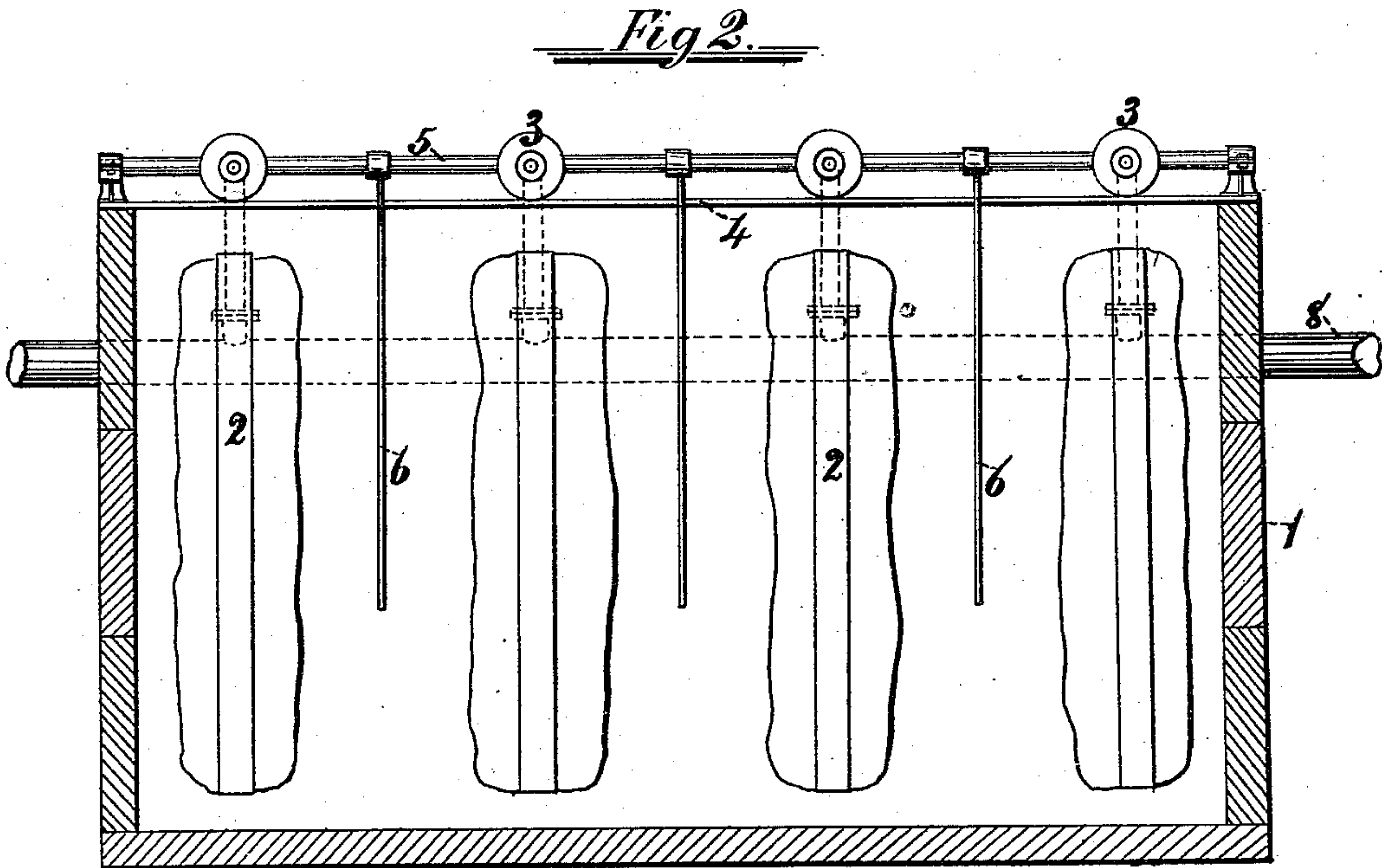
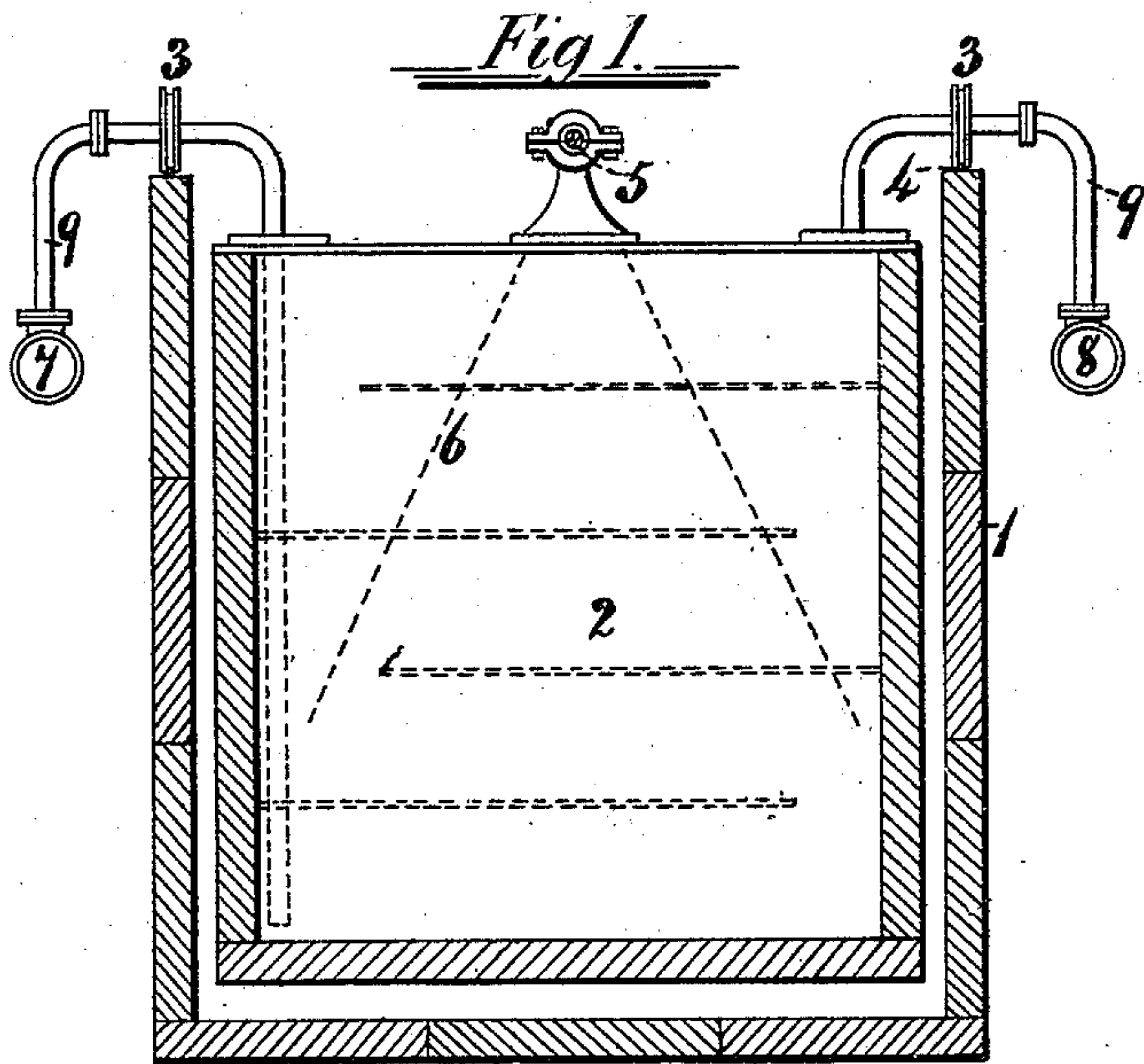


