(No Model.)

S. DAVIDSON, Jr.

STEERING APPARATUS AND WINDLASS.

No. 534,323. Patented Feb. 19, 1895.

Fig.1

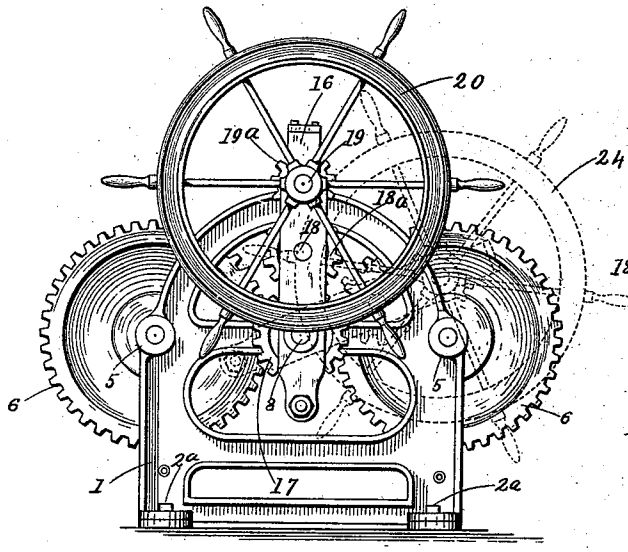


Fig.2

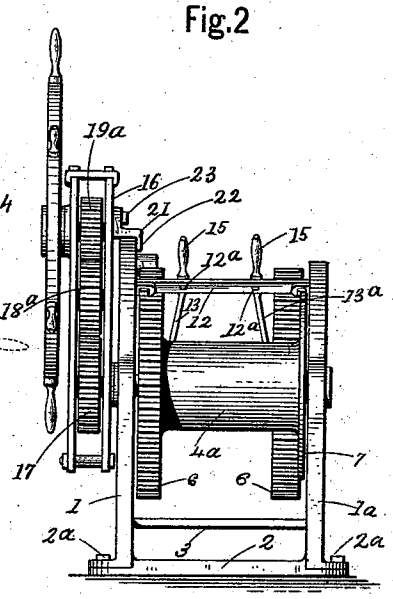
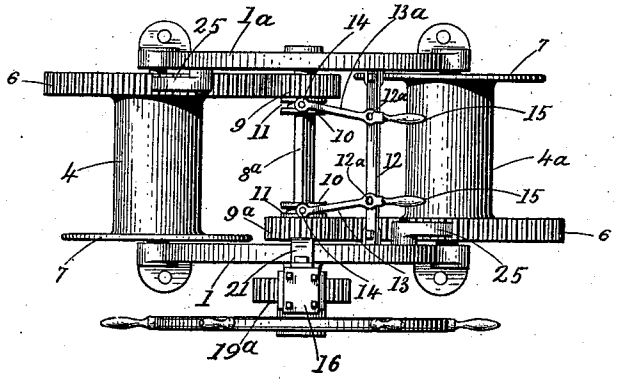


Fig.3



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UNITED STATES PATENT OFFICE.

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STEERING APPARATUS AND WINDLASS.

SPECIFICATION forming part of Letters Patent No. 534,323, dated February 19, 1895.

Application filed May 7, 1894. Serial No. 510,318. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL DAVIDSON, Jr., a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in a Combined Steering Apparatus and Windlass, of which the following is a specification.

My invention relates to that class of steering apparatus in which the steering wheel is adapted to be readily lowered down out of the way while passing under low bridges, and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1, is a front elevation of the device, showing the lower position of the steering wheel by dotted lines. Fig. 2, represents a side elevation of the same, the steering wheel being shown in its upward position. Fig. 3, represents a top or plan view, showing the apparatus complete.

