

No. 675,163.

Patented May 28, 1901.

W. E. OVERTON.  
STEAM COOKER FOR FERTILIZERS.

(Application filed Oct. 1, 1900.)

(No Model.)

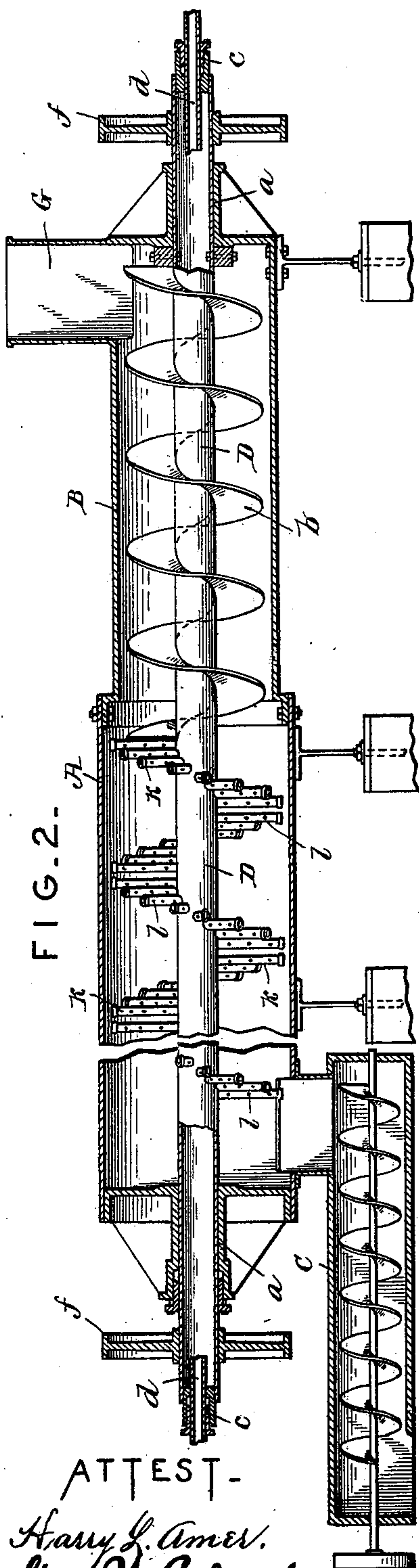


FIG. 2.

ATTEST.  
Harry L. Amer.  
Geo. W. Anderson

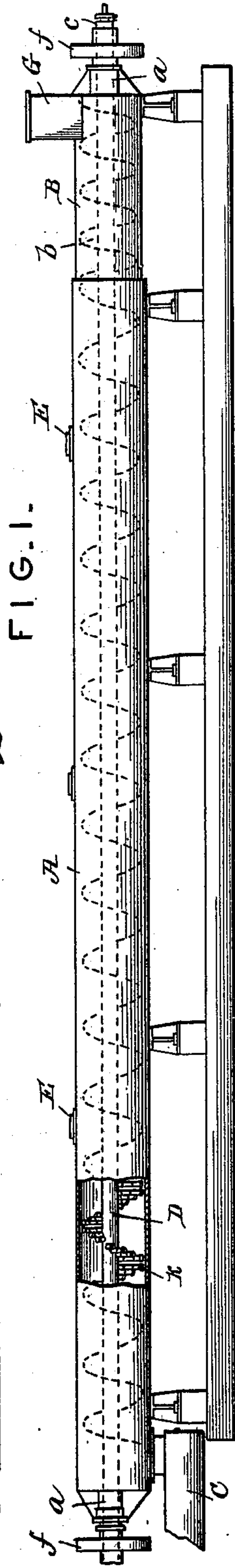


FIG. 1.

