

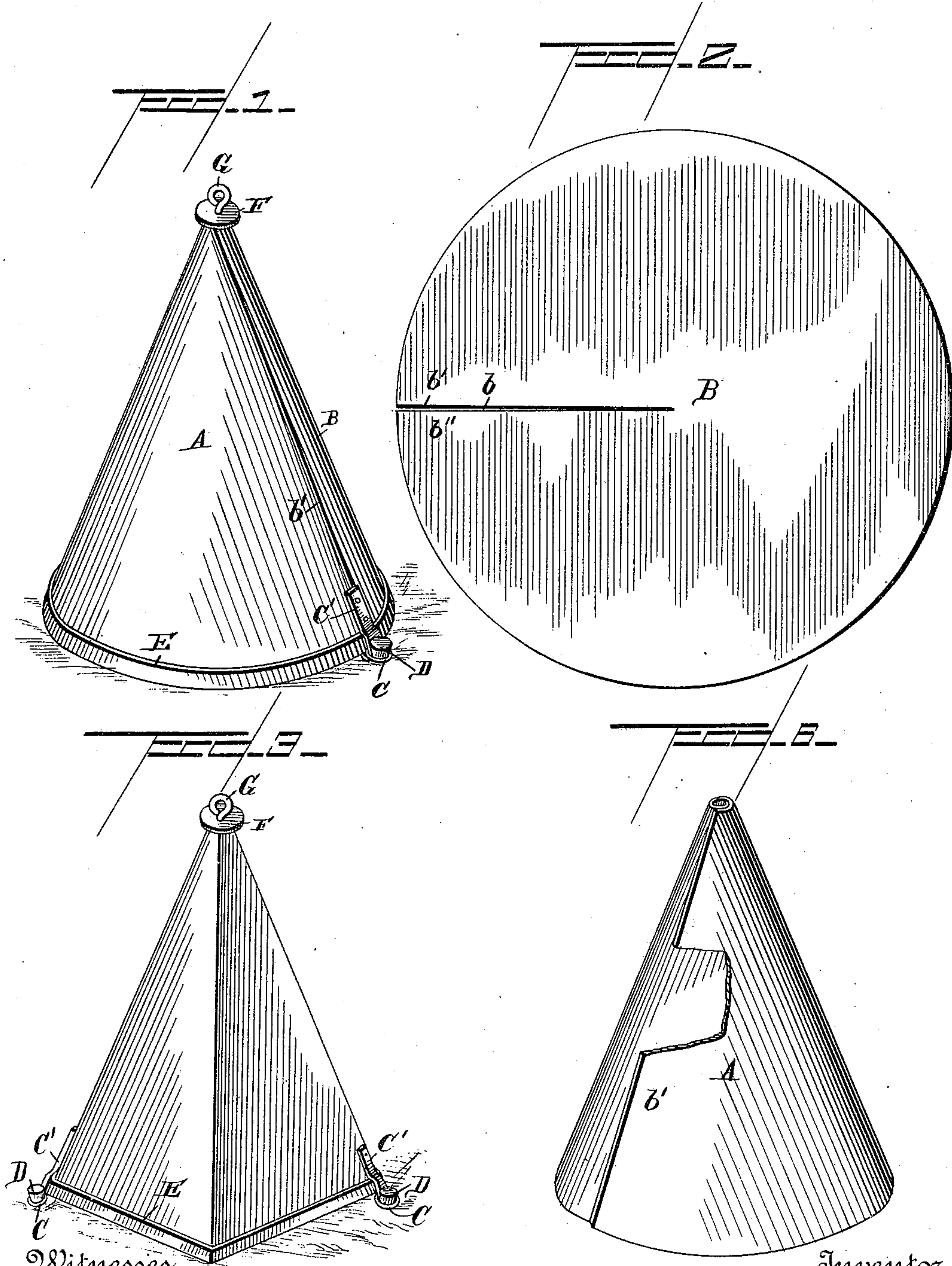
(No Model.)

