

(No Model.)

J. E. LOW.
Dentistry.

No. 238,940.

Patented March 15, 1881.

Fig. 1.

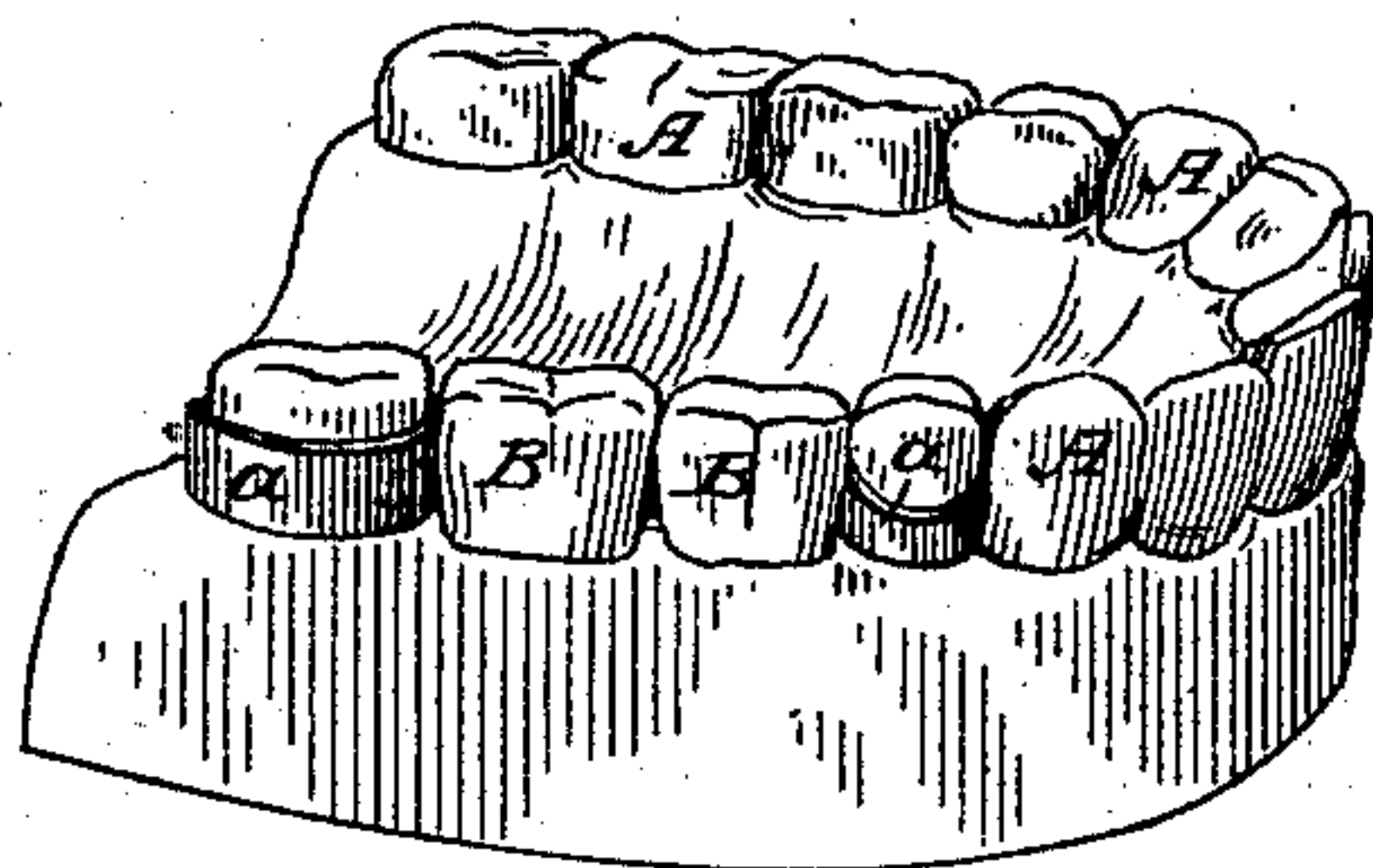


Fig. 2.

