

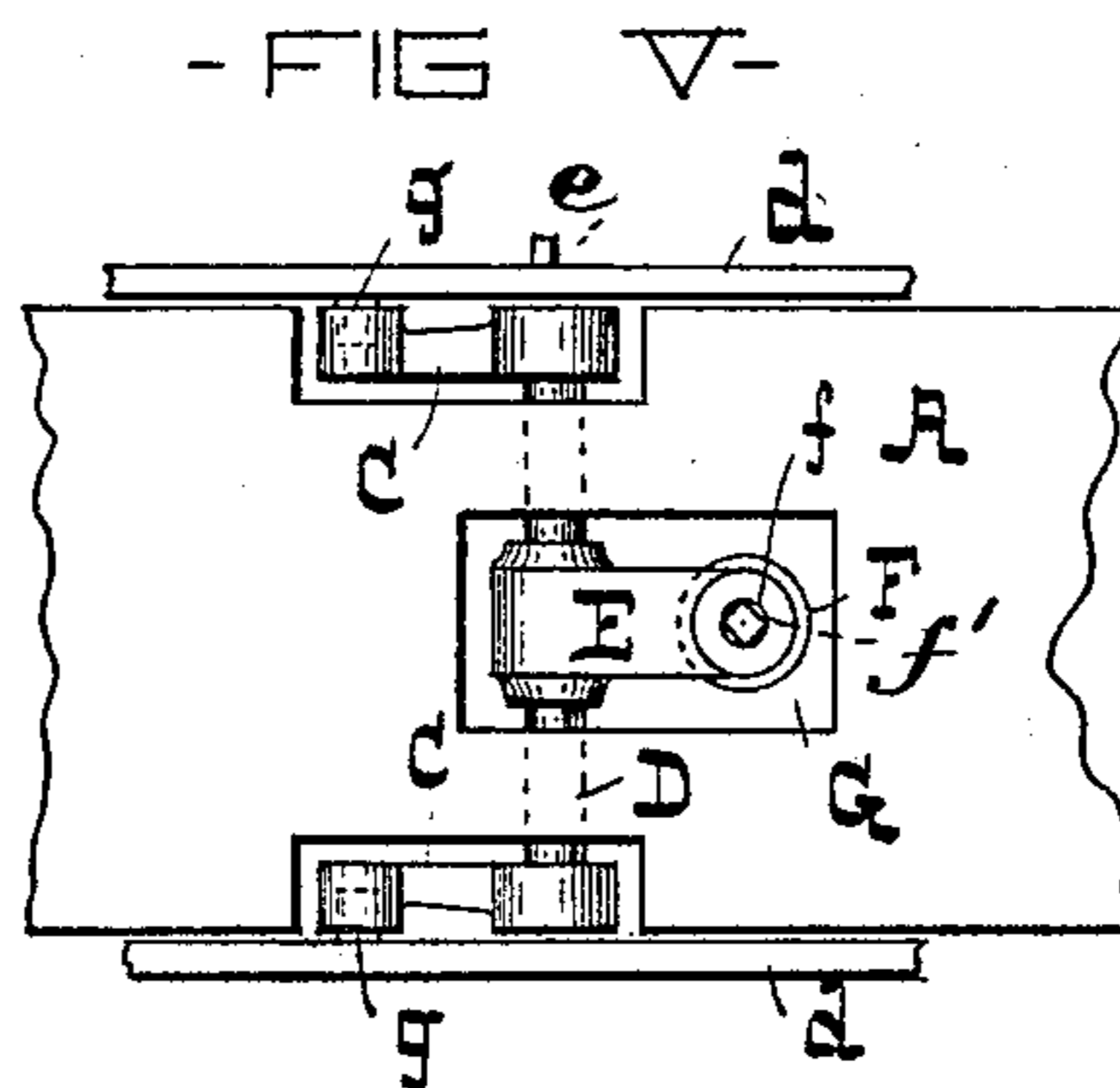
