H. BUCK.

Railway Cars.

No. 136,359. Patented March 4, 1873.

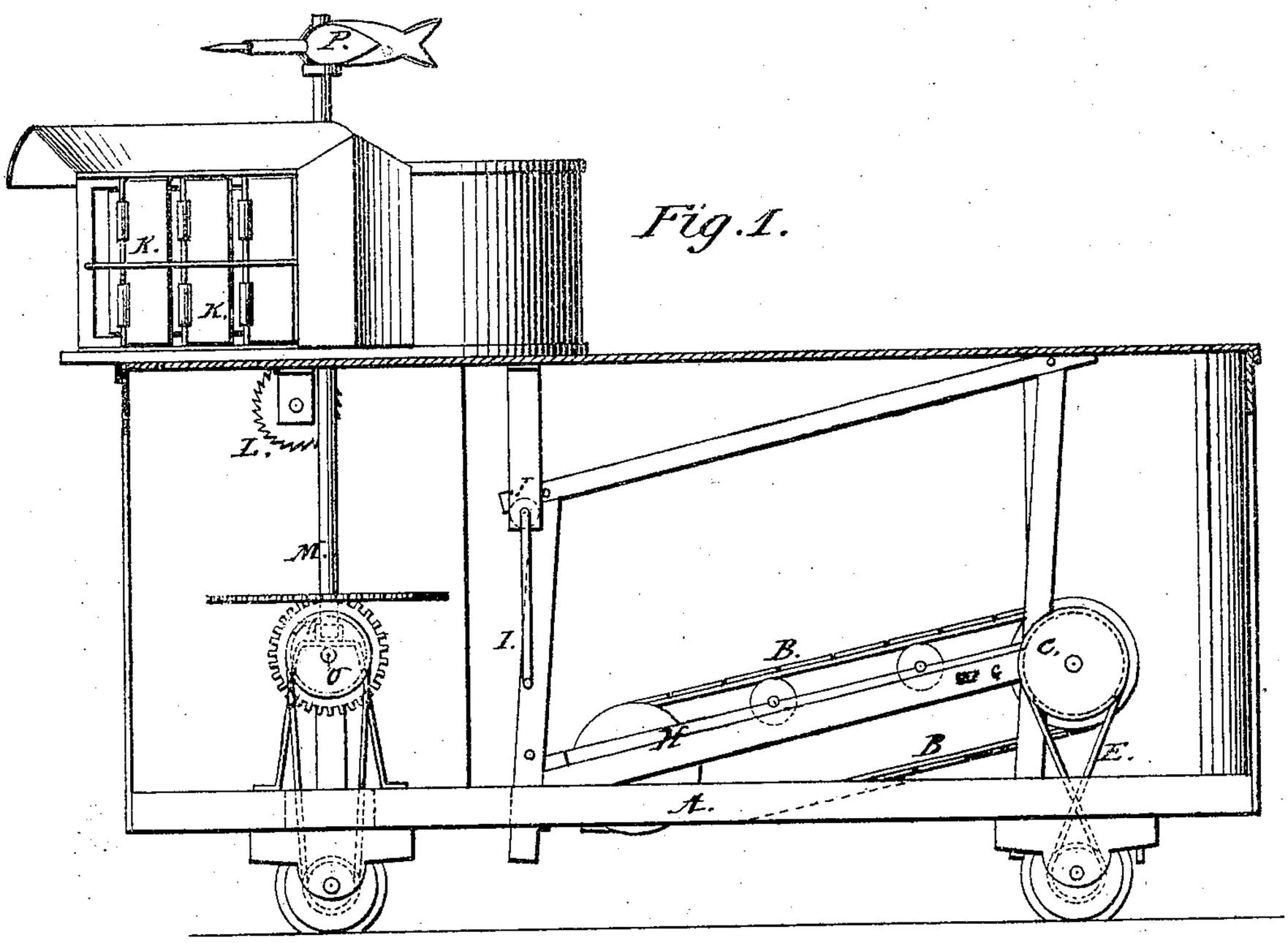

Fig. 1.