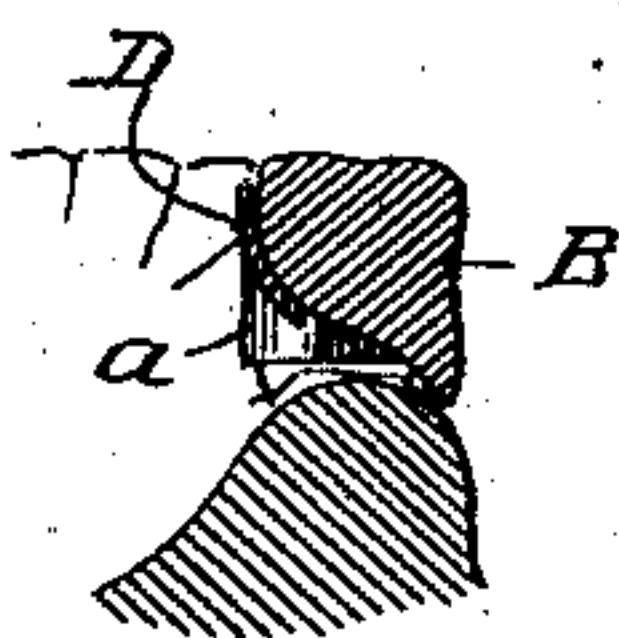


Fig. 3.

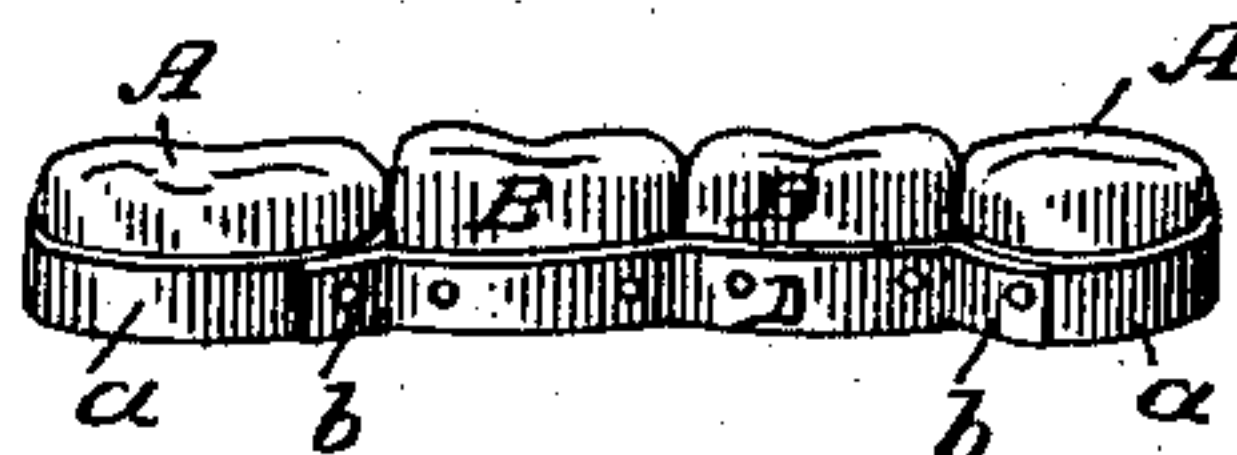


Fig. 4.



Fig. 5.

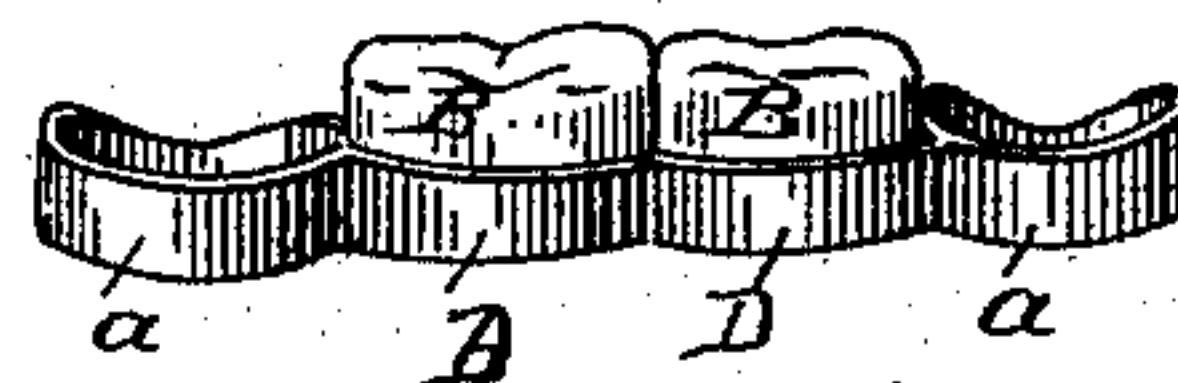


Fig. 6.

