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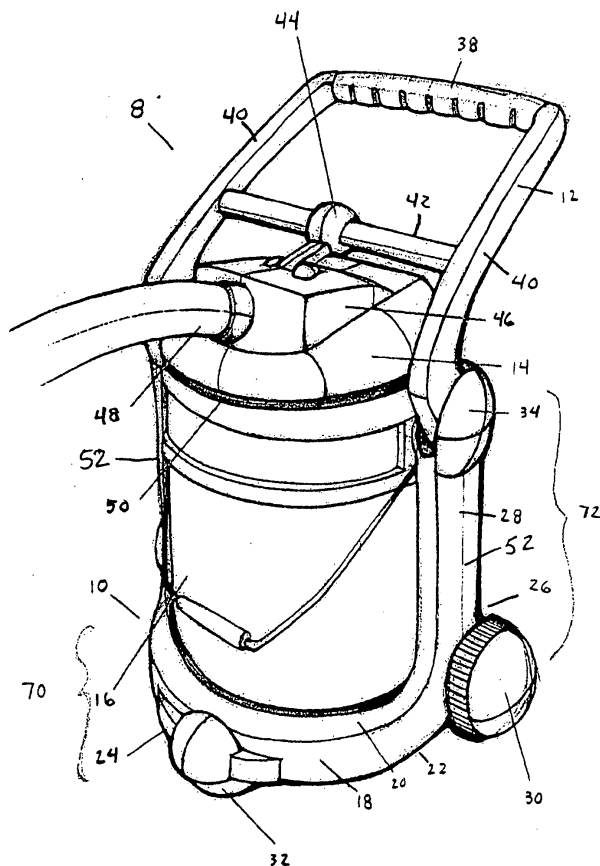
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(54) **Wet/dry vacuum**

(57) A wet/dry vacuum is disclosed. The wet/dry vacuum preferably includes a base (10), a handle (12) coupled with the base, a lid (14) coupled with the handle, and a container (16) that is removable from the base

(10). In operation, the container is placed on the base. As the handle is rotated towards the rear of the base, the handle secures the container to the base by lowering the lid onto the container.

FIG. 1



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Description

BACKGROUND OF THE INVENTION

[0001] Wet/dry vacuums are commonly used for various cleaning purposes, including cleaning both solid and liquid debris. In general, the wet/dry vacuums utilize a canister into which both solid and liquid debris are drawn. Typically, a plug is found at the bottom of the canister, which can be pulled when it is desired to empty the contents of the canister. However, it is often desirable to be able to empty the canister at a level above the bottom of the canister. Accordingly, a wet/dry vacuum that overcomes these deficiencies is needed.

BRIEF DESCRIPTION OF THE FIGURES

[0002] The invention may be better understood with reference to the following figures and detailed description. The components in the figures are not necessarily to scale, emphasis being placed upon illustrating the principles of the invention.

FIG. 1 is a perspective view of a wet/dry vacuum of a preferred embodiment.

FIG. 2 is a perspective view showing the operation of a wet/dry vacuum of a preferred embodiment.

FIG. 3 is a view of the underside of a lid modified with concentric lips and gaskets to accommodate different diameter buckets.

FIG. 4 is a view of the underside of another lid modified with a different size gasket to accommodate a variety of different diameter buckets.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0003] By way of introduction, the preferred embodiments described below include a wet/dry vacuum and a method of utilizing the wet/dry vacuum. The wet/dry vacuum preferably includes a base, a handle coupled with the base, a lid coupled with the handle, and a container that is removable from the base. The phrase "coupled with," as used herein, means coupled either directly or indirectly via one or more intervening elements. In operation, the container is placed on the base. As the handle is rotated towards the rear of the base, the handle secures the container to the base by lowering the lid onto the container. In addition, the wet/dry vacuum is designed so that it utilizes a conventional bucket, which preferably is a five gallon bucket.

[0004] Fig. 1 shows a perspective view of a preferred embodiment of a wet/dry vacuum **8**. The vacuum generally includes a base **10**, a handle **12**, a lid **14**, and a container **16**. The base **10** includes a lower portion **70** and an upper portion **72**. In the preferred embodiment, the lower portion **70** comprises a support plate **18** with an upper surface **20** and a lower surface **22**. The pref-

erable shape of the support plate **18** is rounded, but alternate shapes such as square or rectangular may be utilized as well. The support plate **18** also has a front **24** and a back **26**. In the preferred embodiment, the upper portion **72** comprises a rear support member **28** with two sides **52**. In the preferred embodiment, the back of the support plate **18** is attached to the rear support member **28**, preferably at the lower end of the rear support member **28**. The support plate **18** and the rear support member **28** may either be formed integrally as shown or as separate pieces that are fastened together using bolts, clips, pins or other fasteners. The preferable shape of the rear support member **28** is rectangular, but alternate shapes such as square or circular may be utilized as well. The base **10** is preferably formed from plastic. The base **10** can also be formed from alternative materials such as ceramic, wood or metal. In operation of the wet/dry vacuum **8**, a container **16** is inserted and placed on the base **10**. The container **16** is likewise removable from the base **10** once operation of the wet/dry vacuum **8** is complete.

