B. C. FOX.

REFUSE BURNER.

APPLICATION FILED JULY 20, 1908.

920,312.

Patented May 4, 1909.

Fig. 1.

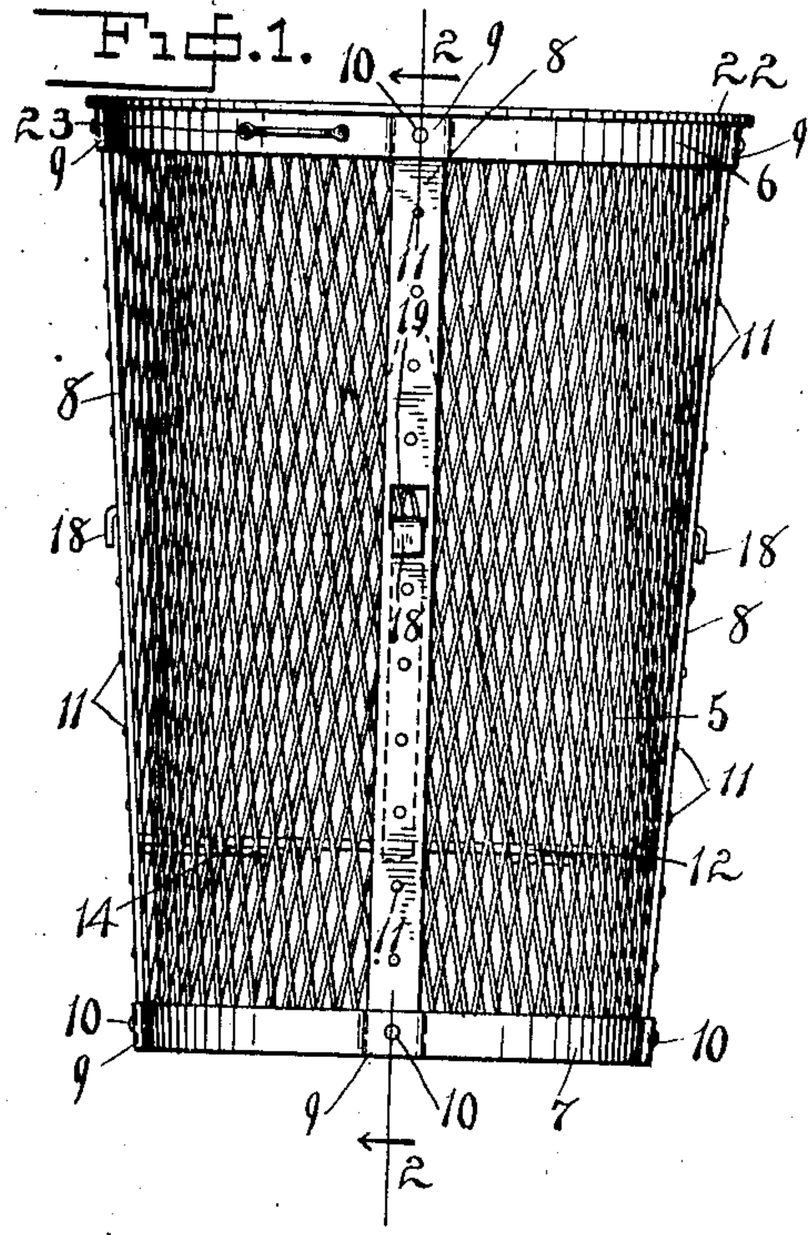


Fig. 2.