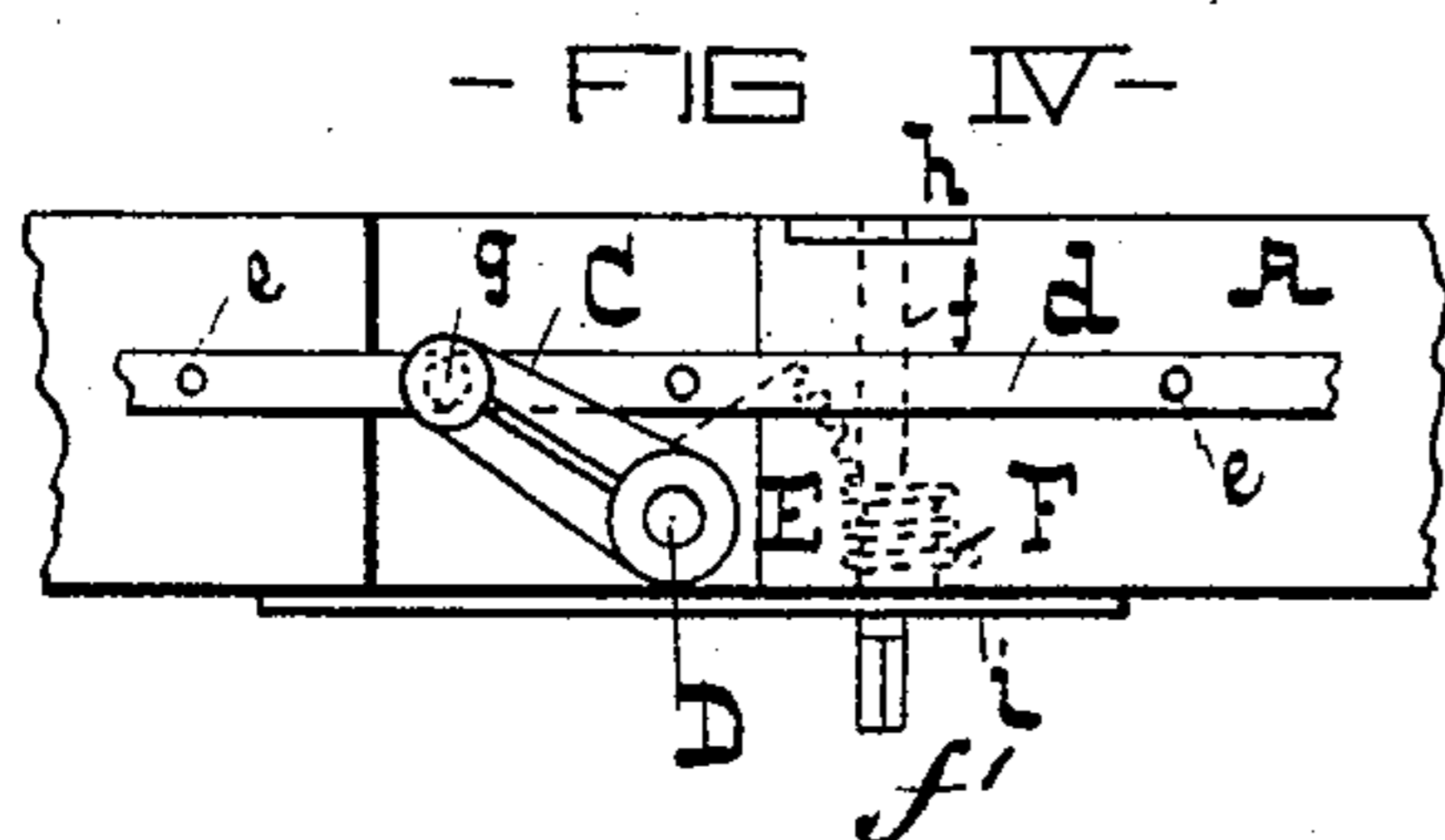
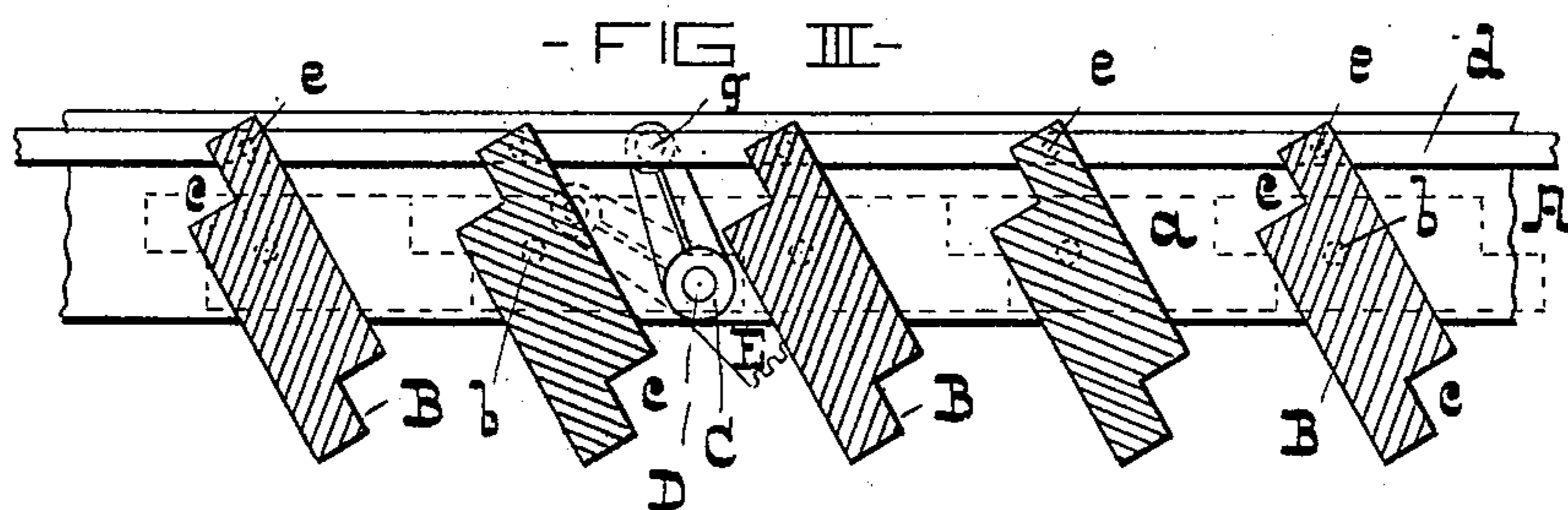
