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2,376,642

KNOCK-DOWN VENTILATOR

Filed May 16, 1940

2 Sheets-Sheet 1

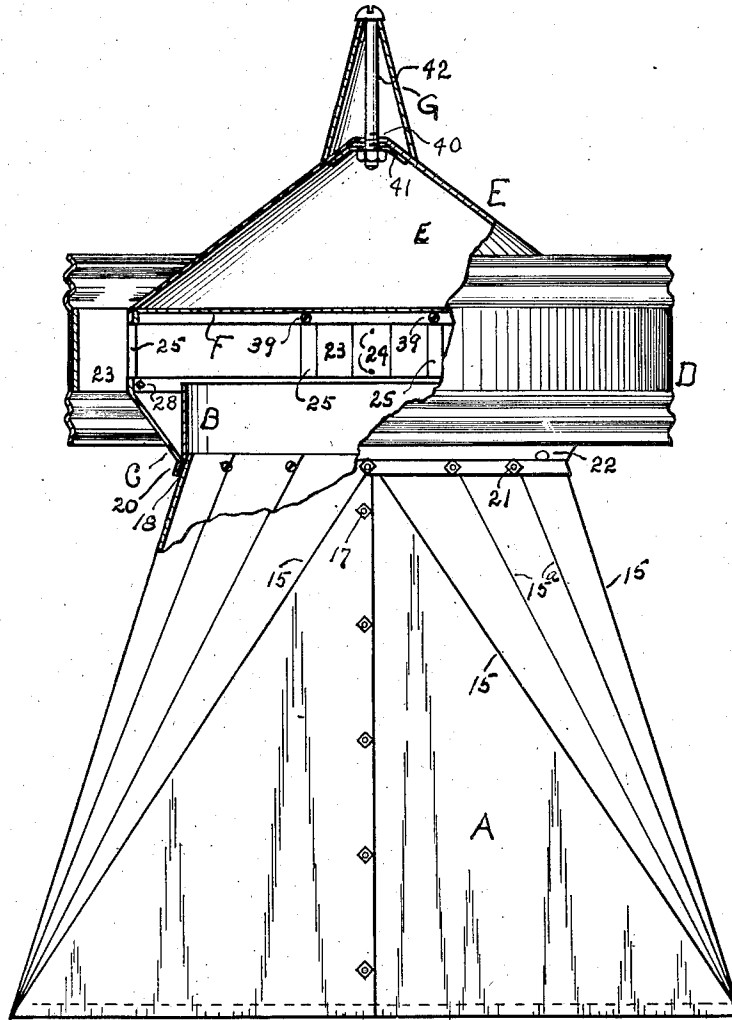


FIG. 1

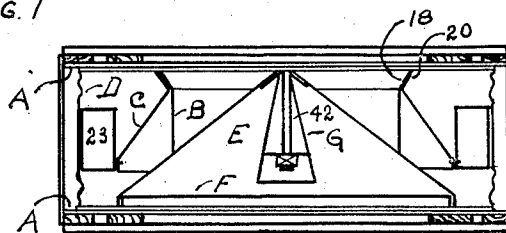


FIG. 3

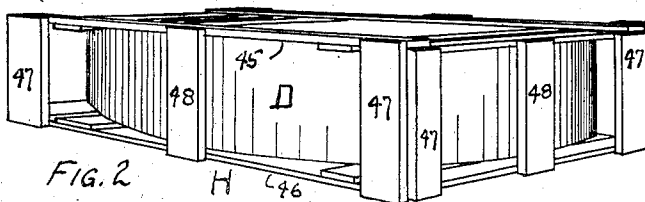


FIG. 2

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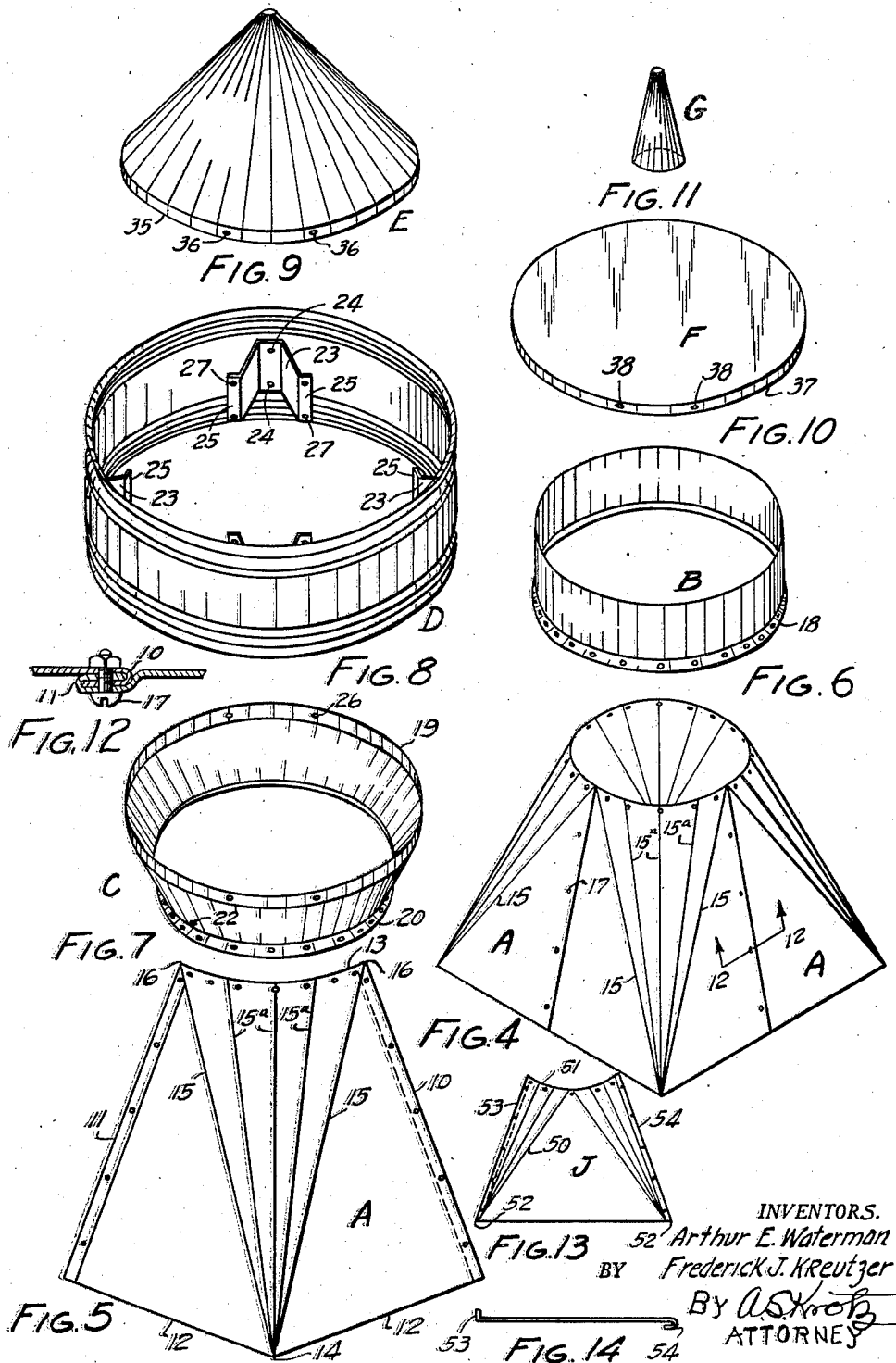
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KNOCKDOWN VENTILATOR

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1 Claim. (Cl. 206—46)

The present invention relates to ventilators of the knocked down type wherein the parts may be created in a reasonably small package, shipped, unpacked and erected on the farm by the ordinary farm hand.

The principal object of the present invention is to provide a ventilator in which the pedestal parts are grooved or broken in a certain way but left capable of being laid substantially flat in the crate but being in a form which will make it possible for an ordinary farm hand to successfully complete the shape of these parts and erect and install the ventilator without the use of special tools.

Conventional ventilators of the class are manufactured and assembled at the factory. They are very bulky, therefore, they cannot be economically stored or shipped nor can they be purchased in any reasonable numbers and stored by the dealer because of the warehouse space occupied.

Generally stated, it may be said that we provide a novel design which can be easily manufactured, knocked down, crated, shipped and erected at the place of using without special tools.

