

(No Model.)

3 Sheets—Sheet 1.

G. VOGEL.

PROPELLING MECHANISM FOR ROW BOATS.

No. 479,924.

Patented Aug. 2, 1892.

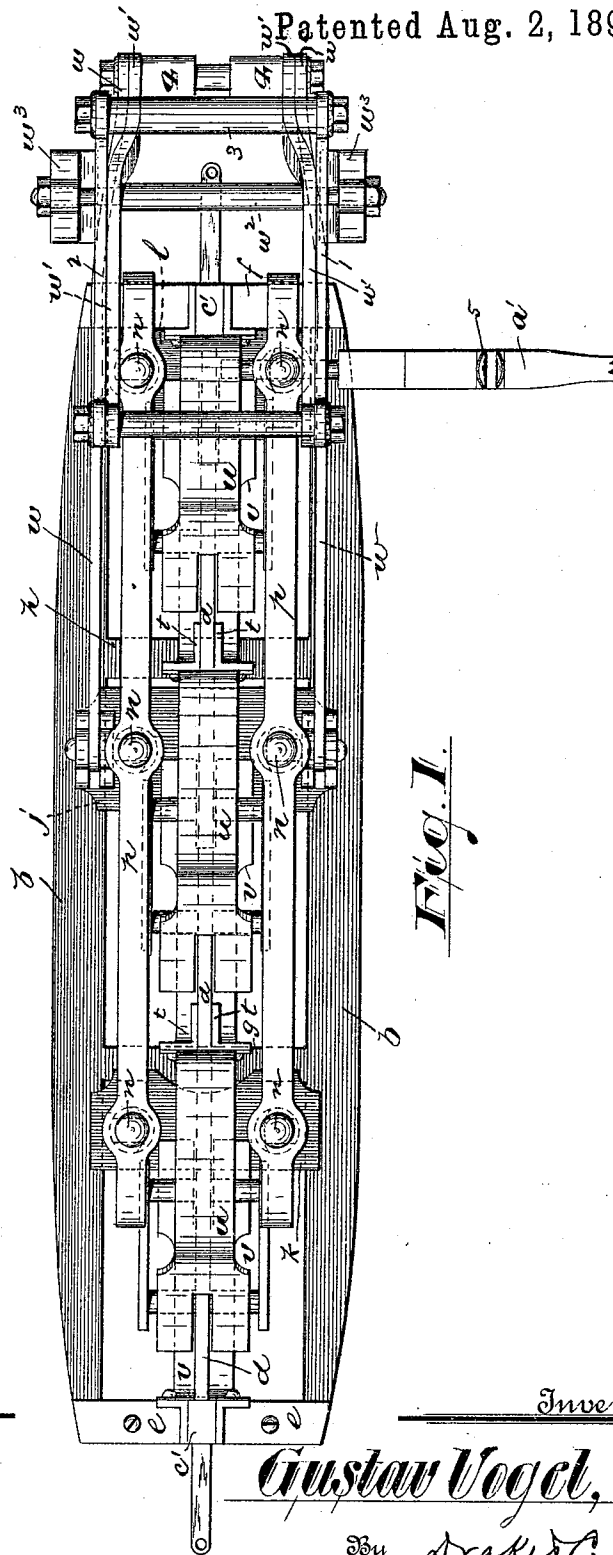


Fig. 1.

Witnesses

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By *Drake & Co.* Attys.

(No Model.)