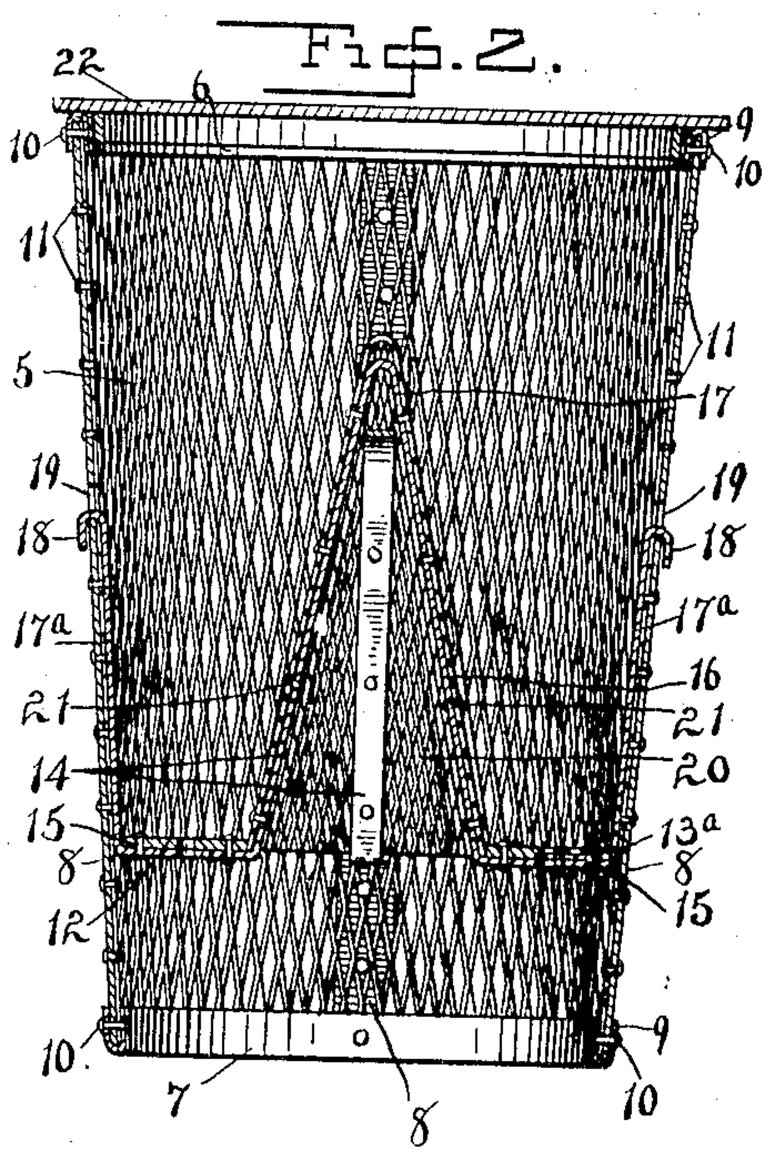


Fig. 3.

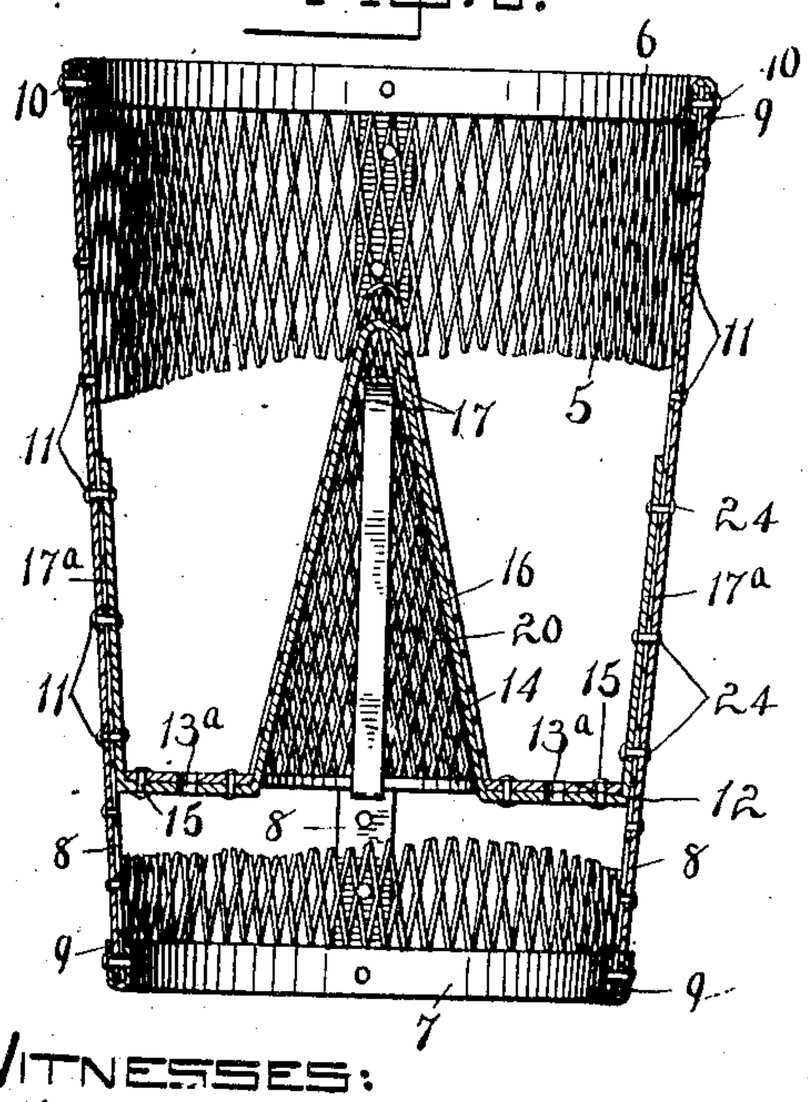
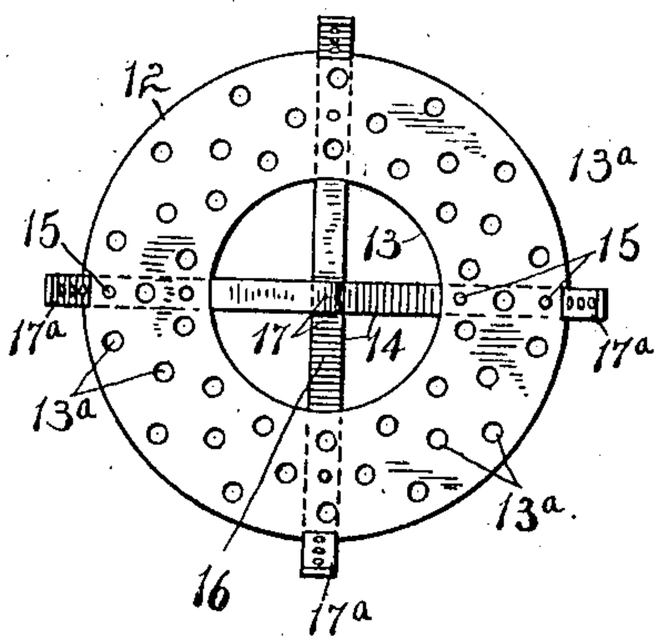


