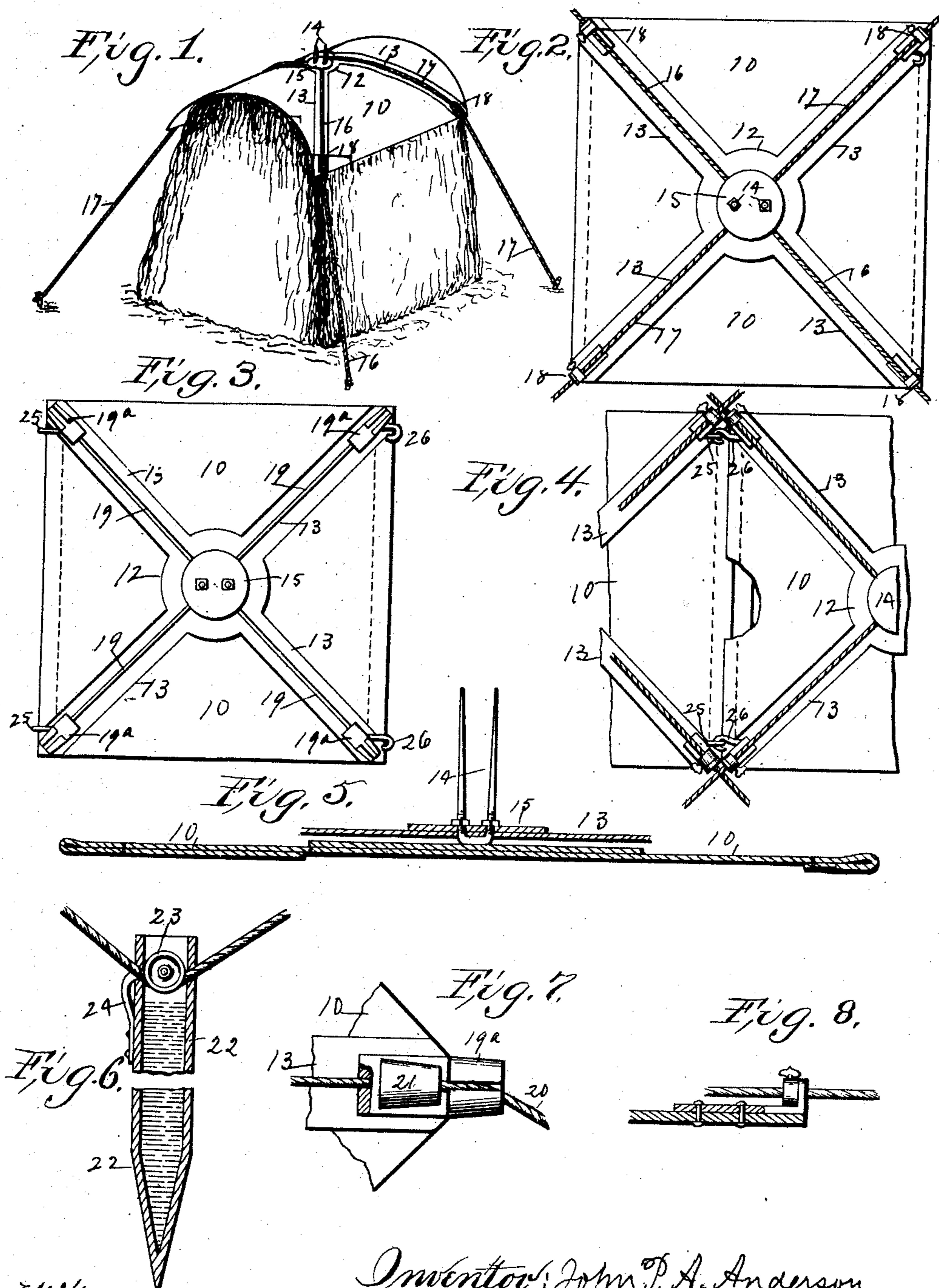


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J. P. A. ANDERSON.
APPARATUS FOR PROTECTING GRAIN STACKS.

APPLICATION FILED FEB. 25, 1907.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN P. A. ANDERSON, OF MADRID, IOWA.

APPARATUS FOR PROTECTING GRAIN-STACKS.

No. 881,453.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed February 25, 1907. Serial No. 359,908.

