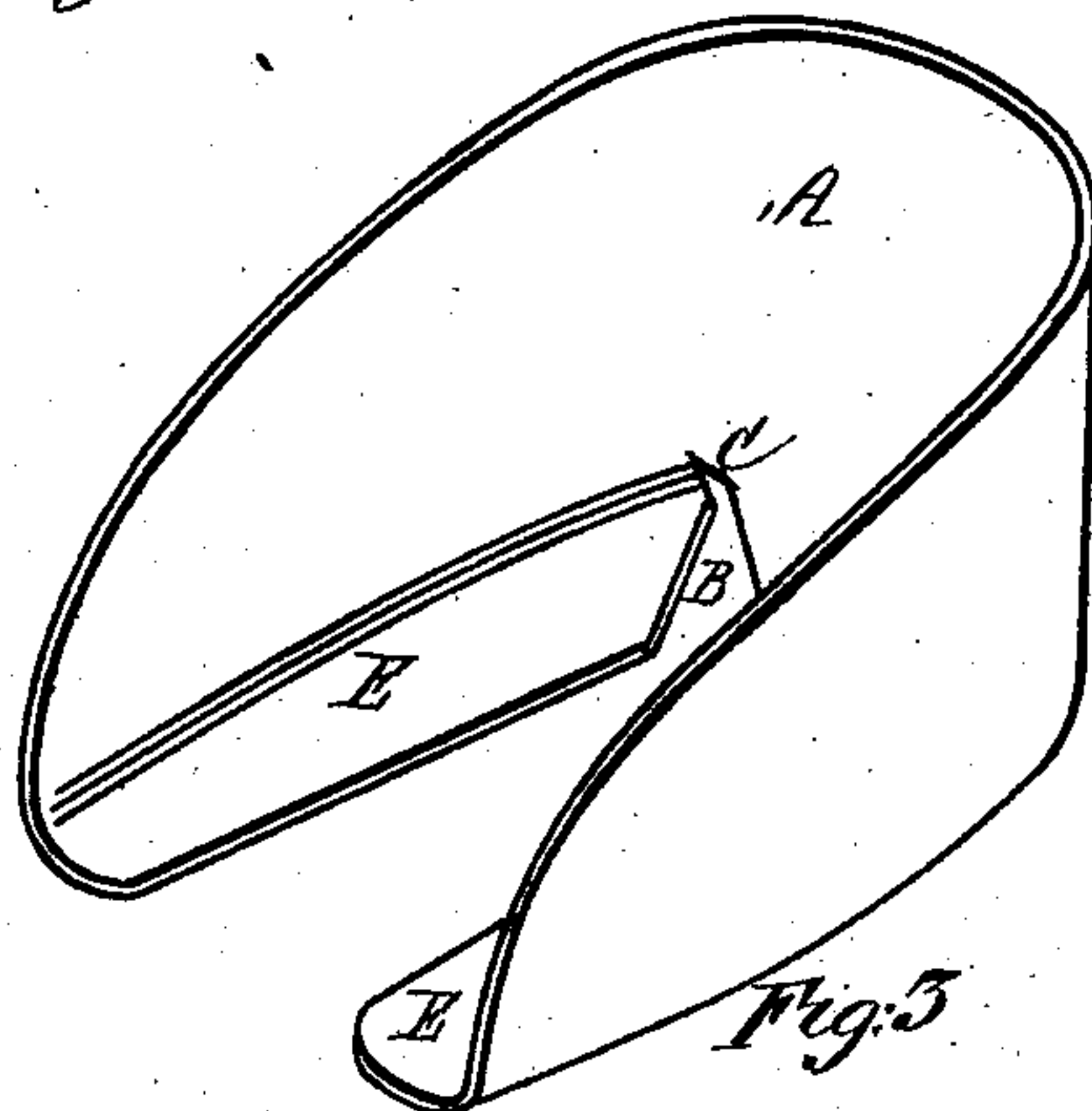
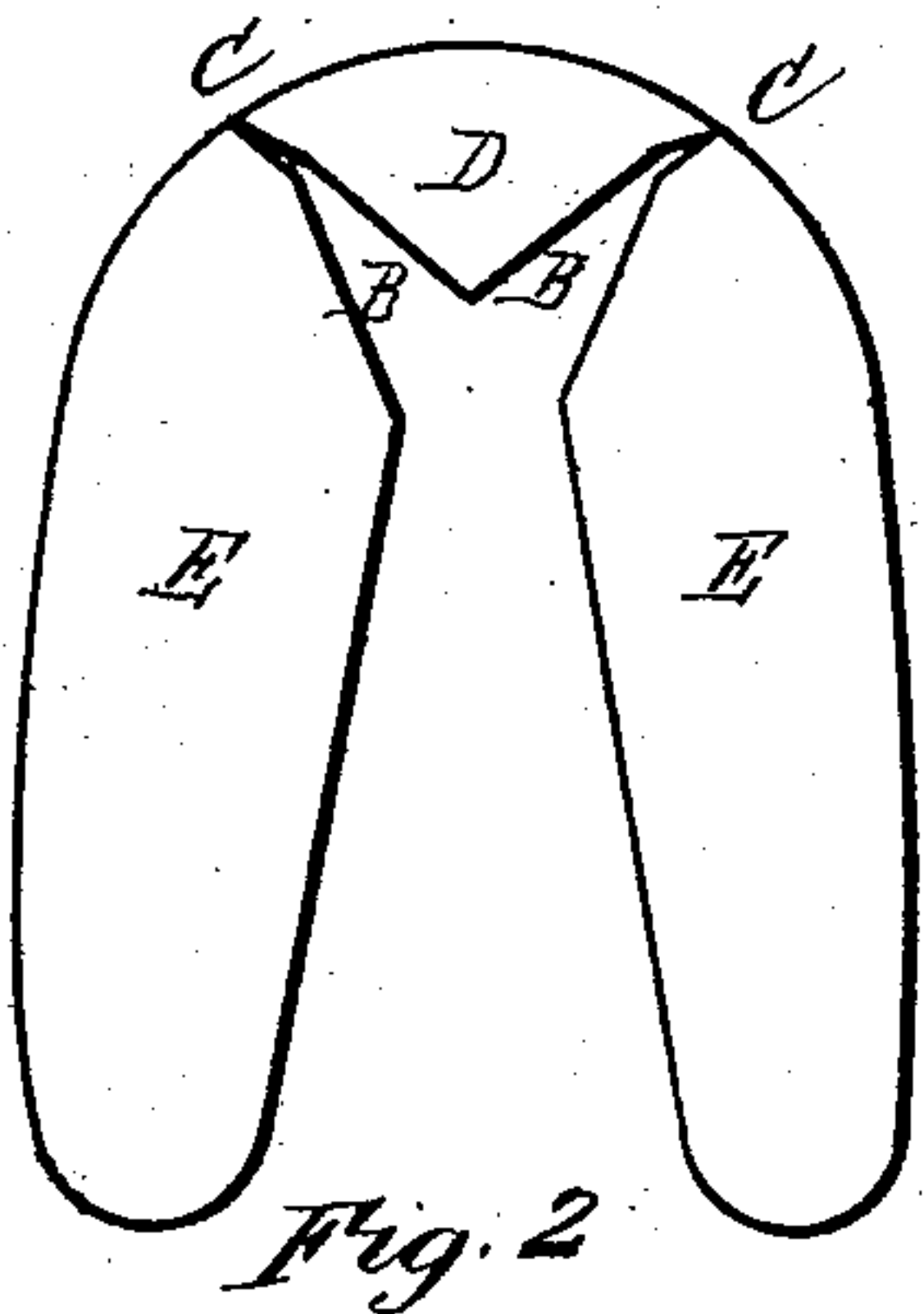
