

H. FOX.

DEVICE FOR PROPELLING BOATS.

No. 176,947.

Patented May 2, 1876.

Fig. 1.

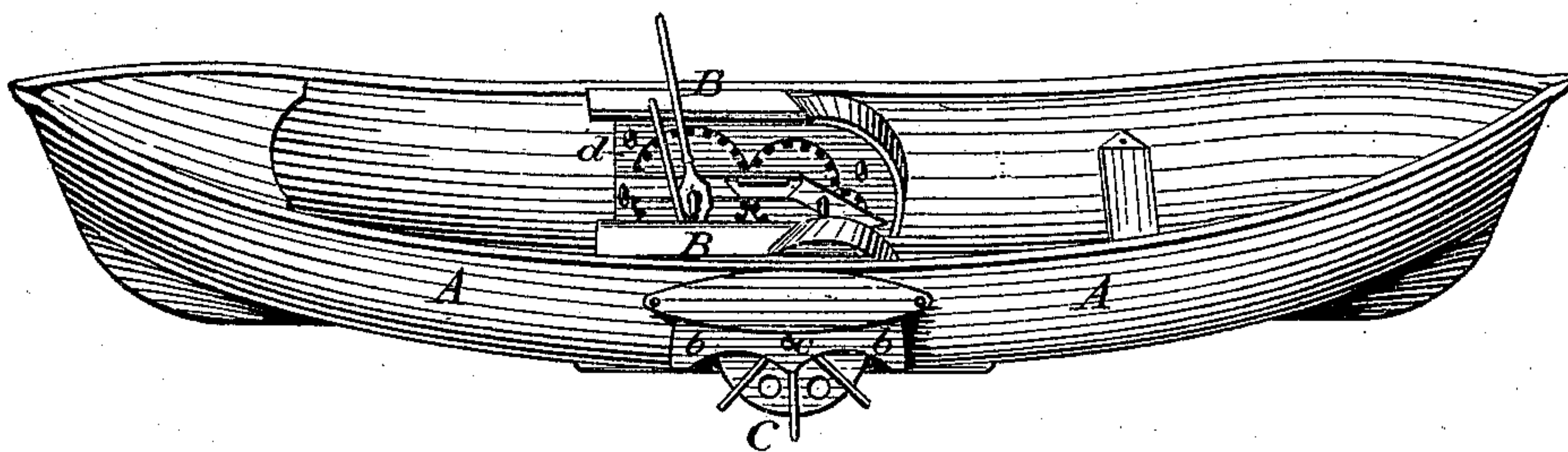


Fig. 2.

