HENRY CLENNY.

Ferry Boats.

No. 116,024. Patented June 20, 1871.

Fig 1

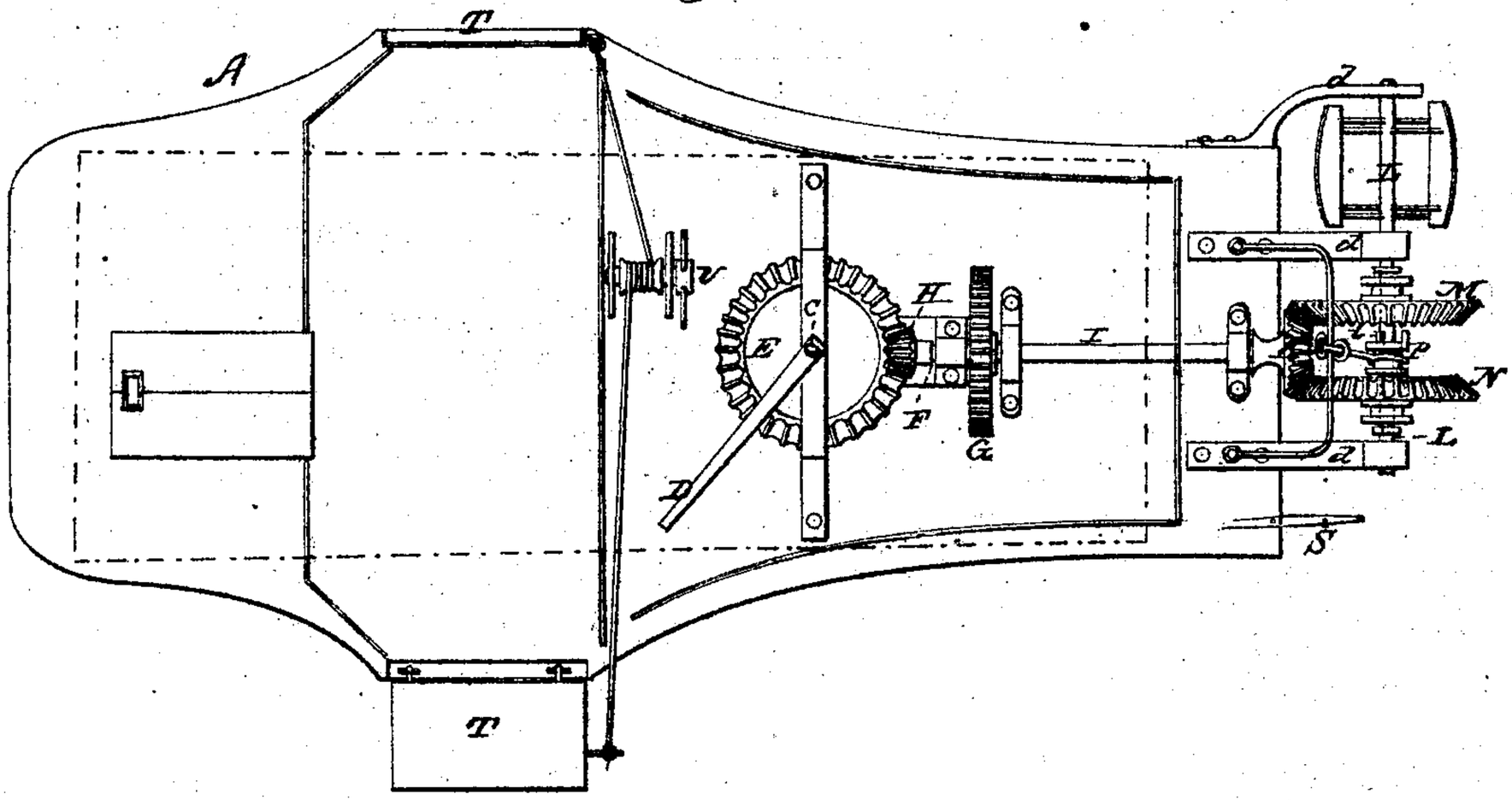
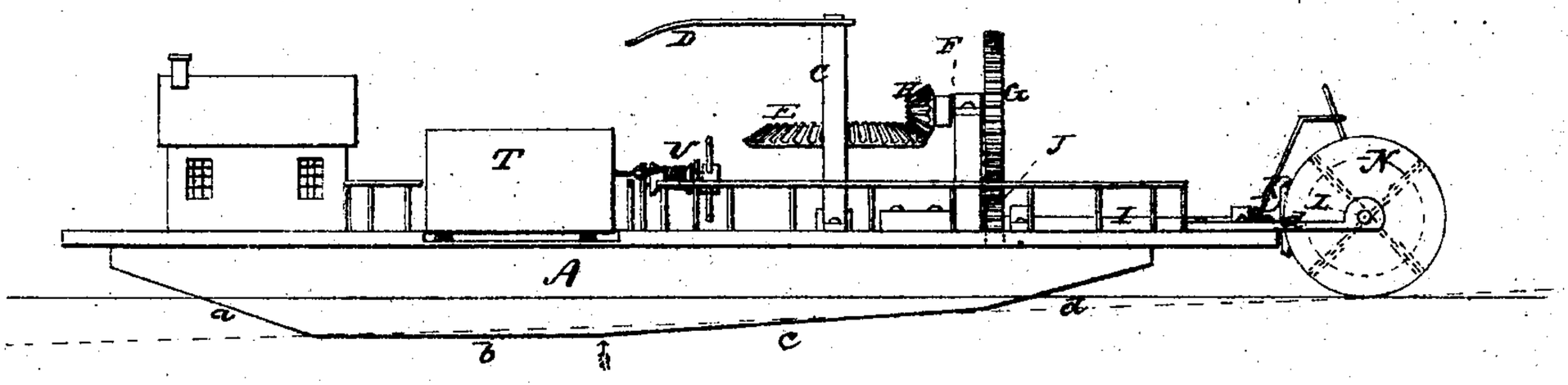


