A portable, adjustable catch basin receptacle for attachment against the underside of inlet hoods of kitchen ventilating exhaust systems. Nozzle fittings are provided in association with the receptacle catch basin for supplying a liquid cleaning solvent under pressure to the hood filter and ductwork for the removal therefrom of grease, oil, dust and dirt, which drips directly into the receptacle catch basin. The catch basin is fitted with a flexible drain hose for draining dislodged and dissolved grease, etc. into a sludge container for ready disposal.

3 Claims, 3 Drawing Figures
CLEANING RECEPTACLE FOR RESTAURANT EXHAUST HOODS

Most commercial kitchens are equipped with ventilating systems for filtering and exhausting vapors which emanate from cooking foods. These vapors often contain large amounts of grease and oil which, as they cool, condense and accumulate in the exhaust systems where they present a significant fire hazard. Frequent cleaning of the exhaust systems is necessary to minimize this hazard. The cleaning of these systems, however, due to their shape and location, often results in the spillage of washing materials and fluids on and behind the cooking ranges.

Existing kitchen ventilating and exhaust systems fall into two broad classes. In most commercial and industrial systems, no provision is made for a self-contained cleaning and flushing operation. Hence, any cleaning of such a system is done by means independent of the ventilating system itself. Since the bottom of the hood of such a system is open, it is difficult to do a thorough cleaning without either the cleansing solution or the grease sludge removed through application of the cleansing solution dripping upon the surface of the cooking apparatus or upon to the floor about it.

It is, accordingly, the principal object of this invention to provide a novel and improved method and means for simply and efficiently cleaning ventilating exhaust hoods without spillage and soiling of the associated range and without the necessity of soiling the hands.

A more particular object of the invention is to provide a cleaning receptacle having a flexible catch basin removable attachable against the underside of a range hood to be cleaned, and adapted to drip-catch grease, oil, dust, dirt, etc., dislodged during the cleaning operation for automatic drainage into a sludge container for ready disposal.

It is still another object of the invention to provide a cleaning receptacle of the character described including means for jet spraying cleaning fluids directly into the hood ductwork for automatic cleaning in instances where the hood to be cleaned is not provided with self cleaning apparatus.

Still another object of the invention is to provide a cleaning receptacle of the character described which will be simple in construction, easy to use, and long-wearing and dependable in operation.

Other objects, features and advantages of the invention will be apparent from the following description when read with reference to the accompanying drawings. In the drawings, wherein like reference numerals designate corresponding parts throughout the several views:

FIG. 1 is a perspective view, as seen from above, of a cleaning receptacle embodying the invention, shown attached to a conventional hood in broken-line representation;

FIG. 2 is a transverse, vertical cross-sectional view taken along the plane indicated by the line 2—2 of FIG. 1, in the direction of the arrows; and

FIG. 3 is a partial view, on an enlarged scale and partly in section, of the receptacle, illustrating mechanical details thereof.

Referring now in detail to the drawings, reference numeral 10 in FIGS. 1 and 2 designates a typical ventilating grease hood of the type used over cooking ranges in commercial restaurants and the like, to the underside of which is removable attached a cleaning receptacle embodying the invention, designated generally by reference numeral 11. The cleaning receptacle 11 comprises a rectangular peripheral framework 12 supporting a flexible receptacle catch basin or sump 13, preferably made of a plasticised fabric.

The rectangular framework 12 comprises tubular, right-angular corner members 14, (only one illustrated in FIG. 3). Each leg of each of the right-angular corner members 14 is fitted with an interior helical compression spring 15. The right-angular corner members 14 have telescoping fitted therein, as best illustrated in FIG. 3, end portions of a pair of parallel side rods 16 (only one illustrated in FIG. 3) and end rods 17 (only one illustrated in FIG. 3). Marginal side and end portions of the flexible catch basin 13 are hemmed, as indicated at 18 and 19, respectively, in FIG. 3, to receive, slantingly fitted therethrough, respective side and end rods 16 and 17. It will be understood that the inward adjustability of end portion of side rods 16 and 17 within the corner members 14 afforded by the springs 15 permits ready removal of the framework rods and separation from the fabric catch basin 13 for storage and cleaning.

As illustrated in FIG. 1 a central zone of the fabric flexible catch basin 13, is provided with a drain fitting 20 communicating with an external flexible hose 21 discharging into a sludge container or canister 22.

Means is provided for adjustably securing the cleaning receptacle 11 against the underside or vent opening of an ordinary grease hood 10. To this end, a plurality of post clamps 23 are provided, each of which has a thumb-screw 24 at one end and a semi-circular, upwardly-directed support cradle portion 25 at the other end. The post clamps 23 are adjustably secured along respective vertically extending adjustment posts 26. Upper end portions of the adjustment posts 26 are fitted with respective hood clamp arms 27, said hood clamp arms having thumb-screw actuated post clamp portions 28 at one end for adjustable securement to said rods, and reversely-bent hood clamp portions 29 at their distal ends equipped with vertically-extending thumb-screws 30 for clamping attachment to the usual inwardly-directed hood grease drip flange at the periphery of the hood vent opening.

