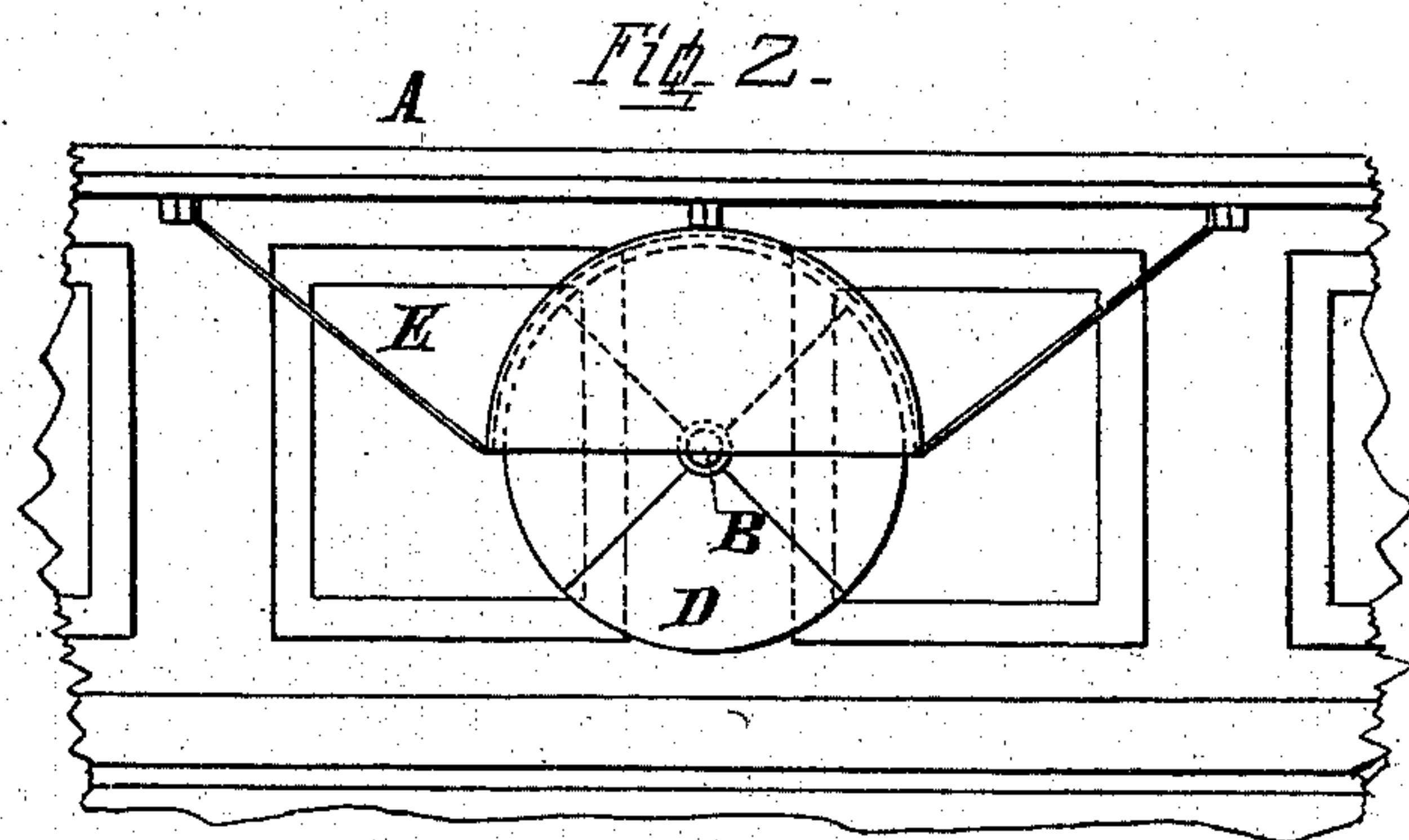
