

No. 662,622.

Patented Nov. 27, 1900.

A. W. HARRISON.
ELECTRIC BATTERY.

(Application filed June 16, 1900.)

(No Model.)

Fig. 1.

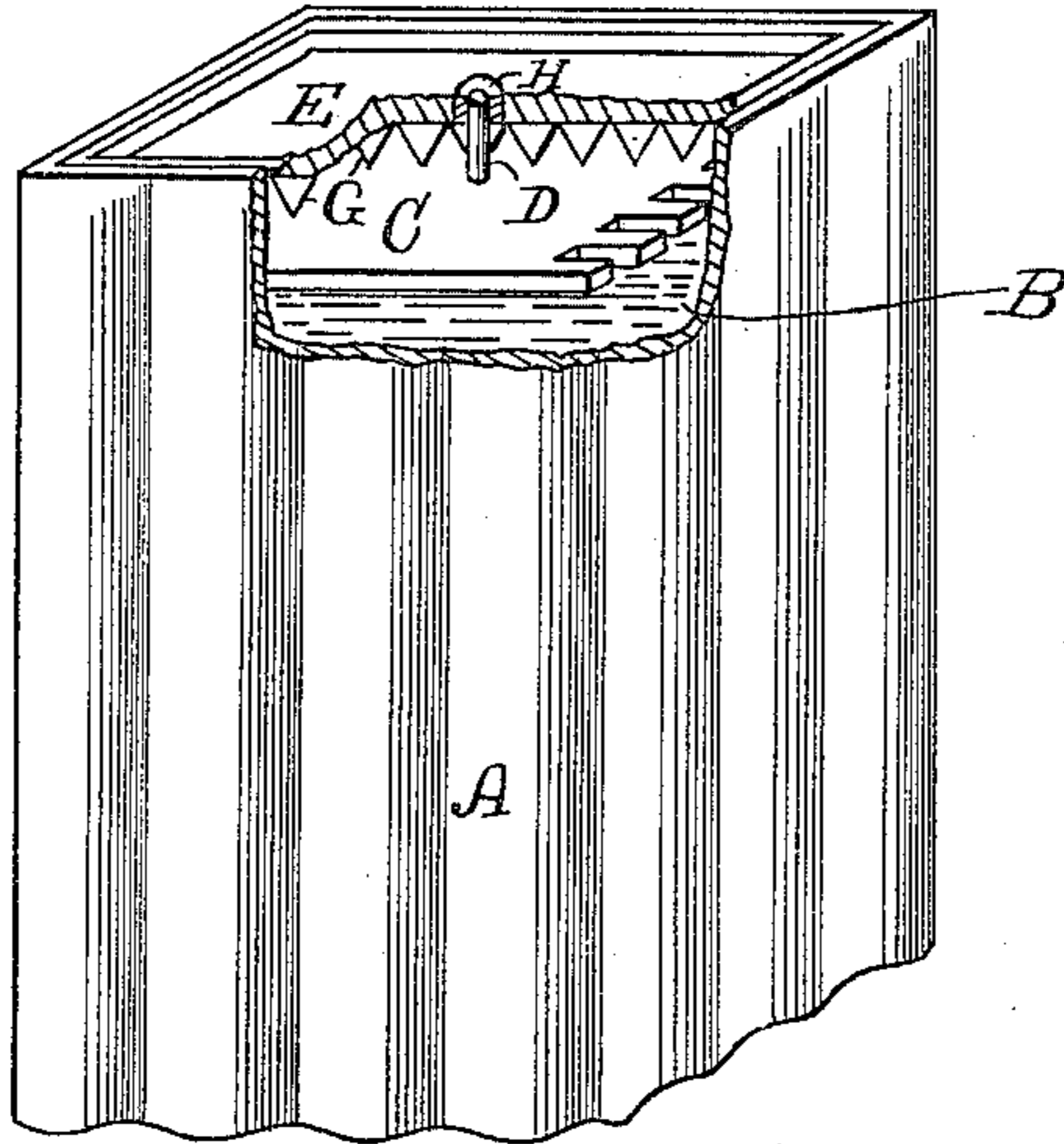


Fig. 6.