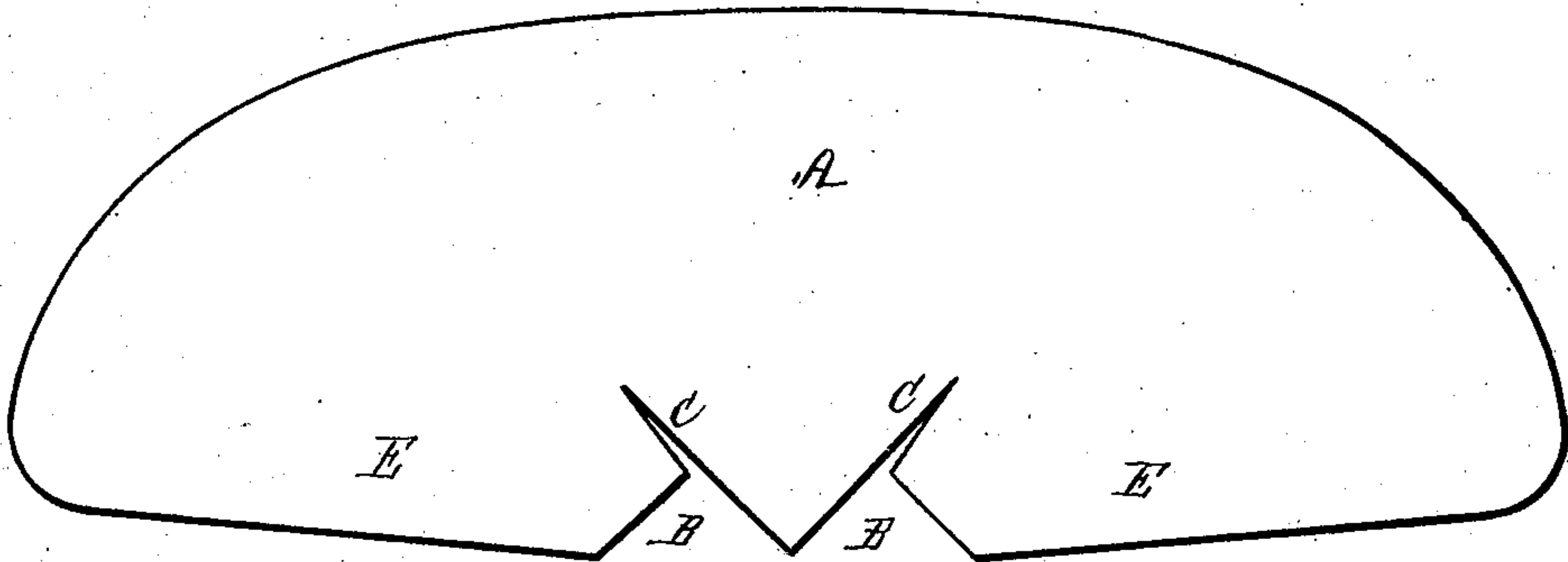