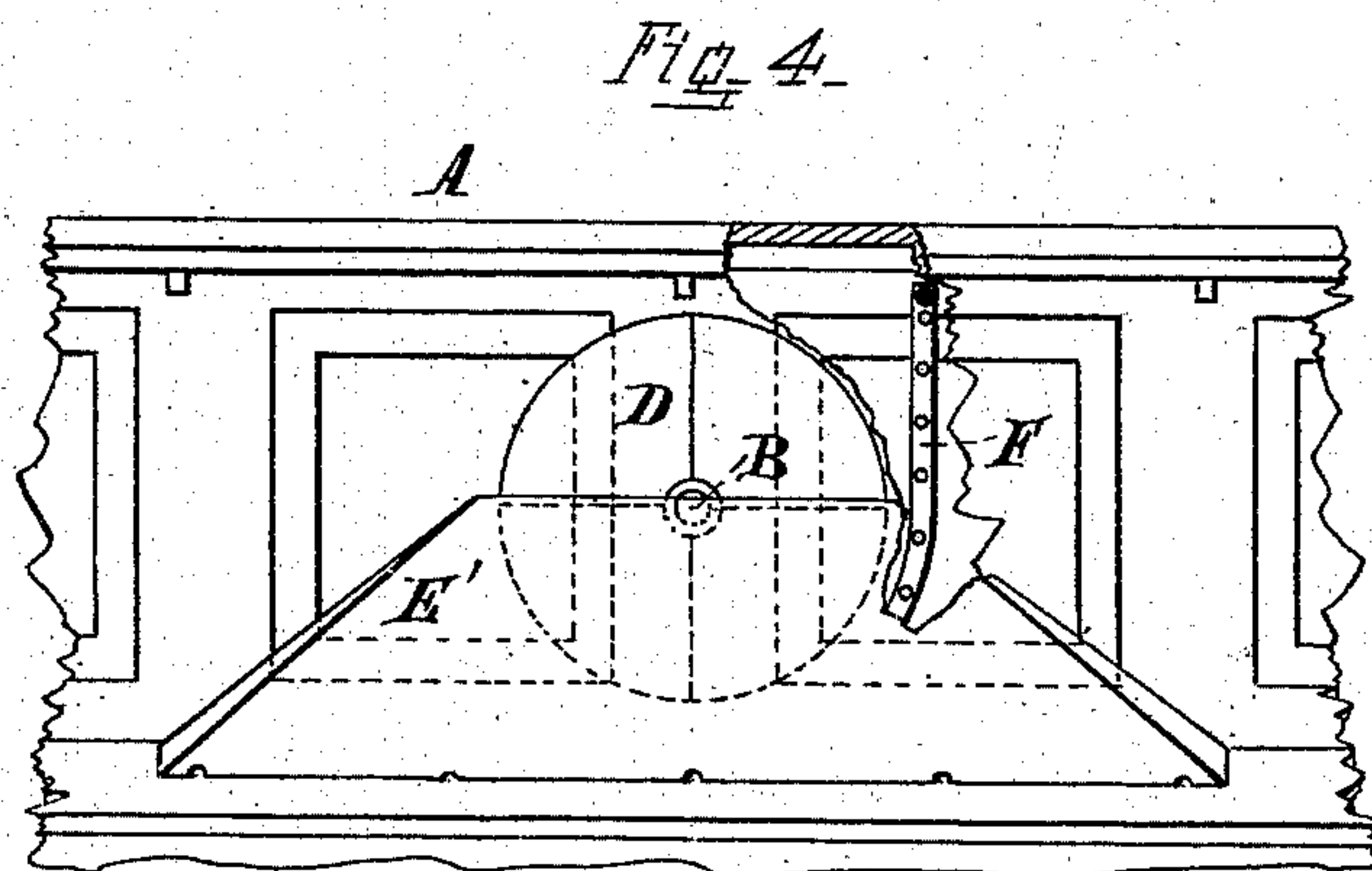