To all whom it may concern:

Be it known that I, JOHN P. A. ANDERSON, a citizen of the United States, residing at Madrid, in the county of Boone and State of Iowa, have invented a new and useful Apparatus for Protecting Grain-Stacks, of which the following is a specification.

My object is to prevent the destruction of hay and different kinds of grain in stacks in the field by strokes of lightning and also to protect them from rain and snow.

My invention consists in the construction, arrangement, combination and application of parts as hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a grain stack that shows my protector applied as required for practical use. Fig. 2 shows a flexible cover, a flexible insulator on top of the cover and electric conductors on top of the cover. Fig. 3 is a modification of Fig. 2 and shows how electric conductors are detachably connected with the corners of the covers. Fig. 4 shows how two covers are detachably connected as required for combining a plurality of covers for protecting stacks and other objects that are larger than a single cover. Fig. 5 is an enlarged transverse sectional view of Fig. 3 and shows the position of the overlying parts relative to each other. Fig. 6 shows how electric conductors are connected with the ground by means of metal stakes. Fig. 7 shows means for detachably connecting electrical conductors at the corners of the covers. Fig. 8 shows means for retaining electrical conductors that extend from the center of a cover at the corners of the cover.

The numeral 10 designates a canvas or flexible water-proof cover of suitable material preferably hemmed at its edges or otherwise reinforced thereat. It may vary in dimensions as desired and has square corners.

A flexible insulator preferably made of sheet rubber consists of a circular portion 12, and strips 13, that extend therefrom to the corners of the cover 10. A staple-shaped lightning rod point 14, is fixed in a metal disk 15, as shown in Fig. 5, or in any suitable way in such a manner that lightning rods 16 and 17, can be passed through the loop formed by the lower end of the duplex point 14, and extended down to the corners of the cover 10 and through bearings 18 fixed on the insulator strips 13 and the corner of the

flexible covers as shown in Figs. 2 and 3 and from thence extended to the ground as shown in Fig. 1, to bind the cover and the electric conductors upon a stack of grain, covered wagon or other objects.

To detachably connect electric conductors or pieces of lightning rods, 19, with the conductors, 16 and 17, and the corners of a cover, metal coupling devices, 19^a, are fixed on top of the corners as shown in Figs. 3 and 7, or in any suitable way, and their lower ends slotted to admit a rod 20 to which is fixed a metal button 21.

To adjustably connect the lower end of a lightning rod with the ground a tubular stake, 22, is driven in the ground, a pulley 23 journaled in the stake and apertures provided in the top of the stake to allow the end of a rod to be passed through the apertures to contact with the pulley and a spring detent, 24, fixed to the outside of the stake in such a manner that it will allow the rod and shows the positions of the overlying parts relative to each other to be pulled through the stake in one direction as required to stretch and adjust the rod relative to a grain stack and cover 10 but will prevent any backward or reverse motion of the rod.

To connect covers on a stack they are provided with eyes 25, at one end and hooks 26 at the other end as shown in Fig. 4.

Having thus set forth the purposes of my invention and the construction and function of each part and the arrangement, combination of all the parts the practical operation and utility of the apparatus will be obvious to persons familiar with the use of lightning rods and means for protecting persons and objects from lightning during thunder storms.

What I claim as new and desire to secure by Letters-Patent, is:—

1. In an apparatus for protecting grain stacks, a flexible waterproof cover, a metal disk on the top and center of the cover, a metal point on top of the center of the disk, metal rods connected with the point and extended to the corners of the flexible cover, for the purposes stated.

2. In an apparatus for protecting grain stacks, a flexible waterproof cover, water proof strips on top of the cover, a metal disk, a metal point, metal rods connected with the metal disk, and means for detachably fastening the rods to the waterproof strips and the corners of the cover.

3. In an apparatus for protecting grain stacks, a flexible waterproof cover, water proof strips on top of the cover, a metal disk, a staple-shaped metal point on top of the center of the disk and the insulator and cover, metal rods connected with the disk and point and the corners of the flexible cover and the water proof strips on top of the cover and means for detachably connecting extensions with said metal rods on top of the cover and water proof strips, for the purposes stated.
4. An apparatus for protecting grain stacks from lightning and rains, comprising a flexible waterproof cover, an insulator on top of the cover, a metal disk, a lightning rod point on the top and center of the disk, insulator and cover, lightning rods connected with said point and extended over the insulator, and means for electrically connecting the ends of the rods with the ground, to operate in the manner set forth.

JOHN P. A. ANDERSON.

Witnesses:

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