(No Model.)

C. P. DIECO.

PROPELLING MECHANISM FOR BOATS.

No. 521,405. Patented June 12, 1894.

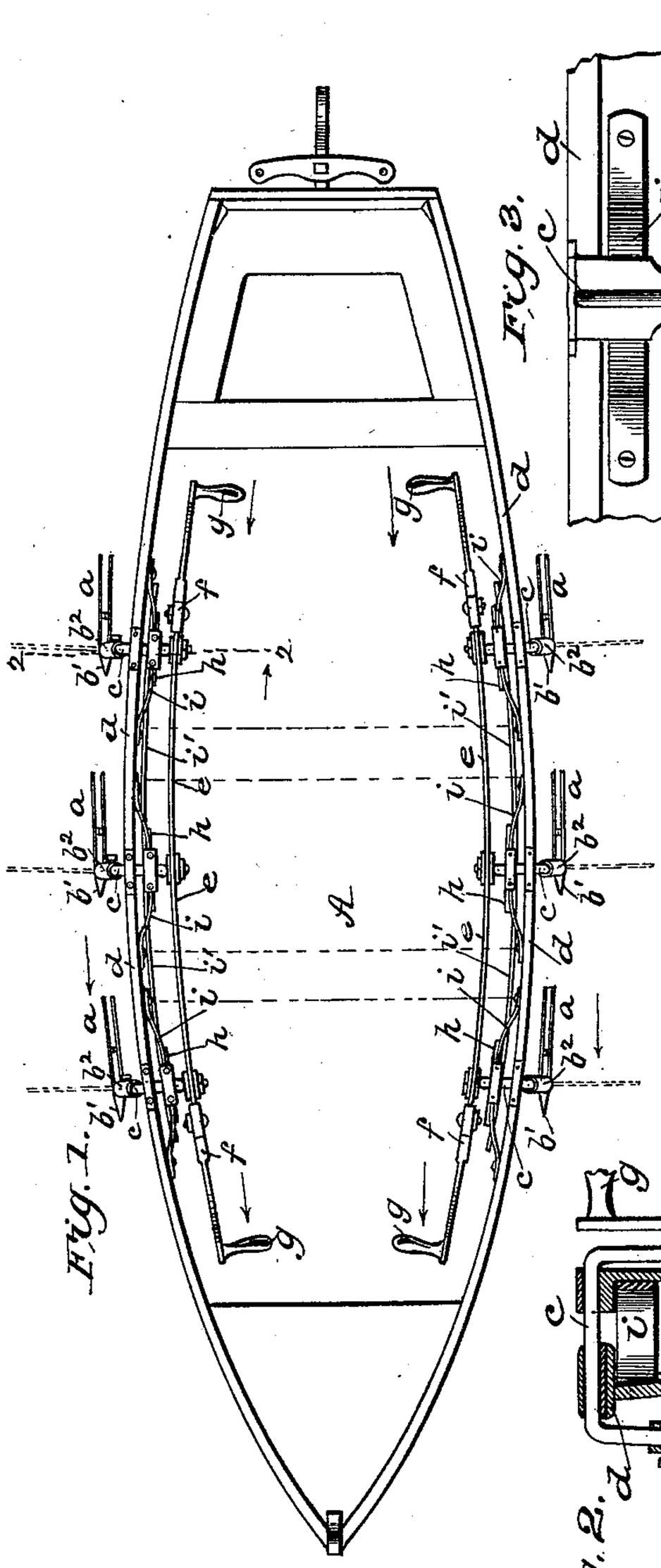

Fig. 1.

