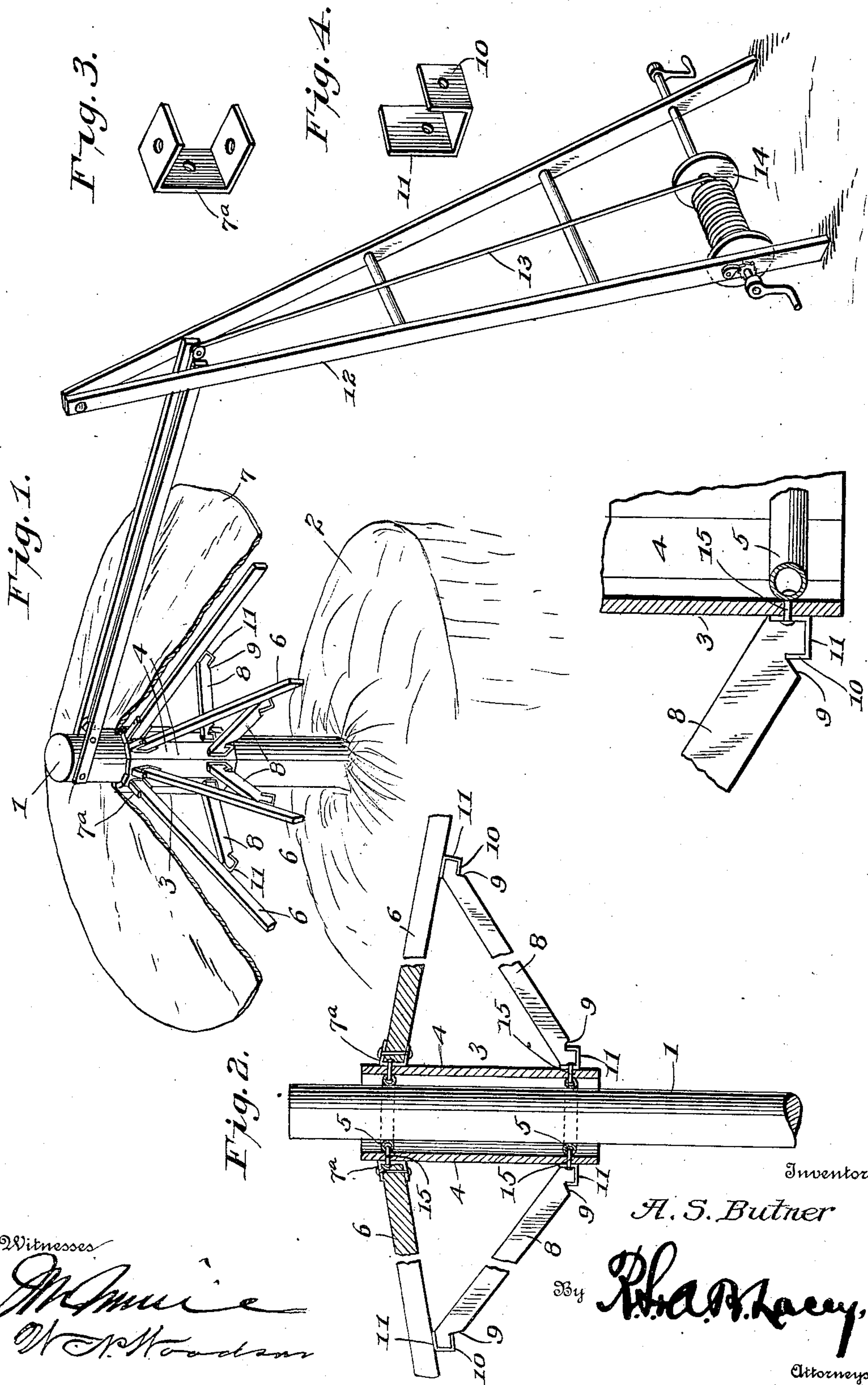


No. 886,477.

PATENTED MAY 5, 1908.

A. S. BUTNER.
GRAIN COVER.

APPLICATION FILED MAY 9, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT S. BUTNER, OF HIGHLAND, KANSAS.

