

A. F. HAVENS.

Improvement in Elevated Track of Wire or Rope.

No. 123,993.

Patented Feb. 27, 1872,

Fig. 2.

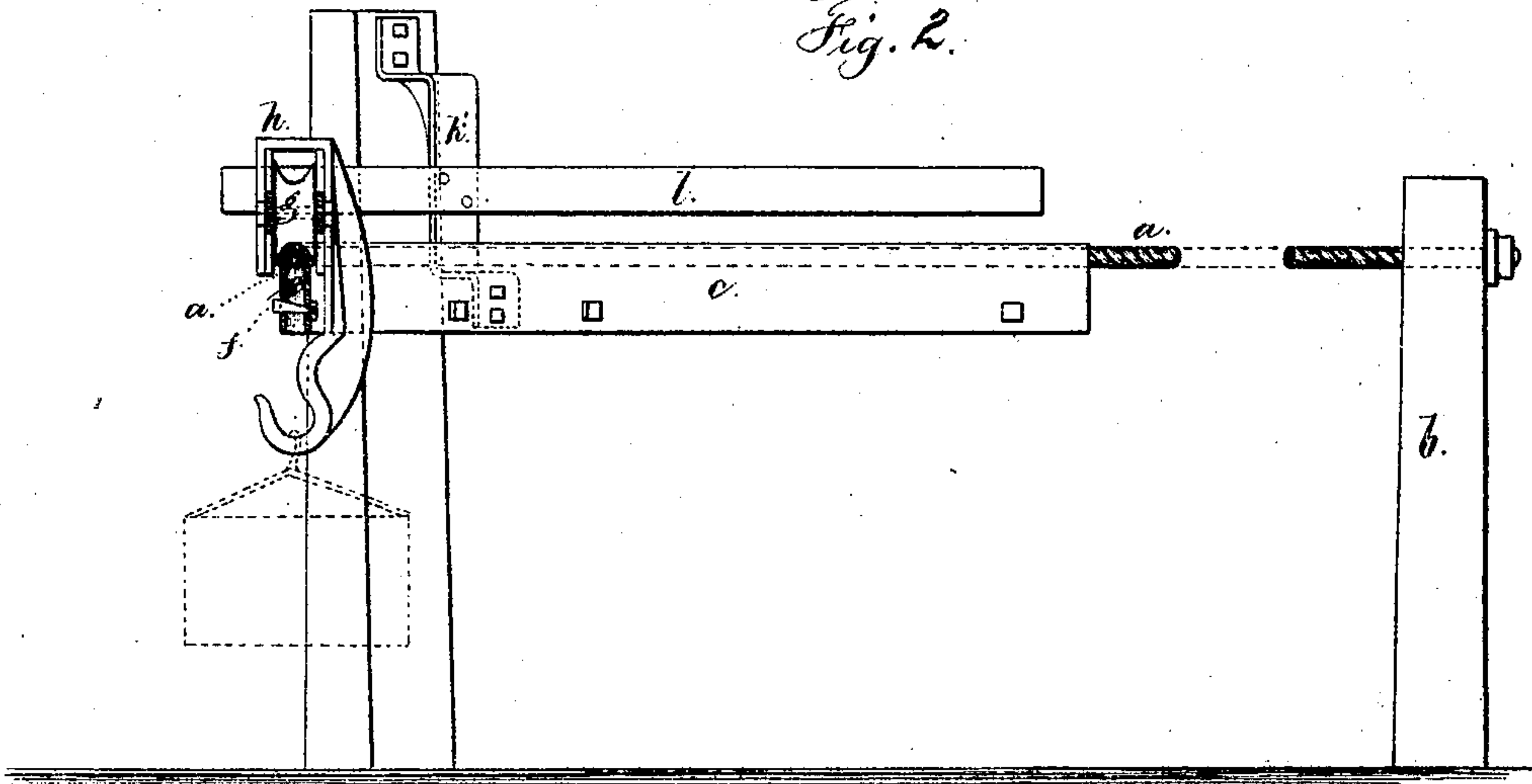
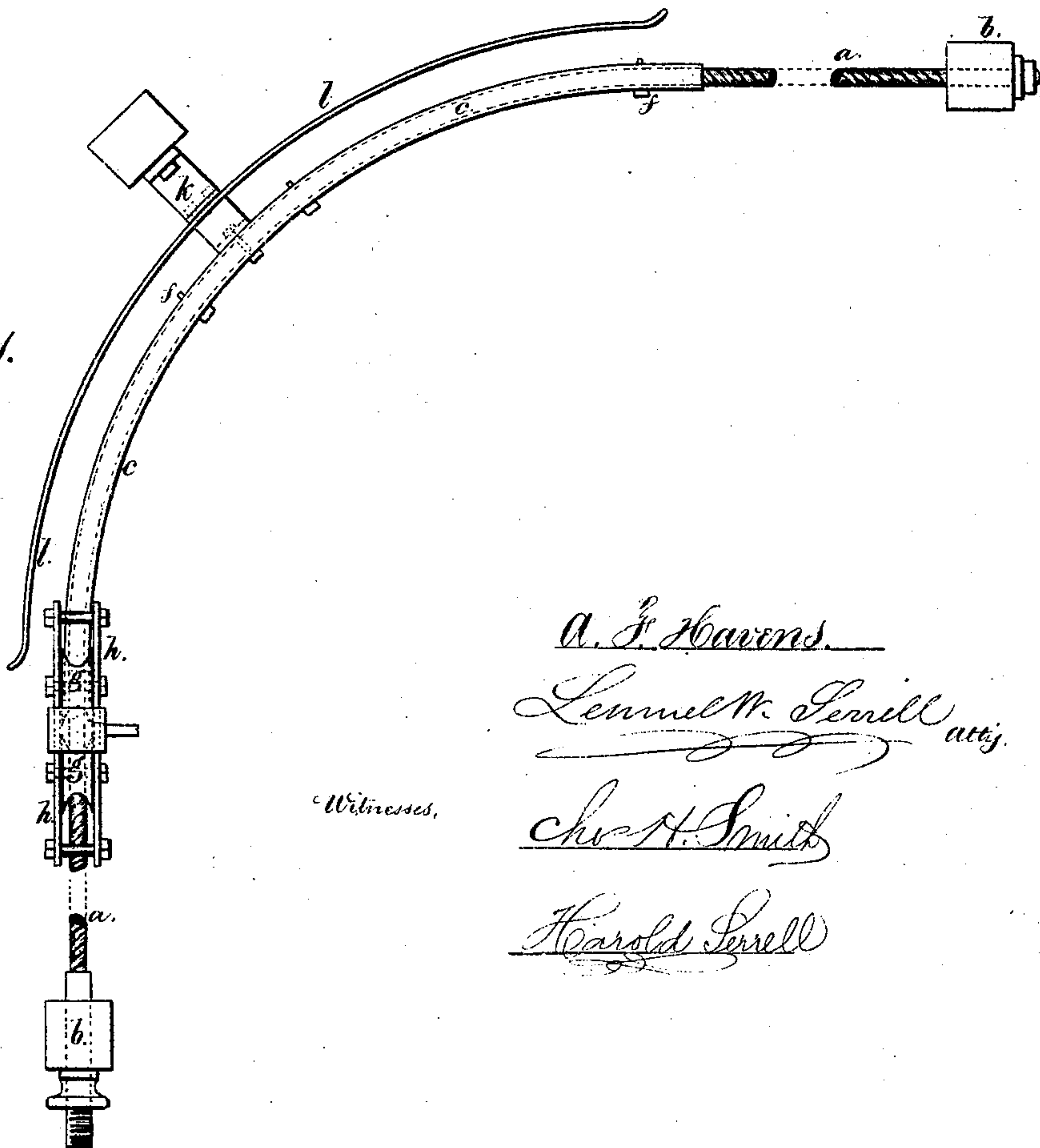