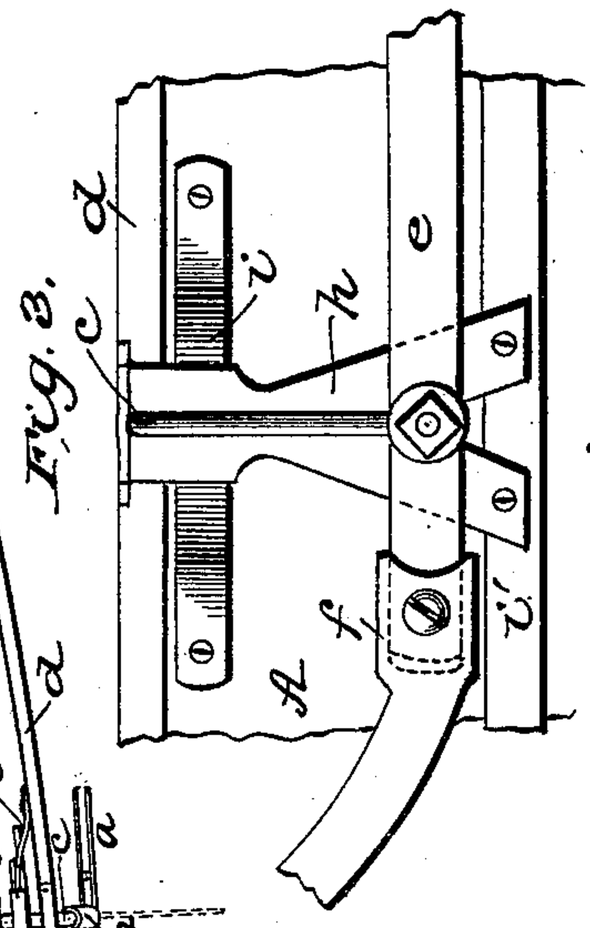

Fig. 3.

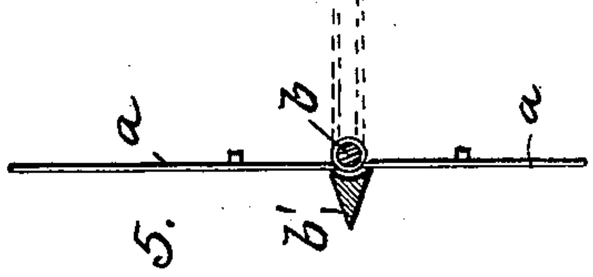

Fig. 5.

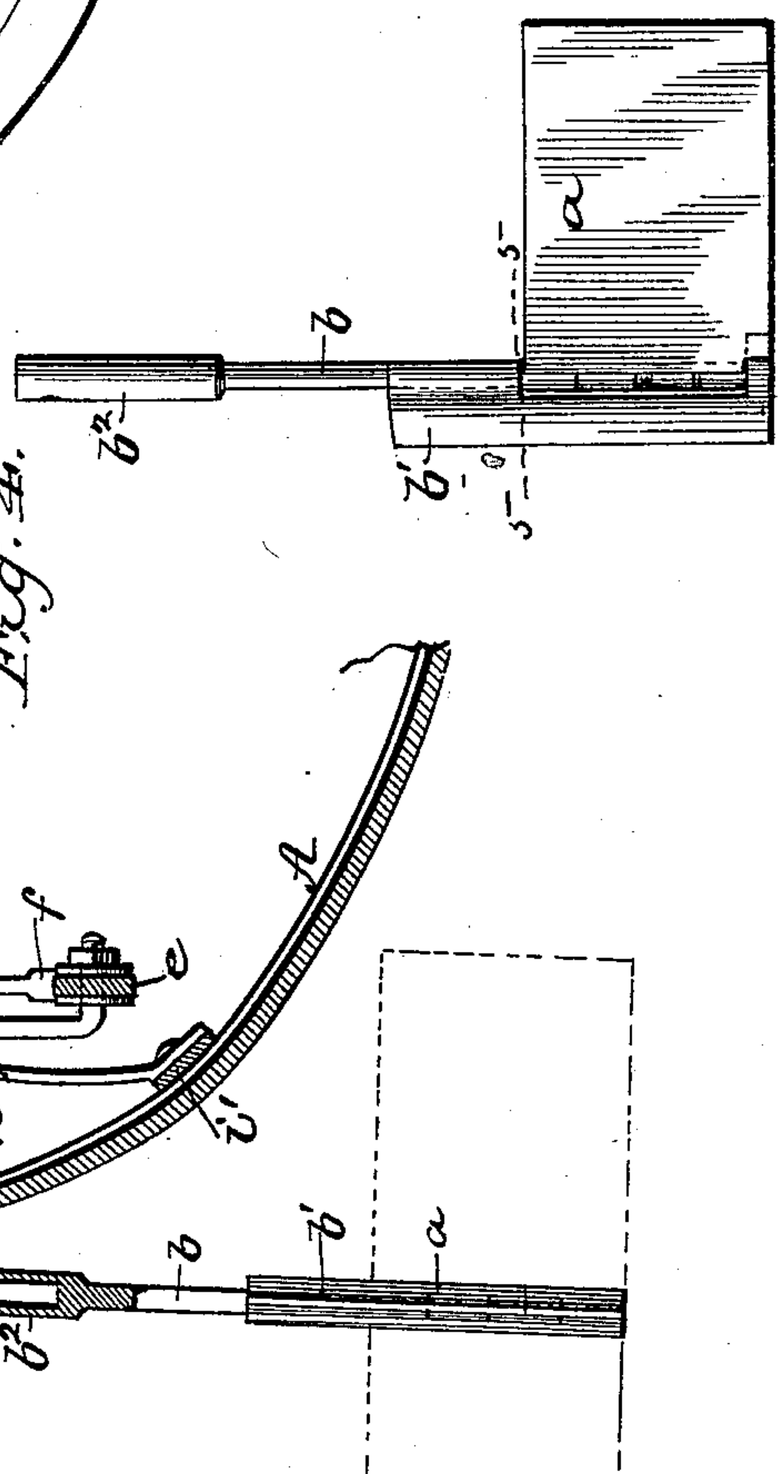

Fig. 4.