A further object of the present invention is to provide a damper in the throat of the ventilator, when necessary, and means whereby the chimney outlet may be extended through the center of the ventilator.

To these and other useful ends, our invention consists of parts, combinations of parts, or their equivalents, and mode of crating and erecting, as hereinafter described and claimed and shown in the accompanying drawings in which:

Fig. 1 is a side elevational view of our improved ventilator when assembled, fractions being cut-away to clearly illustrate the details of the various parts.

Fig. 2 illustrates a crate in which the parts have been packed.

Fig. 3 illustrates the crate shown in Figure 2, in section, the section lines cutting through all of the parts therein.

Fig. 4 is a diagrammatic perspective view illustrating the base or pedestal of the ventilator, assembled and ready to receive the other parts.

Fig. 5 is a plan view of one of the pedestal parts, in the flat, or after having been broken slightly ready for bending and assembling.

Fig. 6 is a diagrammatic perspective of the internal air guiding duct.

Fig. 7 is a diagrammatic perspective of the skirt of the ventilator.

Fig. 8 is a diagrammatic perspective view of the storm band.

Fig. 9 is a diagrammatic perspective of the roof cone.

Fig. 10 is a diagrammatic perspective drawing of the roof ceiling.

Fig. 11 is a diagrammatic perspective view of the roof cap.

Fig. 12 illustrates a sectional view through the joint between pedestal sheets, taken on line 12 of Figure 4.

Figures 13 and 14 illustrate a modification.

As thus illustrated, each part or element in the ventilator is designated, in its entirety, by reference characters A to J, as illustrated on the drawings.

Member A is shaped in the flat as illustrated in Figure 5, the side edges being formed as at 10 and 11, providing for a folded joint (see Figure 12), the bottom edges 12 being cut at an acute angle and the top edge 13 being curved.

We slightly break member A from the apex, as at 14, along lines 15—15, these lines terminating at points 16—16 and two, three or more inside lines 15^a being evenly spaced, as illustrated. The center breaks 15^a are optional, as we find that the outside breaks of each group are all that is necessary under normal conditions.

It will be understood that the material is not broken or bent on lines 15 or 15^a great enough to prevent laying parts A flat in the crate. However, they assist greatly in bending member A to the shape shown in Figure 4, so the edges may be secured together, as illustrated in Figure 12, by means of spaced bolts 17.

It will be seen, by scrutinizing Figures 1 and 4, that the pedestal is formed which is rectangular or square at the bottom and curved at its top, the curved or square parts being formed cone shaped or diverging downwardly.

Member B is made round, as illustrated, and having a bottom flange 18, adapted to fit over the curved end of members A and having apertures which register with apertures in members A.

Member C is shaped, as illustrated, having a flange 19 at its top with parallel edges, and a flange 20, at its bottom, which is adapted to fit over flange 18 of member B, and having apertures which register with apertures in members A and member B. Thus, when members B and C are positioned over the upper end of members A, they may be bolted to this member by bolts 21, (see Figure 1). Thus, the pedestal is provided with an air directing member B, and a skirt C, each being secured to members A from the outside, so any water that may find its way in the space between members B and C, will find its way to the outside of the pedestal through a number of openings 22.

Member D is suitably grooved in order to make it rigid, and is provided with a number of brackets 23, the brackets, on their narrow edges, being secured to member D by spot welding or otherwise, as at 24, the sides of these brackets diverging and having flanges 25 which are posi-

tioned to fit over flange 19, flange 19 having apertures 26 and flanges 25 having apertures 27.

The lower apertures 27, in flanges 25, and apertures 26, in flange 19, are adapted to register and receive bolts 28, which extend through these apertures. Thus, member D may be securely fastened to member C.

Cone E is provided with a downwardly extending flange 35 having pairs of spaced apertures 36, which are adapted to register with apertures 27, in flanges 25. Member F is provided with a flange 37, which is adapted to fit within flange 35 and having apertures 38—38, arranged in pairs, so as to register with apertures 36 and 27. Thus, as illustrated in Figure 1, members E and F may be assembled and bolted to flanges 25, by means of bolts 39.

