment. FIG. 10 shows another perspective view of the vacuum appliance of FIG. 7 with the base plate removed. As illustrated, fitting 750 nests in recess 740. In one embodiment, a through hole (not visible) in recess 740 allows for passage of the hose 915 into and out of chamber 913. However, the through hole is sized such that the diameter of the hose 915 at end 905 does not fit through the through hole. While this will be described in greater detail below, it may be understood that end 905 flares out to a wider diameter when fractionally attached to a tubular or cylindrical projection of fitting 750.

[0066] In use with a canister or other container, the hose may be extended and attached or coupled to a container lid. FIG. 11 illustrates the vacuum appliance of FIG. 7 with a hose pulled out of the appliance and extended to attach to an embodiment of a canister lid. When appliance 700 is used to vacuum contents from a container, hose 915 is extended through an opening such as a through hole in recess 740 from within housing 710. End 915 of hose 915 is attached to fitting 750, which is attached or coupled to lid 1110. More will be described with respect to attachment of the lid 1110 and similar lids to fitting 750 below.

[0067] While the vacuum hose management system of FIG. 7 stores a hose within a housing, other embodiments may store the hose outside a housing. FIG. 12 illustrates another embodiment of a vacuum appliance with a vacuum hose management system. Vacuum appliance 1200 may be an appliance such as that of FIG. 7 or FIG. 5, for example. The appliance 1200 includes a housing, cover, vacuum hose, hose coupling, hose fitting, and hose brackets, along with other necessary components such as controls and a pump for example. As illustrated, housing 1210 is coupled to cover 1220, and houses a number of other components that are not shown. Coupling 1230 couples an internal vacuum system of appliance 1200 to hose 1215 at a first end of hose 1215. Hose 1215 is coupled at a second end to fitting 1250, which may be similar to fitting 750, for example. Brackets 1260A and 1260B protrude from housing 1210, and may be formed as a single piece with housing 1210 or as separate pieces. Hose 1215 is coiled, wound or wrapped around brackets 1260A and 1260B such that it is held in place fractionally. In some embodiments, a recess in housing 1210 may hold fitting 1250. In other embodiments, fitting 1250 may couple to another portion of hose 1215 to provide tension in hose 1215. FIG. 13 illustrates the vacuum appliance of FIG. 12 in a different configuration. In the configuration illustrated, hose 1215 is unwound from brackets 1260A and 1260B, allowing for use with a container or canister for example.

[0068] The various embodiments may be used with a variety of containers, such as canisters, and corresponding lids or portions of such containers. FIG. 14 illustrates the hose and canister fitting of the appliance of FIG. 7 connecting to a stem feature on an embodiment of a canister lid. Canister lid 1110 includes stem or male fitting 1120 which is an essentially cylindrical fitting with an inner passage through the lid 1110. Furthermore, stem 1120 also includes notches or groove 1125 at the top of stem 1120, thereby ensuring airflow through stem 1120. Furthermore, as illustrated, end 905 of hose 915 is fractionally attached to fitting 750.

[0069] The fitting used may be further illustrated, too. FIG. 15 illustrates the hose and canister fitting of the appliance of FIG. 7 in an exploded view. Fitting 750 includes a housing, ball, spring or coil, and a cap. Moreover, fitting 750 includes housing 780, which includes channel 783, an essentially cylindrical passage through housing 780, with a through hole in the hidden end of housing 780. Into channel 783 goes ball 775 and spring 785. Ball 775 is sized to block the through hole of housing 780 while being small enough to move freely within channel 783.

[0070] Cap 790 fits onto housing 780, using cylindrical projection 793 to engage with channel 783, providing an airtight channel. Aligned with projection 793 is fitting 795, through which a through hole passes, allowing communication with channel 783. Moreover, cap 790 causes spring 797 to hold ball 775 against the through hole of housing 780, thus closing off channel 783 when ball 775 is not dislodged. When fitting 750 is engaged with stem 1120, ball 775 is dislodged. While ball 775 may block the surface of stem 1120, notch 1125 allows for airflow and thus vacuum operations.

