This invention relates to service station type power oil removal units adapted to remove oil from the crankcase of internal combustion engines of automobiles and the like.

The main object of this invention is to provide improved, novel, service station type means for quickly removing oil from the crankcase of internal combustion engines and the like by vacuum created in the said removal means with suction from the intake manifold of the said engine when running.

Another object of this invention is to provide a power service station oil removal unit having means for releasably engaging a connector permanently mounted on a motor vehicle whereby simultaneous connections are made between the service station oil removal unit and the intake manifold and crankcase of the internal combustion engine of said motor vehicle.

Another object of this invention is to provide a power service station oil removal unit comprising the combination of an oil receiver located at a service station and a connector mounted on a motor vehicle, the said connector adapted to be engaged by a hand chuck for simultaneously making hose connections between the said service station receiver and the intake manifold and crankcase of the internal combustion engine of said vehicle, the said hand chuck having means for controlling vacuum created in said receiver.

Another object of this invention is to provide a service station oil receiver into which oil from the crankcase of an internal combustion engine is removed by a vacuum created therein with suction from the intake manifold of said engine when running, a reservoir for oil located below said receiver, and a valve between said receiver and said reservoir adapted to permit a vacuum to be created in said receiver and permit oil in said receiver to empty into said reservoir when vacuum created in said receiver is released or reduced.

Another object of this invention is to provide a service station oil removal unit comprising an oil receiver and reservoir into which oil from the crankcase of an internal combustion engine is removed by a vacuum created only in the said receiver with suction from the intake manifold of said engine when running wherein oil from said receiver gravitates into said reservoir as soon as the vacuum in said receiver is released, and means for simultaneously and quickly making hose connections between said service station oil removal unit and the intake manifold and crankcase of the internal combustion engine.

Other objects of the invention will become apparent by reference to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a more or less diagrammatic view in elevation of a service station type power oil removal unit embodying the invention connected to a suitable connector mounted on an automobile whereby the said service station oil removal unit is connected in operating relationship to the intake manifold and to the low point of the crankcase of the internal combustion engine of said automobile.

Fig. 2 is a detailed sectional view through a preferred type of connector adapted for permanent mounting on an automobile and a hand chuck adapted to readily make temporary hose connections between said connector and a service station type power oil remover positioned on said connector.

Fig. 3 is a cross sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged fragmentary detailed view, part in section and part in elevation, of the embodiment of the service station oil removal unit shown in Fig. 1.

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 4 looking in the direction indicated by the arrows.

Referring particularly to the drawings wherein the numerals refer to like and corresponding parts throughout the several views, the embodiment of the invention disclosed comprises, in general, a service station power oil removal unit composed of an oil receiver 10 and a reservoir 11 having a suitable valve therebetween and a chuck 50 adapted to readily engage a connector 12 permanently mounted by means of a suitable bracket 13 or otherwise under the hood 14 of an automobile preferably adjacent to the internal combustion engine 15 thereof, the said connector 12 having an air suction line 16 therefrom connected to the intake manifold 17 of the said internal combustion engine 15 and an oil suction line 18 therefrom connected by means of a suitable crankcase drainage plug 19 and coupling 20 to the low point of the crankcase 21 of the said internal combustion engine 15.

The connector generally designated by the numeral 12 in Fig. 1 is preferably identical to the connector 12 disclosed in my pending application for patent for Power oil removal units, Serial No. 91,173, which connector is engageable by the chuck 50 of the service station type oil removal unit disclosed herein as well as the portable oil receiver as shown in the aforementioned pending application.

The said connector 12 shown in detail in Fig. 2 comprises an air suction tube 22 and an oil suction tube 23 of substantially the same length mounted parallel and in spaced relation to each other through a disc 24 with one end of the said tubes 22 and 23 welded and sealed to a circular base 25 in suitable annular depressions formed therein. The air suction tube 22 and the oil suction tube 23 function structurally to maintain...
the disc 24 and the circular base 25 in spaced relation to each other and provide space therebetween to accommodate an air suction tube nipple 26 and an oil suction tube nipple 27 extending at right angles from the said air suction tube nipple 26 and the said oil suction tube 23 respectively. The air suction hose 16 is preferably frictionally secured on the air suction tube nipple 26, and the oil suction hose 18 is preferably clamped on the oil suction tube nipple 27 by means of the usual hose clamp 28.

