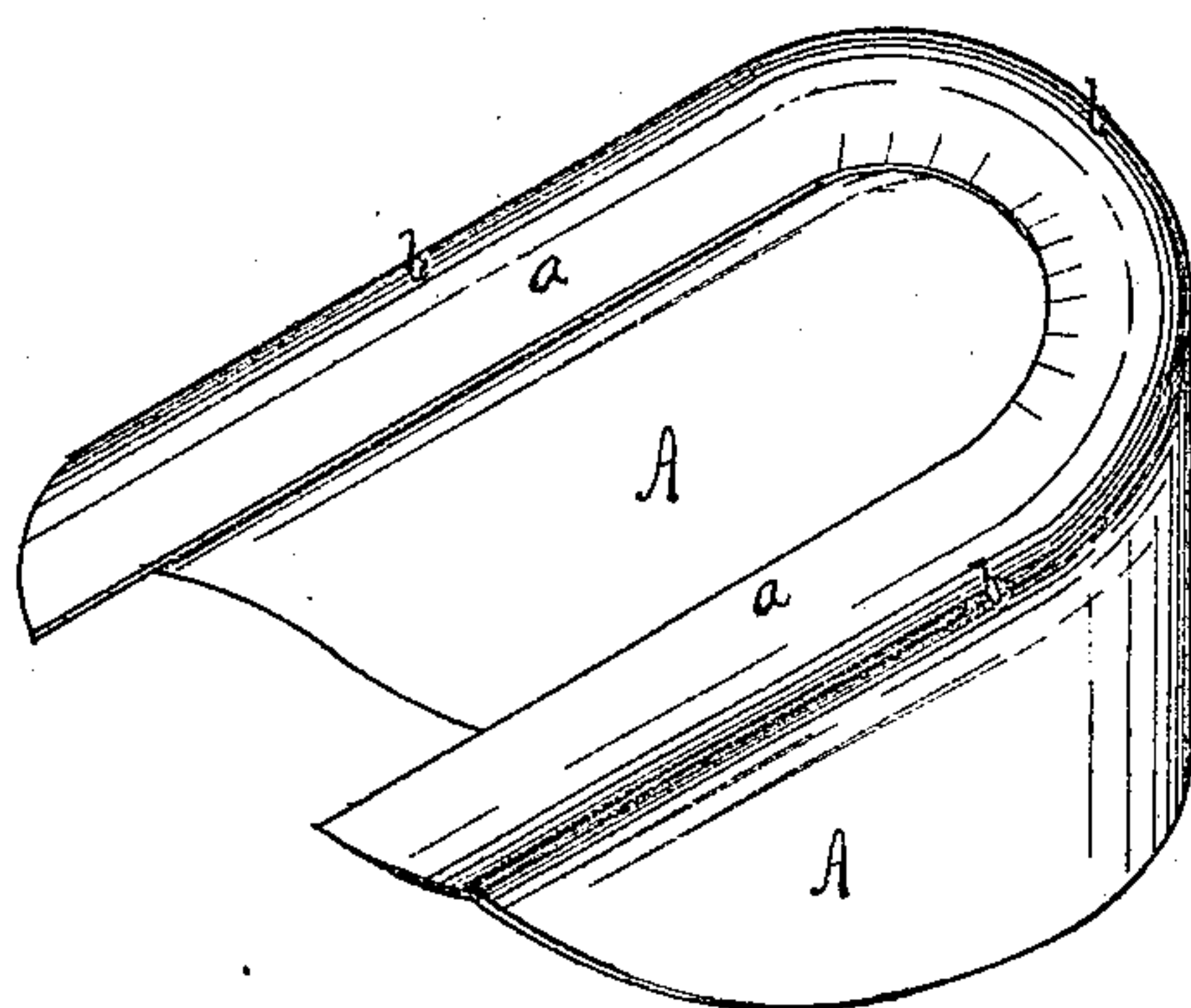