[0071] Alternate embodiments of a canister lid may be used with fitting 750 or similar fittings, and thus with various vacuum hose management systems. FIG. 16 illustrates a hose pulled out of an appliance and extended to attach to another embodiment of a canister lid. As illustrated, canister 1600 includes lid 1600 and vessel 1620 that engages with lid 1600 to form an airtight container.

[0072] Lid 1610 includes recess 1630 that is large enough to allow for insertion of the fitting 750 and for access to the fitting 750 therein. Stem 1625 rises from the inner surface of recess 1630, and preferably does not protrude above, the outer surface of lid 1610, thereby allowing for simple stacking of multiple containers 1600. Stem 1625 may be formed in a similar manner to the channel of fitting 750, with an internal ball and channel to allow for passage of air out of container 1600 but blocking air flow back into container 1600. As illustrated, container 1600 contains a material 1670 that is meant to be vacuum stored. FIG. 17 illustrates a hose pulled out of an appliance and attached to another embodiment of a canister lid. Fitting 750 is placed within recess 1630, such that the through hole of fitting 750 covers and fractionally engages stem 1625 with chamber 780 and displaces ball 775.

[0073] Processes for using vacuum hose management systems may be used in conjunction with the apparatuses illustrated, or with other apparatuses for example. FIG. 18 illustrates an alternate embodiment of a process of managing a vacuum hose. In the process illustrated and other processes of this description, process modules are used, which may be used in a different order, or in a parallel rather than serial fashion. At module 1810, process 1800 initiates with a hose held in a housing compartment. At module 1820, the hose is removed from the housing compartment for use. At module 1830, the hose is coupled to or attached to a container for
vacuum operation. At module 1840, vacuum is applied through the hose to the container. At module 1850, vacuum operation is completed. At module 1860, the hose is detached or disengaged from the container, and at module 1870, the hose is stored in the housing again, such as through manual insertion back into the housing.

[0074] Similarly, FIG. 19 illustrates another alternate embodiment of a process of managing a vacuum hose, namely process 1900. At module 1910, the process initiates with a hose held on the housing (such as on brackets or with clips). At module 1920, the hose is removed from the housing for use. At module 1930, the hose is engaged or coupled to a container for vacuum operation. At module 1940, vacuum is applied to the container through the hose. At module 1950, vacuum operation is complete and vacuum cease. At module 1960, the hose is detached or disengaged from the container, and at module 1970, the hose is stored on the housing again, such as through manual winding onto the housing.

[0075] FIG. 20 illustrates a storage side 802 of an attachable hose storage apparatus 800 according to one embodiment of the present invention. The hose storage apparatus 800 includes a hose spool 804 around which is coiled a vacuum hose 806. The attachable hose storage apparatus can be attached to the back of a vacuum packaging appliance, a counter wall, etc.

[0076] FIGS. 21-22 each show suitable attachment side embodiments 810 and 812 of the attachable hose storage apparatus 800. The attachment side 810 includes snaps, hooks, or other mechanical attachment device 814. The attachment side 812 includes an attachment pad 816 that may be a Velcro pad, double-sided tape, etc.

[0077] FIG. 23 illustrates a vacuum packaging appliance 820 in accordance with yet another embodiment of the present invention. The vacuum packaging appliance 820 has an attachable hose storage apparatus 800 attached to a back of the appliance 820. The hose storage apparatus 800 may be attached by snap, hooks, Velcro, double-sided tape, or any other suitable attachment mechanism. The disposition of the hose storage apparatus 800 may be determined by the user, or may be pre-defined by an attachment mechanism (blocked by apparatus 800) built into the appliance 820.

[0078] FIG. 24 illustrates a vacuum packaging appliance 830 in accordance with the present invention. The appliance 830 has a hood 832 with an underside 834. Built into or attached to the underside 834 is a vacuum hose spool 836 for wrapping a vacuum hose around, and clamps 838 or other suitable attachment mechanism for attaching the vacuum hose thereto. This embodiment allows for convenient storage of the vacuum hose in the hood 832 of the appliance 830.