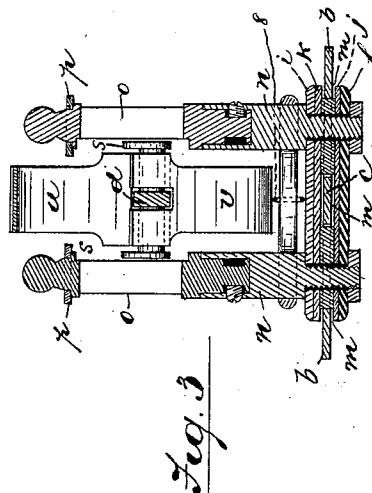
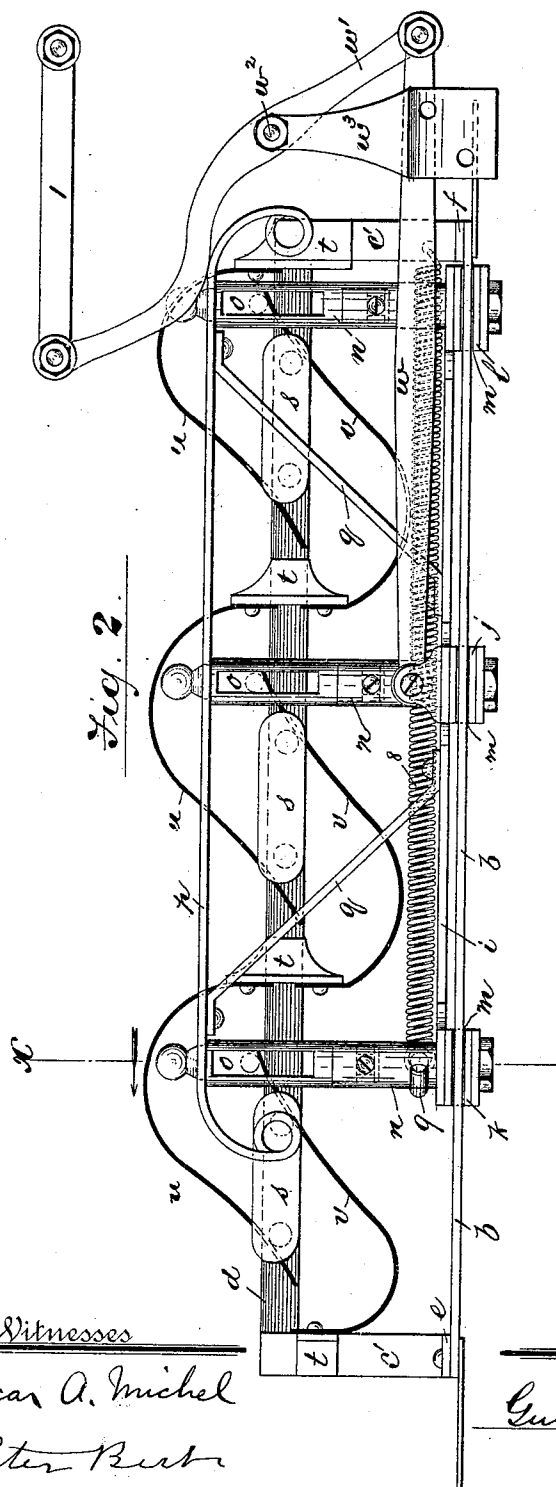
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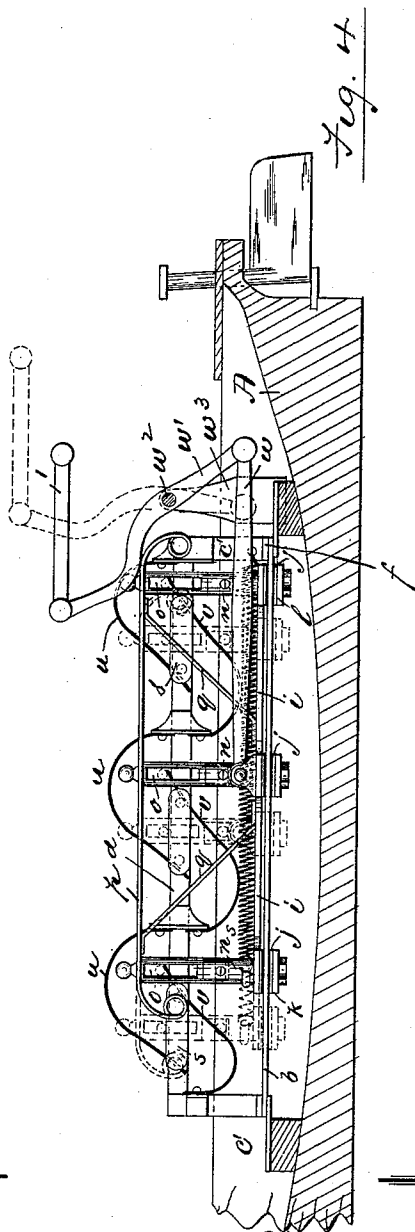
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PROPELLING MECHANISM FOR ROW BOATS.

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Patented Aug. 2, 1892.



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UNITED STATES PATENT OFFICE.

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PROPELLING MECHANISM FOR ROW-BOATS.

