

D. RUDD.
 MODE OF PROPELLING SHIPS AND OTHER VESSELS.
 No. 2,509. Patented Mar. 23, 1842.

Fig. 1,

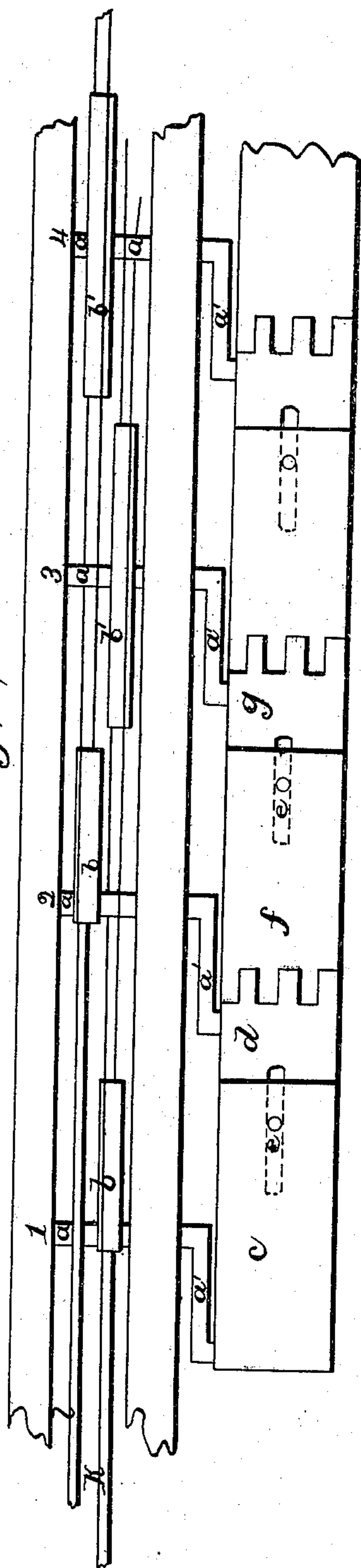
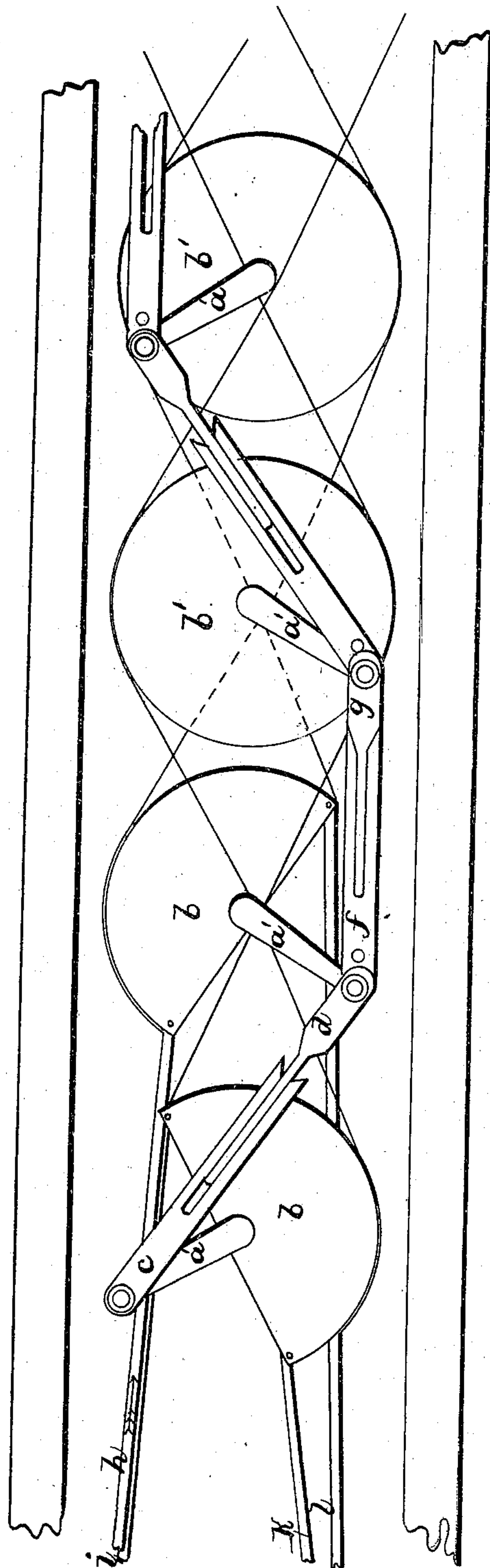


Fig. 2,



UNITED STATES PATENT OFFICE.

DANIEL RUDD, OF BOZRAH, CONNECTICUT.

IMPROVEMENT IN THE MODE OF PROPELLING SHIPS AND OTHER VESSELS.

Specification forming part of Letters Patent No. 2,509, dated March 23, 1842.

To all whom it may concern:

Be it known that I, DANIEL RUDD, of Bozrah, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Propelling Ships or other Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the propeller, and Fig. 2 a plan.

From the sides of the vessel under the water-line I project four or more vertical shafts *a*, on the lower ends of which are affixed cranks *a'*, that turn outside the vessel. Every other one, as first and third, are coupled together, so that when the first crank is turned to the right the third one will be moved in an opposite direction throughout this series. The second and fourth cranks have an operation independent of the first series, being geared together in the same way as those before described.

The manner of connecting these cranks is as follows: On the upper end of each of the shafts *a* is attached a semicircular disk *b*. To the periphery of this disk, at the point where the semicircle terminates on each side is fastened a cord or chain, which runs back and crossing over, is connected with the next but one on the opposite side. Should there be more than four shafts, all but the first and last of each series should have the disks entirely circular, as *b'*. In each of the figures the last shafts of the series are omitted. To each of the semicircular disks *b b* I attach one or more steam-engines, having the connecting-

rods *h i k l*, which run directly from the semicircular disks *b b* to the piston. On the wrists of the cranks *a'* I put the scull-boards. The first one *c* is made crotched, into which a tongue on the board *d* slides. This board is put on the wrist of the second crank and is fastened to the board *c* by a pin *e* running through both. There is a slot in *d*, so as to allow *c* and *d* to be lengthened out and shortened, admitting the wrists to approach or recede from each other. Onto the board *d* is jointed another forked scull *f*, made similar to *c*, into which a fourth piece *g* plays, precisely like the one above described, marked *d*, and so on to the end of the series. In operating this propeller the rod *h* is pushed out in the direction of the arrow. This throws the first crank to the right and the third one to the left, in the position shown in the drawings. The rod *i* is then pushed forward, which moves the second and fourth cranks to positions parallel to those of the first, third, &c. Rod *k* is next thrust forward and *h* drawn back, and, lastly, *l* is pushed forward and *i* drawn back. This gives a motion to the sculls or paddles *c d f g*, as will readily be perceived, similar to sculling, acting alternately in opposite directions obliquely to the line of progression.

What I claim as my invention, and desire to secure by Letters Patent, is—

The continuous jointed scull moved by the cranks, &c., combined and arranged in the manner and for the purpose herein described.

DANIEL RUDD.

Witnesses:

WM. GREENOUGH,
J. J. GREENOUGH.