

CORNELIUS SCHILLING.

Improvement in Propulsion of Canal Boats.

No. 119,792.

Patented Oct. 10, 1871.

Fig. 1.

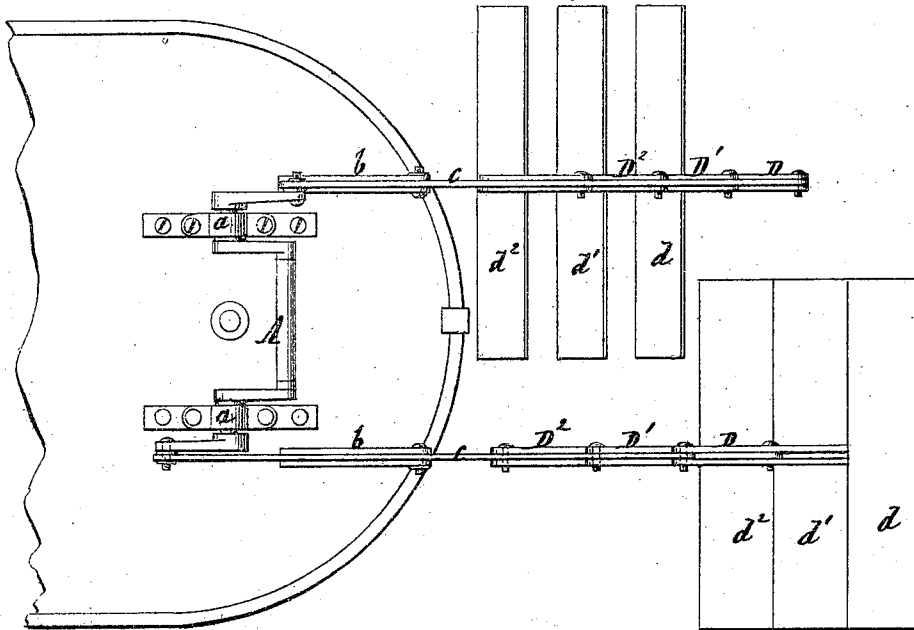
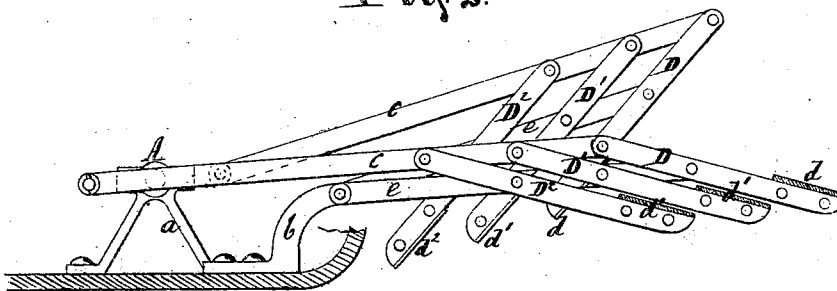


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

CORNELIUS SCHILLING, OF NEW YORK, N. Y.

IMPROVEMENT IN PROPULSION OF CANAL-BOATS.

Specification forming part of Letters Patent No. 119,792, dated October 10, 1871.

To all whom it may concern:

Be it known that I, CORNELIUS SCHILLING, of the city, county, and State of New York, have invented a new and Improved Propelling Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a plan or top view of this invention. Fig. 2 is a sectional side view of the same.

Similar letters indicate corresponding parts.

This invention relates to an improvement on a propelling apparatus for which a patent was granted to me August 14, 1870, No. 106,512, which improvement consists in the arrangement of one or more additional propeller-blades or levers pivoted to the connecting-rod and brace or link, and running parallel to the lever, carrying the front propeller-blade in such a manner that the area of the propelling surface is materially increased, while the construction and cost of the apparatus remain almost the same as before. By combining two sets of propeller-blades with the same crank-shaft a continuous action of the propeller is obtained.

In the drawing, A designates a crank-shaft, which has its bearings in standards *a* rising from a platform which is secured in the bottom of the boat or vessel to be propelled. From the same platform also rise two other standards, *b*. The crank-shaft A is provided with three cranks—one in the middle, which connects with a steam-engine or other motor, and the two others at its ends, as shown in Fig. 1. These two cranks are placed at an angle of one hundred and eighty degrees toward each other, and they connect, by rods *c*, with levers D D¹ D², to which the propeller-blades *d d¹ d²* are attached. The levers D D¹ D² in each set are retained in a position par-

allel to each other by links or braces *e*, which extend from the standards *b*, and are pivoted to said levers at some distance from their ends, as shown in Fig. 2.

By connecting the additional levers D¹ D² (one or more) to the link *e* and rod *c* the propeller-blades are prevented from dropping down into the water, and their motion is perfectly defined and under control of the rod *c*, so that when the crank-shaft A is revolved the propeller-blades are caused to dip down into the water, one behind the other; then they are carried out below the water-line, so as to produce the desired propelling action; and finally they are lifted out of the water edgewise, or nearly so, thereby avoiding any unnecessary lift of water.

By connecting two or more propeller-blades with the rod *c* and link *e* the effective area of the propeller is increased with but a trifling addition to the cost of the apparatus.

The two sets of propeller-blades shown in the drawing are so arranged that they alternate with each other, one set being in action while the other is carried back through the air, and thereby a continuous action of the propeller is produced.

I disclaim everything shown and described in my patent No. 106,512; but

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

The arrangement of two or more propeller-blades, *d d¹ d²*, said blades being secured to levers D D¹ D², which are pivoted to rods *c* and links *e*, in combination with the crank-shaft A, all constructed and operating substantially in the manner herein shown and described.

This specification signed by me this 5th day of July, 1871.

CORNELIUS SCHILLING.

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.