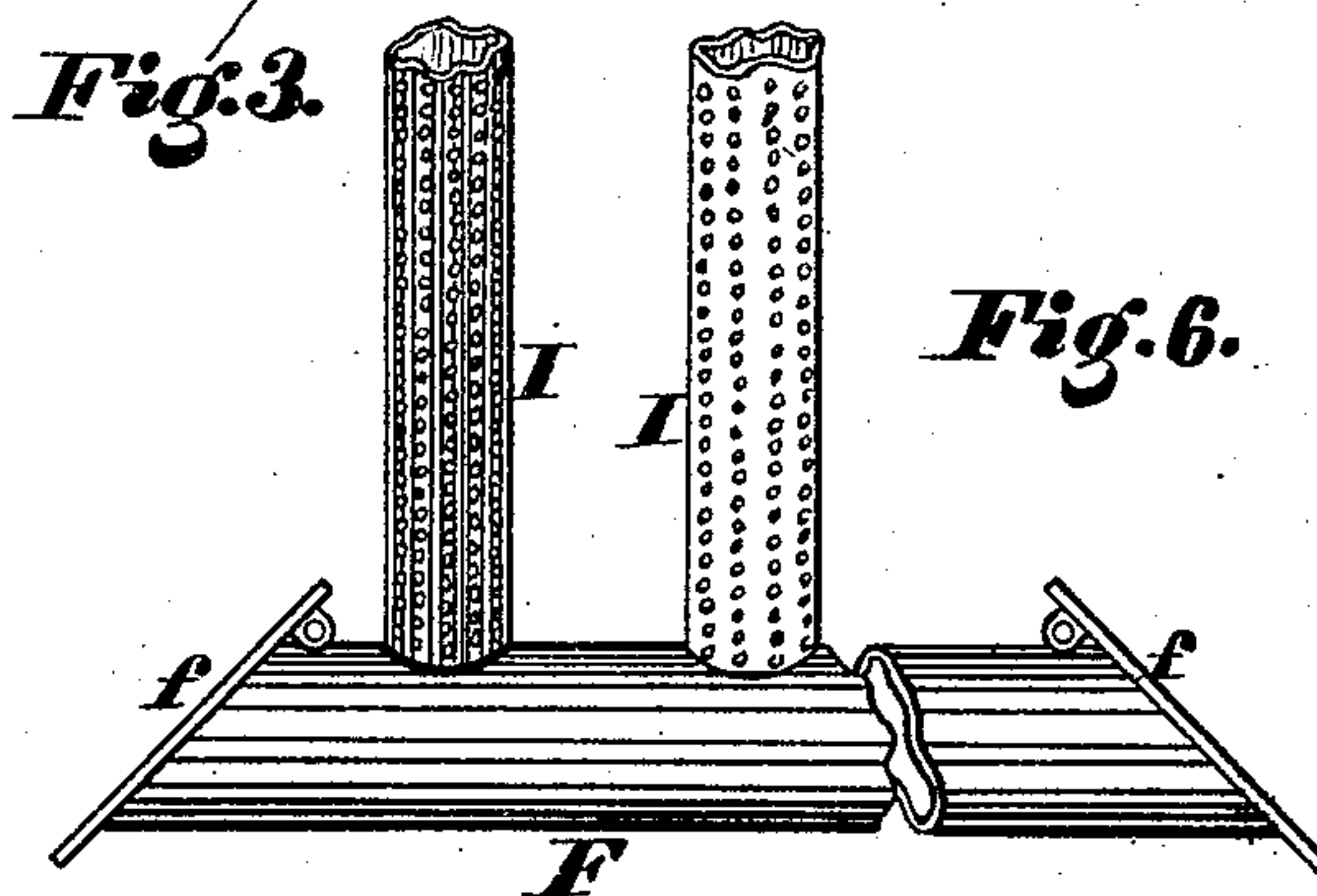
