(No Model.)

M. A. HEATH.

METALLIC BALE COVERING.

No. 556,056. Patented Mar. 10, 1896.

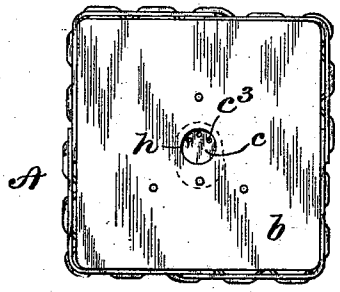

Fig. 2.

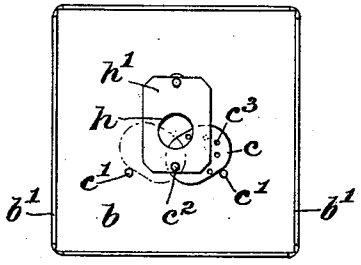

Fig. 5.

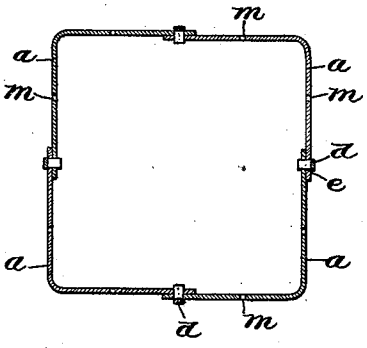

Fig. 3.

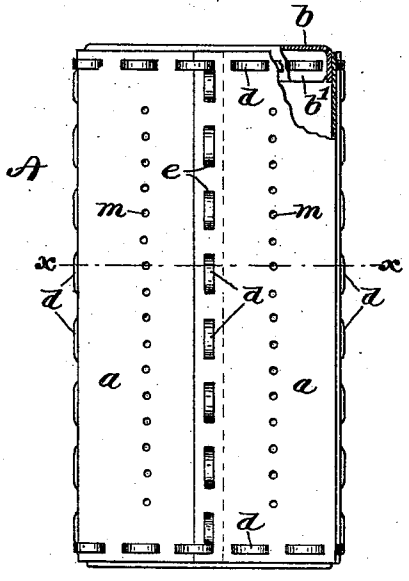

Fig. 1.

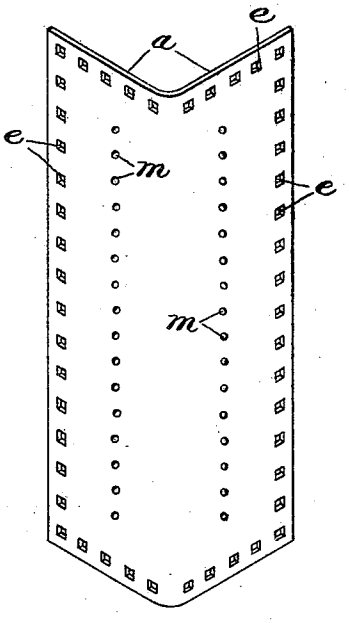

Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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METALLIC BALE-COVERING.

SPECIFICATION forming part of Letters Patent No. 556,056, dated March 10, 1896.

Application filed April 5, 1895. Serial No. 544,587. (No model.)

To all whom it may concern:

Be it known that I, MARK A. HEATH, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Metallic Bale-Coverings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to "metallic bale-coverings," so called, or, rather, to the class of "knockdown" casings or envelopes in which cotton or other staple or fibrous material is packed and shipped.

Metallic bale-coverings have been devised constructed of sections removably secured together and bent in such a manner as to inclose in the bends the side edges of the bale, so that the sharp edges of the sections did not come at the edges of the bale, but mediately of the sides thereof. In reshipping such coverings when empty it has been hitherto necessary to straighten or flatten out into one plane the sections of the covering, and then to rebend them along the former bent edges when using them for covering the cotton; but it has been found that such sections will break along the lines of bending after being thus bent and rebent two or three times, so that they last a comparatively short time.

Now one of the objects of my invention has been to provide bent side sections of a metallic bale-covering which do not need to be flattened out to be reshipped, and which will therefore be serviceable for a far longer period than those hitherto in use, their durability being indeed practically unlimited.

A second object of my invention has been to provide a sectional metallic bale-covering in which all the parts can be secured together, except one end, before filling, and which can then be filled and compressed from the end and the end section secured in place with speed and facility.

The third object of my invention has been to devise a metallic fastening for the sections which shall be stronger and cheaper than those hitherto in use, and which shall possess the further advantage of securing the edges of two sections together at a large number of points along said edges, so as to be very strong while being capable of being withdrawn or unloosed all along said edge by a single operation.

In the accompanying sheet of drawings, Figure 1 is a side elevation of my improved metallic bale-covering complete, a portion being broken away. Fig. 2 is a plan view. Fig. 3 is a horizontal sectional view taken on line *x x* of Fig. 1. Fig. 4 is a perspective view of one of the side plates detached, and Fig. 5 is an inverted plan view of the upper end plate.