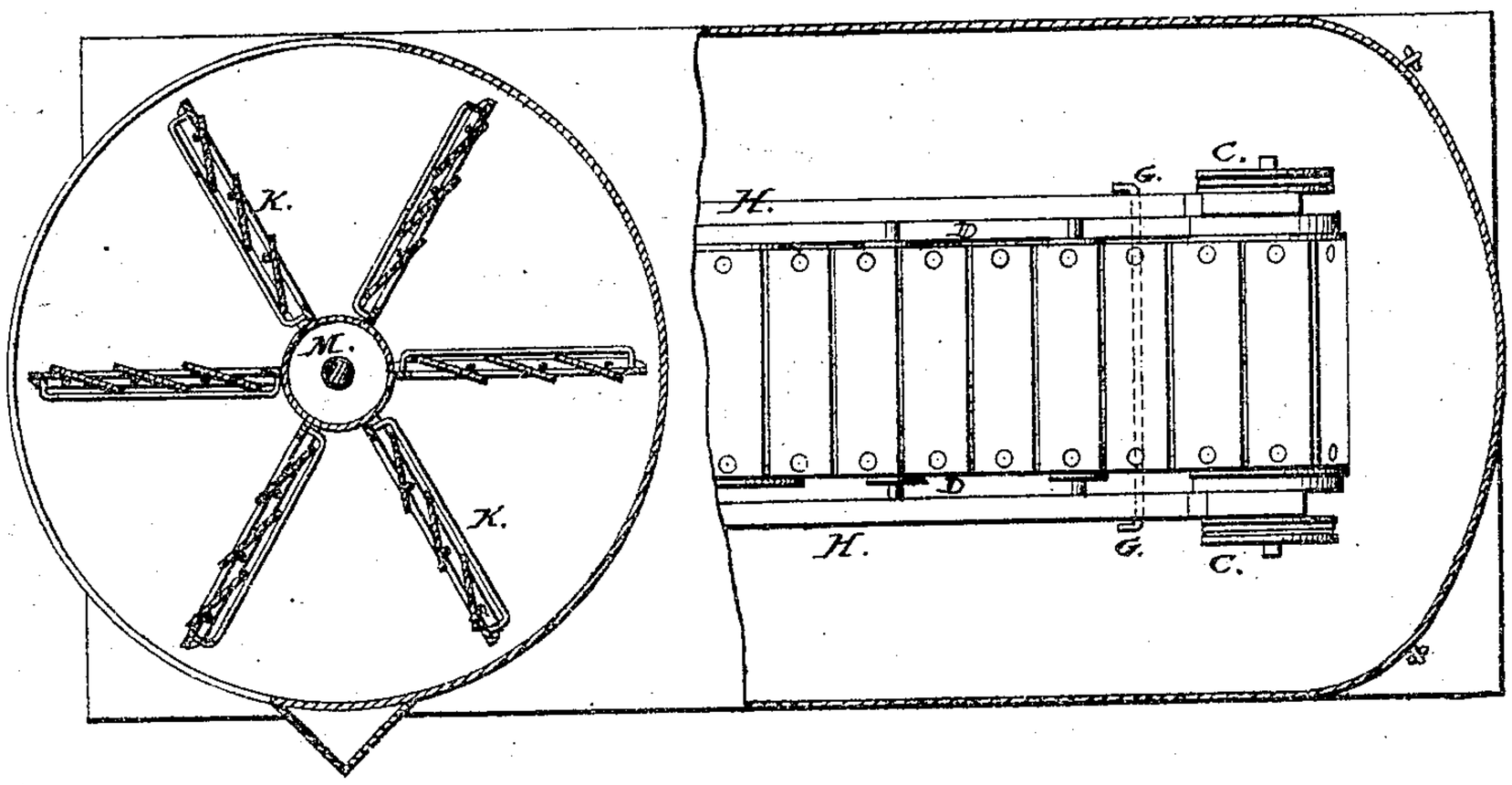

Fig. 2.

Attest;
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UNITED STATES PATENT OFFICE.

HENRY BUCK, OF POLO, ILLINOIS.

IMPROVEMENT IN RAILWAY CARS.

Specification forming part of Letters Patent No. **136,359**, dated March 4, 1873.

To all whom it may concern:

Be it known that I, HENRY BUCK, of Polo, Ogle county, State of Illinois, have invented certain Improvements in Wind and Horse-Railway Cars, of which the following is a specification:

This invention relates to a system of railway-car propulsion, having for its object the perfection and introduction of a cheaper and more economical means by which the farmers can transport their own produce to market by means of their own teams in the level prairie country, while a cheap railway can be constructed through sparsely-settled districts, where the commercial necessities of the people will not justify the construction of an ordinary railroad.

Figure 1 is a side view of the devices for propelling the car. Fig. 2 is a top view of the car, partly broken away so as to show the machinery within.

I construct the frame or truck A of my car in the usual manner, it being carried upon four wheels with axles, which are placed near to the ends of the car. B represents an endless-chain horse-power, which I place in the longitudinal center of the car, its front end reaching near to the front end of the car, so as to bring the driving-shaft, on which is placed the grooved wheels C C, directly, or nearly so, over the forward axle, on which grooved wheels are secured, and by which the power is applied by means of the bands E from the wheels C C. The frame D, which contains the wheels and endless chain B, is supported on pivots at G, through the side timber of frame H, which forms supports on which the power is allowed to swing when elevating or depressing the same, as may be required.

When the car is descending a grade, it is desirable that the horse be relieved, and allowed to rest until the up-grade is reached; and to accomplish this the rear end of the power is raised by turning the crank 1, which winds up the ropes on the roller J, thereby bringing the power up to a level position, which slackens the bands which communicate the power to the front car-wheels, leaving the power at rest.

There may be times when the action of the wind will be sufficient to propel the car or cars, rendering it necessary to relieve the horse in the manner described.

Over the rearward axle I have arranged a wind-wheel, K′, which is surrounded by a shield or turret, open about half of its diameter, with a flaring flange extending partly around the open space, for the purpose of directing the current of wind into the vanes, which are exposed to be acted on by the wind. The turret is made to revolve to direct the current by means of cogs formed on its under side, which the wheel L meshes into.

The wind-wheel communicates its motion to the axle of the car by means of the gearing, which is fast on the vertical shaft M, to which the wind-wheel is secured. Near to its lower end, where it rests in the step N, a horizontal shaft, O, lies under the said vertical shaft, and to this shaft a gear-wheel is secured, which gear-wheel engages with the wheel on the vertical shaft, thereby communicating the motion of said shaft to a pulley on the opposite end of shaft O, which is grooved, and which corresponds to a similar pulley on the axle of the car underneath. A band passes around these pulleys, and thus communicates the power from the wind-wheel to the wheels of the car. P is wind-gage, placed directly over the vertical shaft, to show the direction of the wind that the turret may be regulated to cause the wind to act with its greatest force upon the wheel.

I claim as my invention—

1. The frame D, which contains the wheels and endless chains of the horse-power, pivoted at G, and operated by the cranks I and suitable cords or chains, substantially as described, and for the purpose set forth.

2. As a means for propelling railway cars, the combination of the horse-power and wind-wheel, when both are constructed and arranged to operate as described.

HENRY BUCK.

Witnesses:
S. L. DENNEY,
M. S. HOPKINS.