F. N. MACKAY.  
Cell for Tanks of Ice-Making Machines.  
No. 213,219                      Patented Mar. 11, 1879.



Witnesses.  
*Wm. Edwards*  
*W. B. Johnson*

Inventor.  
*Frederick N. Mackay*

# UNITED STATES PATENT OFFICE.

FREDERICK N. MACKAY, OF LIVERPOOL, ENGLAND.

## IMPROVEMENT IN CELLS FOR TANKS OF ICE-MAKING MACHINES.

Specification forming part of Letters Patent No. **213,219**, dated March 11, 1879; application filed August 17, 1878; patented in England, October 7, 1874.

*To all whom it may concern:*

Be it known that I, FREDERICK NOEL MACKAY, of Liverpool, in the county of Lancaster, England, have invented a new and useful Improvement in Ice Making Apparatus, of which the following is a specification:

This invention, which is also shown in English Patent No. 3,425, granted on October 7, 1874, to Joshua Siddeley and myself, relates to that class of ice-making machines in which the water is formed into ice on the sides of cells contained in a tank, through which cells the freezing medium circulates or passes; and it consists in making the cells movable, so that blocks or slabs of ice of any desired thickness may be formed thereon.

In the drawings, Figure 1 is an end view, and Fig. 2 a side view, of an apparatus embodying my invention.

As therein shown, 1 indicates the ice-tank, in which the movable cells 2 are placed. These cells, which are supported on and carried by the rollers 3, running on the ways or bearers 4, may be moved to any desired distance apart, so as to produce any desired thickness of block

or slab of ice. The brine or other cooling fluid is supplied to the cells by means of the supply-pipe 7, and discharged by means of the discharge-pipe 8, said supply and discharge pipes being connected with the cells by means of flexible tubes 9, or by hinged pipes.

The advantage of the above construction of the cells is that they can be moved farther from and nearer to each other, so as to allow of blocks or slabs of ice of any desired thickness being made in the tank.

For the purpose of expelling the air from the water to be frozen, I have shown mounted on the rock-shaft 5, agitators 6, which vibrate in the water between the cells.

What I claim, and desire to secure by Letters Patent, is—

In a tank of an ice-making machine, a movable cell or cells through which the refrigerant is caused to circulate, substantially as and for the purposes set forth.

FREDK. N. MACKAY.

Witnesses:

W. M. EDWARDS,  
W. B. JOHNSON.