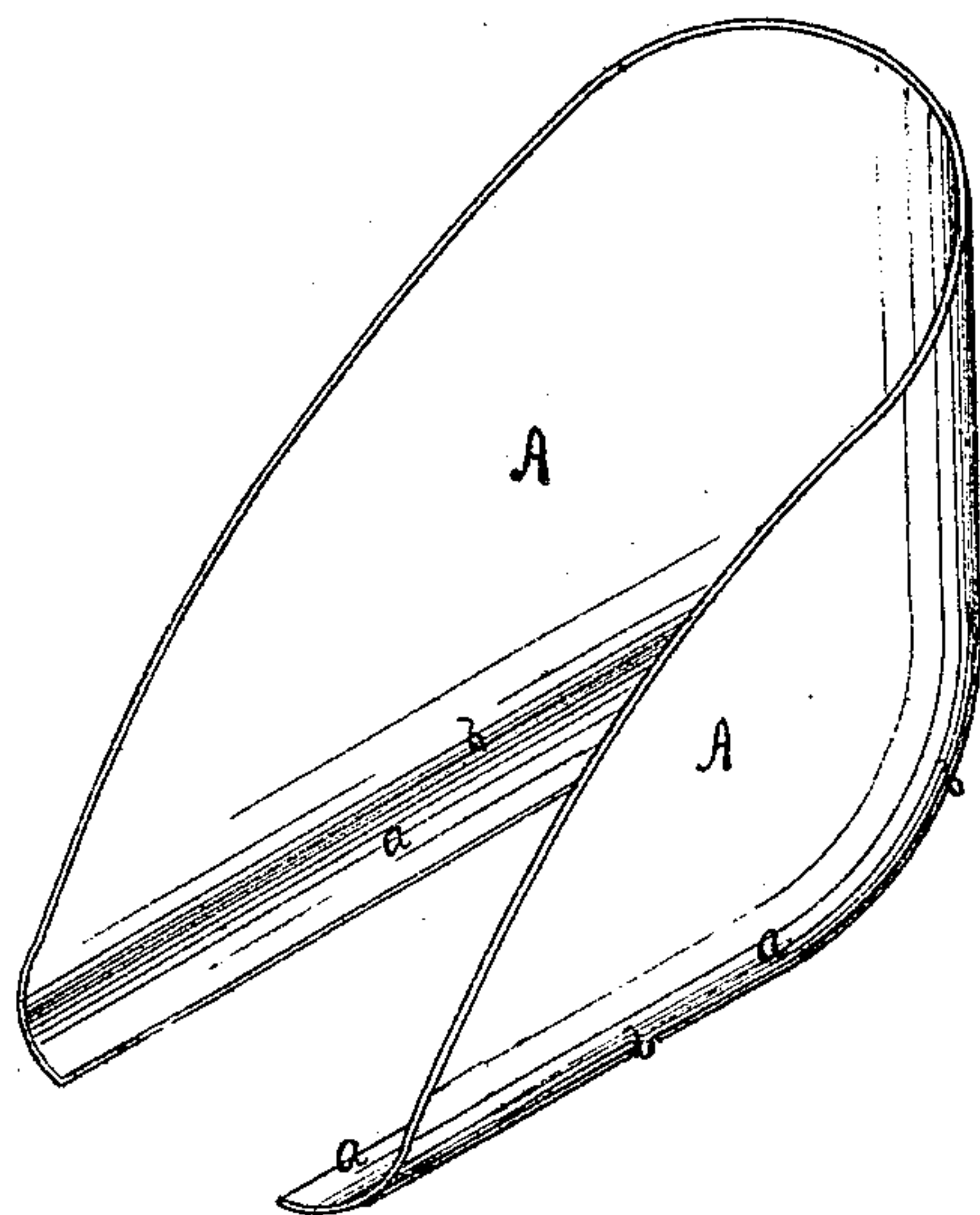


