

W. H. OAKLEY.
Sound-Collector.

No. 220,169.

Patented Sept. 30, 1879.

Fig. 1.

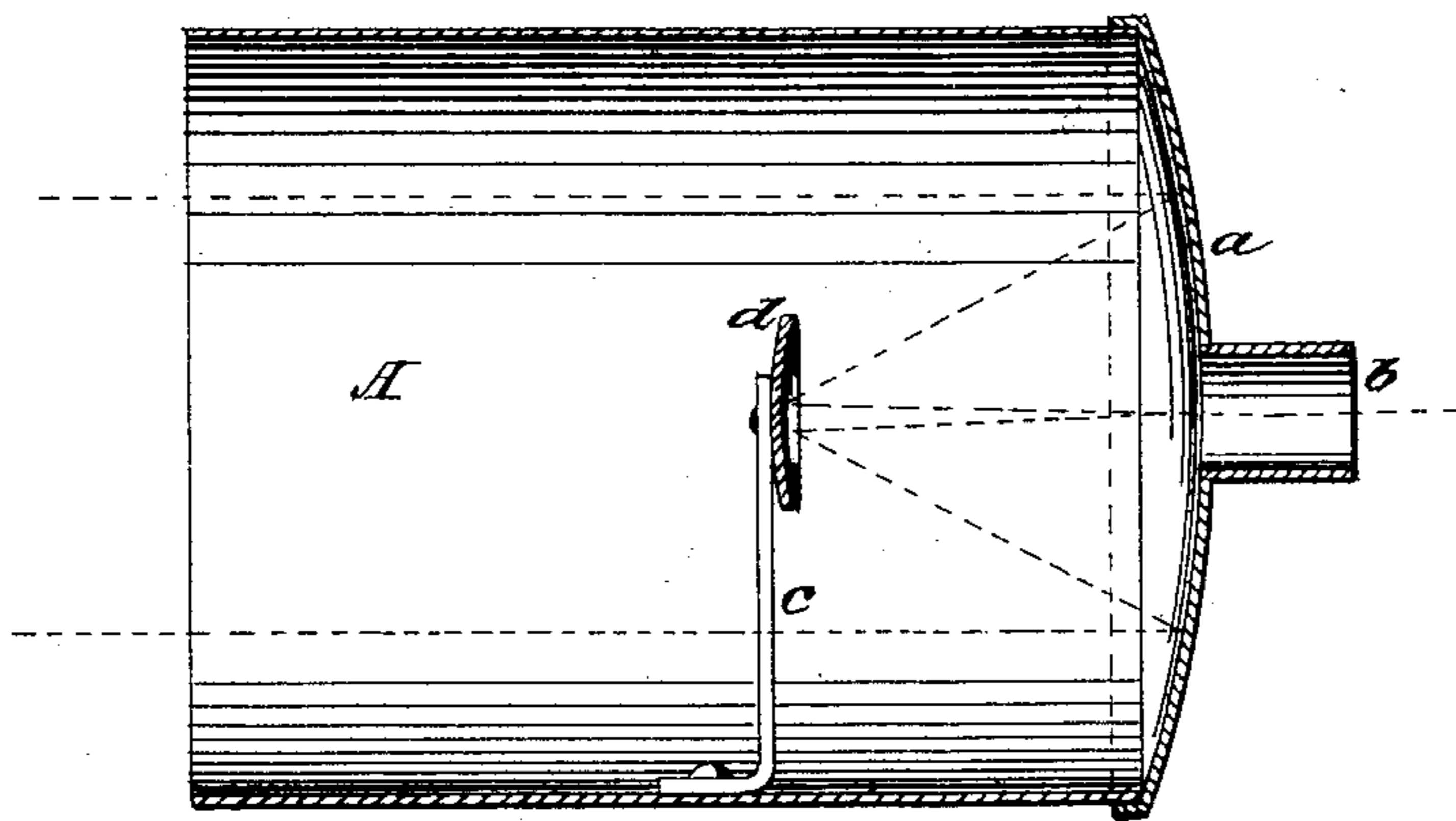
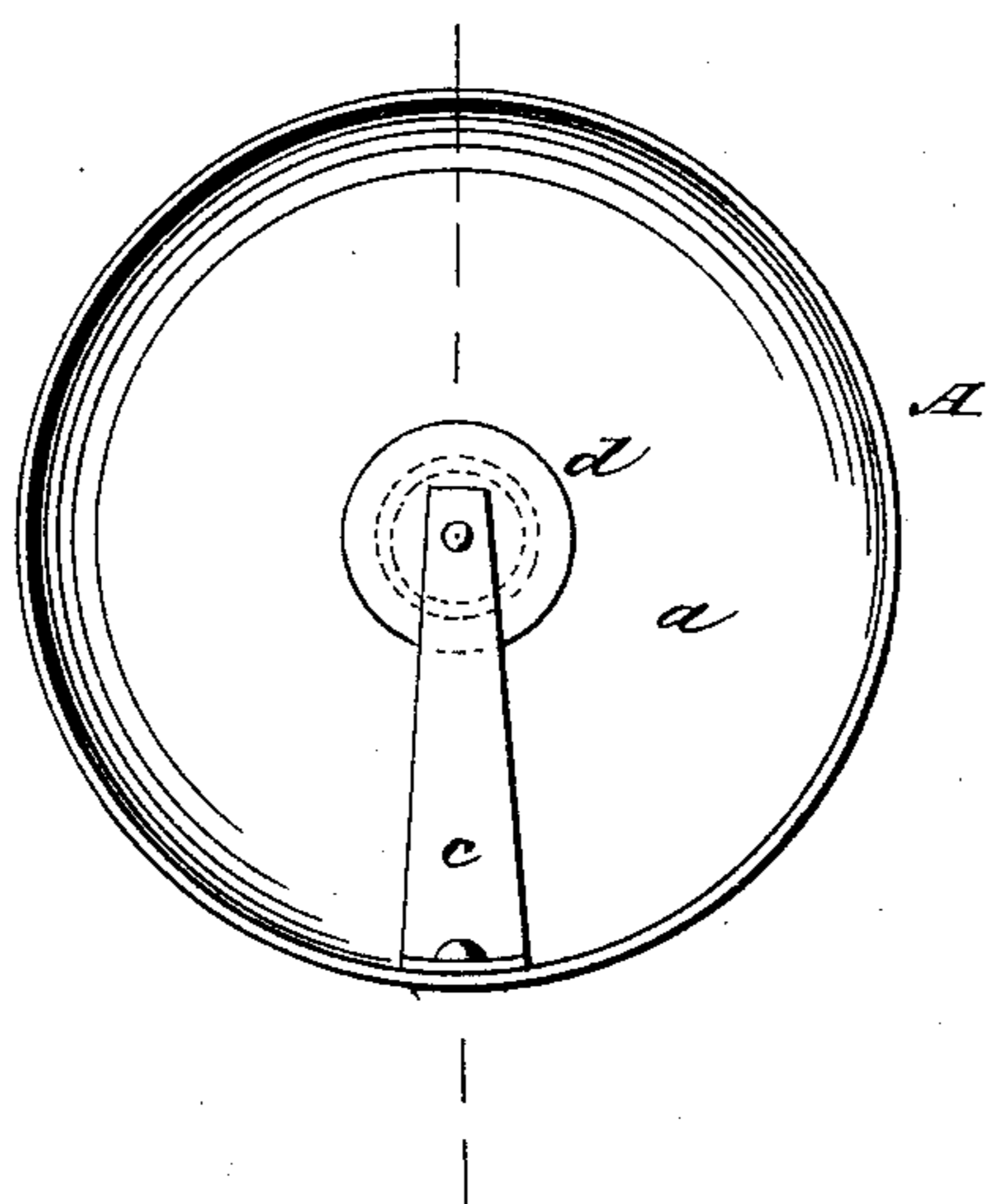