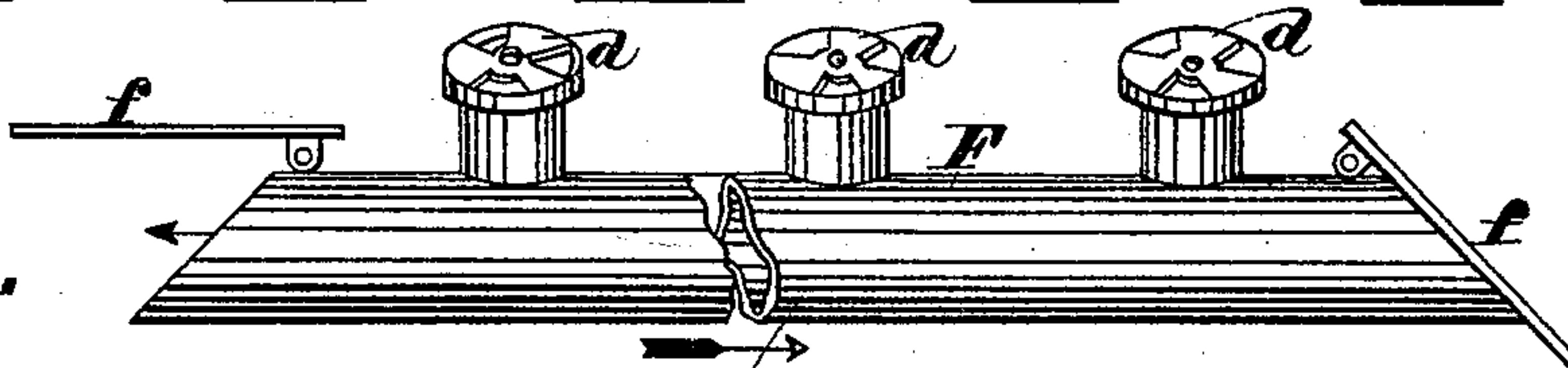
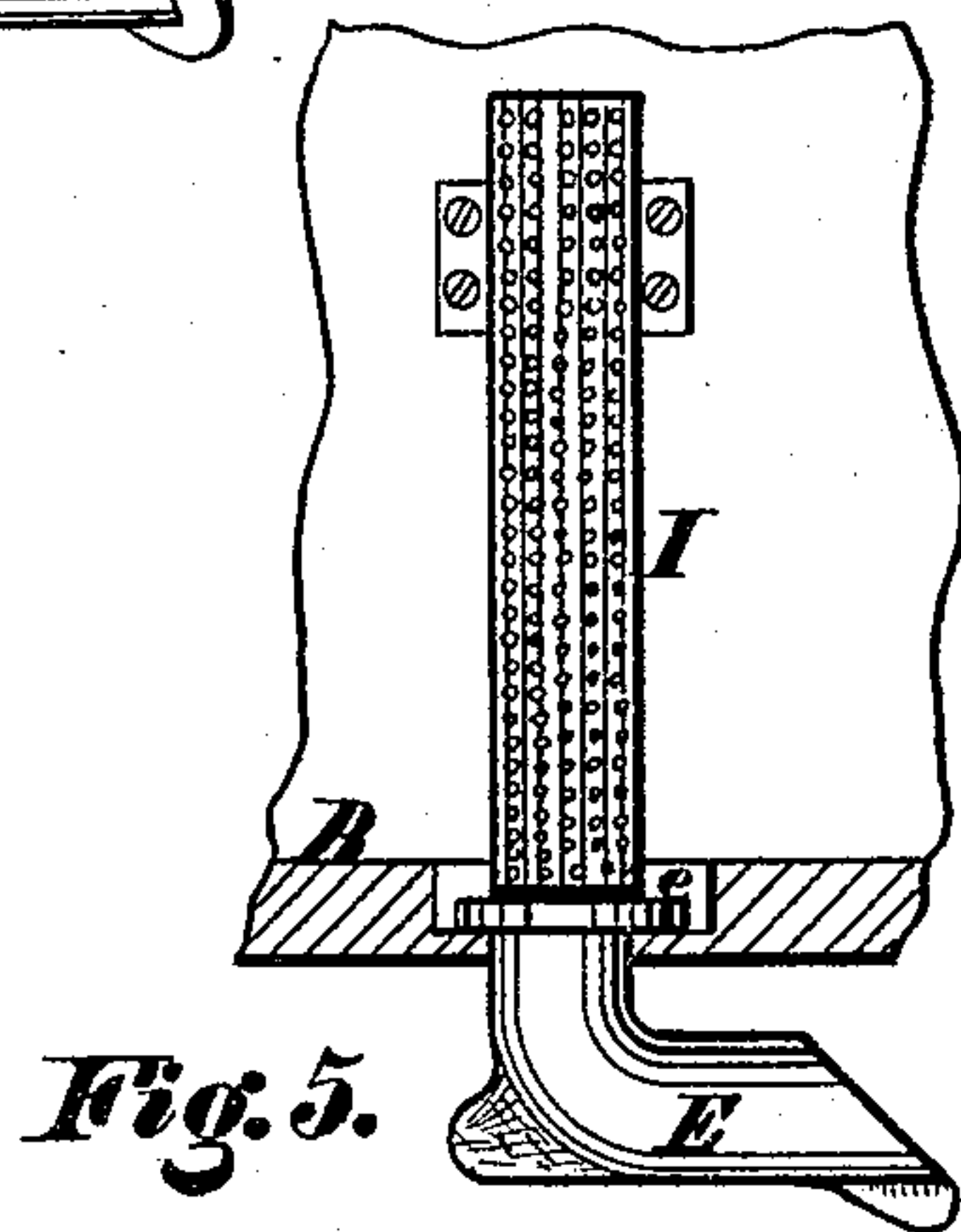