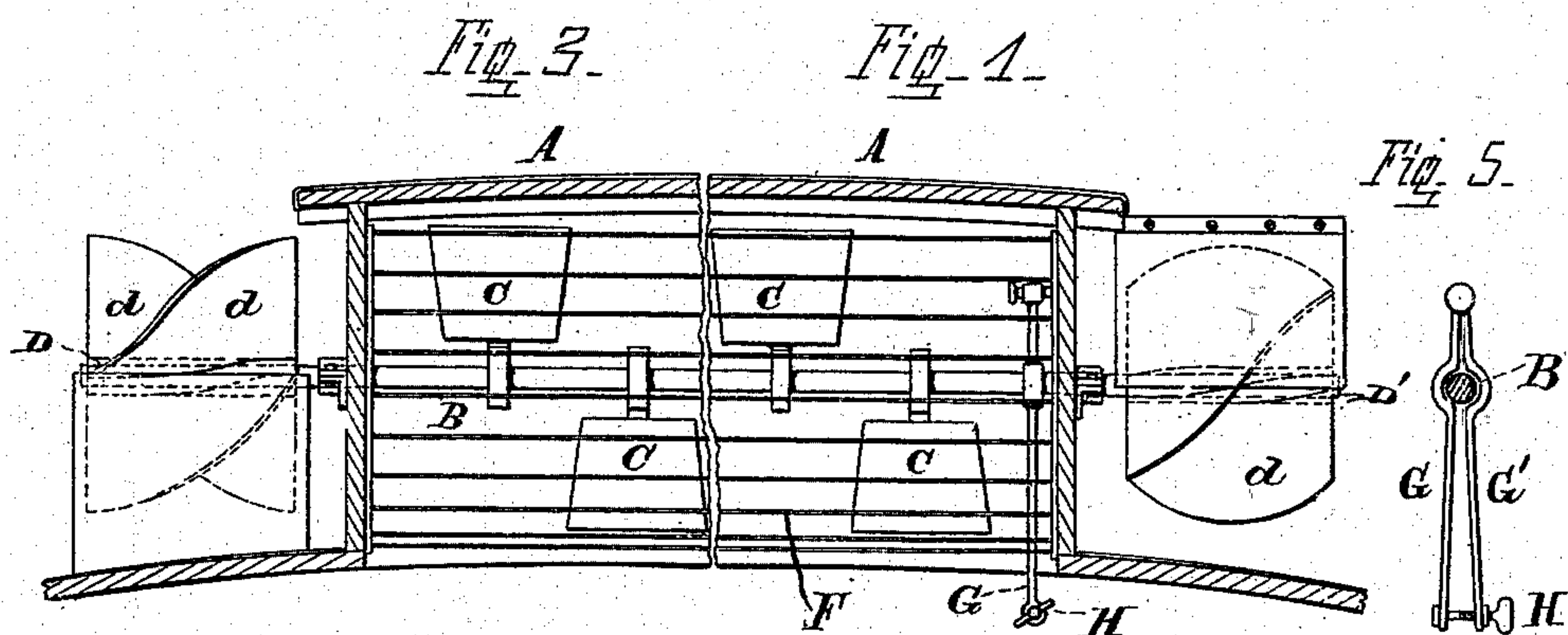