[0005] In the preferred embodiment of the invention, the wet/dry vacuum **8** is constructed to be operated with a five gallon bucket to be used as the container **16**. The container **16** is preferably formed from PVC. The container **16** can also be formed from alternative plastics or other lightweight materials. A five gallon PVC bucket is the preferred container because of its versatility, durability, and disposability. Five gallon PVC buckets are commonly found (especially on construction worksites and around many homes), they are inexpensive, and they can also be purchased at a wide variety of hardware stores. Other advantages of five gallon PVC buckets are that they are sealable and also recyclable. Alternatively, the wet/dry vacuum **8** can be constructed so that it can be operated with various sizes of PVC buckets other than the preferred size of five gallons. As will be explained, the operation for sealing the vacuum to the bucket may allow for different size buckets to be used with the same vacuum.

[0006] Also in the preferred embodiment, a plurality of wheels are coupled to the lower surface **22** of the support plate **18**, which allow the wet/dry vacuum **8** to be easily moved. Preferably, two domed rear caster wheels **30** are coupled at opposite sides to the lower surface **22** of the support plate **18** at the back of the support plate **18**. The rear caster wheels **30** are preferably formed from rubber, but can also be formed from alternate materials such as plastic or metal. The domed feature of the rear caster wheels **30** helps prevent the rubber of the wheels from scuffing any surfaces that the wheels may come in contact with, such as walls, sideboards, etc., thus making the wet/dry vacuum **8** home friendly. Also coupled to the lower surface **22** of the support plate **18** at the plate's front end is a front wheel **32**. Preferably, the front wheel **32** is located in the middle of the support plate **18**, and is formed from a ball and socket construction, which enables the wet/dry vacuum **8** to easily

change direction as it is being moved.

[0007] A handle **12** is coupled with the upper portion **72** of the base **10**. Preferably, the handle **12** is attached to the upper end of both of the two sides **52** of the rear support member **28** of the base **10**. Preferably, the handle **12** is rotatably coupled with each side **52** of the rear support member **28** with a pivot **34** that allows the handle **12** to have rotational motion relative to the base **10**. The handle **12** is preferably comprised of a grip portion **38** and two supports **40**. The grip portion **38** is coupled at each of its ends to either one of the supports **40**. In the preferred embodiment, the grip portion **38** is formed with an overmold construction, which provides a secure grip and also adds an aesthetic feature to the handle **12** of the wet/dry vacuum **8**. Preferably, the upper portion of each support **40** is coupled with the grip portion **38**, and the lower portion of each support **40** is coupled with the base **10**. In addition, the two supports **40** may also be coupled with each other via a support bar **42** located in between the two members. The handle **12** is preferably formed from plastic.

[0008] A lid **14** is coupled with the handle **12** so that rotation of the handle **12** simultaneously moves the positioning of the lid **14** relative to the base **10**. Preferably, the lid **14** is rotatably coupled with the support bar **42** of the handle **12** with a pivot **44**. The lid **14** has a lip **54** that allows the lid **14** to engage the bucket **16**, for example by way of locking or snapping into place on the bucket **16**. However, because a vacuum is created, the lip **54** is not necessary to secure the lid **14** to the bucket **16**. In the preferred embodiment, the lid **14** is comprised of a housing **46** for a vacuum motor (not shown) and an attachment **48** for a hose that is coupled with the housing **46**. A foam rubber gasket **50** is preferably attached around the bottom of the motor housing **46**, which provides a tight seal with the container **16** when the lid **14** is lowered onto the container **16** for operation of the wet/dry vacuum **8**.

[0009] Fig. 2 shows the operation of the wet/dry vacuum of a preferred embodiment. To operate the wet/dry vacuum **8**, a container **16** needs to be inserted and placed on a base **16** of the wet/dry vacuum **8**. In operation, the handle **12** and the lid **14** of the wet/dry vacuum **8** can be moved between two positions. In the first position **210**, the handle **12** is positioned forward from the rear support member **28** of the base **10**, whereas the lid **14** is positioned so that when the container **16** is inserted in the base **10**, the lid **14** is located at a position above the container **16** and is also not in contact with the container **16**. To place the handle **12** and the lid **14** in the second position, the handle **12** is rotated towards the rear of the base **10** until it is locked into place in its second position **220**. As the handle **12** is rotated on the pivots **34**, the lid **14** is simultaneously lowered over the container **16**. When the handle **12** is locked into its second position **220**, the lid **14** is lowered to the point where it is locked onto the container **16**. The opening of the lid **14** along with the rubber gasket fits over the edge of the

container **16** to affix the lid **14** to the container **16** (as shown in Fig. 1), which allows for the operation of the wet/dry vacuum **8**.