[0079] From the foregoing, it will be appreciated that specific embodiments of the invention have been described herein for purposes of illustration, but that various modifications may be made without deviating from the spirit and scope of the invention. In some instances, reference has been made to characteristics likely to be present in various or some embodiments, but these characteristics are also not necessarily limiting on the spirit and scope of the invention. In the illustrations and description, structures have been provided which may be formed or assembled in other ways within the spirit and scope of the invention. Similarly, methods have been illustrated and described as linear processes, but such methods may have operations reordered or implemented in parallel within the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

1-53. (canceled)

54. An attachable hose storage apparatus for storing a vacuum hose for use with a home vacuum packaging appliance, the attachable hose storage apparatus comprising:

- means for storing a vacuum hose; and
- means for attaching said attachable hose storage apparatus to a working surface.

55. The attachable hose storage apparatus of claim 54, wherein said means for storing a vacuum hose is a spool shaped mechanism around which said vacuum hose may be wrapped.

56. The attachable hose storage apparatus of claim 54, wherein said means for attaching said attachable hose storage apparatus is a mechanical attachment device.

57. The attachable hose storage apparatus of claim 54, wherein said working surface is a surface of a home vacuum packaging appliance.

58. The attachable hose storage apparatus of claim 54 wherein said working surface is a surface of kitchen counter or wall.

59. A vacuum packaging appliance capable of convenient storage of a vacuum hose, said vacuum packaging appliance comprising:

- a hood having an underside that is only exposed when said hood is open; and
- a hose storage management system built into said underside of said hood.

60. The attachable hose storage apparatus of claim 56, wherein said mechanical attachment device is a hooking mechanism.

61. The attachable hose storage apparatus of claim 56, wherein said mechanical attachment device is at least one pair of mating snaps such that a first snap of said at least one pair of mating snaps is attached on said working surface and a second snap of said at least one pair of mating snaps is located on said attachable hose storage apparatus.

62. The attachable hose storage apparatus of claim 54, wherein said means for attaching said attachable hose storage apparatus is an attachment pad.

63. The attachable hose storage apparatus of claim 62, wherein said attachment pad is double-sided tape.

64. The attachable hose storage apparatus of claim 62, wherein said attachment pad is Velcro.

65. The attachable hose storage apparatus of claim 57, wherein said means for storing a vacuum hose is a spool shaped mechanism around which said vacuum hose may be wrapped, and wherein said means for attaching said attachable hose storage apparatus is a mechanical attachment device.

66. The attachable hose storage apparatus of claim 65, wherein said mechanical attachment device is at least one pair of mating snaps such that a first snap of said at least one pair of mating snaps is located on said working surface and
a second snap of said at least one pair of mating snaps is located on said attachable hose storage apparatus.

68. The attachable hose storage apparatus of claim 57, wherein said means for storing a vacuum hose is a spool shaped mechanism around which said vacuum hose may be wrapped, and wherein said means for attaching said attachable hose storage apparatus is an attachment pad.

69. The attachable hose storage apparatus of claim 68, wherein said attachment pad is double-sided tape.

70. The attachable hose storage apparatus of claim 68, wherein said attachment pad is velcro.

71. The vacuum packaging appliance of claim 59, wherein said hose storage management system comprises one or more clamps attached to said underside of said hood and a vacuum hose spool, attached to said one or more clamps, wherein said vacuum hose is stored by wrapping said vacuum hose around said vacuum hose spool.

72. A method for storing a vacuum hose in a vacuum packaging appliance, said method comprising:

   opening a hood of a vacuum packaging appliance;

   storing said vacuum hose using a hose storage management system coupled to an underside of said hood exposed by opening said hood; and

   closing said hood.

73. The method of claim 72, wherein said hose storage management system comprises one or more clamps attached to said underside of said hood and a vacuum hose spool, attached to the one or more clamps, wherein said vacuum hose is stored by wrapping said vacuum hose around said vacuum hose spool.

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