

(No Model.)

A. McDONALD.
LIFE PRESERVER.

No. 252,324.

Patented Jan. 17, 1882.

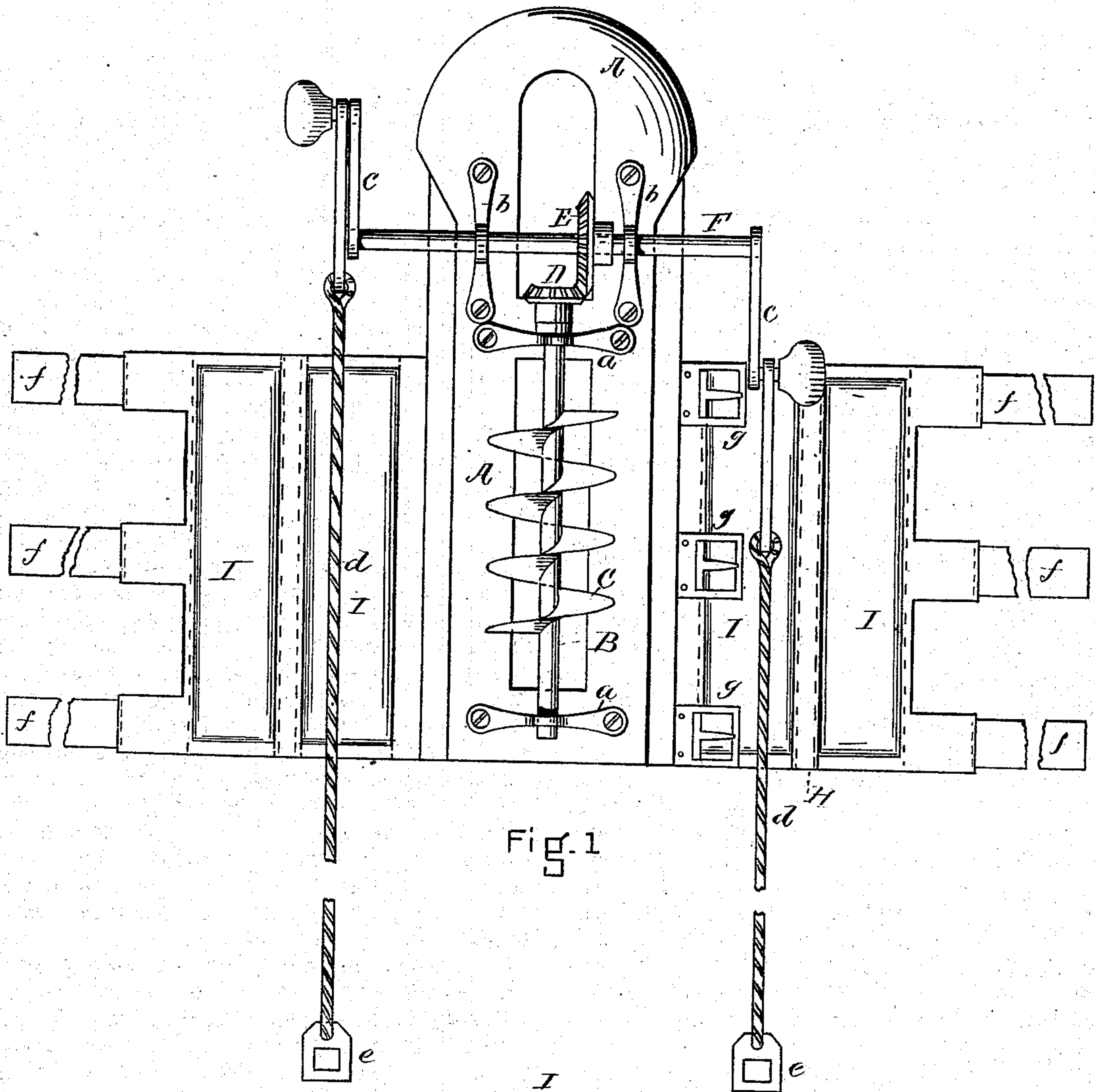


Fig. 1

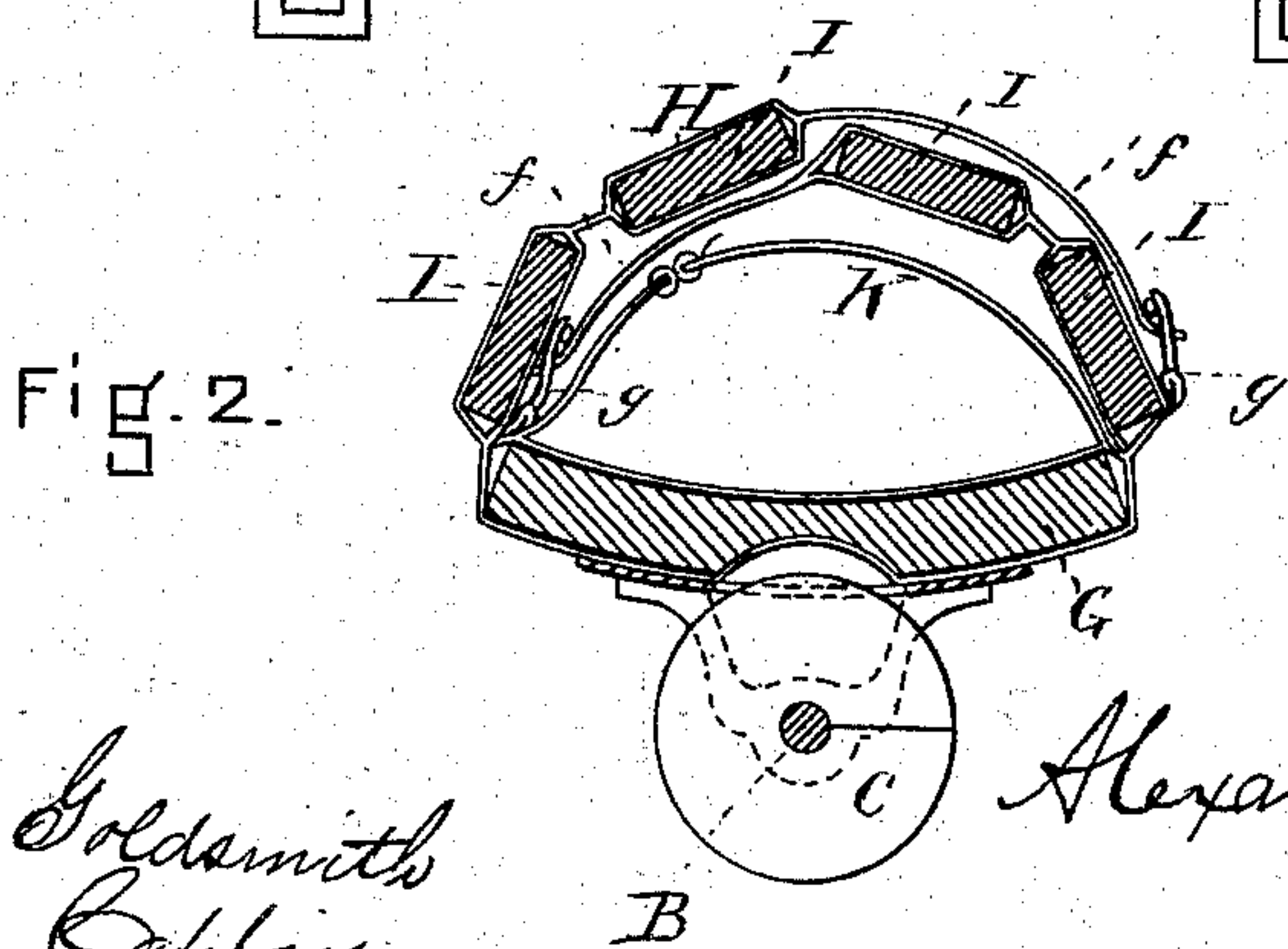


Fig. 2.