[0010] Different size buckets may be used with a single vacuum by making certain modifications to the vacuum. Specifically, by allowing a wide range of rotational motion of the handle **12** on the pivots **34**, buckets of different heights may be accommodated between the lid **14** and the base **16**. As shown in Fig. 3, the lid **14** may also be modified by having a series of concentric lips **54'** that allow the lid **14** to engage different diameter buckets. Further, the gasket **50** may be provided in between each of the concentric lips **54'** on the underside of the lid **14** to provide effective sealing for the different size buckets. Of course, any number of concentric lips and gaskets can be used. As an alternative, since the lips **54'** are not necessary to secure the lid **14** to the bucket, a lid **14** having a larger gasket **50** (i.e., a greater difference between the inner **56** and outer **58** gasket diameters) on its underside, as shown in Fig. 4, will also allow for different diameter buckets to be used with the same vacuum. Again, different size gaskets can be used to accommodate a varying range of bucket diameters.

[0011] Various embodiments of the invention have been described and illustrated. However, the description and illustrations are by way of example only. Many more embodiments and implementations are possible within the scope of this invention and will be apparent to those of ordinary skill in the art. Therefore, the invention is not limited to the specific details, representative embodiments, and illustrated examples in this description. Accordingly, the invention is not to be restricted except in light necessitated by the accompanying claims and their equivalents.

Claims

1. A wet/dry vacuum comprising:

a base having an upper and a lower portion;
a handle pivotably mounted to said upper portion of said base, said handle being moveable between a first and second position;
a lid incorporating a vacuum motor housing, said lid being attached to said handle so that said lid moves to a first lid position when said handle is in said first position and to a second lid position when said handle is in said second position; and
a container detachably mounted to said base, wherein said container is removeable when said handle is in said first position and is secured when said handle is in said second position.

2. The wet/dry vacuum according to claim 1, wherein said container is a conventional five gallon con-

struction bucket.

3. The wet/dry vacuum according to claim 2, wherein said container is manufactured from PVC.

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4. The wet/dry vacuum according to claim 1, further comprising at least two caster wheels coupled with a bottom surface of said base.

5. The wet/dry vacuum according to claim 4, wherein said at least two wheels are comprised of rubberized tread.

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6. The wet/dry vacuum according to claim 5, wherein dome covers are coupled with said at least two wheels, said dome covers being operable to cover said rubberized tread of said wheels.

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7. The wet/dry vacuum according to claim 1, wherein said handle is an overmold handle.

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8. The wet/dry vacuum according to claim 1, wherein a seal is coupled with an outer perimeter of said lid.

9. The wet/dry vacuum according to claim 8, wherein said seal is manufactured from foam rubber.

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10. The wet/dry vacuum according to claim 1, wherein said vacuum unit is comprised of a motor and a hose coupled with said motor.

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11. The wet/dry vacuum according to claim 1, wherein a pivot is utilized to couple said lid to said handle.

12. The wet/dry vacuum according to claim 4, further comprising a ball-in-socket wheel coupled with said base.

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13. A method of operating a wet/dry vacuum, the method comprising:

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- (a) providing a vacuum unit, said vacuum unit comprising a base, a pivotable handle coupled with said base, and a lid coupled with said handle, wherein said lid houses a vacuum motor;
- (b) inserting a container onto said base; and
- (c) rotating said handle towards the rear of said unit, wherein the rotation of said handle lowers and secures said lid to said container.

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14. The method according to claim 13, wherein said container is a conventional five gallon construction bucket.

15. The method according to claim 14, wherein said container is manufactured from PVC.

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16. A wet/dry vacuum comprising:

a base having an upper and a lower portion;
a handle mounted to said upper portion of said base; and
a bucket releasably attached to said base.

17. The wet/dry vacuum according to claim 16, wherein said bucket is a construction site bucket.

18. The wet/dry vacuum according to claim 16, further comprising at least two caster wheels coupled with a bottom surface of said base.

19. The wet/dry vacuum according to claim 18, wherein said at least two wheels are comprised of rubberized tread.

20. The wet/dry vacuum according to claim 19, wherein dome covers are coupled with said at least two wheels, said dome covers being operable to cover said rubberized tread of said wheels.

FIG. 1