2 Sheets—Sheet 1.

A. E. KNAPP.
PLANT PROTECTOR.

No. 433,898.

Patented Aug. 5, 1890.



Witnesses

Henry G. Dietrich
" *F. Mel. Smith.*

Inventor

Albert E. Knapp.
By *his Attorney* *J. R. Sittell.*

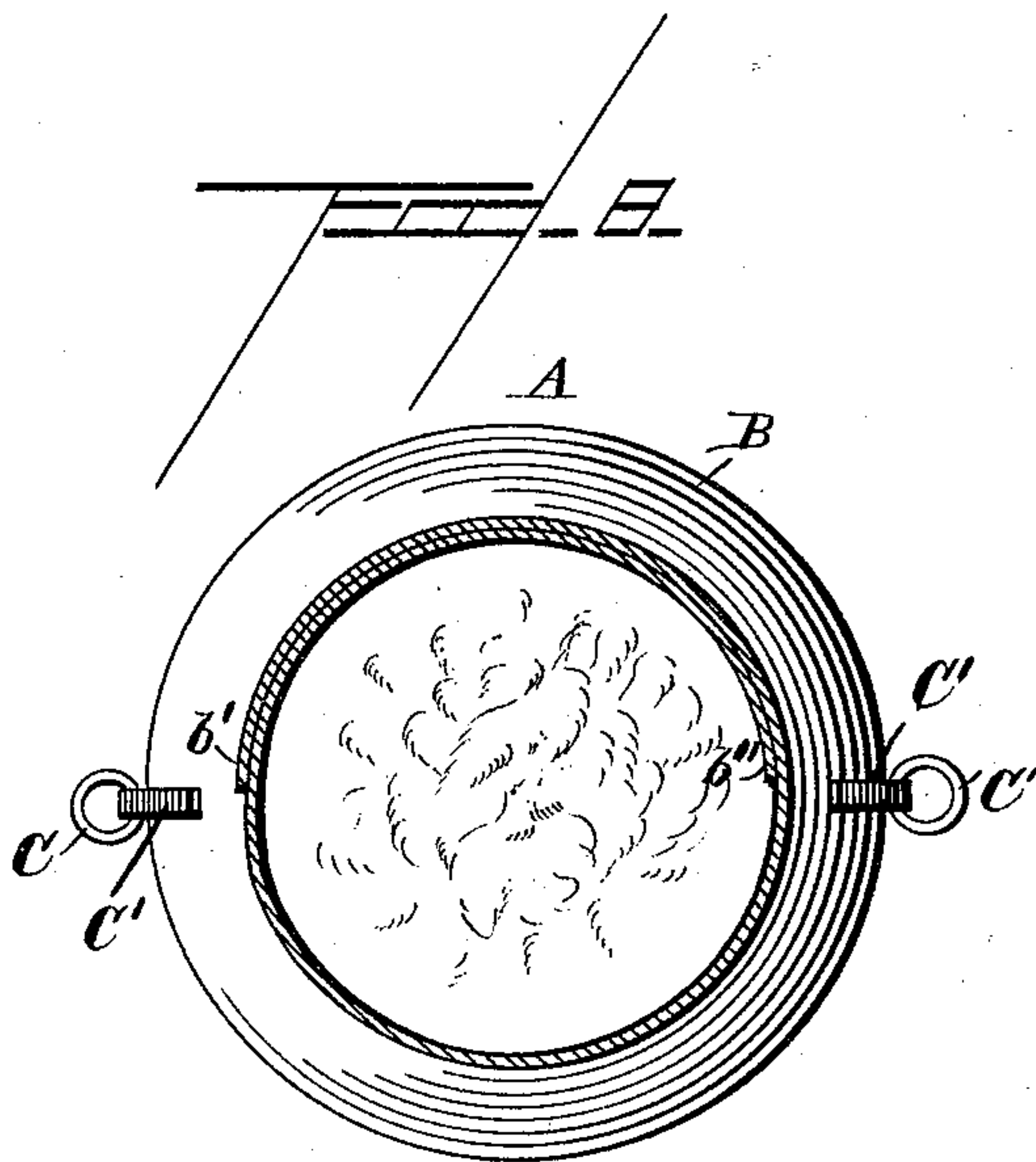
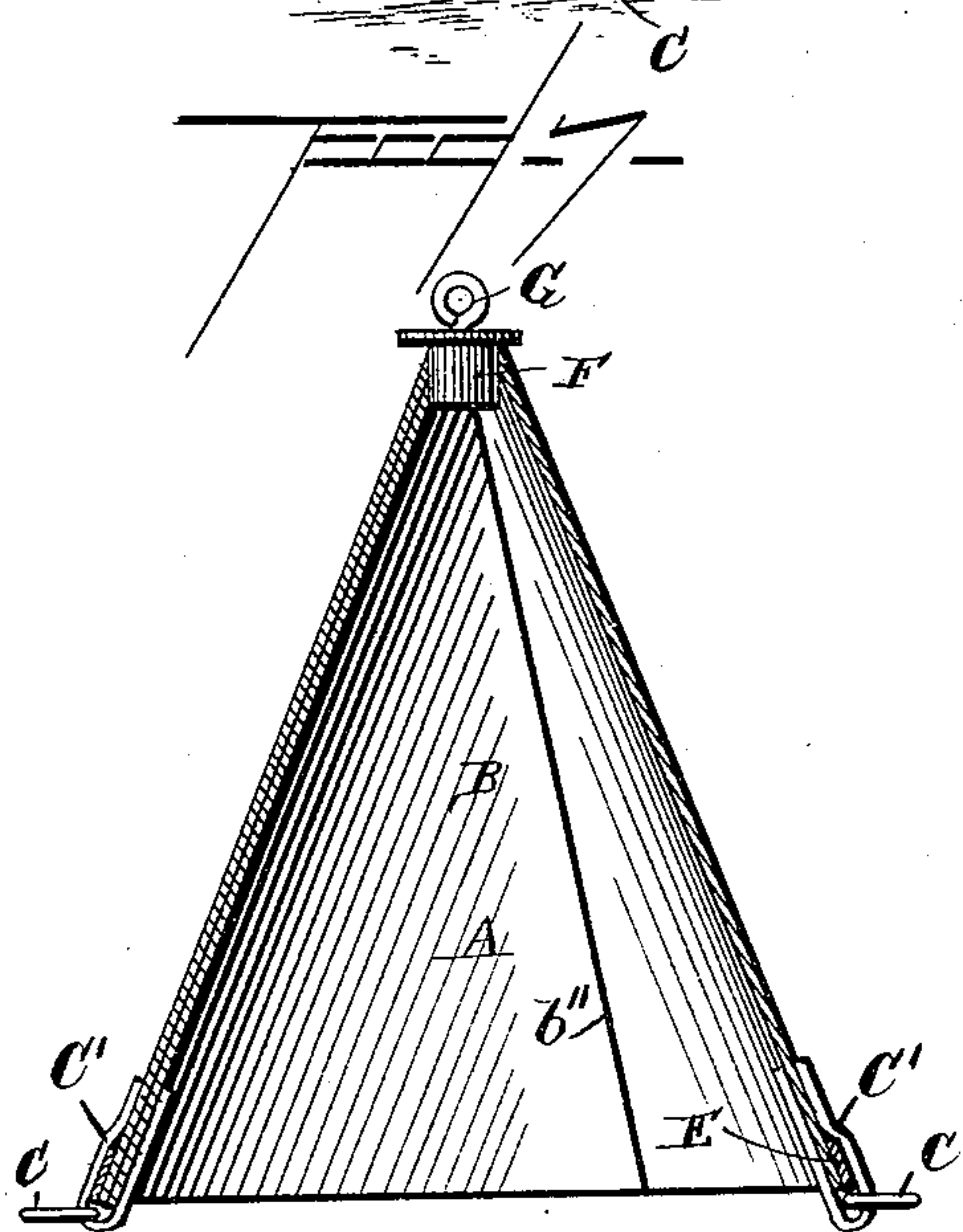
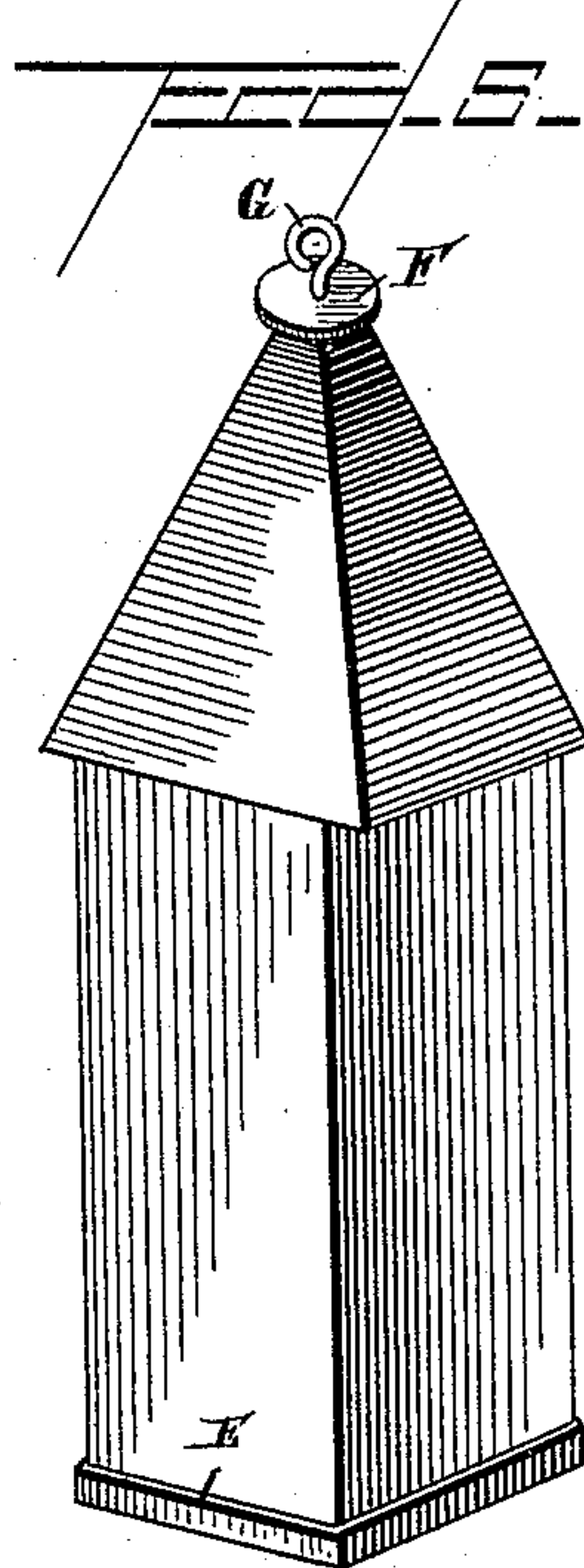