GRAIN-COVER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT S. BUTNER, citizen of the United States, residing at Highland, in the county of Doniphan and State of Kansas, have invented certain new and useful Improvements in Grain-Covers, of which the following is a specification.

The present invention relates to an improved device for sheltering grain and protecting the same from the elements while stacked in an open field.

The object of the invention is to provide a simple and efficient device of this character which can be readily transported from place to place and quickly applied to the stack.

A further object is to so construct the cover that it can be raised and lowered to accommodate itself to various heights of the stack.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of the improved grain shelter, a portion of the cover being removed; Fig. 2 is a longitudinal sectional view through the same, portions being broken away; Fig. 3 is a detail view of one of the U-shaped clips receiving the inner ends of the lateral arms; and, Fig. 4 is a similar view of one of the stirrups employed in connection with the braces.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The numeral 1 designates an upright standard or post which extends through the central portion of the stack which is indicated at 2. Slidably mounted upon this standard 1 is a hub 3 comprised of a series of longitudinal bars 4 having their opposite end portions connected to rings 5 surrounding the standard 1.

Radiating from the hub 3 are the arms 6 which carry the canvas or other suitable covering material 7 and are inclined downwardly to obtain the necessary pitch for causing the covering to shed water in the required manner. In the preferred construction of the invention one of these arms 6 is carried by each of the longitudinal bars 4 of the hub 3 and these arms have their inner

ends received by fastening members such as U-shaped clips 7 at the upper end portions of the bars 4. Suitable braces 8 are provided for holding the arms 6 in a distended position, the said braces having the lower faces of their opposite end portions notched as indicated at 9 to receive the free arms 10 of U-shaped stirrups 11 applied, respectively, to the arms 6 and bars 4. It will thus be apparent that the ends of the braces 8 are securely held against slipping due to the compression in the said braces and a rigid structure is thereby obtained.

Specifically describing the method of assembling the various members constituting the hub 3 it will be observed that the two rings 5 are each formed with a series of openings corresponding to the longitudinal bars 4 and receiving the pins or bolts 15 which extend through the corresponding bars 4 and engage the respective clips 7 and stirrups 11. With this construction a single pin serves to connect the ring 5 to a longitudinal bar 4 and the corresponding fastening member engaging either, one of the radial arms 6 or one of the braces 8. A derrick or hay elevator 12 is illustrated as connected to the upper end of the upright 1, and the cable 13 employed for raising and lowering the hub and the shelter carried thereby extends around suitable guide members and is wound upon a reel 14 upon the said derrick 12. With this construction, it will be readily apparent that by operating the reel 14, the shelter can be moved vertically and adjusted to suit the requirements of various heights of the stack.

Having thus described the invention, what is claimed as new is:

1. In a grain shelter, the combination of an upright standard, a ring slidable upon the standard, longitudinal bars applied to the ring, clips applied to the bars, pins extending through the bars and connecting the clips to the ring, arms radiating outwardly from the standard and having their inner ends received by the clips, braces between the arms and the bars, a covering supported by the arms, and means for adjusting the ring upon the standard.

2. In a grain shelter, the combination of a standard, a pair of spaced rings slidably mounted upon the standard, longitudinal bars connecting the spaced rings, fastening members applied to the upper and lower portion of each of the longitudinal bars, pins ex-

tending through the longitudinal bars and connecting the said fastening members to the upper and lower rings respectively, arms radiating from the standard and having their inner ends engaged by the upper fastening members, braces for the arms, the said braces being engaged by the lower fastening members, a covering supported by the arms, and means for adjusting the rings upon the standard.

3. In a grain shelter, the combination of a standard, a pair of spaced rings slidably mounted upon the standard, longitudinal bars connecting the spaced rings, a U-shaped clip applied to the upper end of each of the bars,

pins passing through the bars and connecting the U-shaped clips to the upper ring, a stirrup applied to the lower portion of each of the bars, a second set of pins passing through the bars and connecting the stirrups to the lower ring, arms having the ends thereof received by the clips, braces for the arms, the said braces being engaged by the stirrups, and a cover supported by the arms.

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

ALBERT S. BUTNER. [L. S.]

Witnesses:

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