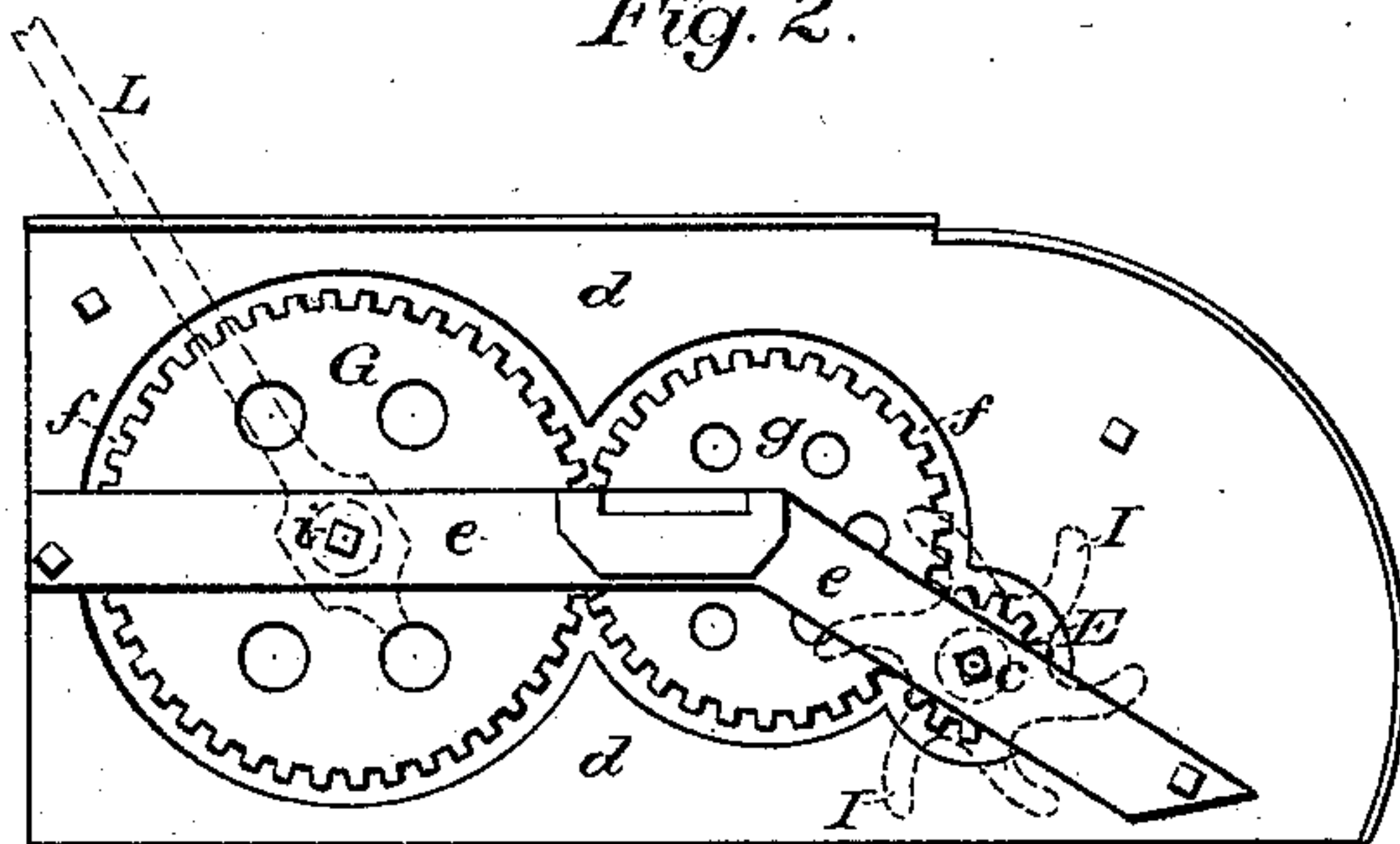
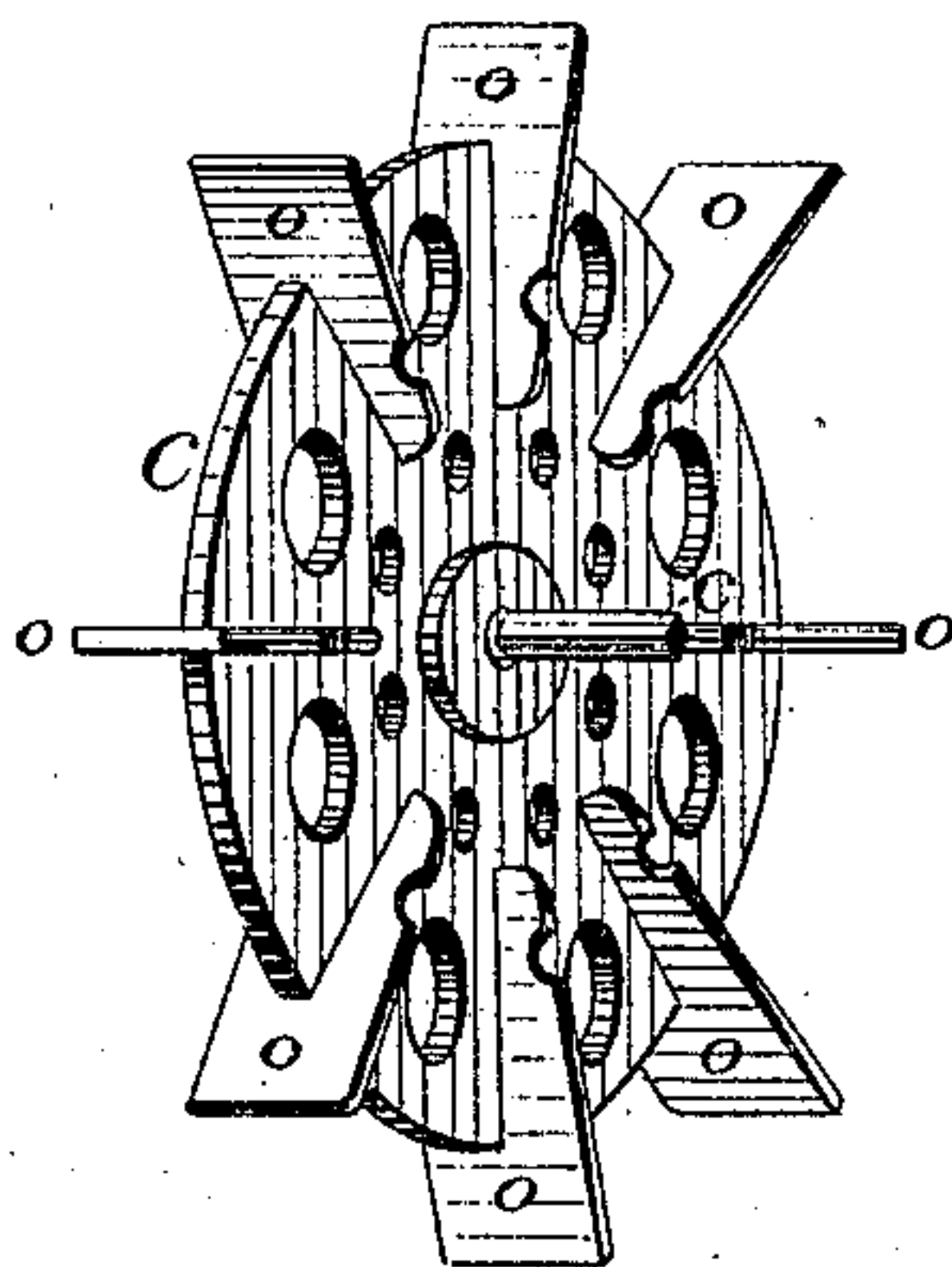