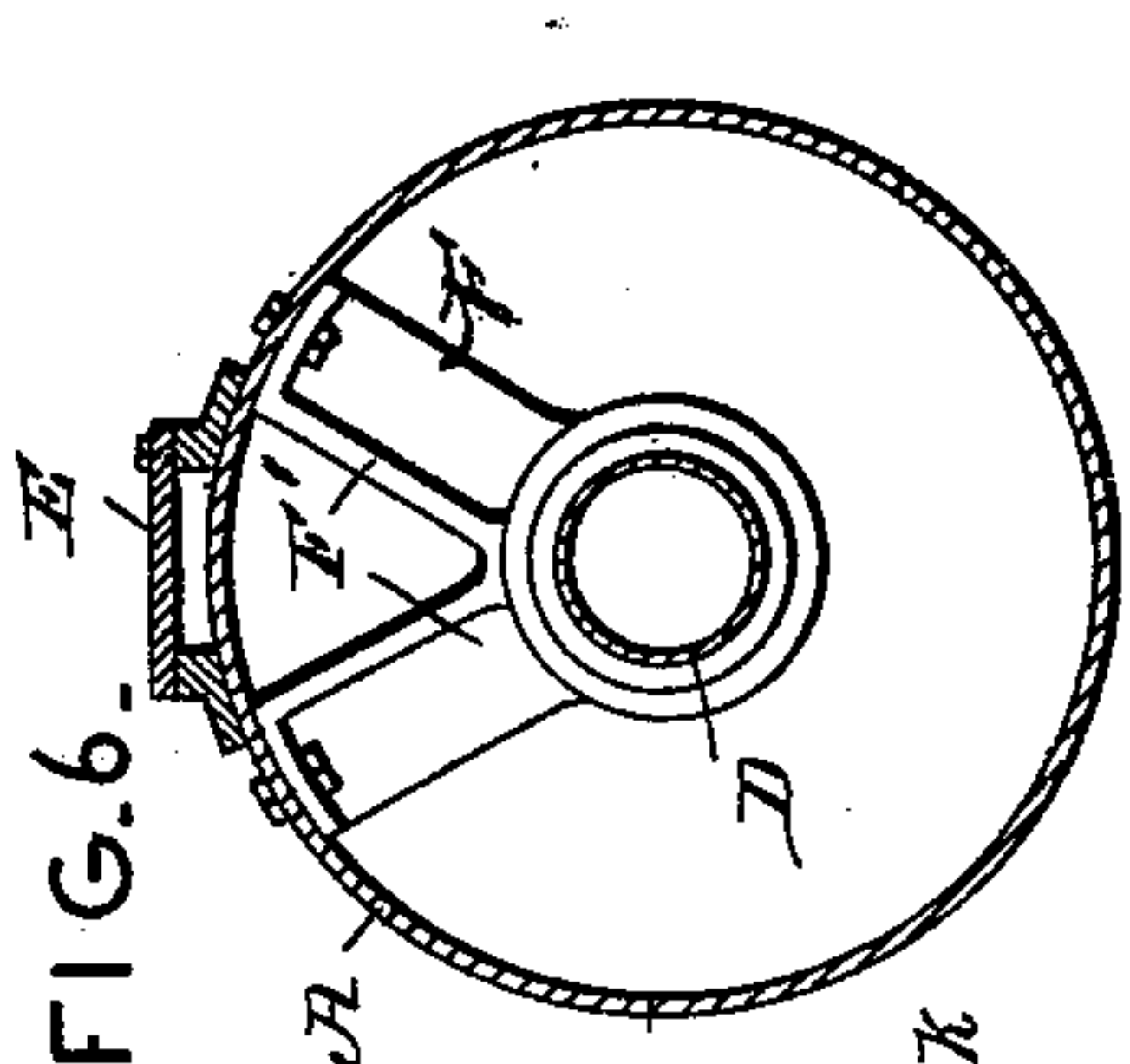


FIG. 6.