Referring to the drawings in detail, 1 and 1^a represent the two side frame pieces. They are preferably made of cast iron and are secured together and to a base plate 2, by bolts 2^a, and the usual binding or holding rods 3. In the frame are mounted two drums 4 and 4^a, in the usual boxes 5. (See Fig. 1.) On each drum is rigidly secured a spur wheel 6, and at the opposite end of each drum is a rope protecting flange 7. Substantially in the center of the supporting frame is mounted in suitable boxes, a shaft 8, having the portion 8^a, between the two side frames 1 and 1^a, made square in cross section and on the square portion 8^a, are loosely mounted two pinions 9 and 9^a, (shown in Fig. 3) adapted to be easily moved back and forth along said shaft without rotating thereon. These pinions are adapted to gear in with the spur wheels 6. On the inner side of each pinion 9 and 9^a, is secured, or formed in one piece with it, a hub 10, each having a surrounding groove 11. On the frame is secured, by bolts, a cross bar 12, on which are pivoted by pins 12^a, (shown in Fig. 3) two clutch arms 13 and 13^a. One end of each of the clutch arms is forked in the ordinary way and provided with pins 14, (see Fig. 3,) which project into the surrounding grooves 11, in the well known way. The opposite ends are made in the form of handles 15, by which one or both pinions 9 or 9^a, may be moved away from and out of gear with the spur wheels, sliding along the shaft 8^a, toward the center of said shaft between the frames or they may be as easily moved back into gear with said spur wheels as shown in Fig. 3.

At the front of the machine is secured to the shaft 8, a swinging frame 16, adapted to swing on said shaft as its center Within the frame 16, and rigidly secured to the shaft 8 is a pinion 17. Above the pinion 17, in suitable bearings in the swinging frame 16, is mounted on a shaft 18, another slightly smaller pinion 18^a, adapted to gear in with the pinion 17, and above the pinion 18^a, is mounted a shaft 19, in said swinging frame 16, on which is rigidly secured a pinion 19^a, so as to be in gear with the pinion 18^a.

The shaft 19, projects outward far enough to receive the steering wheel 20, which is rigidly secured to it in any well known way.

At the back of the frame piece 16, is a clamping piece 21, bolted to said frame piece. It is formed so as to clamp over the upper back edge of the side frame 1 (as shown at 22, in Fig. 2) and is secured by a screw bolt 23, which can be loosened or tightened at pleasure.

From the above construction it will be seen that as the upper portion of the frame 1, is a semicircle of which the shaft 8, is a center, the swinging frame, its pinions mounted within it and the steering wheel 20, may be easily made to swing around or downward to the position shown by the dotted lines 24, in Fig. 1, by first loosening the bolt 23, and then tightening it at any point to which it is desired to have it adjusted. It will be further seen that the steering wheel and all the gearing connected with it, may be operated while the wheel is down in its lower position or any intermediate position to which it may be adjusted, as well as if it was in its upward position, which is an important advantage in these kind of wheels. The object of this construction is to provide a simple and ready means for instantly moving the steering wheel down out of the way while passing under low

bridges, and at the same time permit the steering wheel to be used in any position to which it may be thus adjusted.

The dogs or pivoted pawls 25, may be easily thrown out of action by turning them, or either one of them, backward out of gear, in the well known way.

Ropes or chains are attached to the drums 4 and 4^a, to be used either for the purposes of a windlass or in connection with the steering apparatus.

The object of the intermediate pinion 18^a, is to cause the shaft 8 to turn in the same direction the steering wheel turns.

I claim as my invention—

In a steering apparatus, the combination with the supporting frame 1, having semi-circular or arched side portions, of a shaft 8, located in the center of the arched portions of the frame, pinions mounted on said shaft, winding drums having spur wheels mounted in the sides of the frame, means for engaging and disengaging said pinions and spur wheels, a swinging frame mounted on said shaft 8, a train of gear wheels mounted in the swinging frame consisting of a lower pinion rigidly secured to the shaft 8, an intermediate reversing pinion and a pinion mounted on a shaft above it carrying the steering wheel; a clamp on the swinging frame adapted to clamp over the edge of the semi-circular top of the frame portion 1, and means substantially as above set forth for securing the swinging frame at any point to which it may be adjusted, for purposes substantially as described.

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