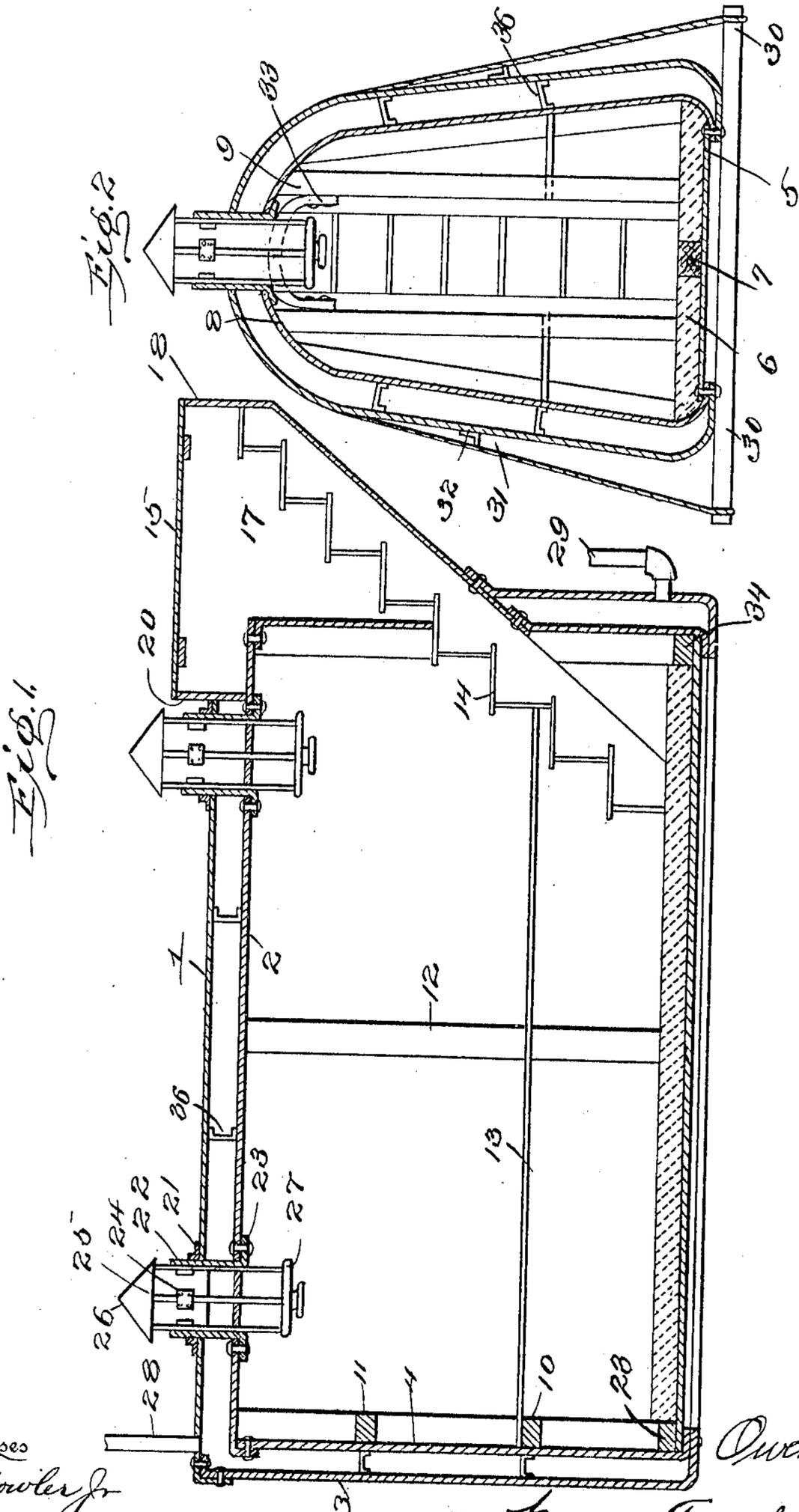


O. K. HARRY.
 STORM AND REFRIGERATOR CELLAR.
 APPLICATION FILED AUG. 1, 1908.

955,794.

Patented Apr. 19, 1910.

2 SHEETS—SHEET 1.



Witnesses
J. M. Fowler Jr.
G. F. Tolson.