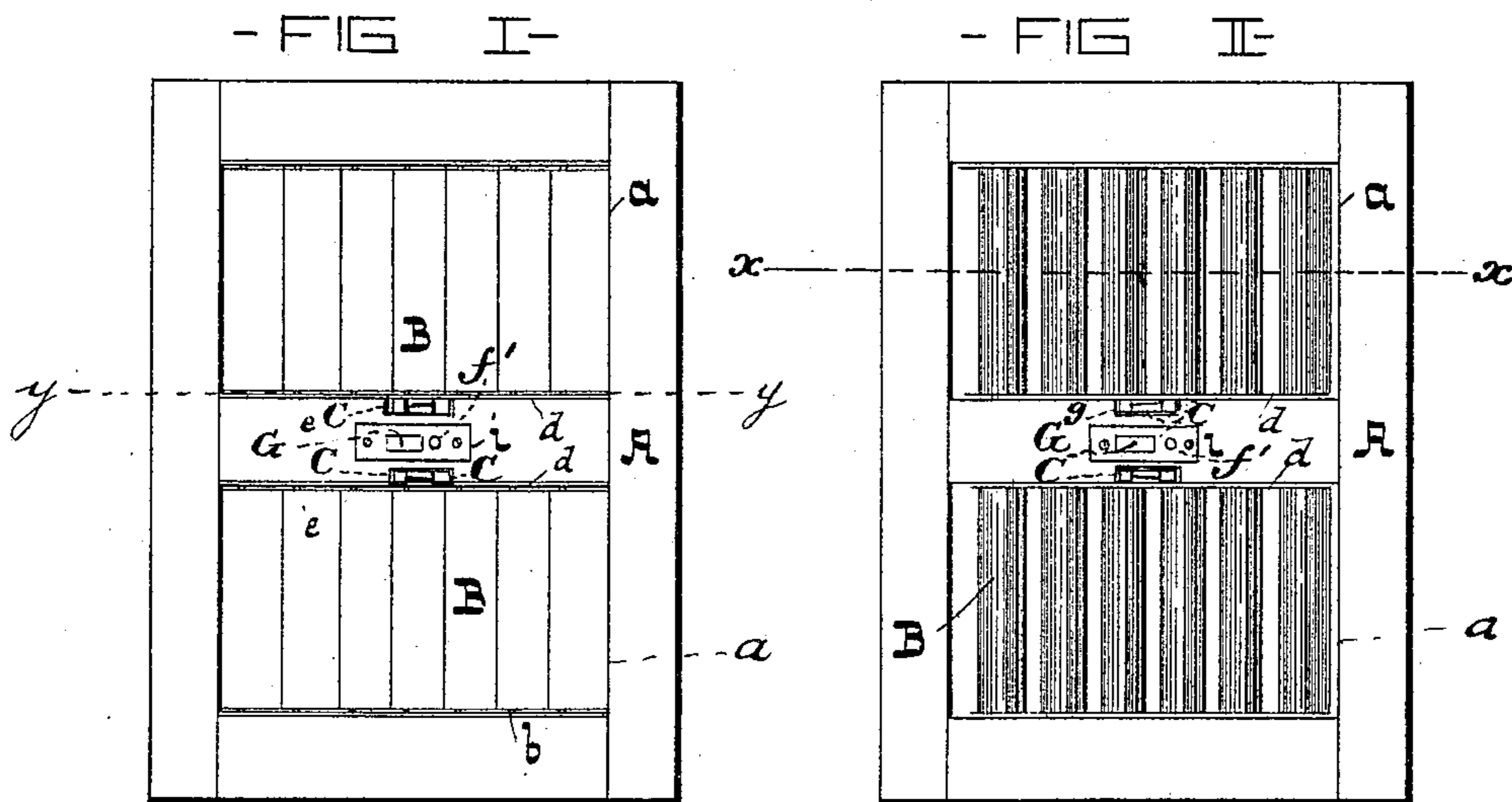
(No Model.)