Fig. 4.



WITNESSES:

Matthew J. Marty

C. F. Bassett

INVENTOR

Benjamin C. Fox

BY Frederick Benjamin

ATTY.

UNITED STATES PATENT OFFICE.

BENJAMIN C. FOX, OF CHICAGO, ILLINOIS.

REFUSE-BURNER.

No. 920,3[illegible]. Specification of Letters Patent. Patented May 4, 1909.

Application filed July 20, 1908. Serial No. 444,344.

To all whom it may concern:

Be it known that I, BENJAMIN C. FOX, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refuse-Burners, of which the following is a specification.

My invention relates to improvements in receptacles designed to hold paper and other waste material, to be burned without removal from the container.

The chief objects of the improvements which form the subject matter of this application are:—to provide a repository for loose and inflammable material so constructed as to permit access of air to every part of the contained mass, so that free combustion may take place without resorting to artificial draft; to so design and construct the receptacle that the entire contents may be consumed without danger of communicating the fire to surrounding objects; and to supply a portable combined furnace and receptacle that will be durable, economical to manufacture, and capable of causing complete incineration of the contents.

Other objects of my invention, stated more in detail, are:—to provide a refuse burner constructed largely of open-work material, such as expanded metal, thus producing a receptacle of light weight proportional to its capacity; to furnish a rigid frame for reinforcing and supporting the perforated material, and to supply means for protecting the raw edges of the expanded metal where cut.

A further advantage is observable in the removability of the grate and extension, the latter adapted to admit air into the center of the mass when burning, thus promoting complete combustion.

Another feature of importance is the shape in which the parts are made, the outer walls being in the form of a truncated cone, and the inner member conical, thus permitting the parts to be nested so as to economize space for transportation.

I accomplish the desired results by means of the device illustrated in the accompanying drawing, forming a part of this application, and in which:—

Figure 1 is a side elevation of the preferred form of my improved refuse burner; Fig. 2 is a vertical section on line 2—2 of Fig. 1; Fig. 3 is a vertical section, with some portions broken away, showing a modification in the construction of the grate supports, and Fig. 4 is a top plan view of the grate shown in Fig. 3 and supports therefor, removed from the receptacle.