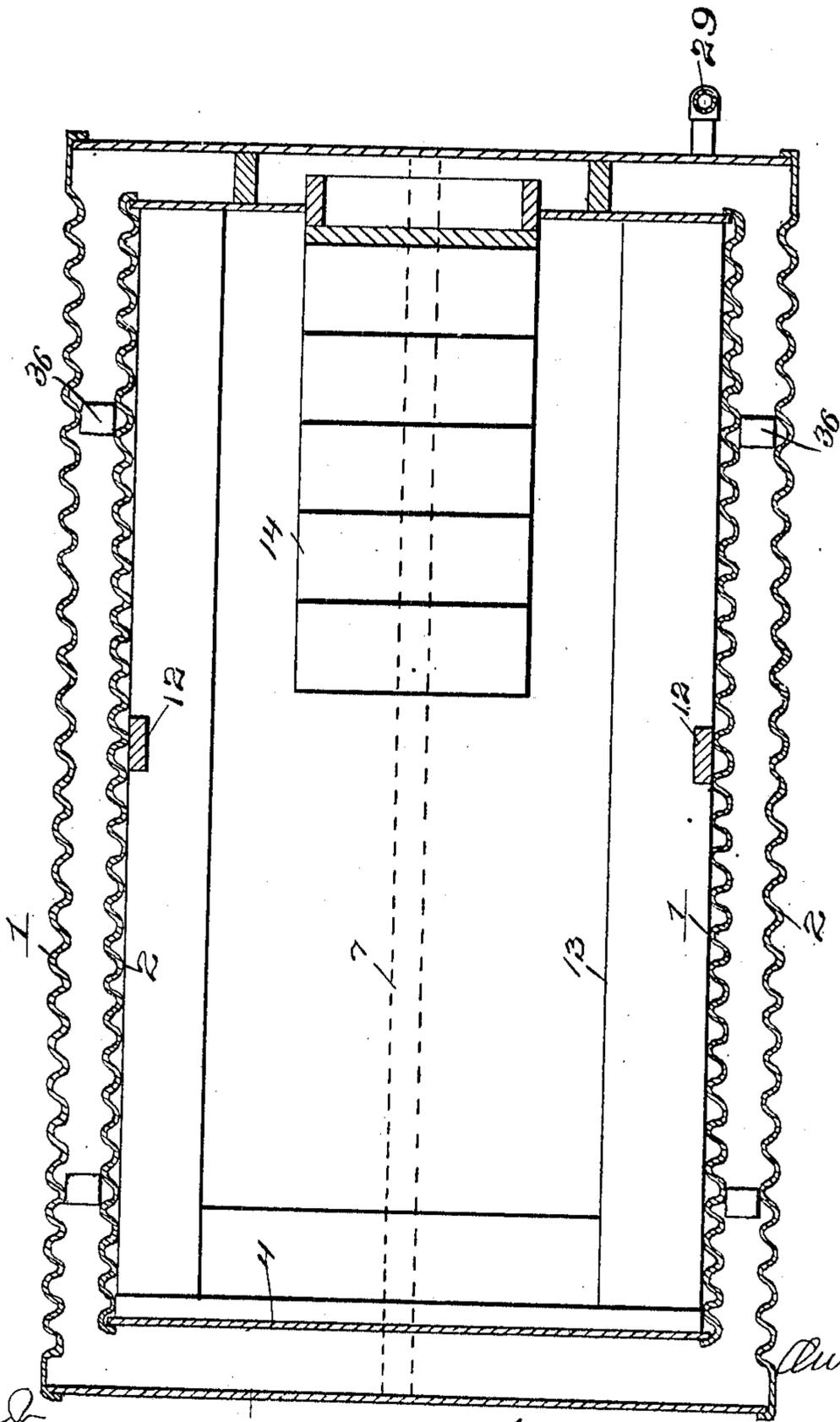
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Fig. 3.



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UNITED STATES PATENT OFFICE.

OWEN K. HARRY, OF DALLAS, TEXAS.

STORM AND REFRIGERATOR CELLAR.

955,794.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed August 1, 1908. Serial No. 446,434.

To all whom it may concern:

Be it known that I, OWEN K. HARRY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Storm and Refrigerator Cellars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to storm and refrigerator cellars and to structures designed for the storage of vegetables, fruit, or other products.

The object of the invention is to provide a structure which may be readily buried in the ground and will be of such form and shape and also so constructed and arranged and anchored in place that it will be firmly held against displacement in case of any disturbance of the ground or soil in which it is located.

The invention consists in a structure adapted for refuge from cyclones or which may be used as a storage chamber for perishable products, constructed and arranged as hereinafter set forth and claimed.

In the accompanying drawings: Figure 1 is a vertical longitudinal section through the central portion of the structure. Fig. 2 is a vertical, transverse section showing the means of anchoring the cellar in the ground. Fig. 3 is a horizontal, transverse section.

Referring to the drawings in detail, 1 indicates the upper outer wall or roof of the cellar and 2 the upper inner wall thereof, these walls being formed of corrugated metal and each of them extending in a substantially continuous piece from the base of the structure on one side over the top and to the base on the opposite side. It will, of course, be understood that the term "continuous" does not necessarily mean one piece of metal, but may mean a series of plates riveted together. The end walls 3 and 4 are formed preferably of flat plates and are riveted to the corrugated plates forming the sides and roof in any desired manner. The structure as a whole is approximately oval shaped in cross section, but is provided with a flat base. The roof portion is curved and may be substantially semi-circular. The object in providing the cellar with double walls and a double roof is that the intermediate space may be made to serve as a water jacket

for the purpose of keeping the temperature of the cellar as nearly as possible at the desired temperature.