Fig. 1.



A. F. Havens.

Lemuel W. Ferrell atty.

Witnesses,

Chas. H. Smith

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# UNITED STATES PATENT OFFICE.

ALONZO F. HAVENS, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN ELEVATED TRACKS OF WIRE OR ROPE.

Specification forming part of Letters Patent No. 123,993, dated February 27, 1872.

*To all whom it may concern:*

Be it known that I, ALONZO F. HAVENS, of Brooklyn, in the county of Kings and State of New York, have invented an Improved Elevated Track of Wire or other Rope; and the following is declared to be a correct description of the same.

This invention is for supporting and holding the rope in such a manner that the carriage with wheels may run thereon with facility and meet with little or no obstruction, and that the said track may pass around curves for changing the direction thereof.

I make use of a shield or support to clamp and hold the said rope; and, where the direction of the track is changed, this shield is of sufficient length and forms an arc of a circle, the rope passing through the same, and hence capable of being strained up with the required tension to support any load hung from the carriage that runs on the same.

In the drawing, Figure 1 is a plan of the said track at one of the bends in the same, and Fig. 2 is a cross-section of the shield and rope.

The rope *a* is to be of wire or other suitable material, and of a length to reach the extent of the elevated track, and the ends are attached to suitable tighteners or shackles that are supported by beams or posts *b*. A bar or rod might take the place of the wire rod. The shield *c* is made in an inverted U-form, with the open-

ing of the width of the rope, and this is placed over the rope, which is supported in a semi-circular groove in the top of the bearing-bar *e*, and the shield *c* is clamped upon the rope by the insertion of wedges or keys *f*, that draw the parts together. The top part of the shield *c* is made very thin, so as not to interfere with the rollers *g* of the suspending-carriage *h*, running freely from the rope upon the shield and off the same. The shield and support are to be supported by posts or suspended by hangers *k*, at one side, and placed at suitable distances apart; and where the track changes its direction, the shield is to be made as an arc of a circle, through which the rope passes. In order to give direction to the carriage *h*, a curved fender, *l*, is placed above and at a little distance outside the curve, to turn the carriage into the line of the curve and prevent the wheels running off.

I claim as my invention—

1. The shield *c* and bearing-bar *e*, to clamp and support the rope of the elevated track, substantially as set forth.

2. The fender *l*, in combination with the rope-track *a*, supporting-bar *e*, and shield *c*, as and for the purposes set forth.

Signed by me this 29th day of September, A. D. 1871.

Witnesses: ALONZO F. HAVENS.

CHAS. H. SMITH,

GEO. T. PINCKNEY.