Fig. 2.



WITNESSES:

Francis Mc Ardle
C. Sedgwick

INVENTOR:

W. H. Oakley
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM H. OAKLEY, OF MANISTEE, MICHIGAN.

IMPROVEMENT IN SOUND-COLLECTORS.

Specification forming part of Letters Patent No. **220,169**, dated September 30, 1879; application filed July 1, 1879.

To all whom it may concern:

Be it known that I, WILLIAM H. OAKLEY, of Manistee, in the county of Manistee and State of Michigan, have invented a new and Improved Sound-Collector, of which the following is a specification.

The object of my invention is to furnish a device for collecting and concentrating sound, for use as an ear-trumpet and in connection with telephones and phonographs; and the invention consists in a cylinder fitted with a concave base and a small concave reflector at the focus of the base, and facing the same, whereby the sounds collected by the concave from a large area are focused upon the reflector and concentrated at the desired point.

The apparatus is shown in the accompanying drawings, wherein Figure 1 is a longitudinal section of the sound-collector. Fig. 2 is an end view of the same.

Similar letters of reference indicate corresponding parts.

A is a cylinder, preferably made of sheet metal and of convenient size for handling, and having one of its ends closed by a cap, *a*, which is concave on the inner side and has a small aperture in the center, which is fitted with a tube, *b*, that projects outward.

Within the cylinder A, upon a rigid arm, *c*, that is attached to the side of the cylinder, is a small concave reflector, *d*. This reflector *d* faces the concave cap *a*, and is situated at the

focus of the same, and its center is consequently in line with the center of tube *b*.

The cylinder A acts as a collector and receiver of sounds, which enter by its open end, and by the concave reflecting-surface *a* the sounds are collected from the entire area of the cylinder and thrown upon the reflector *d*. The reflector *d* will act to still further concentrate the sound and project it in a straight line through the tube *b*, the dotted lines showing the manner of operation.

This device may be used as an ear-trumpet by placing the end of tube *b* to the ear; or it may be applied in the same manner to a telephone or a phonograph. The operator in that case will speak into the open end of the cylinder, and the vibrations will be projected through the tube *b* upon the vibrating diaphragm of the instrument.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The improved sound-collector consisting of the cylinder A, fitted at one end with the apertured concave cap *a*, and having the concave reflector *d* combined with it, substantially as and for the purposes set forth.

WILLIAM H. OAKLEY.

Witnesses:

N. W. NELSON,
WM. MARSHALL.