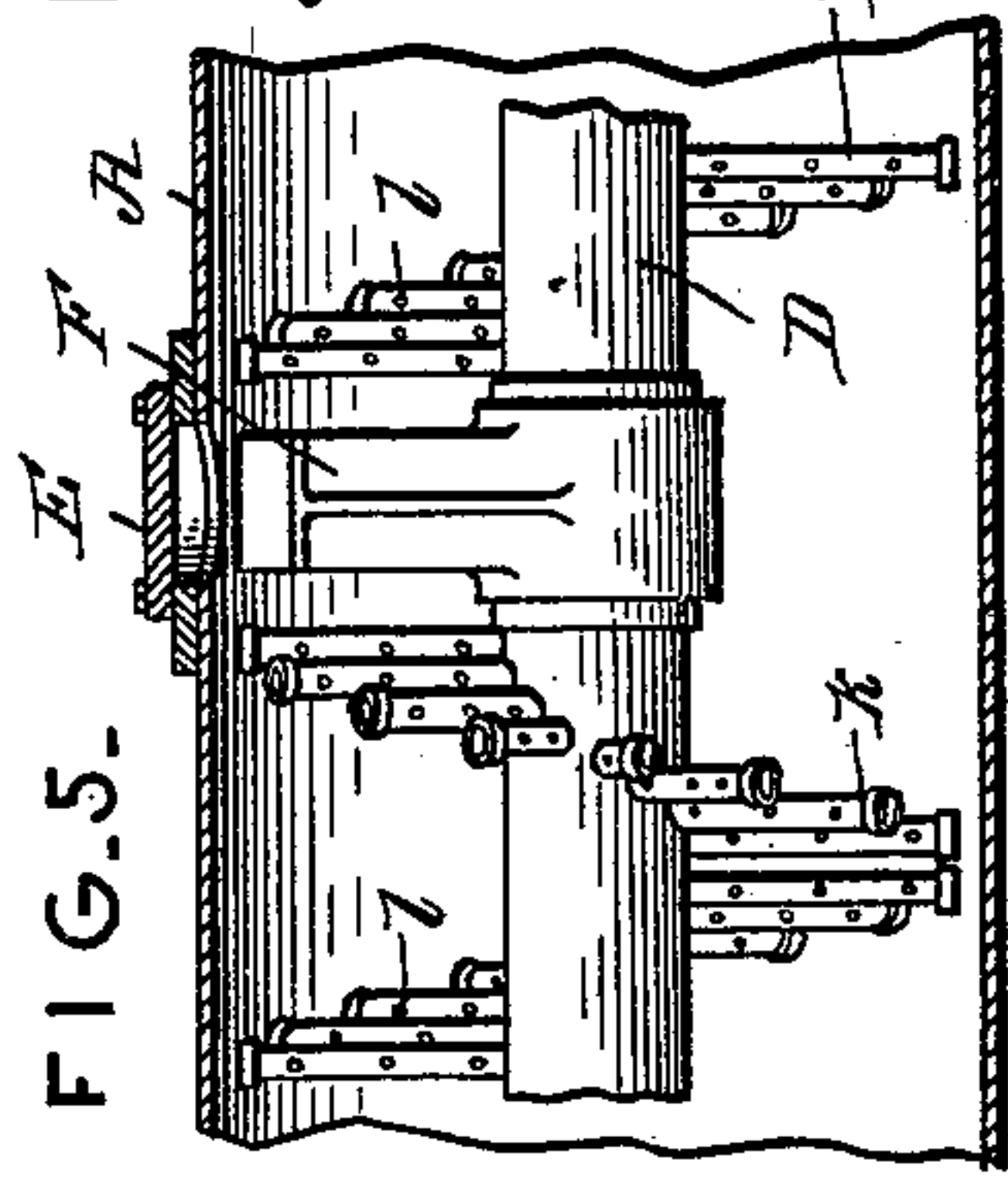


FIG. 5.