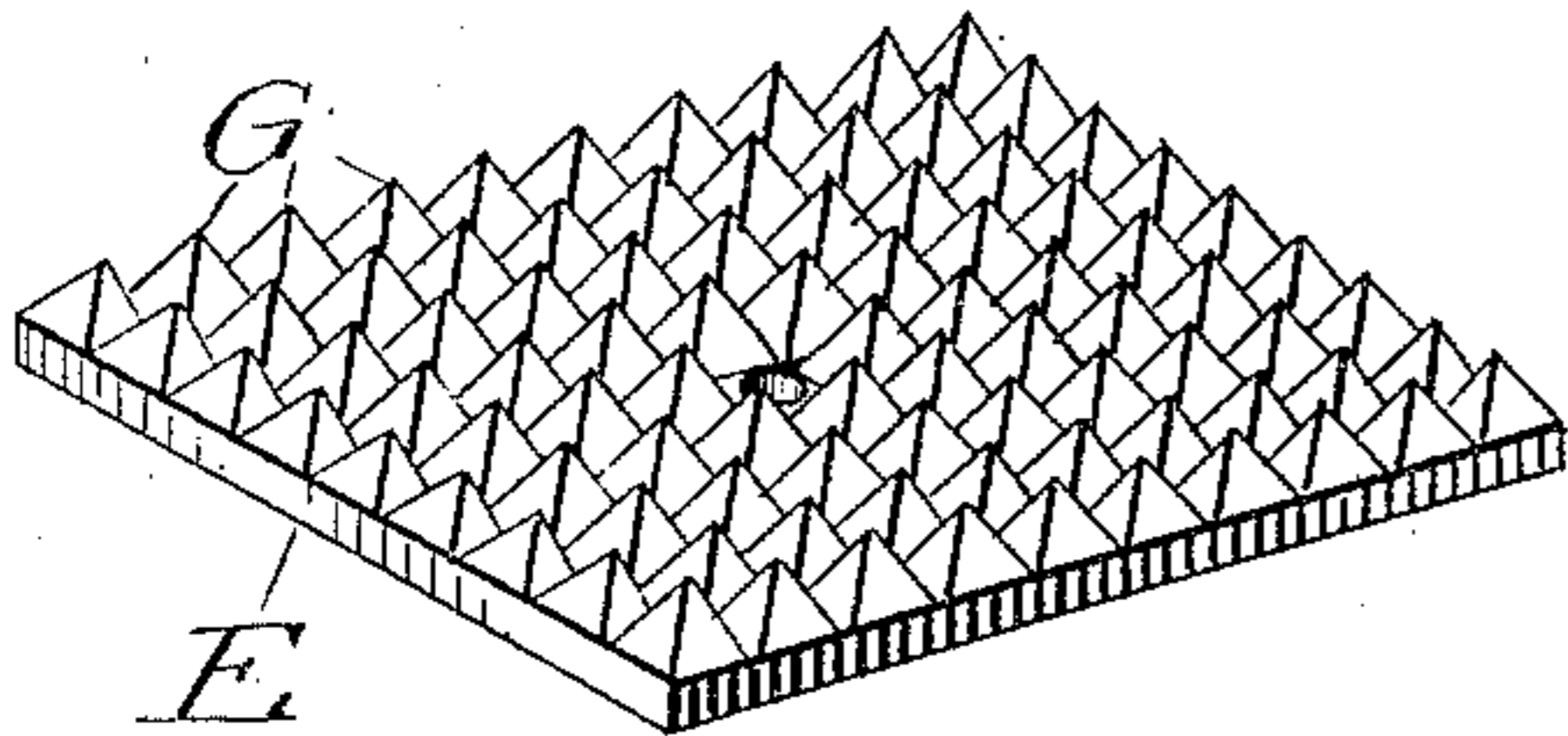


Fig. 2.