J. W. HATCH.

Improvement in Heel-Stiffeners.

No. 129,338.

Patented July 16, 1872.



WITNESSES.

Arch^d Baine
C. N. Woodward

Jesse W. Hatch,

INVENTOR BY

Burke Fraser & Orgood
attys

UNITED STATES PATENT OFFICE.

JESSE W. HATCH, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN HEEL-STIFFENERS.

Specification forming part of Letters Patent No. 129,338, dated July 16, 1872.

Specification describing a certain Improvement in Heel-Stiffenings, invented by JESSE W. HATCH, of the city of Rochester, in the county of Monroe and State of New York.

Nature of the Invention.

This invention consists of a heel-stiffening that is produced by crimping in contradistinction to one produced by molding or stamping in dies, or otherwise formed, as hereinafter described.

General Description.

In the drawing, Figure 1 is a perspective view; Fig. 2, a bottom view in perspective.

A represents the stiffening, which is formed in the shape of the heel, having its lower edge turned in, as shown at *a*, of proper form to fit between the soles. This stiffening may be made of leather or of leather board, which is formed in sheets of leather pulp, Manila, &c., or of any fabric or material which will serve the purpose. It may also be formed of a single thickness, or of several thicknesses, as may be desired.

To crimp the stiffenings any suitable machine may be used, but I find most effective that patented by me August 1, 1871. In that case the flat sheet, cut of proper form, is placed upon a heel-block and held stationary by a clamping-strap, while crimping-jaws come down and bend in the edges of the leather to form the flange *a*. In closing, the jaws draw in on all sides so as to crimp and press the edges inward equally toward a center, at all points, whereby the round turn or seat *b* is made perfectly smooth, the crimps or gathers being at the extreme inner edge.

Heel-stiffenings have before been formed by molding or stamping in dies. The novelty of my invention consists in crimping in contradistinction to stamping. A perfect stiffening cannot be produced by stamping. In such case there is no drawing-in action upon the flange—that is turned in—but simply a positive dead pressure of two opposing bodies which do not work one upon another. Under such circumstances the leather is simply stamped by receiving the form of the matrix or mold, and the wrinkles or heads, which necessarily form, run back from the inner edge of the bend to the seat *b* and render the lat-

ter irregular in form and unfit for application without further manipulation. Indeed, the stiffening has to be hammered at the point *b* to take out the wrinkles after it has passed from the mold. To partially remedy this difficulty it has been the practice, before stamping, to cut notches in the edge of the leather to be turned in, so as to compensate for the upsetting action; but even in that case the result is unsatisfactory, as wrinkles will form. The notching, besides, greatly weakens the stiffeners of the bent edges.

In my case these difficulties are avoided, for the crimping-jaws or equivalent mechanical devices strike high upon the seat *b*, and by sliding over said parts draw the whole edge in closely and bring all the wrinkles in to the inner margin, leaving the seat *b* perfectly smooth and rounded to the form to fit the last, and allow the outer leather to fit smoothly upon it, and without hammering or other manipulation. I also secure all the strength of the leather by not notching it.

This crimping action is of a special service in leather board, which is very rigid and stiff, and resists ordinary action. Such material cannot be easily molded or stamped, but is readily crimped, and the stiffenings so made will retain their form for a long time. This material is of great value for stiffenings, as it is very strong, cheaply produced, and is practically water-proof, requiring from ten to twelve hours soaking before it can be used, which is not the case with leather. Heretofore such material has been formed into stiffenings by hand at the time of application simply because it could not be well stamped by dies.

Another advantage of the crimping process is that the seat *b* and the edge *a* become very hard and solid by the passage of the crimping-jaws over them, and therefore will retain their form much longer than if stamped, where the pressure is the same over the whole surface.

There is a great saving in the manufacture of boots and shoes by the use of these stiffenings; first, in the expense of making the stiffenings; second, in the fitting to the heel of the shoe; and third, in the trimming, as much time is saved, owing to the perfect fit of the parts, the avoidance of hammering and beating up the seat, and the application of but

three tacks in attaching to the last; and fourth, in making available female labor, in not requiring skilled labor in beating down the seat. The saving at the present time is from two to three cents per pair.

Claim.

As a new article of manufacture, a crimped heel-stiffener, in which the seat *b* is formed with a smooth surface, and the wrinkles of the

leather are carried down to the inner margin without notching the leather.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

J. W. HATCH.

Witnesses:

C. N. WOODWARD,
ARCHD. BARNES.