SPECIFICATION forming part of Letters Patent No. 479,924, dated August 2, 1892.

Application filed March 11, 1892. Serial No. 424,511. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV VOGEL, a citizen of the United States, residing at Orange Valley, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Propelling Mechanism for Row-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 letters and figures of reference marked thereon, which form a part of this specification.

The object of this invention is to enable one person to propel two or more pairs of oars at the same time by means of novel mechanical appliances.

The invention consists in the improved propelling apparatus and in the arrangement and combination of the several parts thereof, as herein set forth, and finally pointed out in the claims.

Referring to the accompanying drawings, in which similar letters and numerals of reference indicate corresponding parts in each of the several figures where they occur, Figure 1 represents a top plan view of my propelling apparatus, which is adapted to be secured to the bottom of a boat. Fig. 2 represents a side elevation of the same, and Fig. 3 is a vertical transverse section taken through the line *x* of said Fig. 2. Fig. 4 represents a side elevation of the apparatus reduced in size and seated in a boat, the latter being shown in section longitudinally. Fig. 5 is a detail of a certain pivot having a weighted arm.

In said drawings, A indicates the boat, and *b c d* indicate parts, respectively, of a frame which is adapted to be secured in the boat and which carries the working parts of the propelling mechanism. Said frame is also provided with strengthening bars or braces *e f g h*, two of which, *e* and *f*, also serve as stops to limit the movement of a carriage by which the oars are worked, as hereinafter described.

In the present case the carriage is constructed and arranged to work or propel three pairs of oars; and it consists of a base or platform composed of bars *i*, a cross-bar *j*, and cross-

heads *k* and *l*, said cross-bar and cross-heads being provided with grooves or recesses *m* at their ends and centers, in which the parts *b c d* fit and on which the carriage has a reciprocatory motion while working the oars to and fro and up and down. At each end and at the center of said platform, on the opposite sides thereof, are secured posts or uprights *n*—three pairs in all—each post being provided with a slot *o* to receive the handle end of an oar and in which the latter works vertically as the oars rise out of and dip into the water in the act of rowing. Said posts are journaled at the top in rails *p* and are susceptible of a partially-rotating motion, to which they are subjected by the movement of the carriage when in operation, as will be understood. Said rails *p* are held in position by means of suitable stays or braces *q*, Figs. 2 and 4. Upon each side of the part or bar *d*, which passes through the center of the carriage longitudinally and is supported upon uprights *c'*, secured at the ends of the frame, are fastened by means of suitable supports *r*, connected with said bar, guides *s*, and upon the same bar, to suitable supports *t*, are secured at one end springs *u* and *v*, the free ends of the former pressing normally downward and the free ends of the latter pressing upward, as will be understood upon reference to Figs. 1, 2, and 4. Pivotally secured at one end to said carriage on each side and preferably at or near the center and lower part thereof are connecting-rods *w*, the opposite ends of which connect pivotally with a lever or levers *w'*, which levers are fulcrumed upon a fixed rod or support *w''*, carried by suitable brackets or supports *w'''*, securely fastened to the boat, all as indicated in the drawings. To the top of said lever is secured a suitable handle 1 2 3, adapted to be grasped by the operator, and at the bottom are pivotally secured foot rests or treadles 4 to receive the feet of the operator and enable him to thus aid in working the propelling mechanism.

The oars *a'* are pivotally and removably secured in rotatable oar-locks 5, so as to permit of the requisite backward and forward, as well as the upward and downward, movements of said oars. In order to facilitate the removal of the oars from said oar-locks, I have

devised and employ pivots 6, which are key-shaped at one end and provided with weighted heads or arms 7 at the other end, the apertures in the oar-locks through which said pivots pass corresponding in shape therewith, as will be understood. When said pivots are withdrawn to permit the removal of the oars, the weighted arms have to be turned upward to bring the key portion in alignment with said apertures or keyholes, and when the oars are adjusted in the oar-locks the pivots are inserted in the same manner, whereupon the weighted arms are turned or drop downward, thereby locking and holding said pivots in position, as will be manifest. The inner ends of the oars project through the slots *o* in the posts *n* and engage with guides *s*, around which they travel as the propelling mechanism is worked, thereby causing the upward and downward motions of the oars hereinabove referred to.