The flexible catch basin 13 of the cleaning receptacle 11 is preferably also provided with an upwardly-directed nozzle fitting 32 for spraying cleaning fluid and the like into a hood to be cleaned. The nozzle fitting 32 connects through a flexible conduit 33 with a mixing container 34 operative to mix water under pressure supplied through an input hose 35 with a suitable cleaning fluid or solvent supplied thereto.

In use, the hood clamp arms 27 of the cleaning receptacle 11 will be attached to the grease drip flange 31 of the hood 10 to be cleaned, as illustrated in FIGS. 1 and 2, so that the receptacle catch basin 13, the peripheral framework 12 of which is cradled in the support cradle portions 25 of the post clamps 23, will be securely supported directly below the vent opening of the grease hood 10. In this connection it is to be noted that while the hood vent opening of the hood 10 illustrated lies in a horizontal plane, it could as well be inclined by a substantial amount and still accommodate attachment of the cleaning receptacle in close enough relation to permit efficient cleaning and proper drainage into the
catch basin. After the hood receptacle has been secured in place as described above, the self-cleaning solvent dispensing apparatus of the hood, if the hood is equipped with such apparatus, (not illustrated), will be set into operation. The grease and dirt drippings resulting from such cleaning will be caught within the receptacle catch basin 13, whence they will drain through the discharge hose 21 into the sludge container 22 for ready disposal upon completion of the cleaning operation. If the hood to be cleaned is not equipped with self-cleaning apparatus, the ductwork can be sprayed from underneath with a solvent or solvent and water mixture through the nozzle member 32 supplied under pressure from the mixing container 34. The dislodged and dissolved grease and dirt thus removed from the hood ductwork will, as before, fall back into the cleaning receptacle catch basin 13 for discharge into the sludge container 22. It will be understood that in some hood installations not equipped with self-cleaning apparatus, cleaning can be aided by spraying or pouring a suitable solvent through an upper fan access opening or the like in the hood to be cleaned, if such is provided.

It will be noted that use of the receptacle as described above and as illustrated in FIG. 1 result in all of the discharged grease, dust and dirt falling into the catch basin 13, whence it is discharged into the sludge container 22 for easy disposal.

An important advantage of the invention resides in its ability to clean ventilating hoods over cooking ranges and the like without having harsh cleaning chemicals drip or spill upon the range or floor area beneath the hood.

Another advantage of the invention resides in its simplicity and convenience in use for cleaning soiled ventilating hoods without soiling the hands. In this connection, it is to be noted that the compression springs 15 in the right-angular framework members 14 readily permit axial displacement of their associated framework rods 16, 17 to enable removal of the flexible catch basin or sump 13 for cleaning whenever necessary. Such cleaning can easily be accomplished in a washing machine with the use of suitable water soluble cleaning agents.

While I have illustrated and described herein only one form in which my invention can conveniently be embodied in practice, it is to be understood that this form is presented by way of example only, and not in a limiting sense. The invention, in brief, comprises all the embodiments and modifications coming within the scope and spirit of the following claims.

What I claim as new and desire to secure by Letters Patent is:

1. A cleaning receptacle for receiving removable waste products from a kitchen exhaust hood having a rectangular inlet opening comprising in combination:
   a substantially rectangular catch basin comprised of flexible material;
   a rectangular perimeter framework for said catch basin comprising a pair of spaced parallel end rods and a pair of spaced parallel side rods, and four right-angular-bent tubular corner members, within which the end portions of said end rods and said side rods are telescopingly received;
   a pair of compression springs in each of said angular corner members constrained, one each against respective ends of said end and side rods;
   catch basin attaching means for removably attaching marginal edge portions of said catch basin to said perimeter framework;
   adjustable clamp and support means adapted for attaching said perimeter framework to the perimeter of the inlet opening portion of said exhaust hood, said clamp means arranged to support said catch basin directly underneath said inlet opening to receive said removable waste products; and
   drain means to drain said removable waste products from said catch basin.

2. A cleaning receptacle for kitchen exhaust hoods as defined in claim 1 wherein said catch basin attaching means comprises individual hemmed portions sewn along the edges of said flexible catch basin, through which said end rods and said side rods are assembled.

3. A cleaning receptacle for kitchen exhaust hoods as defined in claim 2 wherein said adjustable clamp and support means comprises:
   a plurality of support posts;
   a plurality of clamp members adjustably attachable, one each, along said posts;
   cradle means on said clamps for supporting edge portions of said perimeter framework;
   a plurality of hood clamp arms; and
   means for adjusting or securing end portions of said hood clamp arms, one each, against upper end portions of said support posts, said hood clamp arms at their distal ends being formed with reversely-bent hood clamp portions fitted with thumb-screws for attachment to the inwardly-directed hood grease drip flange at the inlet vent opening of an exhaust hood to which the cleaning receptacle is to be attached.

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