I would state that while I practically prefer to make the covering square, cross-sectionally, its length being, say, twice the width of one side, or as forty-six inches is to twenty-three inches, I do not wish to thus limit or restrict its form and size. I would further add that in the drawings the relative thickness of the metal plates or walls of the covering is considerably exaggerated in order to represent the parts more clearly. I prefer to employ plates made of sheet metal, say about one twenty-fifth of an inch in thickness, the thickness of the lacing-strips being somewhat less.

In the drawings, A indicates my improved metallic bale-covering as a whole. It is, as drawn, composed of a series of four side plates or walls *a*, the two end plates or members *b* and the several lacing-strips *d*. Each side plate *a* is bent longitudinally, its form cross-sectionally when thus bent being substantially V-shaped. The four edges of the plate are provided with suitable holes or perforations *e*, adapted to receive the lacing-strips. These plates may if desired be further perforated, as at *m*, in order to allow the contents of the bale to be thoroughly ventilated. The side plates are duplicates of each other and are interchangeably alike, the several holes *e* of one plate exactly coinciding or registering with those of another plate when the plates are superimposed.

The end plates *b* are substantially flat and are provided each with short downwardly-extending sides *b'* having holes therein arranged to match those formed in the top and bottom edges of the plates *a*. When combined or

mounted, as in use, the sides of the end plates are inserted within the side walls *a*, the top face of the plates *b* extending above the side walls, as shown in Fig. 1. One, or both, if desired, of the end members *b* is provided with a central hole *h*, termed a "sampling-hole," through which samples of the cotton may be taken. On the under side of the plate, adjacent to said hole, is secured a smaller plate *h'*. This also is provided with a hole *h*. Between the adjacent faces of the said parts *b h'* is frictionally mounted a swinging oval-shaped cover *c*, the latter being pivoted at c^2. The cover may be swung to the right and left, (see Fig. 5,) its movement being arrested by fixed stops *c'*. In Fig. 2 the cover is shown in the normal position, the hole *h* being closed by it. The cover is provided with a series of small holes c^3 adapted to receive, say, a piece of wire by means of which it may be moved, as in opening and closing the sampling-hole.

The several plates or members *a b* comprising my improved bale-covering are secured together by means of metallic strips *d* interlaced through the openings *e*, as clearly represented.

I would state that in using my improved covering A, as in baling cotton, it is first placed vertically within a suitable separable box having strong sides, the top end of the covering being open. The cotton is now placed within the covering and thoroughly packed and compressed therein by suitable means until it is filled, after which the top plate or cover *b* is inserted and secured in place by the lacing-strips or metallic fastenings *d*. Now upon opening the box the metallic-covered bale may be removed therefrom, it then being ready for transportation.

I am aware that metallic bale-coverings having side sections so constructed that the bends of the sheet metal shall cover the side edges of the bale so that no sharp edges of metal shall form the edges of the covered bale are old, such sections being shown in the United States Patents to Walsh, No. 410,387; Dederick, No. 457,634; Hussey, No. 474,046, and myself, No. 448,487, and I do not claim such construction. These patents, however, do not disclose constructions of the character specified, which can without bending be packed one within another in close compass for reshipping, nor do they disclose constructions in which all the parts can be put together except one end, before filling, and in which the cotton can be filled in and compressed from that end and said end rapidly and conveniently secured in place, nor do they disclose metallic fastening devices for many points along one side or edge, whereby all the fastening-points can be inclosed at a single operation.

I claim as my invention—

1. A metallic bale-covering comprising four similar, interchangeable side plates each bent along a rounded edge so as to embrace one of the four side edges of the bale and provided at their edges with means whereby they may be secured together in substantially one plane or without any lateral obstructions or projections, said plates at one end being open so that when said four plates are put together and united at their edges as aforesaid, they will form a box having rounded edges and open at said end, whereby the cotton may be unobstructedly pressed directly downward into said box so formed, substantially as described.

2. A metallic bale-covering comprising side sections which when secured together shall form a rectangular box having the aperture at one end coextensive with the cross-section of said box, whereby the cotton may be unobstructedly compressed thereinto, and an end section having flanges adapted to lie against the end edges of said side sections, said flanges and edges being provided with apertures adapted to register with each other when the end section, and thereby the cotton, has been pressed inwardly to a predetermined extent, substantially as described.

3. In a metallic bale-covering, in combination with metallic sections having along adjacent edges longitudinal perforations or slits arranged at intervals at right angles to said edges, the slits in said adjacent plates being adapted to register with each other, a metallic lacing-ribbon passed through said pairs of registering slits alternately backward and forward substantially as described.

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

MARK A. HEATH.

Witnesses:
GEO. H. REMINGTON,
L. T. SMITH.