The circular base 25 of the said connector 12 may be directly mounted under the hood of an automobile or at any convenient place near the intake manifold and crankcase of an internal combustion engine, or it may be pivotally mounted on a bracket as indicated in the drawings. Such pivotal mounting of the base of the connector 12 admits of the use of large diameter portable power oil removal units as disclosed in my copending application, Serial No. 91,173 without the said portable power oil removers fouling structure contiguous to that upon which the connector 12 is mounted, however, the connector 12 need not necessarily be pivotally mounted for accommodating itself to use with service station type power oil removal units except for the convenience it affords when manually registering the chuck 50 simultaneously over the ends of the air suction tube 22 and the oil suction tube 23 of the said connector 12 as indicated in Fig. 2.

As best shown in Fig. 2 the circular base 25 of the connector 12 may be pivotally mounted in spaced relationship to a suitable sub-base 29 by means of a pivot 30 cooperating with centrally disposed pivot brackets 31 and 32 integrally formed on the circular base 25 and sub-base 29 respectively. The sub-base 29 is in turn mounted on a suitable bracket 19 or the like such means as the bolts 34. The base 25 is preferably maintained parallel to the sub-base 29 by such means as a spacer stop 35 and a spring 36 located diametrically opposite to each other on the rear of the said circular base 25 on the axis of pivotal rotation thereof. The said spring 36 is held in its proper position between the said circular base 25 and the sub-base 29 by being engaged over a spring tab 37 on the rear of the said circular base 25 and in an annular spring depression 36 formed in the said sub-base 29. The spring 36 resiliently pivots the circular base 25 to the limit of its pivotal rotation with the spacer stop 35 engaged against the sub-base 29 and prevents vibration of the connector 12 in respect to its sub-base 29.

The outwardly disposed face of the disc 24 is preferably provided with a beveled edged resilient circular pad 39 of rubber or other suitable material against which the annular open end of a portable oil receiver of a Power oil removal unit disclosed in my patent application, Serial No. 91,173 is pressed for readily making an air tight connection between the said portable oil receiver and the connector 12. It will be noted that the air suction tube 22 and the oil suction tube 23 are hermetically sealed through the said disc 24 by welding or otherwise and that the resilient beveled edged circular pad 39 is hermetically sealed either in respect to the said suction tubes 22 and 23 or in respect to the said disc 24.

The end of the air suction tube 22 is provided with a reciprocating valve 40 which is constantly urged toward its closed position by a spring 41 located between the suction tube 22 and the back of the valve 40 and a washer 42 bearing against the face of the resilient pad 39. The reciprocating valve 40 shown in its open position in Fig. 2 comprises a cylindrical main body portion axially bored to fit snugly over the air suction tube 22 while the front end of the said main body portion of the said valve 40 is counterbored to slide over a plurality of radially disposed tabs 43 formed at the closed end 44 of the said air suction tube 22. The wall of the said air suction tube 22 is provided with a plurality of apertures 45 so located as to be within the counterbored portion of the said valve 40 when it is urged to its open position, see Fig. 2, and sealed by the rear portion of the said valve 40 when it is urged to its closed position by the spring 41. The shoulder 46 of the valve 40 engages the radially disposed tabs 43 at the end of the said air suction tube 22 when the said valve 40 is urged to its closed position by the spring 41 and is prevented thereby from sliding off the end of the said suction tube 22.

The service station power oil removal unit shown in the drawings is of the mobile type, however it is contemplated that a sentinel type unit may be used in which case the oil reservoir thereof may be located underground. The lower 23 of the service station unit is constructed the less the head against which the vacuum created in the oil receiving line is taken from the intake manifold 17 of the engine 15 must lift oil when withdrawing it from the crankcase 21.

In the particular embodiment of the service station power oil removal unit disclosed herein the oil receiver 10 is preferably removably mounted and communicating with the reservoir 11 with a valve therebetween which normally hermatically seals the open lower end of the said oil receiver in respect to the said reservoir 11, the said oil receiver being connected to the chuck 50 by a flexible air suction hose 180 and a flexible oil suction hose 180 which in turn is adapted to be manually and simultaneously positioned in registry with the air valve 40 on the air suction tube 22 and the oil suction tube 23 of the connector 12 for making air and oil tight connections therewith.