The base is formed of a plate 5 or a series of plates riveted together, and is connected with the walls forming the sides in the manner illustrated in the cross-section in Fig. 2. After the construction is permanently placed in position in the ground a cement or concrete foundation 6 is laid over the plate 5 and in this concrete or cement foundation a central, longitudinal member 7 is embedded. The wooden framework of the end opposite the stairway consists of uprights 8 and 9 which are framed together by suitable cross pieces 10 and 11 and the upper ends of the uprights are connected by arched braces 33, formed of channel bars, in the manner shown in Fig. 2, these braces serving to support the roof. Uprights 12 are located about midway between the ends of the structure and in line with the end uprights 8 and 9, and seats 13 are arranged at suitable height lengthwise of the cellar adjacent to the wall of the same and along the end opposite the stairway, at which latter point they rest upon the transverse timber 10. A transverse timber 23 is located at the base of the wall 4 and is connected to the uprights 8 and 9, a similar transverse member 34 being located at the opposite end of the structure.

One end of the cellar is partly open and the double wall terminates at a point slightly below the central line in order to provide for the construction of a stairway 14 which enters the main chamber and projects outwardly therefrom terminating at the top about on the level with the roof. A trap door or other similar closing device 15 covers the opening provided for use as an entrance. The upper portion of the stairway is inclosed by side walls 17 and an end wall 18 which projects slightly above the roof and terminates on a line with the wall 20, forming a support for door 15. Openings are formed at suitable points in the roof of the structure and extend through both of the walls 1 and 2 of said roof. These openings are surrounded by collars 21, holding in place sleeves 22 having a lower flange 23 and being provided with interior guides 24 for the accommodation of slidable rods 25 forming a support for a cap 26 which latter may be adjusted by means of the rods in order to open or close the ventilators or vary the degree of ventilation which may be se-

cured thereby. The lower ends of rods 25 are connected by a suitable operating device 27.

In order that constant circulation may be provided for the water jacket, a suitable inlet pipe is located at any convenient point, as shown, for instance, at 28, and a suitable outlet pipe is located preferably on the opposite side of the structure, say at 29.

The structure as above described is manufactured complete and shipped to the point where it is intended to be put into use. It is designed to be embedded in the ground a sufficient distance so that the roof will be slightly below the surface of the ground, the ventilators projecting above the surface. Such a storm cellar is frequently used in localities where the character of the ground is such that the whole structure will "float" or become displaced by the action of water passing through the ground. I propose to obviate this difficulty by anchoring the cellar by means of timbers 30 embedded in the ground a short distance from each end and connected by means of guy ropes 31 to the roof, as shown in Fig. 2. The exterior walls are strengthened by angle bars 32 extending longitudinally thereof about midway between the roof and the base, and suitable angular braces 36 separate the double walls, being disposed at intervals between the top and bottom, the sides and each end.

I desire to direct especial attention to the shape of the structure, which is shown in Fig. 2 as provided with a broad base, since this formation of itself very largely obviates the difficulty heretofore encountered in the attempt to permanently locate structures of this character in the ground of the peculiar formation indicated.

The door 15 is preferably formed of wood and covered with steel, and the frame for the door is constructed in a similar manner.

What I claim is:

1. In a structure of the character described, a floor section, end walls rising therefrom, double side walls inclined outwardly toward the bottom and inwardly at the top for the purpose of forming a roof portion, the lower edges of the outer side walls being brought in contact with the corresponding edges of the inner side walls, and both of said edges being secured to the floor section.

2. In a structure of the character described, a floor section comprising a framework and a floor plate arranged beneath such framework, a filling material of cement or the like above said plate and between the members constituting the framework, end walls rising from the floor section, double

side walls inclined outwardly toward the bottom and inwardly at the top for the purpose of forming a roof portion, the lower edges of the outer side walls being brought in contact with the corresponding edges of the inner side walls, and both of said edges being secured to the floor section.

3. In a structure of the character described, a floor section comprising a framework and a floor plate arranged beneath said framework, end frames rising from the floor section, such end frames including uprights, cross pieces connecting the uprights, and arched braces also connecting the uprights at their upper ends, end wall plates secured to the end frames and to the floor plate, and double side walls connected with such floor plate and extending inwardly over the arched braces and constituting the roof of the structure.

4. In a structure of the character described, a floor section comprising a framework, a floor plate arranged beneath the same, and a filling material of cement or the like, end frames including uprights, cross pieces, and arched braces between the upper ends of the uprights, a plurality of wall plates spaced apart and secured to the end frames, and double side walls, said walls projecting outwardly toward the bottom, means for securing the lower edges of both of the said wall plates to the floor plate, said side walls being turned inwardly at the top for the purpose of forming a roof portion, said roof portion having apertures through the double walls thereof, ventilating devices mounted in such apertures, anchoring devices extending transversely beneath the structure, stays connected with the structure and with the anchoring devices, and means for conducting a cooling fluid through the double walls.

5. A subterranean structure comprising a bottom, and side walls secured thereto and converging toward each other in such degree as to restrain the structure from rising under the influence of external pressure of the soil.

6. A subterranean structure comprising a body, side walls secured thereto and converging toward each other in such degree as to restrain the structure from rising under the influence of external pressure of the soil, and a top secured to and connecting the sides.

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

OWEN K. HARRY.

Witnesses:

J. B. ADAM,

J. B. ADAM, Jr.