A spiral spring 8 connects at one end with one of the uprights *c'* of the frame and at the other with the carriage by means of a yoke 9, the object of said spring being to aid in operating the carriage in propelling the oars, as will be understood.

The operation of the mechanism is as follows, to wit: The operator, being stationed in the stern of the boat and the carriage in the position indicated in the drawings, seizes the lever *w'* or the handle thereof and pulls it toward him, thereby forcing the carriage in the opposite direction, with the inner ends of the oars resting and traveling upon the tops of the guides *s*, said oars at the start being held or supported in position by the springs *v*. This movement imparts to the oars the requisite dip into the water and at the same time propels the boat forward. When or as this movement is completed, the ends of the oars engage with the springs *w*, which force them downward around the ends of and beneath guides *s*, thus lifting the outer ends of the oars from the water. The lever and the movement of the carriage is reversed, and at the limit of this movement the oars engage with the springs *v*, and are thereby raised to their original or initial position ready for another stroke, and so on. These operations will be readily understood upon reference to Figs. 2 and 4.

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

1. A propelling mechanism for a row-boat, consisting of a frame adapted to be secured in said boat, a carriage mounted upon said frame and having a forward and backward movement thereon, a series of posts mounted upon said carriage, each post being provided with a slot to receive the inner ends of the oars, guides arranged to engage with said ends of the oars and impart thereto the requisite upward and downward motions, and means for imparting to said carriage a forward-and-backward movement, as described, and for the purposes set forth.

ward-and-backward movement, as described, and for the purposes set forth.

2. The combination, with the frame, of the bar *d*, carried thereby, the guides *s*, carried by said bar, the carriage mounted upon said frame and provided with means to receive the inner ends of the oars, and means for shifting said oars from one side to the other of said guides and for imparting to said carriage a forward - and - backward movement, as described, and for the purposes set forth.

3. In a propelling mechanism for row-boats, the combination of a bar *d*, guides *s*, arranged in pairs and carried thereby, two springs *w* and *v* for each pair, said springs being located between the guides and one of them being above and the other one below the bar, and mechanism for holding the oars with their inner ends between the springs and for moving them back and forth, whereby the inner ends may be made to engage with one side of guides when they are moved in one direction and with the other side when they are moved in the opposite direction, substantially as set forth.

4. In a propelling mechanism for operating row-boats, the combination of a reciprocatory carriage, slotted posts rotatably secured thereto and movable therewith and adapted to receive the inner ends of the oars, and mechanism between the posts for engaging with the ends of the oars and moving them vertically at the limits of the reciprocations of the frame, substantially as set forth.

5. In a propelling mechanism for operating row-boats, the combination, with a frame, of an upright secured to each end thereof, a bar secured to the uprights and extending longitudinally of the frame, guides and supports secured to the bar, a spring secured to each of the end supports for the bar, and two springs secured to each of the supports upon the bar, said springs being arranged in pairs, the free ends of the springs below the bar normally pressing upwardly and the ends of the springs above the bar normally pressing downwardly, and reciprocating oar-operating mechanism with in the frame adapted to engage the inner ends of the oars and cause each of them to engage with one side of its respective guide when the carriage is moved in one direction and with the opposite side of the guide when moved in the opposite direction, substantially as set forth.

6. In a propelling mechanism for operating row-boats, the combination, with a frame having a longitudinal guide-supporting bar arranged longitudinally thereof, of a reciprocatory carriage upon the frame, comprising a longitudinal bar, a cross-bar, and cross-heads, said cross-bar and cross-heads being provided with grooves or recesses at their ends and centers which fit upon the frame, posts secured to the carriage and provided with means for engaging with the inner ends of the oars, and means for moving the carriage and causing

said ends of the oars to engage with the guides upon the bar of the frame, substantially as set forth.

7. In a propelling mechanism for operating
5 row-boats, the combination, with a frame provided with means for moving the inner ends of the oars vertically and a reciprocatory carriage mounted upon said frame for moving the oars forward and back, of a spiral spring
10 secured to the carriage at one end and to the frame at the other, a lever at one end of the

frame, and connecting-rods secured to the lever and to the carriage, substantially as set forth.

In testimony that I claim the foregoing I 15
have hereunto set my hand this 22d day of
February, 1892.

GUSTAV VOGEL.

Witnesses:

OLIVER DRAKE,
OSCAR A. MICHEL.