Fig. 2.

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CHARLES PETER DIECO, OF OWENSBOROUGH, KENTUCKY.

PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 521,405, dated June 12, 1894.

Application filed August 14, 1893. Serial No. 483,112. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PETER DIECO, of Owensborough, in the county of Daviess and State of Kentucky, have invented an Improved Propelling Mechanism for Boats, of which the following is a specification.

My invention is an improvement in the class of boat-propelling mechanism in which hinged and vibrating paddles are operated by means of cranks and hand levers, and it consists in the construction of the bar which connects the inner ends of the crank-rods to which the paddles are attached, and in the attachment of detachable handles to the ends of said bar, as hereinafter set forth.

In the accompanying drawings—Figure 1 is a plan view of a boat provided with my improvement. Fig. 2 is a vertical section, taken on the line 2—2 Fig. 1. Fig. 3 is a detail side view of part of the propelling mechanism. Fig. 4 is a side view of one of the paddles and Fig. 5 is a cross section on line 5—5 Fig. 4.

The paddles, *a*, consist of oblong, rectangular metal plates which are hinged at their forward ends to rods, *b*, that are adjustably secured—as hereinafter described—to the outer pendent arms of double, or U-shaped, cranks, *c*. The latter are journaled at their middle in the gunwale, *d*, of the boat, A, and also in brackets arranged on the inner sides of the boat. The inner arms of said cranks, *c*, are bent outward, and pivoted in connecting bars, *e*, which are arranged horizontally and provided with detachable upwardly-curved arms, *f*, having hand-holds, *g*.

I will now describe the details of construction and arrangement of parts.

The paddle rods, *b*, are provided on the forward side with a narrow fin-like projection, *b'*, which extends upward from the lower end of the rod to a point some inches above the paddles, *a*, and serves as a cut-water when the paddles move forward. The said projection, *b'*, is cut away on the rear side, opposite the paddles, *a*, thus forming shoulders which the paddles abut when open, as shown in full lines Fig. 5. The upper ends of the paddle rods, *b*, are provided with long sockets, b^2, which receive the pendent arms of the cranks, *c*, being secured thereon by clamp-screws as shown. This construction enables the paddles, *a*, and rod, *b*, to be detached when required for any purpose, say for repair, shipment, or storage, and it also enables the paddles to be adjusted vertically according to the average depth at which the boat runs.

The brackets consist of a bar, *h*, arranged vertically and secured at its upper end to a curved brace, *i*, arranged horizontally and bolted at its ends to the gunwale, *d*. The braces, *i*, not only hold the upper ends of the bars, *h*, rigidly in place, but also hold them spaced from the flaring side of the boat. The lower ends of the bars, *h*, are bolted to a horizontal bar, *j'*, which is in turn secured, by bolts, screws, or rivets, to the sides of the boat. The bearings of the cranks, *c*, in the gunwale, *d*, and tops of the bracket bar, *h*, are provided with removable caps, which enable the cranks, *c*, to be readily detached when required. The bars, *h*, and braces, *i*, being also detachable, the whole propelling mechanism may be easily removed. It is thus adapted to be shipped independently of the boat, and to be attached to other boats.

It is obvious, that if the crank-connecting bars, *e*, be reciprocated, the cranks, *c*, will be oscillated, and the paddles, *a*, vibrated, *i. e.*, carried backward and forward through the water, opening in one direction and closing in the other, thus effecting the forward propulsion of the boat. To produce such movement, I may employ any suitable motor, which would, in practice be connected with the forward or rear ends of said bars *e*. But, in this instance, I show an attachment consisting of upwardly-curved detachable arms, *f*, having hand-holds, *g*, at one end and sockets at the other to receive the ends of the said bars, *e*.

To propel the boat, the operator grasps the hand-holds *g*, and alternately pushes and pulls, thus reciprocating the bars *e*, whereby the cranks and paddles are vibrated, as will be readily understood.

What I claim is—

1. The combination, with a boat, two or more brackets attached to its sides, and paddle rods having their inner bearings in said brackets, of a horizontal bar, *e*, which connects the inner, pendent, crank arms of said

rods, and is provided with upturned ends having hand-holds, as shown and described.

2. The combination, with a boat, the swinging paddle rods, and horizontal bars, *e*, which connect the inner ends of the crank arms, and are constructed with upturned ends, of the detachable handle arms, *f*, having sockets to adapt them for attachment to the ends of said bars, *e*, as shown and described.

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