WITNESSES

*Jacob Goldsmith
Galen Coffin*

INVENTOR

Alexander McDonald

UNITED STATES PATENT OFFICE.

ALEXANDER McDONALD, OF BOSTON, MASSACHUSETTS.

LIFE-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 252,324, dated January 17, 1882.

Application filed October 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McDONALD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Swimming-Machines or Life-Saving Propellers, which improvement is fully set forth in the following specification, reference being made to the accompanying drawings.

The object of my invention is to enable persons, when entering the water voluntarily or when shipwrecked, to use their own strength to better advantage than has heretofore been possible either in saving themselves or others from drowning. It can be fastened to the body in the same way as a life-preserver, and may be constructed in part of any suitable fabric inclosing pieces of cork, so that its buoyancy may assist in keeping the body afloat; or it may be made of rubber-cloth in such manner as to be capable of inflation.

The nature of my invention consists in so making life-saving propellers that all the parts may be located under or forward of the chest of the wearer, so that the person using it may have the lower portion of his body and his legs free for the purpose of maintaining full directive force, and thus avoid the common difficulties incident to this class of life-preservers—that is, the danger of losing control of the body, and thereby become turned over and over by the waves.

It also consists in combining with a life-saving propeller a broad band, more or less elastic, for connecting the trunk of the body to the propeller device, this being disconnected from the cork floats, and in a measure protecting the body from injury from them.

My invention—as illustrated in the drawings, Figure 1 being a plan view of the under side, and Fig. 2 a vertical section—consists of a frame or skeleton, A, composed of thin sheet or cast metal, to which are attached two small brackets or stands, *a a*, which support the shaft B, running lengthwise of the machine. To this shaft are attached blades or a screw-propeller, C, and also a small beveled gear, D, which engages with a larger gear, E, on a cross-shaft, F, which is supported by two other small

stands, *b b*, attached to the frame A. The cross-shaft F is also provided with two cranks, *c c*, to which are attached straps or lines *d d*, and at their lower ends stirrups or foot-pieces *ee*.

To the frame A is attached a large piece of cork, G, also a strong piece of canvas, H, terminating in straps *fff*, and containing other pieces of cork, *IIII*, and buckles *ggg*, the whole constituting a complete floating-belt. The frame A may be more or less raised at one end to protect the face of the swimmer and to assist in keeping on the surface of the water.

In using my swimming-machine, place the frame A, containing the larger piece of cork G, in front of the person and carry one end of the canvas around the back and pass the straps through the buckles. Then the other end is passed over outside of that, and the straps are fastened by other buckles. On going into the water, motion is given to the propeller by turning the cranks with the hands, assisted by the feet inserted in the straps, if desired. In practice, by reason of the feet sinking lower in the water than the body, the screw or propeller is at such an incline as to drive the body more and more upon the surface, as well as to propel it forward in proportion to the speed at which the propeller is driven.

In using my machine as a life-saving propeller I use an inner piece of canvas, K, (shown at Fig. 2,) which is fastened to the frame A and is to be laced closely to the body to prevent any tendency to get out of place, so that a strong man thus equipped could take a small line to a wreck where a boat could not go, or in time of war a torpedo could be silently towed under the vessel of an enemy.

Having fully described my invention, I claim—

In a life-saving propeller, the combination of the breast-frame A and the inner fastening-band, K, with the external band, H, and its floats *IIII* and lacing-straps *fff*, all operating together substantially as described, and for the purpose set forth.

ALEXANDER McDONALD.

Witnesses:

JACOB GOLDSMITH,
GALEN COFFIN.