(No Model.)

J. H. COON.

LIGHTNING CONDUCTOR.

No. 274,564. Patented Mar. 27, 1883.

Fig. 1

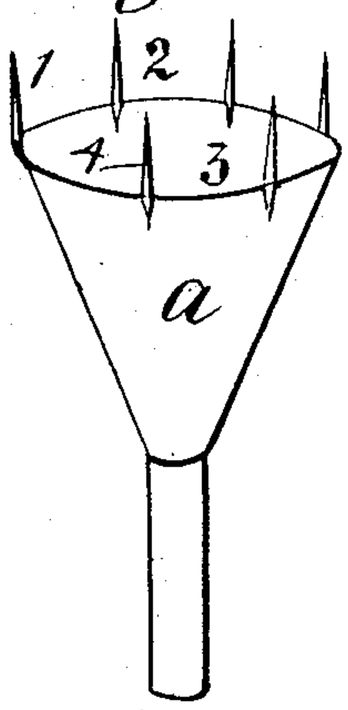


Fig. 2

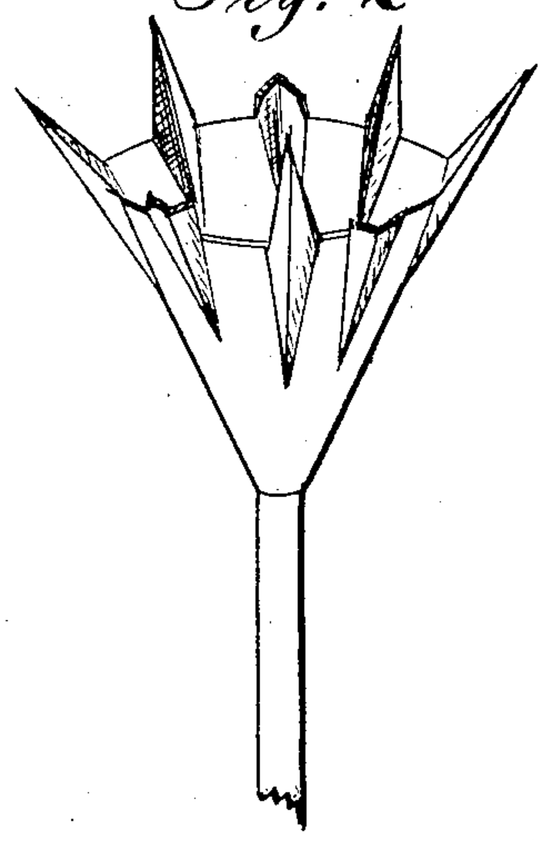
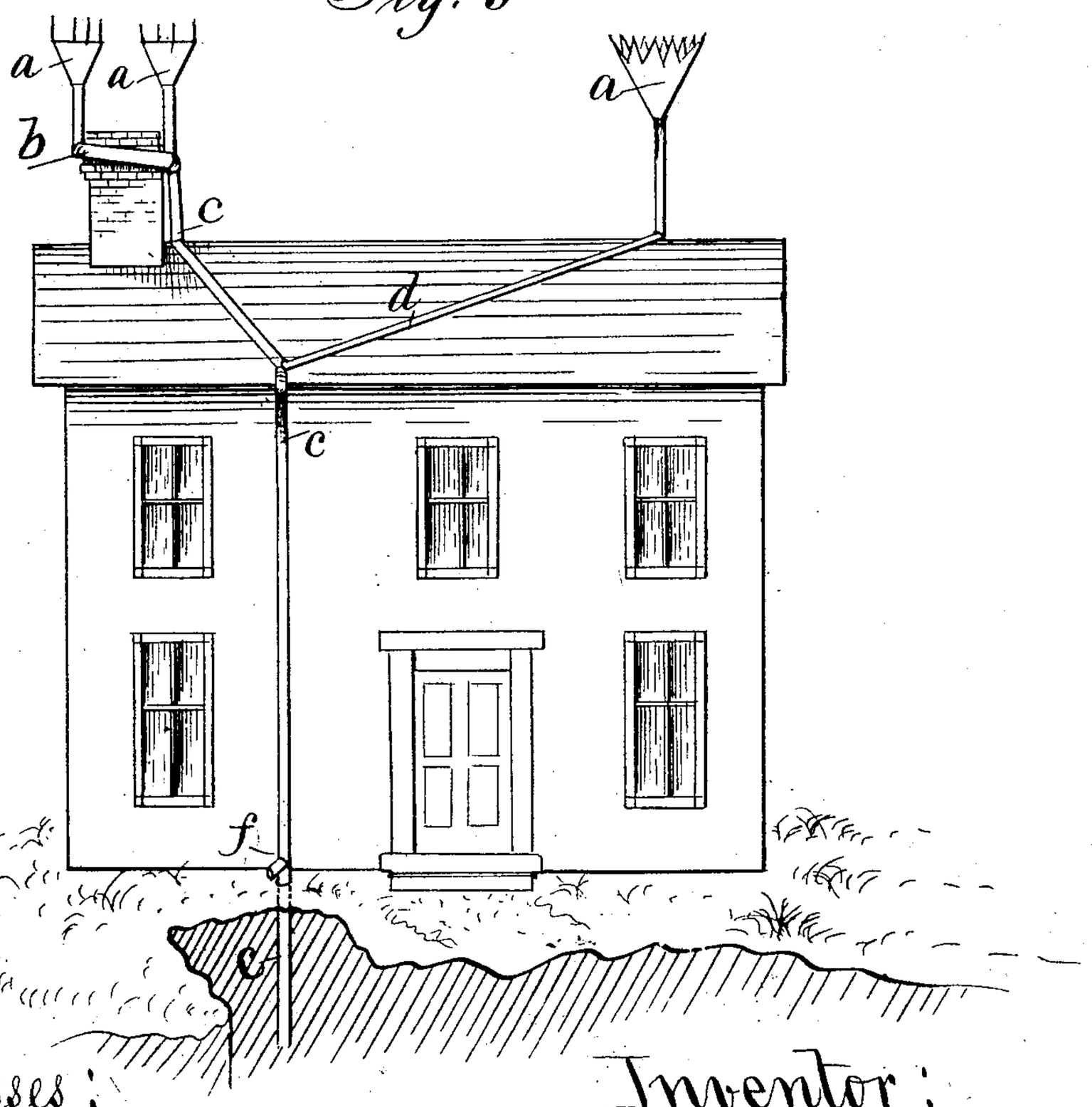