A. H. WILLOUGHBY.
Heel-Stiffeners for Boots, &c.

No. 147,030.

Patented Feb. 3, 1874.

Fig. 1



Witnesses

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UNITED STATES PATENT OFFICE.

ALFRED H. WILLOUGHBY, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN HEEL-STIFFENERS FOR BOOTS, &c.

Specification forming part of Letters Patent No. **147,030**, dated February 3, 1874; application filed November 21, 1873.

To all whom it may concern:

Be it known that I, ALFRED H. WILLOUGHBY, of Woburn, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Heel-Stiffeners for Boots and Shoes; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a plan of the blank from which my improved heel-stiffener is struck up or molded. Fig. 2 is an under view of the stiffener when ready for use. Fig. 3 is an isometrical perspective view of the same.

My invention relates to that class of heel-stiffeners which are molded or formed in a matrix, or by means of a die or former; and consists in a blank cut in a peculiar manner, and molded or formed as described, the object being to overcome difficulties experienced in the ordinary molded stiffener, and furnish such an article as the state of the art and the requirements of manufacturers demand.

Like letters refer to like parts in the different figures of the drawings.

In Fig. 1, A is the blank from which the stiffener is struck up, having the notches B B, wings E E, and slits C C. This blank may be of leather, leather-board, pasteboard, or any substance which it is desirable to use for the purpose.

After the blank is cut out in the form shown in Fig. 1, it is suitably moistened and pressed, by means of a die or mold, into the form shown

in Figs. 2 and 3, in which shape it is properly dried, and is ready for use.

I am aware that heel-stiffeners having one or more notches or saw-teeth, as shown in Figs. 4 and 5, are in common use; but such stiffeners are very imperfect, for the reason that the parts E, E, and D are crimped or pressed into folds to such an extent in molding as to require a large amount of skiving before the sole of the shoe can be properly adjusted and sewed or nailed down in place. Another objection to such stiffeners is the difficulty experienced in adjusting them to lasts of different widths, their peculiar formation rendering them unyielding, to a great extent, laterally. These difficulties and objections are nearly or quite overcome in my improved stiffener by means of the diagonal slits C C, which prevent crimping to a great extent, and allow the stiffener to be more readily adjusted to lasts of different widths than is possible with the ordinary kind.

I therefore lay no claim whatsoever to a stiffener formed from a blank having the notches B B only, as shown in Figs. 4 and 5; but

What I do claim is—

A heel-stiffener molded or formed from a blank having the notches B B and slits C C, substantially in the manner and for the purpose set forth.

ALFRED H. WILLOUGHBY.

Witnesses:

CHARLES LETTS,
JOHN GLEASON.