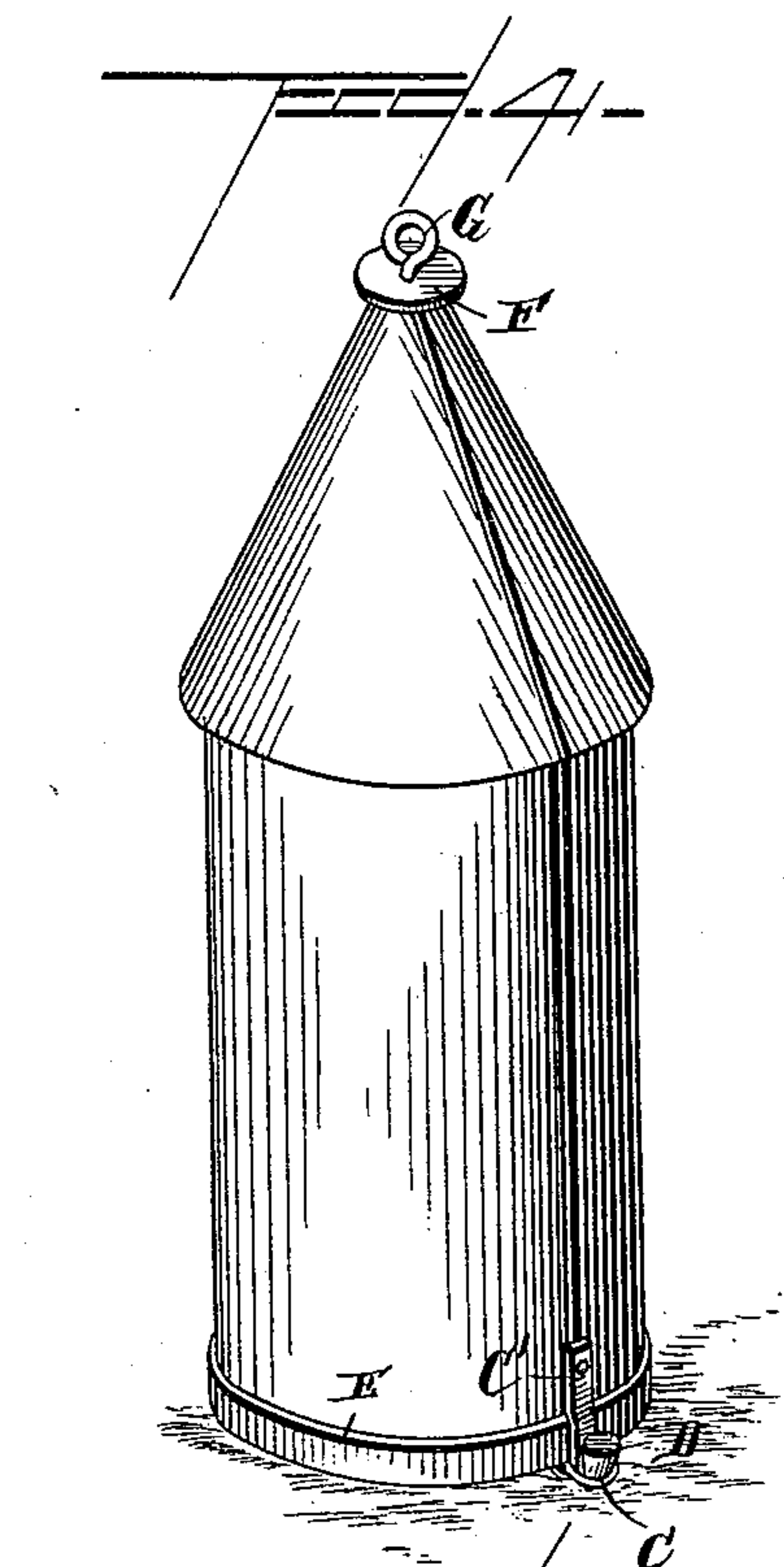
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2 Sheets—Sheet 2.