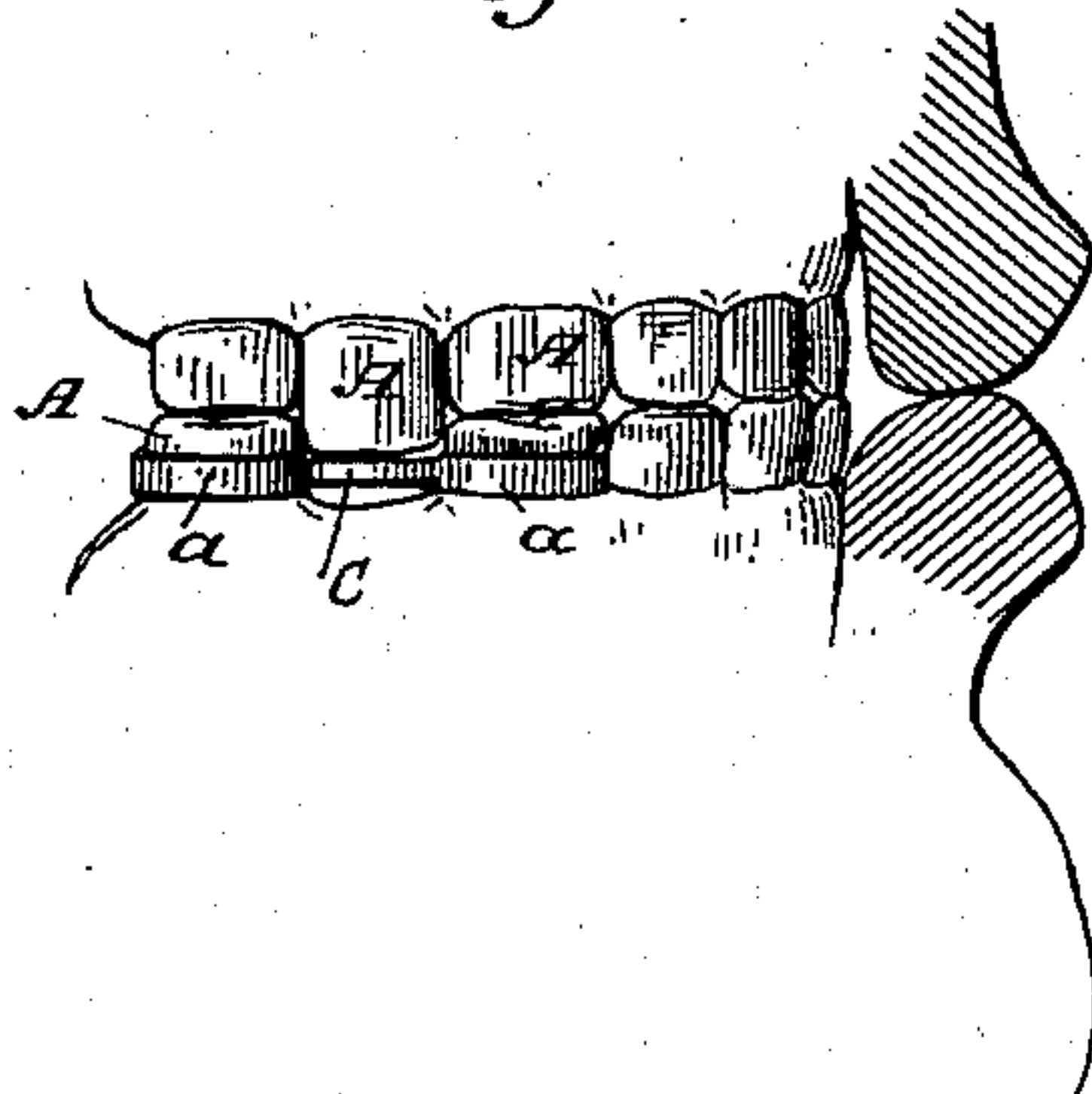
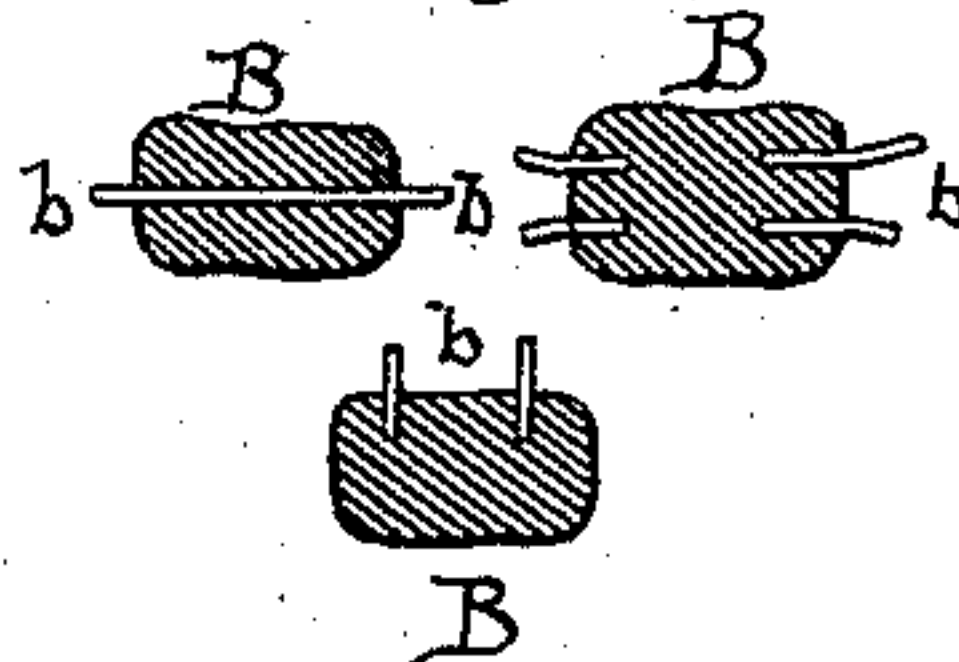