Member E is provided with an opening 40, in its apex, and a bracket 41 having an aperture for the reception of a bolt 42. Member G is adapted to fit over the apex of member E and having an aperture, in its top, for the reception of bolt 42. It will be seen that member G and bolt 42 may be placed into position and securely fastened to member E.

It will be seen, that we have provided an organization which is simple, light, strong and efficient; a device which is made up of separate and distinct elements, the base elements A being slightly broken at certain points so they may be easily bent and fastened together so as to form a pedestal which is round, at the top, and, preferably, square at its bottom; that a ceiling is provided in the cone so as to prevent the air from eddying up into the cone as it passes from the ventilator base; and an air directing duct is preferably provided in the top of the pedestal, which will also act as a drip catch so any water that may find its way into the ventilator will be caught in a pocket and drained to the outside of the pedestal.

The manner of crating our improved ventilator is as follows:

The crate is, in its entirety, designated by reference character H and, preferably, comprises top and bottom frames 45 and 46, and corner and side members 47 and 48; thus making a conventional crate, the crate being made high enough to receive members D and E, (see Figure 3).

Member E is positioned in the center of the crate, which is preferably square, member G being positioned within member E, as illustrated, and held into position by means of bolt 42. Thus, the crate need be but very little higher than the width of member A or only high enough to receive members D and E, plus four members A, when laid flat.

Members A may all be positioned in the bottom of the crate, or two in the bottom of the crate and two in the top of the crate. Before placing member E in the crate, and after member G has been positioned in member E, member F is placed within flanges 35 of member E. Thus, member F will be out of the way and occupy no crate room. Member C is secured to the brackets on member D, in a reverse position, and member B is positioned within member C. It will be seen, by scrutinizing Figure 1, that the sizes of the various members will permit this method of crating.

Clearly all of the parts with which to make

up the ventilator, as illustrated in Figure 1, may be conveniently placed in a relatively small crate.

Referring again to Figure 1. It will be noted that our improved ventilator is neat in appearance, strong, perfectly protected against water passing into the building through the pedestal, and that while the ventilator may be knocked down and shipped in a comparatively small crate, the ordinary farm hand will be able to erect it; thus not only providing an efficient, light, low in cost ventilator, which is pleasing in appearance, but that the crate will be small enough so it can be stored in warehouses, etc., and easily conveyed from the warehouse or dealers place of business to the farm.

In the modification shown in Figures 13 and 14, the pedestal is made from four flat sheet metal pieces J, being shaped about as shown. However, the breaking points 50 are evenly spaced at the curved end 51 of the plate and converging to points as at 52—52.

At one edge of sheet J we provide a right angle flange 53, and at the other edge, a reverse bend 54. Thus it will be seen, that by bending member J, along the lines of the breaking points 50, a quarter of a circle may be provided at the top of the plate, leaving the bottom of the plate straight, and then member 54 may be hooked over member 53 and bolted together in any convenient manner. Thus, a seam is made at the corners of the pedestal, forming a water tight joint, and, after the four members are secured together, they present a shape exactly like Figure 4.

It will be understood that member F is optional, and that dampers 70, 75, and chimney 77 are also optional.

Having thus shown and described our invention, we claim:

A knocked down farm building ventilator and package of the character described, comprising a packing crate, a cone shaped roof, a circular in horizontal section wind break having spaced inwardly extending brackets secured thereto intermediate its ends, four sheet metal members being cut to shape and each being slightly broken in a group of diverging lines, permitting the sheets to be laid substantially flat and being adapted to be further bent on said lines and secured together to thereby form a rectangular bottom and a circular top pedestal assembly, an inverted frustummed cone shaped skirt adapted to be secured at its small end to the top of said pedestal and at its other end to the inner bottom corners of said brackets, said roof being adapted to be secured at its bottom to the inner top corners of said brackets to thereby form all of the elements of the ventilator, and whereby said roof member may be positioned normally in said crate and the wind break positioned therearound in the crate, each resting substantially on the bottom of the crate, said skirt being inverted and secured at its large end to the inner bottom corners of said brackets, the apex of said roof, the small end of the skirt, and the other end of said wind break being substantially on the same plane, said pedestal members being laid substantially flat in the top or bottom of the crate and in contact with said ventilator elements.

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