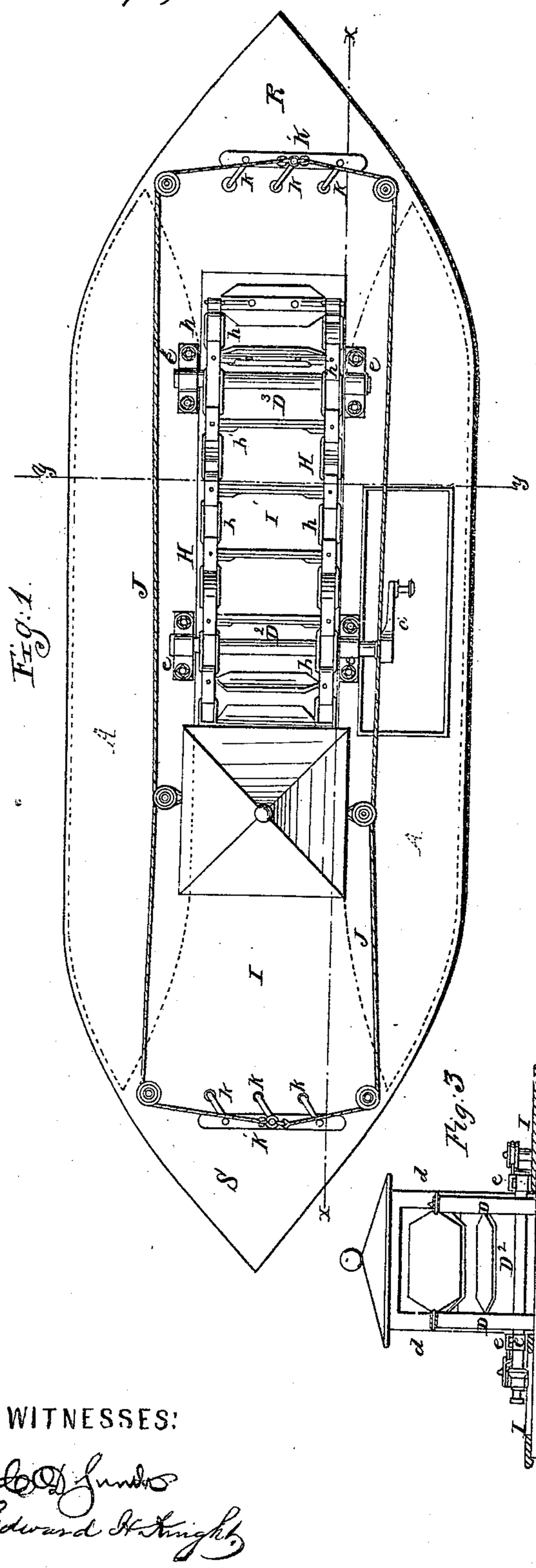
A. Fellows,

Chain Propeller.

No. 47,003. Patented Mar. 28, 1865.



WITNESSES:

L. D. Lunds

Edward A. Knight

INVENTOR:

A. Fellows

By Munn & Co

Attorneys

UNITED STATES PATENT OFFICE.

ALFRED FELLOWS, OF MAQUOKETA, IOWA.

IMPROVEMENT IN THE PROPULSION OF STEAMBOATS.

Specification forming part of Letters Patent No. **47,003**, dated March 28, 1865.

To all whom it may concern:

Be it known that I, ALFRED FELLOWS, of Maquoketa, in the county of Jackson and State of Iowa, have invented a new and useful Improvement in Steamboats; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved boat. Fig. 2 is a longitudinal vertical section of the same, the line *x x* designating the plane of section. Fig. 3 is a vertical transverse section in the line *y y*.

Similar letters of reference indicate corresponding parts in the several figures.

The subject of my invention is a boat made in two parts, separated longitudinally by a space about equal to the width of each, within which space, near the bow of the boat, a propeller of peculiar construction is made to work, as hereinafter described.

The invention also relates to novel means for steering the boat.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A A may represent two longitudinal parts or hulls connected together by cross-beams C C and a deck, I, which projects beyond the main part of the boat, so as to constitute guards. R represents the bow of the boat, and S the stern. D D′ are wheels arranged in pairs at the forward part of the boat, one pair behind the other, and extending through an opening, I′, in the deck I down into the water-way between the hulls A A. These wheels are mounted upon and rotated by shafts D^2 D^3, which have their bearings at *e e*.

H H are endless chains stretched around the wheels D D′, and formed with alternating open and solid links or joints *h h′*, respectively. The open links *h* are adapted to fit over the projections or sprockets *d* on the wheels D, whereby the chains H H are driven or rotated, and at the same time prevented from lateral displacement. The said chains are provided with a continuous series of wings or buckets, H′, which are securely attached to the solid links *h* of the chains H in any suitable manner, and which, as the chains are revolved, act upon the water to propel the boat in either direction. The chains H H may be rotated by a steam-engine or other suitable means, and the power can be applied to a crank, *a*, or pulley on the shaft D^2.

At each end of the water-way, between the the hulls A A, is a set of rudders, K K K, of any desired number. The rudders are fixed, respectively, to the lower ends of posts *k*, which project upward through the deck, and are formed at top like a crank, so as to be turned simultaneously by a rope or chain, J, which may be moved by means of a windlass, J′, under the control of the pilot. By turning the windlass J the position of the rudders K, and consequently the course of the boat, may be varied as desired. A bar, K′, serves to connect the posts *k* of each set.

The operation is as follows: The chains H being revolved with their lower parts moving in the direction of the stern, the water is drawn from in front of the boat into the water-way between the hulls, and driven back through said water-way as the boat advances. A great advantage is thus derived in navigating small streams. The water, instead of being drawn from beneath the boat, as is the case with paddle-wheels as ordinarily constructed and arranged, is drawn from in front and thrown under the boat, so as to insure the requisite depth for its draft, the boat being carried higher when in motion than when standing still, instead of the reverse, as is the case with side or stern wheels. To back the boat the motion of the chains is, of course, reversed.

The rudders K, being deflected in either direction, turn the boat with great facility, being directly in the current of the water. The rudder-post, being at or about the center of the blades, adapts the rudders to be turned to any required position with great ease by equalizing the resistance on each side of the post.

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

1. The application of endless propelling-chains to the fore part of a boat constructed with a central water-way, substantially as and for the purpose herein set forth.

1. In combination with a boat of the construction specified, a plurality of rudders hung centrally upon their shafts and mounted within or opposite to the water-way, substantially as and for the purposes set forth.

ALFRED FELLOWS.

Witnesses:

A. E. TUBBS,

S. D. LYMAN.