Fig. 7.



Attest:

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UNITED STATES PATENT OFFICE.

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DENTISTRY.

SPECIFICATION forming part of Letters Patent No. 238,940, dated March 15, 1881.

Application filed December 20, 1880. (No model.)

To all whom it may concern

Be it known that I, JAMES E. LOW, of Chicago, Cook county, in the State of Illinois, have invented a new and useful Improvement in Dentistry, whereby the artificial dental surfaces may be permanently fixed in the mouth in place of lost teeth without the use of plates or other means of deriving support from the gum beneath the artificial dentition.

Heretofore artificial teeth have invariably been supported entirely by the gum, and usually upon a plate fitted to the gum, and in the case of upper teeth to the roof of the mouth. Clasps or attachments to the adjacent teeth have been employed for the lower jaw to retain the artificial teeth in proper relation to the adjacent teeth; but said attachments have never been designed or adapted to sustain the pressure upon the artificial teeth in mastication without aid from the gum.

The use of plates or other methods of supporting the artificial tooth by the gum is highly objectionable, because, first, they necessarily cover the cutaneous surfaces which health requires should be uncovered; second, they occupy space within the mouth and are uncomfortable; third, they require frequent removal for the purpose of being cleansed; fourth, they accumulate offensive matters next the skin, and therefore promote disease.

The use of clasps to retain the teeth with very small supporting-plates has very generally been abandoned for the upper jaw, and suction-plates substituted, because the injury to the teeth by the clasp is supposed to be more objectionable than the discomfort and other disadvantages attending the use of the suction-plate.

All the objections to the presence of artificial dentition mentioned above are obviated by my improvement, which leaves the cutaneous surfaces uncovered and supports the artificial dentition by its attachments to the adjacent natural teeth, and the same method of attachment is equally applicable to both the upper and lower jaw.

That others may fully understand how to practice my invention, I will more particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view, showing nat-

ural and artificial dentition according to my method. Fig. 2 is a vertical section through an artificial tooth in position, showing its relation to the gum. Figs. 3, 4, 5, 6, 7 represent details.