The chuck 50 is preferably in the form of a cast metal hand grip having an air passage 51 and an oil passage 52 therethrough. An air hose fitting 53 and an oil hose fitting 54 may be provided for the threaded bored bosses in one end of the said chuck 50 communicating with the cored passages therethrough as indicated in Fig. 2 onto which the air suction hose 160 and the oil suction hose 180 are clamped by suitable hose clamps 55 and 56 respectively.

The other end of the chuck 50 is provided with suitable shouldered bores communicating with the said cored air passage 51 and the said cored oil passage 52 therethrough into which are threaded chuck jaw holders 57 and 58 into which resilient conical chuck jaws 59 and 60 respectively are retracted. The chuck jaws 59 and 60 are of the proper size and spacing to permit the said chuck jaws to engage the air valve 40 on the air suction tube 22 and the oil suction tube 23 respectively of the connector 12 as shown in Fig. 2 for completing temporary air and oil suction connections between the air and oil suction hoses 160 and 180 and the air and oil suction lines 16 and 18 respectively. The air suction hose 160 and the oil suction hose 180 are preferably secured together at intervals by sucking hose clips 61 as indicated in Fig. 1.

The chuck 50 is preferably provided with a suitably located aperture 62 communicating with
the air passage 51 therethrough, which aperture is normally closed by the operator’s thumb indicated by the numeral 63 in Fig. 2. When the operator removes his thumb from over the aperture 62 in the chuck 50, the said aperture serves as a vacuum relief valve as hereinafter described.

A cap 54 is preferably threaded in hermetically sealed relationship to the complementarily threaded neck 55 of the oil receiver 10 with a suitable washers 56 therebetween. An air suction tube 57 and an oil suction tube 58 protrude in hermetically sealed relationship through the top of the said cap 54 into said oil receiver 10 with the end of the said oil suction tube 58 preferably depending somewhat below the end of the said air suction tube 57 as best shown in Fig. 4. The flexible air suction hose 150 and the flexible oil suction hose 180 from the chuck 50 are run through a flexible spring tower 68 into and through a suitable anchorage fitting 70 which is threaded on a base 71 secured to the top of the reservoir 11 as shown in Figs. 1 and 4. The said air suction hose 150 and the said oil suction hose 180 are preferably frictionally connected to the air suction tube 57 and the oil suction tube 58 respectively protruding from the said cap 54 by means of the hose clamps 55 and 56 respectively.

The spring tower 69 is anchored in the anchorage fitting 70 by means of a suitable annular clamp 72, securing bolts 73, and a rubber sleeve 74 tightly drawn around the lower end of the said spring tower 69 which is telescoped over upper shouldered end of the said anchorage fitting 70. The flexible air suction hose 150 and the flexible oil suction hose 180 are anchored in the said anchorage fitting 70 by means of a pair of suitably formed double hose clamps 75 adapted to grip the said suction hoses by being drawn together by the bolts 76 which simultaneously engage the hose anchorage tabs 71 of the said anchorage fitting 70.

The length of the air suction hose 150 and the oil suction hose 180 between the hose clamps 75 of the anchorage fittings 70 and the suction tubes 57 and 58 is such as will enable the said suction hoses 150 and 180 to serve as means for maintaining the oil receiver 10 upright when supported in operating relationship on the reservoir 11, see Fig. 4.

The top of the reservoir 10 is provided with a flared tubular funnel 78 permanently mounted on the top thereof extending therethrough preferably as shown in Fig. 4. The upper shouldered portion of the said funnel 78 is lined with a flared resilient sleeve 19 of rubber or other suitable material to provide a hermetically sealed joint between the lower frusto-conical spout 80 of the oil receiver 10 and the funnel 78 when the said oil receiver 10 is supported in the said funnel 78.

The annular bottom open end of the said funnel 78 which extends into the reservoir 11 is beveled to form a thin edged annular valve seat 81 against which the disc valve 82 normally rests against the annular gasket 83 thereof seated against the said annular valve seat 81.

The said disc valve 82 is provided with a central exposed ball 84 on the bottom thereof and is supported for a limited upward movement in the socket end 85 of a valve lever 86 which is pivoted within the said reservoir 11 on a bolt 87 which serves as a pivot pin engaged in the bifurcated bracket 88 welded or otherwise secured to the underside of the top of the said reservoir 11. The said valve lever 86 is provided with a preferably knurled counterweight 89 threaded on the end thereof opposite to the end which supports the said disc valve 82 by means of which the force of gravity urging the said disc valve 82 against its seat 81 may be regulated. When the balance of the said valve lever 86 has been suitably adjusted, the position of the counterweight 89 thereon may be fixed by the lock nut 90. A hinged trap door 91 in the top of the said reservoir 11 covers a suitably disposed hand hole therefor through which the counterweight 89 on the valve lever 86 may be adjusted.