(No Model.)

J. WALKER.
CAR VENTILATOR.

No. 274,063.

Patented Mar. 13, 1883



Attest
Carl Spengel
Wm. F. Jagers!

Inventor
James Walker.
by Knight Bros Atty's

UNITED STATES PATENT OFFICE.

JAMES WALKER, OF WYOMING, ASSIGNOR OF ONE-HALF TO ROBERT C. MAXWELL, OF CINCINNATI, OHIO.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 274,063, dated March 13, 1883.

Application filed September 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES WALKER, of Wyoming, Hamilton county, Ohio, have invented a new and useful Ventilating Attachment for Railway-Cars, of which the following is a specification.

My invention has for its object a more free circulation of air in railway-vehicles; and it consists essentially of flaps or fans that project from a horizontal shaft that extends athwart the ventilator or dome of the car, and is armed on each outer side of ventilator with a wind-wheel half incased in suitable deflectors that operate to concentrate upon the one-half of the wheel the powerful air-current generated by the motion of the car.

In the accompanying drawings, Figure 1 is a vertical section, transverse of the car, of a ventilator embodying my invention. Fig. 2 is an end elevation of the same. Figs. 3 and 4 are a similar section and elevation of a modification of my invention, a portion of the inclosing-wall in Fig. 4 being broken away. Fig. 5 is a side elevation of my brake.

A may represent the dome or louvre of a railway-car; B, a shaft that extends horizontally athwart the same. That part of the shaft B which is included within the louvre is armed with flaps or fans C, and its protruding extremities are armed with wheels D D', having vanes *d* of the spiral form shown.

E represents a combined canopy and deflector, which unites the offices of protection of the wheel from snow, &c., and of deflecting and concentrating the air-current upon the upper half of the wheel, thus causing the entire force of the wind to be directed to revolving the wheel in one direction. The spiral form of the wheel-blades insures a practically uniform and constant action of the air-currents.

An open-work cage or fender, F, prevents accidental contact of passengers or employes with the fans without sensibly interrupting the flow of air-currents.

A pair of jaws, G G', and a screw, H, constitute a clamp or brake which enables any occupant of the car to diminish, slacken, or arrest the rotation of the fan at will.

In Figs. 3 and 4 a modification is shown, in which it is the lower instead of the upper half of the wind-wheel which is covered by the de-

flector, the deflector E' in said modification resting upon the car-roof.

Besides the advantage of increased power from two wind-wheels—one on each end of the spindle or shaft to which the fans are attached—I am enabled to make each wind-wheel smaller to get the same power that would be required from one, and my device thereby looks much neater on the car than one large wind-wheel does. I am also enabled to locate my wind-wheels in a much less objectionable place than on the top of the upper roof. In fact, some railroads cannot permit a wind-wheel to be placed on the upper roof, for the simple reason that their cars have only two inches clearance in some tunnels and bridges, while any car with my wind-wheels can go safely through any tunnel or any bridge the car can go through without them. The wings of the wind-wheel, running in the length of the wheel from one quarter of the diameter to the next quarter, expose at all times to the wind a full wing, or two halves or portions of two, equal to one wing, and thereby keep up a continuous, even motion of the fans inside.

My brake is so easily reached and so simple that any passenger, although he may never have seen it before, will at once understand how to regulate the speed of the fans or arrest them altogether should it be found necessary to do either for the comfort of the passengers at any time, or to allow them to move should they be standing still.

I am aware that descriptions exist of public vehicles ventilated by fans within the car, impelled by vanes or wheels which are rotated by the impact of the outside air, and that devices exist for governing the speed of such fans and protecting them from contact with objects within the vehicle, and I therefore do not claim such devices, broadly.

I claim as new and of my invention—

1. A ventilating apparatus for railway-cars, which consists of shaft B, that extends horizontally across the dome or louvre A, within which it is armed with fans C, and outside of which it is armed with wind-wheels D D', in the described combination with the canopy and deflector E, the whole being arranged and operating as set forth.

2. In a railway-car, in combination with the

ventilating-fans C, within the dome or louvre, the guard or fender F, within the car, substantially as set forth.

3. In a railway-car, the combination, with
5 the ventilator having shaft B, of the regulating-brake consisting of jaws G G' and screw H, substantially as set forth.

In testimony of which invention I hereunto set my hand.

JAMES WALKER.

Attest:

GEO. H. KNIGHT,
EMMETT N. PARKER.