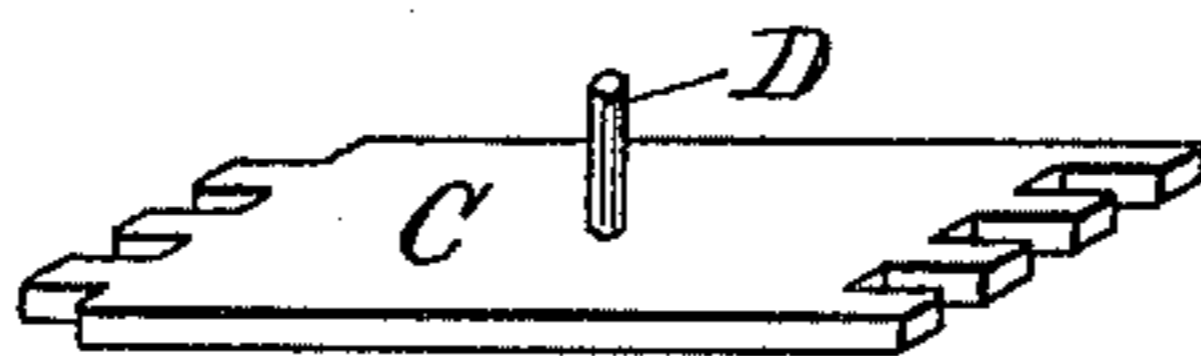


Fig. 4.

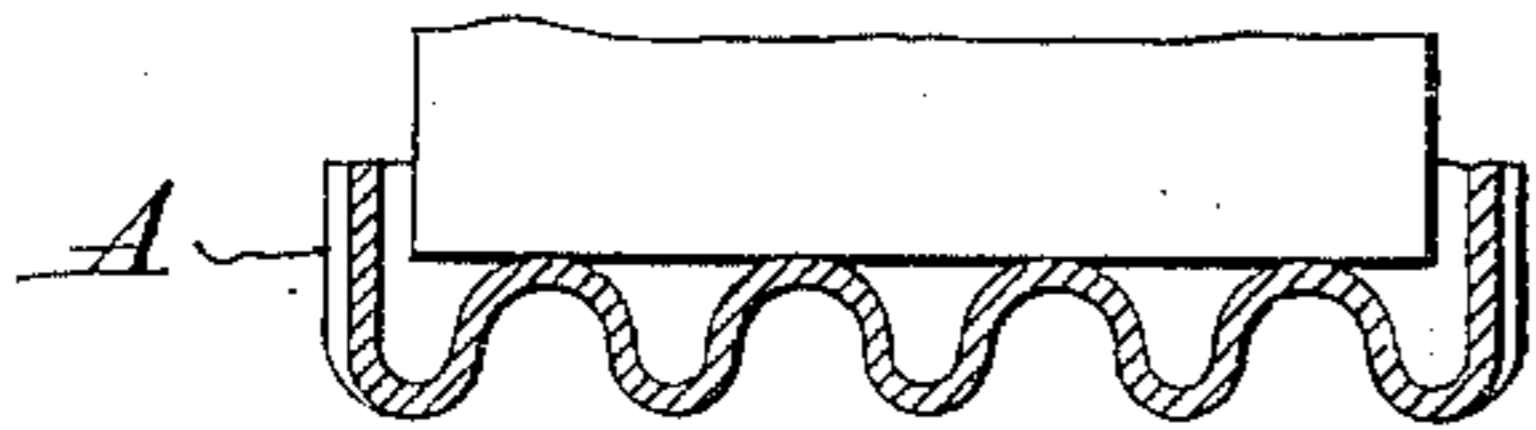
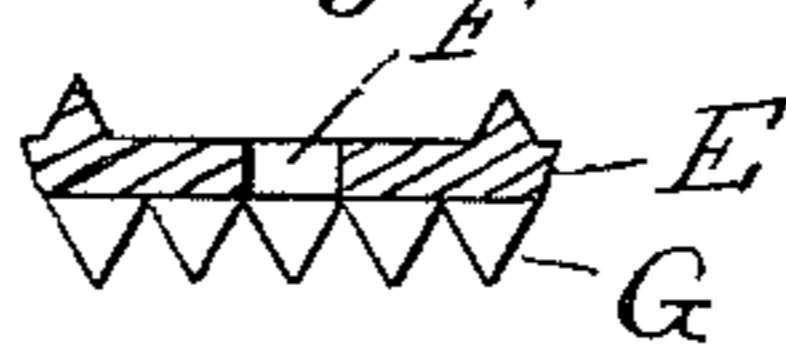


Fig. 5.



Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE

ARTHUR W. HARRISON, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO WILLIAM A. FRUHLING, OF SAME PLACE.

ELECTRIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 662,622, dated November 27, 1900.

Application filed June 16, 1900. Serial No. 20,596. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. HARRISON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Electric Batteries, of which the following is a specification.

My invention relates to the construction of the containing apparatus of electric batteries in which liquid is used in the cells; and the objects thereof are to provide a liquid-containing vessel of great strength with a small quantity of material, to provide a large amount of cooling-surface to condense the vapor generated therein, to reduce leakage of the current when the liquid slops out of the vessel and to reduce such slopping to a minimum, and to provide an indicator to show when there is a sufficient quantity of liquid in the vessel. I accomplish these objects by the device described and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view, partly broken away, of my device. Fig. 2 is a perspective view of the internal liquid-cover for preventing the liquid from slopping and the indicator. Fig. 3 is a central vertical cross-section of the top cover. Figs. 4 and 5 are respectively a longitudinal and a cross vertical section of the lower part of the liquid-containing vessel to illustrate the corrugations of the bottom thereof, showing parts of plates therein. Fig. 6 is a plan view of the under side of the cover to show the distribution of the points.

In the drawings, A is the outer case or container of vulcanite or other non-conducting and acid-proof material, the bottom, sides, and ends of which are corrugated, in order to give greater strength with less material than if they were made smooth in the usual manner. The corrugations of the sides and ends extend almost to the top and are so arranged that the outward projections of the corrugations of one side are directly opposite the inward projections of the corrugations of the other side, so that when a number of containers are packed together in a case they will fit closely together. The corrugations on the bottom of the container give less contact-surface with the foundation on

which they rest and therefore have less tendency to cause the liquid which accidentally slops out from spreading on such foundation, and thereby reduces to the minimum the leakage of current from this source.

Resting upon the liquid B in the container is a buoyant internal cover C, preferably non-absorbent, for preventing the liquid from forming into waves in the vessel, thereby reducing to the minimum the tendency of the liquid to slop out of the vessel. Cover C is provided with a central stem D, which passes through a hole F, situate at or near the center of the outside top cover E. The top of said stem when the liquid is at a proper height in the container is on a level with the surface of cover E, which indicates that there is a proper amount of liquid in the container. The lowering of stem D below cover E will indicate that the liquid needs replenishing. Top cover E is supported on the inner projections of the corrugations and is cemented to the sides and ends in the usual manner. The under side thereof is provided with downwardly-projecting points G, in order to present the greatest amount of cooling-surface to the vapors generated in the container and to cause the condensations therefrom to drop from such points and not run to the point of contact between the top and sides, where if the cement should be loose capillary attraction would tend to fill the space therebetween with liquid, and thereby increase the tendency of the liquid to slop out of the container.

My improved top cover will give equally good results if used with a vessel whose sides are not corrugated.

In aperture F, surrounding stem D, is a ring of soft-rubber packing H, which permits of the escape from the container of any excess of vapor and at the same time keeps out dust, &c., from the liquid.

The other features of the container are of ordinary construction.

Having described my invention, what I claim is—

1. In an electric battery, a case for containing the positive and negative elements and exciting liquid thereof, having corrugated sides and bottom; a top cover having its lower surface covered with downwardly-projecting

points, and a hole centrally located therein
extending therethrough, a buoyant cover
adapted to rest on the liquid in said case,
having a stem affixed to the top thereof;
5 adapted to pass through the central hole in the
top cover, substantially as described herein.

2. In an electric battery, a liquid-contain-
ing receptacle, comprising a case of non-con-
ducting acid-proof material, having corru-
10 gated sides and bottom, and a top having
downwardly-projecting points.

3. In an electric battery, a top cover there-
for, having its lower surface covered with
downwardly-projecting points.

In witness that I claim the foregoing I have 15
hereunto subscribed my name this 8th day of
June, 1900, at Los Angeles, California.

ARTHUR W. HARRISON.

Witnesses:

G. E. HARPHAM,
MATTIE MCGINNIS.