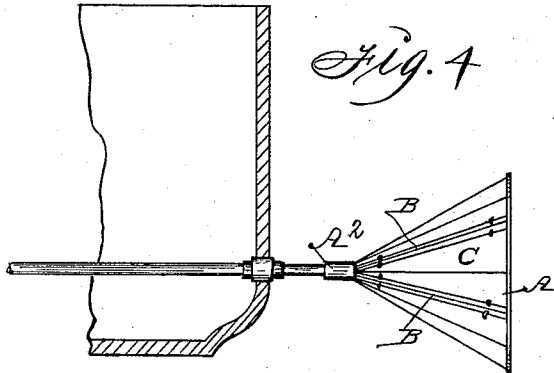
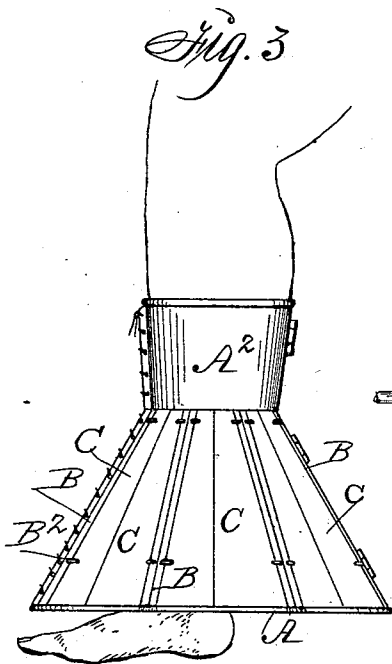
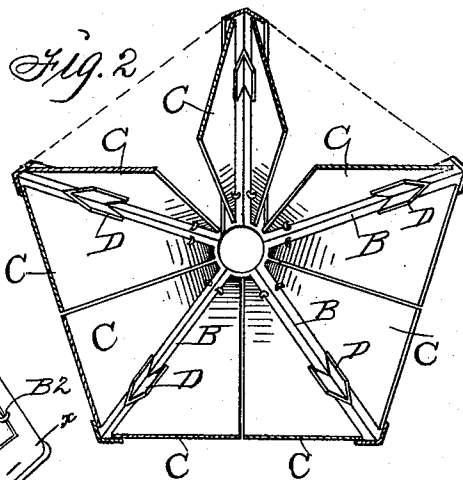
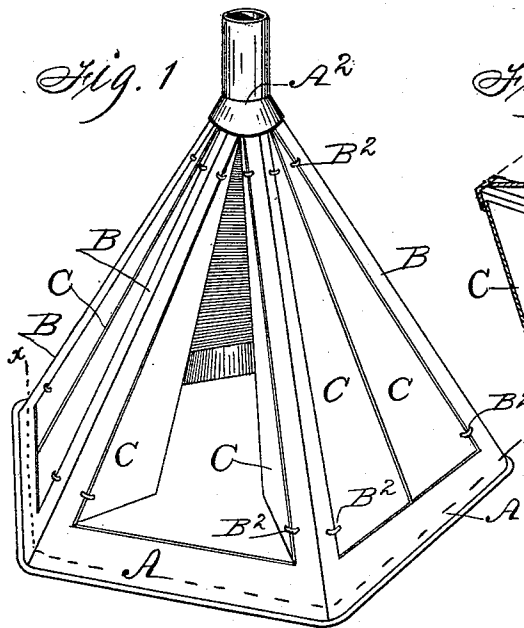


(No Model.)

G. K. EACRETT.
PROPELLER.

No. 471,604.

Patented Mar. 29, 1892.



Witnesses:

M. B. Smith. }
R. H. Drwig. }

Inventor: George K. Eacrett,

By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

GEORGE K. EACRETT, OF SOLOMON, IOWA.

PROPELLER.

SPECIFICATION forming part of Letters Patent No. 471,604, dated March 29, 1892.

Application filed July 13, 1891. Serial No. 399,273. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. EACRETT, a citizen of the United States of America, and a resident of Solomon, in the county of Mills and State of Iowa, have invented a new and useful Propeller, of which the following is a specification.

The object of my invention is to provide a device adapted to be attached to a person's limbs to aid in swimming, and also adapted to be used as a propeller for a boat.

My invention consists in the construction of an approximately funnel-shaped frame adapted to be attached to a person's foot, or a submerged reciprocable rod or shaft and a series of paddles hinged thereto to present a broad surface to the water when operated in one direction and to turn edgewise to the line of advance when operated in an opposite direction, as hereinafter set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the complete device, showing one set of the hinged paddles open. Fig. 2 is a transverse sectional view through the line *x x* of Fig. 1. Fig. 3 shows the device attached to a person's limb, and Fig. 4 illustrates the manner in which my invention may be applied to propel a steam-boat.

I prefer to construct the frame of my device of metal and approximately in the shape of a funnel. I also prefer to make it hexagonal in form; but it may be made in various shapes and sizes without detracting from the merit or departing from the spirit of my invention.

A represents the rim and base of the frame. A series of paddle-supporting bars B are fixed to the base A at regular intervals and to the ferrule A², which ferrule is adapted to admit a reciprocable rod extended from a boat to be inserted therein and attached thereto.

C represents paddles hinged to the supporting-bars B by means of loops B² or in any suitable way, and conform in shape with the space between the bars B and securely close the openings between the bars, and thereby effectually prevent the egress of water there-through when the device is moved backward relative to the line of advance. The paddles are prevented from swinging outward by having their upper and lower end portions

impinge against the ferrule A² and the base A when in a closed position. It will also be obvious that when the device is moved forward in the direction of the line of advance the pressure of the water on the paddles will cause them to swing inward until they are engaged by the stops D, which are attached to the bars B, thereby allowing the passage of water therethrough and offering a minimum amount of resistance to the water when moving on the forward or return stroke.

When the device is adapted to be attached to a person's lower limb by being formed in two sections adapted to encircle a person's lower limb, hinged at one side, and having means for clasping it fast thereto at the opposite side to aid in swimming, as clearly illustrated by Fig. 3, it will readily be seen that a backward movement of the limbs will cause the winged paddles to close, thereby presenting a broad surface to the water and impelling the body forward through the water, and on the forward or return stroke, the paddles being automatically opened, a comparatively small amount of resisting-surface will be presented to the water, thereby greatly facilitating the forward movement of the body through the water.

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

1. A submerged reciprocating propeller consisting of an approximately funnel or cone shaped frame with supporting pieces extending radially from the apex and attached to the outer rim thereof and two paddles or valves hinged to each supporting-piece, adapted to swing inwardly and close the openings between the supporting-pieces, substantially as set forth.

2. A propeller adapted to aid in swimming, consisting of an approximately funnel or cone shaped frame with supporting-pieces extending radially from the apex and attached to the outer rim thereof and two paddles or valves hinged to each supporting-piece, adapted to swing inwardly and close the openings between the supporting-pieces, and means whereby the same may be attached to a person's leg, as and for the purposes stated.

GEORGE K. EACRETT.

Witnesses:

C. E. EACRETT,
HENRY BOYER.