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Witnesses

Henry G. Dieterich
" *F. McE. Smith*

Inventor

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UNITED STATES PATENT OFFICE.

ALBERT E. KNAPP, OF POULTNEY, VERMONT, ASSIGNOR OF ONE-HALF TO
FRED. WIDMER, OF ROUND LAKE, NEW YORK.

PLANT-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 433,898, dated August 5, 1890.

Application filed September 9, 1889. Serial No. 323,348. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. KNAPP, a citizen of the United States, residing at Poultny, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Plant-Protectors, of which the following is a specification.

This invention relates to an improved plant-protector, and particularly to that class in which a conical or pyramidal cover is placed over the plant.

The object of my invention is to provide a conical or pyramidal cover that will be cheap and durable and one that cannot easily be displaced by wind, rain, &c.

With these objects in view my invention consists in the peculiar construction and arrangement of the various parts, as will be more fully hereinafter described, and then claimed.

In the drawings forming a part of this specification, and in which similar letters of reference indicate similar parts, Figure 1 is a perspective view of my invention as applied. Fig. 2 is a view of the blank from which it is constructed. Fig. 3 is a perspective view of a modified form. Figs. 4 and 5 are further modifications, and Fig. 6 shows the method of forming the cone. Fig. 7 is a vertical sectional view of the cover. Fig. 8 is a horizontal section of the cover.

In constructing my improved conical protector A, I employ a circular blank B of paper or other suitable material, and in said circular blank I cut a radial slit *b*, said slit extending from the outer edge to the center. The blank is now ready to be formed into a cone, and to do this I carry one of the corners (marked *b'*) over the opposite corner (marked *b''*) and pass it around the blank until the desired point is reached, said point being determined by the size of the cone; but I usually pass the corners in opposite directions until they are at diametrically-opposite points, one *b'* being on the outside of the cone, and the other *b''* on the inside, as clearly shown in Figs. 6 and 8. In this manner one-half of the conical protector is re-enforced or stiffened, which serves to support the single portion and prevent any possible collapse. The

edges of the corners are secured to the outer and inner surfaces of the cone in any suitable manner, such as gluing, stapling, sewing, or riveting. The cone as thus far constructed is well adapted to be placed over young plants to protect them from sun, frost, and sudden changes of temperature; but in order to make the device more stable I usually attach to the bottom of the cone one or more pairs of rings or loops C, said rings being preferably connected at opposite points.

The rings C may be of any material and are connected to the conical cover by means of the straps C', each of said straps consisting of a single piece of metal, paper, or cloth bent or folded upon itself at the center, carrying the ring in the bent portion, the opposing members being secured to the opposite surfaces of the conical cover by gluing, riveting, or otherwise. If desired, these straps may be secured at the edges of the corners *b'* and *b''*, thereby doing away with the gluing or stapling of said edges, as already described.

By means of the rings pivotally secured to the conical cover it can be secured to the ground by suitable pins D, and all danger of it being blown or knocked over is avoided. The rings being pivoted, they can be turned flush with the paper cover, and will not interfere when the same is folded for packing. Within the apex of the cover is placed a small block F of some soft wood, said cover being cut off at such point to accommodate the block, which is secured in any suitable manner. Into the wooden block is screwed a screw-eye or handle G, by means of which the cover can be conveniently lifted.

To protect the lower edges of the cover from rain, small animals, and insects, I provide the same with a metallic rim E, said rim being of some soft material—such as sheet-iron, zinc, tin, or lead—so that it can be folded easily with the cover when it is desired to fold the same. It will of course be understood that I do not limit myself to the circular form of blank and conical form of cover, but may make the same of pyramidal shape with any number of surfaces, said pyramidal covers being constructed similar to the cones,

and at times I may employ a combined cylinder and cone, (such as shown in Fig. 4,) in which a conical cover, substantially as described, is united at its lower portion with a
5 cylinder of the same material; and in such construction the metallic rim E and rings C are secured to the lower edge of the cylinder, said cylinder being re-enforced in a manner similar to the cone. The cover is constructed
10 of water-proof paper, and to protect the same from insects, worms, &c., is painted or coated with an insecticide or disinfectant.

From the above description the operation of my improved device is plain to every one
15 skilled in the art to which it relates. It is very cheap and simple in construction, is very durable, being proof against wind, rain, insects, and small animals, and it performs all its intended functions in a most efficient
20 manner.

It is not absolutely necessary that the cover

should be made from a blank, but may be molded or pressed from paper-pulp or other suitable plastic material, if desired.

Having thus described my invention, what I
25 claim, and desire to secure by Letters Patent, is—

As an improved article of manufacture, a tapering plant-protector consisting of a paper cover bound at its lower edge by a metallic rim, metallic straps secured to the cover
30 upon the inner and outer sides thereof, rings held in the loops of said rings, a block secured in the apex of the cover, and a ring or handle secured therein, substantially as shown
35 and described.

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

ALBERT E. KNAPP.

Witnesses:

MARION P. CLARK,

ELIZA E. TUCKER.