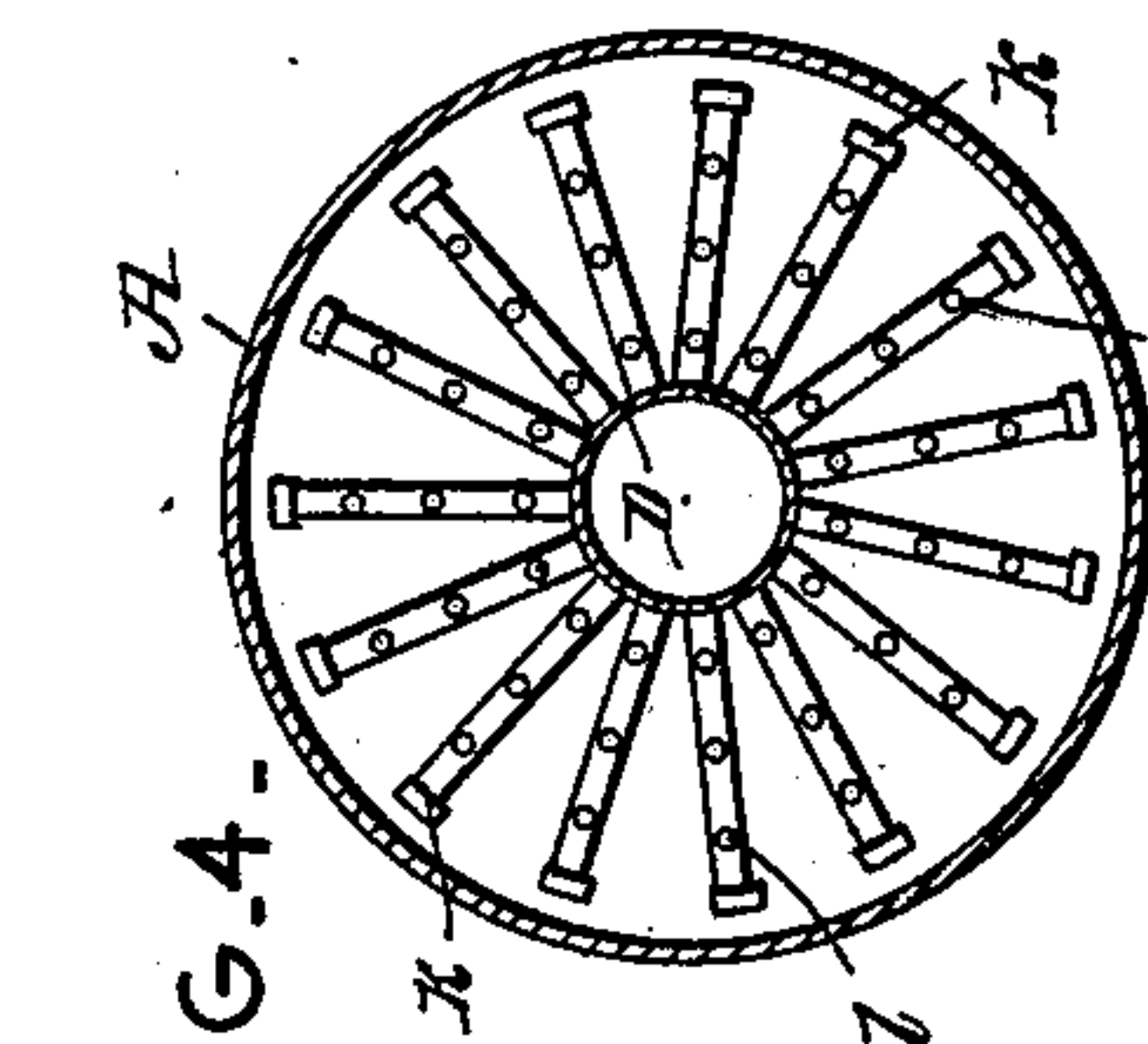


FIG. 4.