Fig. 3.



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# UNITED STATES PATENT OFFICE

HENRY FOX, OF WATERLOO, NEW YORK.

## IMPROVEMENT IN DEVICES FOR PROPELLING BOATS.

Specification forming part of Letters Patent No. **176,947**, dated May 2, 1876; application filed April 7, 1876.

*To all whom it may concern:*

Be it known that I, HENRY FOX, of Waterloo, in the county of Seneca and State of New York, have invented certain new and useful Improvements in Propelling Boats; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a perspective view of a boat having my improved propelling device. Fig. 2 is an enlarged view of the propelling machinery, and Fig. 3 shows one of the paddle-wheels removed.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to propelling devices for boats; and it consists in so constructing the same as to render it specially adapted for hunting and fishing purposes, substantially as hereinafter more fully shown and specified.

In the drawing, A is the body of the boat. This may be constructed of wood, metal, or any other suitable material, and of any suitable shape. It has on the sides two recesses, covered with metallic boxes B B, in which the paddle-wheels C C work.

The axles *c* of the paddle-wheels C have their bearings in the exterior plates *b* and interior plates *d* of the boxes B, as shown in Fig. 1, or in plates *b* and suitable intermediate braces *e*, as in Fig. 2.

Between plates *b* and *d* are covering-plates *f*, and between these and plates *d* is the gearing by which the paddle-wheels are operated. This gearing I will now proceed to describe:

Axle *c* has a pinion, E, engaging with a cog-wheel *g*, the axle of which has its bearings in plates *f* and *d*. Cog-wheel *g* engages with a larger cog-wheel, G, the axle of which, *i*, projects beyond plate *f*, as does axle *c*. Motion may be imparted to the machinery in

any suitable manner, preferably by means of sprocket-wheels I or reciprocating-levers L, the former, adjusted upon axles *c*, being the most advantageous when but low speed is to be attained, and the latter, when adjusted upon axles *i*, being preferable when great speed is desirable. The sprocket-wheels I and levers L being removable, their position may, of course, be reversed, at the option of the occupants of the boat.

It will, from the foregoing description, be observed that the paddle-wheels C, instead of, as is usually the case, working in boxes extending from the sides of the boat, are incased by boxes formed by recesses in the sides. This is partly in order to diminish the bulk of the boat, partly in order to facilitate its propulsion, (by decreasing its resistance to the water,) and partly to enable it to be propelled without disturbing the water, a feature of great importance on shooting expeditions. In order to increase the effectiveness of this latter feature the feathers *o* of the paddles are placed slightly obliquely, so as to throw the water under the boat rather than to the sides.

From the foregoing description the operation and advantages of my device will be readily understood. When operated by levers L, adjusted upon axles *i*, great speed may be attained partly on account of the great power which may be thus exerted, and partly on account of the shape of the boat, which offers no obstructions to its progress in the water.

When, as is frequently the case on shooting and fishing expeditions, it is desirable to propel the boat while lying down, so as to avoid being seen, it may be easily done by means of the sprocket-wheels I.

The boat may be readily steered or turned, and being very easily propelled, (especially by levers L when adjusted upon axles *i*,) it is also well adapted for pleasure excursions, where comfort is an object, without regard to speed.

From the simplicity of the gearing the machinery is naturally strong and compact, and

water cannot enter the boat through the bearings provided for the axles of the gearing, it being excluded by the plate *f*.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of paddle-wheels *C*, having axles *c*, pinion *E*, cog-wheels *g* *G*, and plates *d* *f*, substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in presence of two witnesses.

HENRY FOX.

Witnesses:

WM. BAGGER,  
LOUIS BAGGER.