Fig. 3



Witnesses:
W. E. Dippert,
W. G. Farnsworth.

Inventor:
James H. Coon,
By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

JAMES H. COON, OF DES MOINES, IOWA.

LIGHTNING-CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 274,564, dated March 27, 1883.

Application filed June 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. COON, of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Lightning-Conductor for the Protection of Buildings, of which the following is a specification.

My object is to afford better security against lightning to persons and animals in buildings during rain-storms. Heretofore a tubular water-conductor having a funnel-shaped top has been fixed to a building, to extend from below the eaves of the roof into the ground, and a solid rod extended upward from within the funnel-shaped top of the water-conductor to the top of the chimney above the roof.

My invention consists, first, in forming or fixing a series of spurs or points on the top edge of funnel-shaped top, adapted to be placed on top of a tubular rod, and to simultaneously gather and convey water and electricity from the atmosphere at a point above the chimney, and from a larger space, as required, to protect a larger area than has heretofore been protected by means of one conductor that extended from above the building downward and into the ground; second, in combining a tubular frame with a chimney and a tubular rod to insulate the chimney, all as hereinafter fully set forth.

Figure 1 of my accompanying drawings is a perspective view of one of my funnel-shaped point-bearing and water-gathering tops. Fig. 2 is a modified form of top in which the upper edge of the funnel-shaped top is corrugated to increase the surface and augment the capacity for gathering rain-water and electric fluid simultaneously. Fig. 3 is a perspective view, showing my complete apparatus attached to a building. Together these figures clearly illustrate the construction, application, and operation of my complete invention.

a is an inverted cone and funnel-shaped top, preferably made of copper-plate. It may vary in size as desired. 1 2 3 4 represent a series of metal points formed on or fixed to the edge of the inverted cone *a*, to extend vertically.

b is a tubular frame adapted to be fixed around a chimney to support one or more of the funnel-shaped tops *a*, as shown in Fig. 3, and in such a manner that water gathered by means of the tops *a* and conducted into the tubular frame will not be retained therein, but will be conducted thereby to a tubular rod, *c c*, to be conveyed to the ground.

d is a branch tubular rod extending from the rod *c* to the opposite end or portion of a building distant from the chimney and main rod *c*, to terminate with one of my funnel-shaped tops.

f is an eduction-tube fixed to the main rod *c c* at a point near the ground.

In the practical operation of my invention thus constructed and applied, the points projecting from the open funnel-shaped tops will attract and conduct electricity from the surrounding space and atmosphere, and the converging surface of the inverted cones will concentrate the subtle fluid and convey it to the tubular rods in a natural way, while at the same time, when rain is falling, a current of water will be gathered by the open funnel-shaped top to aid in drawing and conducting the electricity from the surrounding space and area that is to be protected from lightning. The tubular frame around a chimney, or any other projection on a building that is of itself an attraction to and conductor of lightning, will, in combination with the funnel-shaped tops, practically insulate the chimney and prevent the electric currents from striking and following the chimney and damaging or destroying the building and its contents. The eduction-tube, combined with the tubular rod above and near the surface of the ground, will allow a surplus of water in the rod to escape, while a column of water will be allowed to remain standing in the rod under the ground, to aid in conducting and distributing the electric currents under ground.

I claim as my invention—

1. A funnel-shaped lightning-rod top having a series of spurs or points projecting vertically from the extended circumference and upper edge, as set forth, for the purposes specified.

2. The tubular rod *c*, in combination with the frame *b*, constructed as described, and adapted to embrace a chimney or other up-

wardly-projecting structure, and one or more funnel-shaped tops provided with a series of spurs or points, for the purposes set forth.

3. The improved lightning-conductor for buildings, composed of one or more funnel-shaped tops, *a*, having a series of projecting points, a tubular frame, *b*, and a tubular rod, *c*, having an eduction-tube, *f*, arranged and combined and applied to a building substantially as shown and described.

JAMES H. COON.

Witnesses:
W. E. DIPPERT,
E. W. SMITH.