Referring to the details of the drawing, the numeral 5 indicates a basket-like receptacle, having the general shape of an inverted truncated cone. I prefer to use expanded metal for the walls of this receptacle, although woven wire fabric may be substituted if preferred. The upper and lower ends of the receptacle are reinforced and protected by metal bands 6, 7, of U-shape or channel form, which are riveted thereto. The sides of the receptacle are stiffened by vertical metal strips 8 placed upon the outside at spaced intervals, and riveted at their ends to bands 6 and 7 by rivets 10, which pass through the strips both walls of the bands and the expanded metal. The strips 8 are further secured to the expanded metal sides by additional rivets 11. The structure thus described is formed with both ends open, and to support the contents a grate 12 in the form of an annular ring or plate having a central circular opening 13, and provided with a plurality of smaller apertures 13[a] to permit the air to pass freely during the process of combustion is arranged within the receptacle. This grate is supported at a slight distance above the lower margin of the receptacle by a framework consisting of two hangers 14, which are directed radially beneath the said grate, and fastened thereto by rivets 15. The middle portion of each hanger is bent at the inner margin of the central opening 13 of the grate and extended upward in the manner shown, forming an inverted V, 16, the apex of which is indicated at 17, where the two hangers cross each other. The outer portions 17[a] of the hangers are bent sharply upward at the periphery of the grate 12, and lie parallel with and against the inner surface of the receptacle wall, where the extremities are recurved to form hooks 18 (as shown in Figs. 1 and 2) which pass through the walls of the receptacle and are received in suitable openings 19 formed in the supporting straps 8, thus affording a firm support for the grate, and permitting its ready removal by disengaging the hooks, which may be done by raising the grate and hangers, the openings 19 being of sufficient height to permit this to be easily done, and then springing the hangers inwardly until the hooks are free. The mid-

dle portions of the hangers form a support for a cone-shaped member 20, which is placed over the said support and riveted thereto as shown at 21. This cone is preferably constructed of the same material as the wall of the receptacle, forms a covering for the grate opening 13, and permits the air to penetrate freely to the center of the burning mass of refuse surrounding it. In order to prevent the lighter burning particles from becoming scattered by the wind I supply a cover 22, furnished with handles 23 and made of any suitable material.

In Figs. 3 and 4 is shown a modification in the grate supporting frame. The central cone in this case is not fastened in any way but is simply placed over the inverted V-shaped supports and held in place by its weight aided by friction. The hooks 18, shown in the previous figures, are here omitted, the frame portions 17[a] being permanently secured to the receptacle walls by rivets 24. While in this case the grate is not detachable the cone can be lifted therefrom. It is apparent that this cone is subjected to the maximum degree of heat generated in the burning mass, and it is therefore likely to become deteriorated before the outer structures or the heavier supports and in such case can be economically and conveniently replaced by a new cone.

The reinforcements 8, comprising the vertical outside straps, and the hangers with their V-shaped extensions 16, afford a valuable and durable framework, very essential in a structure composed of the material having the light weight which it is desirable to employ for the main walls. Not only does this frame defend the appliance against rough usage but also prevents the warping to which the light fabric may be liable particularly when unusually heavy refuse is burned, the central apex of the cone 20 being especially prone to become deflected without the support given by the V-shaped portions of the hangers.

Having thus described my invention what I claim as new is:—

1. In a refuse burner comprising a receptacle, grate arranged in said receptacle, a hollow conical air supplying member having its base resting on said grate, and means for supporting said grate, said means extending up into said conical member and adapted to support and maintain same in normal shape.

2. In a refuse burner, the combination with a perforated receptacle, of channeled bands engaging the ends of the receptacle, vertical reinforcing members secured at each end to said bands, an annular grate provided with a central opening, hangers supporting said grate and removably attached to the receptacle above the grate, said hangers projecting upwardly through the central opening in the grate, and a perforated air supplier supported by the projecting portions of the hangers and arranged above the central opening in the grate.

3. In a refuse burner, the combination with a perforated receptacle, bands engaging the ends of the receptacle vertical reinforcing strips secured to the receptacle and bands, an annular grate having a central opening, a conical air supplier arranged above said opening, hangers extending across the interior of the receptacle and supporting the grate, the ends of said hangers being bent to project upwardly above the grate and terminating in hooks removably engaging openings in the reinforcing straps.

In testimony whereof I affix my signature in the presence of two witnesses.

BENJAMIN C. FOX.

Witnesses:
F. BENJAMIN,
H. DELOS HIGMAN.