A suitable bifurcated bracket 92 is preferably provided on the side of the reservoir 11 and is suitably adapted to hold the chuck 50 when in use over a drain cup 93 which is secured to the side of the reservoir 11 near the top thereof directly below the said bracket 92. A suitable opening may be provided in the reservoir 11 at the low point of the said drain cup 93 through which oil remaining in the oil suction hose 180 after use drains into the said reservoir 11. The said drain cup opening in the side of the said reservoir 11 may be located vertically to serve as an oil level indicator for the said reservoir 11. When a sentinel type service station oil removal unit is used and/or when the oil receiver 10 is located below the height of the bracket upon which the chuck 50 is positioned when not in use, all oil remaining in the oil suction hose 180 and the chuck 50 will drain into the oil receiver 10 rather than out through the said chuck 50.

The reservoir 11 of the mobile type service station oil removal unit is provided with a suitably disposed handle bar 94 and a plurality of wheels 95 by means of which the said reservoir may be readily moved during use and conveniently placed about a service station or garage. When filled, the said reservoir is emptied by removing the drain plug 96 at the bottom thereof after placing the said reservoir over a suitable oil storage tank or the like.

When an automobile having a connector 12 thereon drives into a service station equipped with a service station power oil removal unit, the engine of the car is left running, and, the operator moves the service station, positions the chuck 50 against the connector 12 in proper registry with the air suction valve 40 and the air suction tube 22 and the oil suction tube 23 as shown in Figs. 1 and 2 of the drawings. The air suction valve 40 is thereby automatically opened. The operator then closes the vacuum relief aperture 62 communicating with the air passage 51 of the chuck 50 by placing his thumb 63 thereover. The suction from the intake manifold 17 of the internal combustion engine 15 then builds up a vacuum in the oil receiver 10.

When sufficient vacuum is built up in the oil receiver 10, oil from the crankcase 21 of the internal combustion engine 15 is drawn therethrough by the said vacuum created therein. The valve 82 is balanced against the valve seat 81 at the bottom open end of the funnel 78 communicating with the oil reservoir 11 normally hermetically closes the lower frusto-conical spout 80 of the said oil receiver 10. Vacuum created in the said oil receiver 10 maintains the said valve 82 closed, however, as soon as the vacuum in the oil receiver 10 is released, oil from the said oil receiver 10 gravitates into the oil reservoir 11 after which the said valve 82 returns to its normal closed position balanced against the valve seat 81. The vacuum in the oil receiver 10 is best relieved by the operator removing his thumb 63 from over the aperture 62 of the chuck 50. The oil receiver 10 is
thereby emptied conveniently by the service station operator from his position at the automobile. Thus, the size of the oil receiver 10 need not have the capacity equivalent to the quantity of oil carried in the largest crankcase of any automobile that may possibly drive up to a service station equipped with a power service station oil removal unit because the oil may be emptied into the reservoir 11 conveniently from the crankcase of any automobile in two or more cycles if necessary.

Although not shown in the drawings, it is contemplated and in some cases preferred that a suitable valve be placed in the chuck 50 by means of which the air passage 51 and the oil passage 52 therefrom may be closed which will maintain the vacuum in the oil receiver 10 when once created therein and thereby hold oil in the said oil receiver for inspection if desired. The opening of the said valve will relieve the vacuum in the said oil receiver 10 and permit the oil therein to empty by gravity into the said oil reservoir 11.

Attention has been disclosed and described in detail, it will be understood that various changes including the size, shape, arrangement and details of the various parts thereof may be made without departing from the spirit of the invention, and it is not my intention to limit the scope of the invention other than by the terms of the appended claims.

1. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of said internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the said oil receiver, an air suction hose and an oil suction hose hermetically connected at one end through the upper portion of said oil receiver, 75

2. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of said internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the said oil receiver, an air suction hose and an oil suction hose hermetically connected at one end through the upper portion of said oil receiver, and a check connected to the other end of said hoses adapted to be manually positioned over the ends of the suction tubes of said connector whereupon a vacuum is created in said oil receiver which withdraws oil from the crankcase of said engine to said receiver, the said valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

3. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of said internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the said oil receiver, an air suction hose and an oil suction hose hermetically connected at one end through the upper portion of said oil receiver, 75

4. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of said internal combustion engine respectively, an air valve on said air suction tube normally closing the same, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the said oil receiver, an air suction hose and an oil suction hose hermetically connected at one end through the upper portion of said oil receiver, and a check connected to the other end of said hoses adapted to be manually positioned over the ends of the suction tubes of said connector whereupon a vacuum is created in said oil receiver which withdraws oil from the crankcase of said engine to said receiver, the said valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

5. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of said internal combustion engine respectively, an air valve on said air suction tube normally closing the same, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the said oil receiver, an air suction hose and an oil suction hose hermetically connected at one end through the upper portion of said oil receiver, and a check connected to the other end of said hoses adapted to be manually positioned over the ends of the suction tubes of said connector whereupon a vacuum is created in said oil receiver which withdraws oil from the crankcase of said engine to said receiver, the said valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.
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and a chuck connected to the other end of said hoses adapted to be manually positioned over the air valve and oil suction tube of said connector in hermetically sealed relationship thereto whereupon the said air valve is opened and a vacuum is created in said oil receiver which withdraws oil from the crankcase of said engine into said receiver, the said chuck having vacuum relief means therefor, the said valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

6. In a service station power oil removal unit, in combination with a connector permanently mounted adjacent to said engine comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

7. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

8. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

9. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

10. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

11. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.

12. In a service station power oil removal unit, in combination with a connector comprising an air suction tube and an oil suction tube suitably connected to the intake manifold and low point of the crankcase of an internal combustion engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of the oil receiver being adapted to open under the pressure head of oil in said receiver after the vacuum created in said receiver is relieved.
hoses adapted to be positioned into sealed engagement with said connector whereby said engine creates a vacuum in said oil receiver which withdraws oil from the crankcase of said engine to said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

12. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently fixed with respect to said engine having an air suction tube and oil suction tube connected to the intake manifold and low point of the crankcase of said engine respectively, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of said oil receiver, an air suction hose and oil suction hose hermetically connected at one end to the upper portion of said oil receiver, and means on the other end of said hoses adapted to be positioned into sealed engagement with said connector whereby said engine creates a vacuum in said oil receiver which withdraws oil from the crankcase of said engine to said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

13. In a service station power oil removal unit adapted to remove oil from the crankcase of an internal combustion engine, when running, by suction from the intake manifold thereof, the combination of a connector permanently fixed with respect to said engine having an air suction tube and oil suction tube connected to the intake manifold and low point of the crankcase of said engine respectively, an air valve normally closing said air suction tube, a reservoir, an oil receiver adapted to empty by gravity into said reservoir, a valve sealing the outlet of said oil receiver, an air suction hose and oil suction hose hermetically connected at one end to the upper portion of said oil receiver, and means on the other end of said hoses adapted to be positioned into sealed engagement with said connector and open said air valve normally closing said air suction tube whereby said engine creates a vacuum in said oil receiver which withdraws oil from the crankcase of said engine to said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to be opened for emptying the said receiver.

14. In a service station power oil removal unit, in combination with a connector mounted on a vehicle comprising an air suction tube and an oil suction tube respectively hermetically connected at one end to the upper portion of said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

15. In a service station power oil removal unit, in combination with a connector mounted on a vehicle comprising an air suction tube and an oil suction tube respectively hermetically connected at one end to the upper portion of said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

16. In a service station power oil removal unit, in combination with a connector mounted on a vehicle comprising an air suction tube and an oil suction tube respectively hermetically connected at one end to the upper portion of said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

17. In a service station power oil removal unit, in combination with a connector mounted on a vehicle comprising an air suction tube and an oil suction tube respectively hermetically connected at one end to the upper portion of said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

18. In a service station power oil removal unit, in combination with a connector mounted on a vehicle comprising an air suction tube and an oil suction tube respectively hermetically connected at one end to the upper portion of said oil receiver, the said connector engaging means having a vacuum relief aperture there through normally closed by the operator when creating a vacuum in said oil receiver, the said valve sealing the outlet of said oil receiver being adapted to open under the pressure head of oil in said receiver when vacuum created in said receiver is relieved.

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