E. H. WHITAKER.

FREIGHT CAR DOOR.

No. 397,322.

Patented Feb. 5, 1889.



- WITNESSES -

*Dan'l Fisher*  
*Jas Sparklin*

- INVENTOR -

*Edward Hamilton Whitaker,*  
*by W. H. I. Howard,*  
*att'y.*

# UNITED STATES PATENT OFFICE.

EDWARD HAMILTON WHITAKER, OF BALTIMORE, MARYLAND.

## FREIGHT-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 397,322, dated February 5, 1889.

Application filed June 25, 1888. Serial No. 278,101. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD HAMILTON WHITAKER, of the city of Baltimore and State of Maryland, have invented certain Improvements in a Ventilating Freight-Car Door, of which the following is a specification.

In the description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure I is a front elevation of the improved ventilating car-door with the ventilating apparatus closed, and Fig. II a similar view with the ventilating devices open. Figs. III and IV are enlarged sections of portions of the invention, Fig. III being taken on the line  $x x$ , Fig. II, and Fig. IV on the line  $y y$ , Fig. I. Fig. V is an enlarged view of Fig. II, except that a portion only is shown, and that without a plate hereinafter described.

Similar letters of reference indicate similar parts in all the figures.

In the said drawings, A represents the door, which in the present case is provided with two ventilation-openings,  $a$ .

B B are slats pivoted within the openings  $a$  by means of the pins  $b$ . These slats are made to lap each other, and in order that when they are so lapped they will present at the front and rear of the door plain or flush surfaces they are rabbeted to one-half their thickness at their edges, as shown particularly in Fig. III, in which the rabbets are denoted by  $c$ . The inner edges of each set of slats are united by means of a bar,  $d$ , connected to the slats by pins  $e$ . The opening and closing of the slats is accomplished through the agency of two cranks, C, on a shaft, D, which is placed in a vertical position in the portion of the door situated between the openings  $a$ , a toothed segment, E, on the shaft between the said

cranks, and a worm-wheel, F, on a horizontal shaft,  $f$ , to the outer end of which may be applied a crank-handle, wrench, or other similar device to turn it. Pins  $g$ , projecting from the bars  $d$ , rest loosely in holes in the outer ends of the cranks, and the horizontal shaft  $f$  is confined or held in place by means of the plates  $h$  and  $i$ .

An aperture, G, in the door allows the toothed segment and worm to have free movement, as will be seen by reference to Fig. V, which shows a portion of the door without plate  $i$ .

The operation of the invention is so simple that it requires no special description herein.

It will be seen that the slats can only be moved through the medium of the worm and the toothed segment in gear therewith, and that the slats remain stationary in any position in which they are placed within the range of their movement.

I claim as my invention—

1. In a freight-car door having a ventilation-opening, a series of pivoted slats situated in the said opening united by means of pins to a bar, combined with a crank connected loosely to the said bar and having on its shaft a toothed segment, and a worm-wheel on a shaft in gear with the said toothed segment and adapted for operation from the outside of the door, substantially as and for the purpose specified.

2. In a freight-car door, a series of ventilating pivoted slats having their edges rabbeted to one-half their thickness, so that they may overlap to form a plain or flush surface, substantially as and for the purpose specified.

EDWARD HAMILTON WHITAKER.

Witnesses:

H. M. FITZHUGH,  
DANL. FISHER.