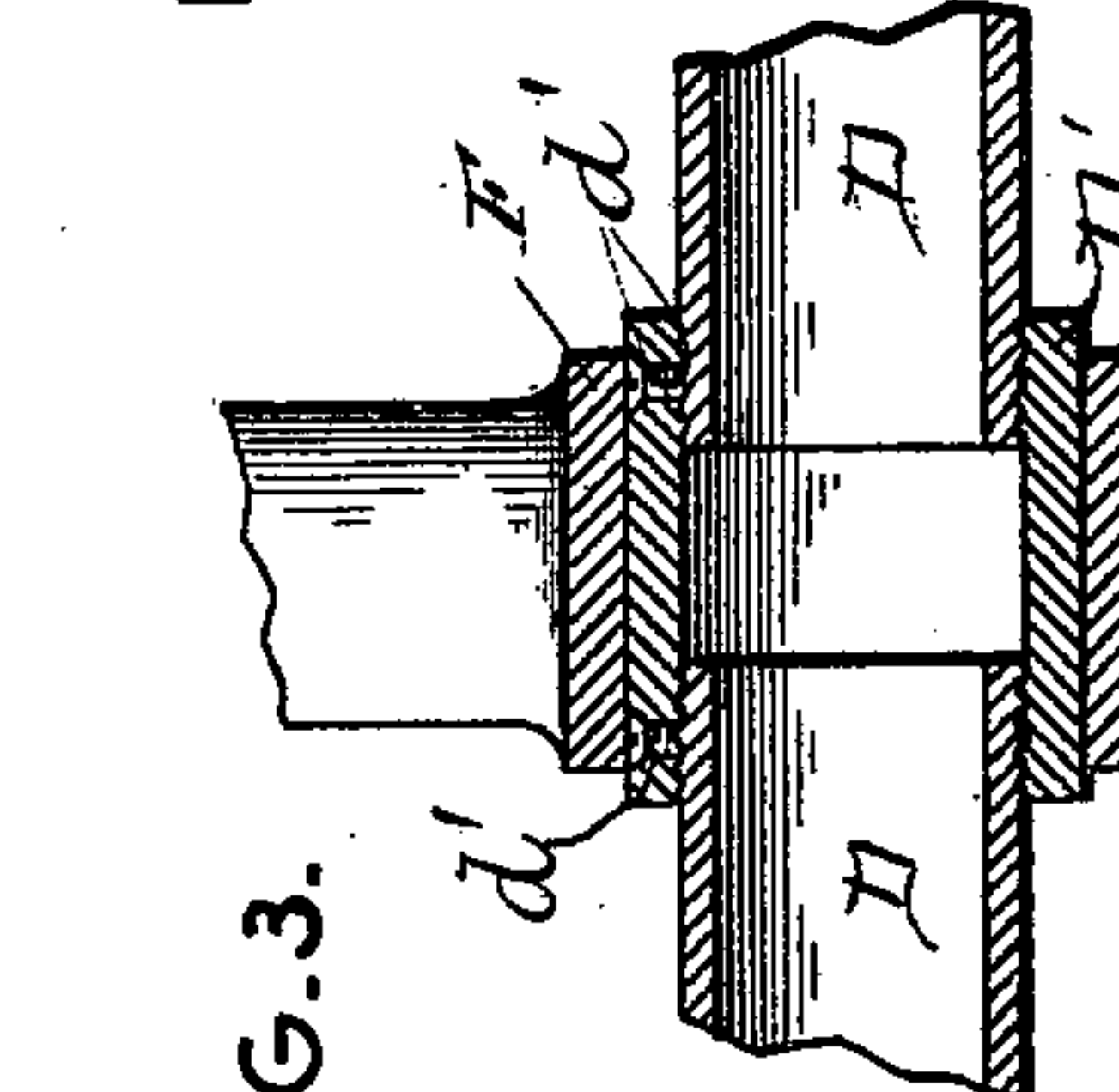


FIG. 3.

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# UNITED STATES PATENT OFFICE.

WILLIS E. OVERTON, OF SOLOMONS, MARYLAND.

## STEAM-COOKER FOR FERTILIZERS.

SPECIFICATION forming part of Letters Patent No. 675,163, dated May 28, 1901.

Application filed October 1, 1900. Serial No. 31,731. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIS E. OVERTON, a citizen of the United States, and a resident of Solomons, in the county of Calvert and State of Maryland, have made a certain new and useful Invention in Steam-Cookers for Fertilizers; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my machine, partly broken away. Fig. 2 is a longitudinal section of the same on a larger scale and partly broken away. Fig. 3 is a detail sectional view showing the bearings for the shaft D and the connections for the sections of such shaft. Fig. 4 is a transverse section of the machine. Figs. 5 and 6 are detail views showing the manholes and the shaft-hangers.

The invention has relation to steam cooking machines for the preparation of large quantities of material, especially fish, for fertilizing and other purposes; and the invention consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings the letter A designates the main cooking-chamber, which extends horizontally and is cylindrical in form. At its front or feed end is a feed-passage B, also of cylindrical form, but of smaller diameter than the main cooking-chamber, this feed-passage being concentric or arranged as a prolongation of or in the same axial line with the cylindrical cooking-chamber.

C indicates a discharge-passage, also cylindrical and of smaller diameter than the main cooking-chamber. It is arranged below the latter chamber and at the rear end of the same, as indicated.