Fig 2



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UNITED STATES PATENT OFFICE.

HENRY CLENNY, OF GALLATIN, TENNESSEE.

IMPROVEMENT IN FERRY-BOATS.

Specification forming part of Letters Patent No. 116,024, dated June 20, 1871.

To all whom it may concern:

Be it known that I, HENRY CLENNY, of Gallatin, in the county of Sumner and State of Tennessee, have invented certain Improvements in Boats for Transporting Freight, Passengers, &c., of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to boats for inland use in transporting freight, passengers, &c.; and consists in an improved form or shape of the hull or body, and in a novel arrangement of propelling devices to be operated by animal power.

Figure 1 is a top plan view of a boat constructed on my plan, and Fig. 2 is a side elevation of the same.

In the drawing, A represents the hull or body of my boat, which, in its general form, resembles an ordinary flat-boat or scow; it being of a rectangular form, with straight sides. Instead, however, of the usual flat bottom, with two inclined ends, I divide the under side of my boat transversely into four faces, *a*, *b*, *c*, and *d*, which should be of about the following proportions: The one at the bow eight feet in length, with an inclination of about fifteen degrees; the second, seventeen feet in length and horizontal; the third, eighteen feet in length, with an inclination upward toward the stern of from two to four degrees; and the last seven feet in length, with an inclination of about twelve or thirteen degrees. These faces are inclined fore and aft only, and are all horizontal in their transverse section. The boat thus constructed I have found in practice to be easily propelled and steered, both when light and when loaded.

In loading the boat the weight should be placed principally on the forward portion, above the rear part of face *b*, as it depresses the forward end mainly and gives to the boat the best poise or position in the water. On the boat thus constructed I place an overhanging deck of the form shown, and on the rear part of this deck I mount a vertical shaft, C, and provide it with a sweep, D, and a large bevel cog-wheel, E. In rear of the shaft C I mount a horizontal shaft, F, and secure thereon a large wheel, G, and a bevel-pinion, H, the latter arranged to gear into wheel E, as shown. On the deck I mount a long horizontal shaft, I, with its rear end extending out over the stern, and to the forward end of this shaft I secure a pinion, J, gearing into wheel G, and to the rear end of the shaft secure a bevel-pinion, K. To the stern I secure projecting arms *d*, and in these arms mount a horizontal transverse shaft, L, provided with two loose bevel-pinions, M and N, which gear into opposite sides of pinion K, so that the pinion will turn them in opposite directions. To the outer end of shaft L I attach a paddle-wheel, O, which is thus brought behind one of the rear corners or quarters of the boat. On the shaft L, between the wheels M and N, I place a sliding clutch, P, which is prevented from turning by a spline, *i*, on the shaft, and which may be engaged with either the wheel M or N, according as it is desired to have the shaft and the paddle-wheel turn forward or backward. A hand-lever, R, mounted in a suitable support, is connected with clutch P for convenience in shifting the same. The sweep, being drawn around by means of a horse attached thereto, sets the gearing in motion and turns the paddle-wheel, which propels the boat forward or backward, according to which of the two wheels the clutch is engaged with. To provide for steering and directing the boat in its course I pivot to the stern, on the opposite side to the wheel, a large oar or sweep, S, as shown.

I have found in practice that a boat fifty feet in length, constructed on my plan, may, when loaded, be propelled with ease and at a considerable speed, by a single horse, and that it may be readily steered and handled by a single man.

My boat being possessed of the above qualities, and being, moreover, constructed at a small expense, will be found of great service in many places as a ferry-boat or a transport for freight. When the boat is to be used for ferry purposes I provide it with suitable railings, and also with two platforms, T, hinged to the sides opposite each other, and connected by a rope passing around a windlass, U. The windlass, being turned, raises one of the platforms, and at the same time lowers the other; or, by fastening up either of the platforms, the windlass may be used to raise or lower the other. When arranged in this man-

ner one man can readily handle the platforms when landing or starting the boat.

Having thus described my invention, what I claim is—

1. A boat having its hull or bottom formed with the four faces, *a*, *b*, *c*, and *d*, constructed and arranged as described.

2. The platforms T, hinged at opposite sides of the boat, and connected by a rope or chain to a windlass, U, substantially as described, whereby one is raised as the other is lowered.

HENRY CLENNY.

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