A band of gold or other suitable metal is first prepared and accurately fitted around the tooth adjacent to the vacant spaces to be supplied with an artificial tooth. This band is firmly secured in place by cement, which effectually excludes water or the fluids of the mouth, and is thus permanently attached to the tooth, so that it cannot be removed without an operation directly for that purpose. It is sometimes sufficient to prepare one of the adjacent teeth in this way; but generally it is desirable to prepare the adjacent teeth on each side of the vacant space. It will always be advisable to do so if the vacant place is to be occupied with more than one tooth. The artificial block to fill this vacant place may comprise one or more teeth, as the case may require, and, if desired, may be molded in a single block. The lower surface adjacent to the gum is cut away at the back, and only descends to contact with the gum along its front edge, so as to prevent the appearance of an open space between the artificial teeth and the gum. The artificial block is provided with projecting lugs or pins of suitable metal, and may be thereby firmly secured by screws or otherwise to the permanently-fixed bands around the adjacent natural teeth.

In the drawings, A A are natural teeth, or crowns fitted upon natural roots, and B B are the artificial teeth or blocks fitted to supply the loss of corresponding natural teeth. *a a* are the bands or hoop accurately fitted and permanently fixed to the teeth A A. The metallic lugs *b b*, which are rigidly fixed to the artificial block B, are secured to the permanent bands *a a* by screws or otherwise, so that said artificial block is firmly attached to the natural teeth and wholly supported thereby. This method of inserting artificial dental surfaces renders the artificial teeth fixtures in the mouth of the wearer, yet without pressure upon or irritation of the cutaneous surfaces, and without in any way changing the secretions of the mouth. The wearer is not incommoded by the presence of plates which encroach

upon the spaces of the mouth, and the voice is not modified by rigid metallic surfaces within the mouth. The small area covered by the bases of the artificial teeth, and its non-contact with or pressure upon the gum, renders the deposition of secreted or foreign matter from the food unlikely and easily removable with the brush, or by water forced under the artificial teeth in the process of rinsing the mouth. It sometimes happens that a tooth has elongated to such an extent that there is not space between its crown and the opposite gum for the insertion of a regular tooth, and in such a case as that I sometimes supply an artificial dental surface composed of one or more metallic bars, C, extending from one permanent tooth to the next, and secured at their ends to the bands *a a*. This gives an effective grinding-surface opposed to such elongated tooth, which will restore its usefulness and prevent further elongation. In the case of the loss of a single lower tooth this method of repair is the only one applicable, and is particularly useful.

The artificial teeth may be provided with lugs inserted in the course of manufacture, or the common artificial teeth with platinum pins may be employed; and in this case the tooth or teeth are set, in the usual way, upon a backing-plate, D, of gold or other proper metal, as shown in Figs. 1, 2, 4, and the ends of this backing-plate are attached to the permanent bands *a a*.

In practice I have found it possible in almost every case to fit the artificial teeth and the bands *a a*, and solder the backing-plate to said bands, before final insertion, and this I regard as much preferable to attachment by

means of screws, as it is more solid and durable and requires less thickness in the gold bands. The particular method of attachment to be adopted cannot, however, be determined arbitrarily, and must be left to the judgment of the operator.

The formation of the mouth and the shapes and position of the teeth are so various with different individuals that my invention may require modification in various particulars in applying it. I therefore do not propose to limit myself to the details as shown, but consider that my invention includes the permanent attachment of artificial teeth by securing them to continuous bands permanently attached to adjoining teeth supported upon natural roots, and supporting said artificial teeth by said attachments without dependence upon the gum beneath said artificial tooth.

Having described my invention, what I claim as new is—

1. The herein-described method of inserting and supporting artificial teeth, which consists in attaching said artificial teeth to continuous bands fitted and cemented to the adjoining permanent teeth, whereby said artificial teeth are supported by said permanent teeth without dependence upon the gum beneath.

2. An artificial tooth cut away at the back, so as not to present any contact with the gum except along its front lower edge, and supported by rigid attachment to one or more adjoining permanent teeth, substantially as and for the purpose set forth.

J. E. LOW.

Witnesses:

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