D represents a rotary shaft, which extends through the feed-passage and the main cooking-chamber.

E E designate manholes placed at intervals in the wall of the cooking-cylinder, and F F are hangers located directly under said manholes and having diverging upwardly-extending branches F', secured to said wall at

each side of such manholes and serving as bearings for the shaft D.

The shaft D is made in sections, having external sleeve connections D', provided with a screw engagement with such shaft-sections and having bearings in the aforesaid hangers. Screws d' extend transversely through said sleeves and have a locking engagement with the screw-thread connection of sleeves and shaft-sections, said screws being normally located within the cylindrical bearing-boxes of hangers F, concealed from view and secure from disengagement.

G represents the hopper at the front end of the feed-cylinder B.

The rotary shaft turns in suitable bearings a a. This shaft is hollow and is provided at its ends with pipes d for the introduction of steam, these supply-pipes being arranged in stuffing-boxes e in order to allow rotary motion to the shaft to which power is applied at f.

In the feed-cylinder B is arranged on the shaft a spiral-flange conveyer b. The edge of this conveyer approximates closely to the wall of the cylinder, the spiral feed thereby formed being designed to carry the mass fed in through the hopper into the main cooking-cylinder and at the same time to form a closure against the escape of steam from the main cylinder. In the discharge-passage a similar spiral-flange conveyer is provided to carry the mass discharged from the cooking-cylinder off in a somewhat slow manner in order to afford a proximate closure against the escape of steam for the cooking-cylinder at the discharge end. Both the feed-cylinder and discharge-passage are of smaller diameter usually than the cooking-cylinder in order to aid in the closure. Thus the main cooking-cylinder A is designed to be practically steam-tight, steam being preferably fed in at both ends of the shaft D. To the shaft are secured the radial pipes or tubular projections k, which communicate with the interior chamber of the shaft and are provided with perforations l at intervals along their length for the discharge of the steam into the mass of material in the cylinder. A spiral arrangement of said pipes is preferred in order that the mass may be moved along the chamber thereby toward the discharge end, or a spiral feed may be used in



connection with said pipes. The steam, being carried in all directions by means of the discharging-pipes into the mass of material, serves to effectually permeate and cook the same, and the steam is practically held in the cooking-chamber by the feed and discharge closures. In this manner it is designed to economize steam and produce the desired effect upon the material in the shortest time.

10 Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a steam-cooker, the horizontal main chamber, the horizontal axially-alined feed-chamber, the hollow shaft in said main chamber, the spirally-arranged radial perforated conveyer-pipes upon the shaft in said main chamber, the spiral-flange conveyer in said feed-chamber, and means for supplying steam to said shaft, substantially as specified.

2. In a steam-cooker, the main horizontal chamber, the axially-alined horizontal feed-chamber, the hollow shaft central of said chambers, the radial perforated spirally-arranged conveyer-pipes upon the shaft in said main chamber, the spiral conveyer-flange upon the shaft in said feed-chamber, and means for admitting steam at both ends of said shaft, substantially as specified.

30 3. In a steam-cooker, the combination with the main horizontal chamber having the central hollow shaft, and the radial spirally-arranged perforated conveyer-pipes upon said

shaft, said chamber having a discharge-opening in its bottom wall at one end portion thereof, of the axially-alined horizontal feed-chamber of a diameter a little smaller than that of said main chamber, and having a central hollow shaft forming an extension of said first-named shaft, the spiral conveyer-flange upon the shaft in said feed-chamber, the discharge-chamber of a diameter considerably smaller than that of said main chamber, and communicating with said discharge-opening thereof, the shaft in said discharge-chamber, having a spiral conveyer-flange, and means for supplying steam to said shafts, substantially as specified.

4. In a steam-cooker, the combination with the main chamber, having the central sectional hollow shaft, provided with perforated extensions, and means for supplying steam to said shaft, of the hangers for said shaft, having cylindrical bearing-boxes, the sleeves having a screw engagement with said shaft-sections, and having bearings in said boxes, and the locking-screws engaging said sleeves, and the screw-threads of said shaft-sections, and lying within said boxes, substantially as specified.

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

WILLIS E. OVERTON.

Witnesses:

W. H. MARSH,  
THOMAS TRUE.