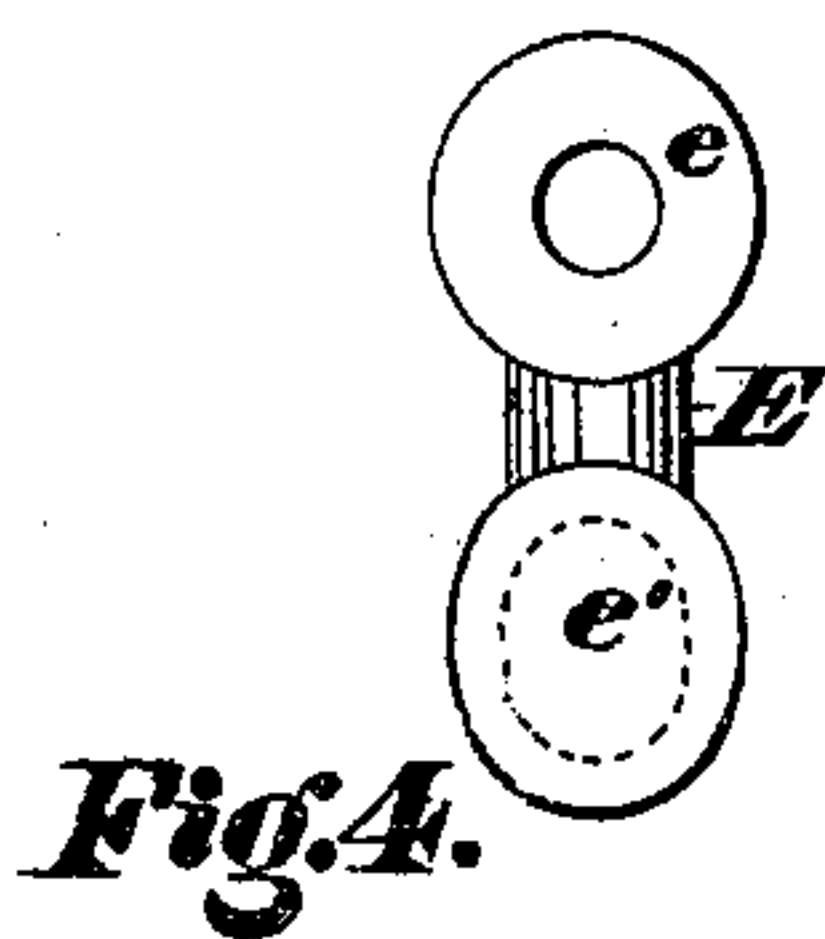
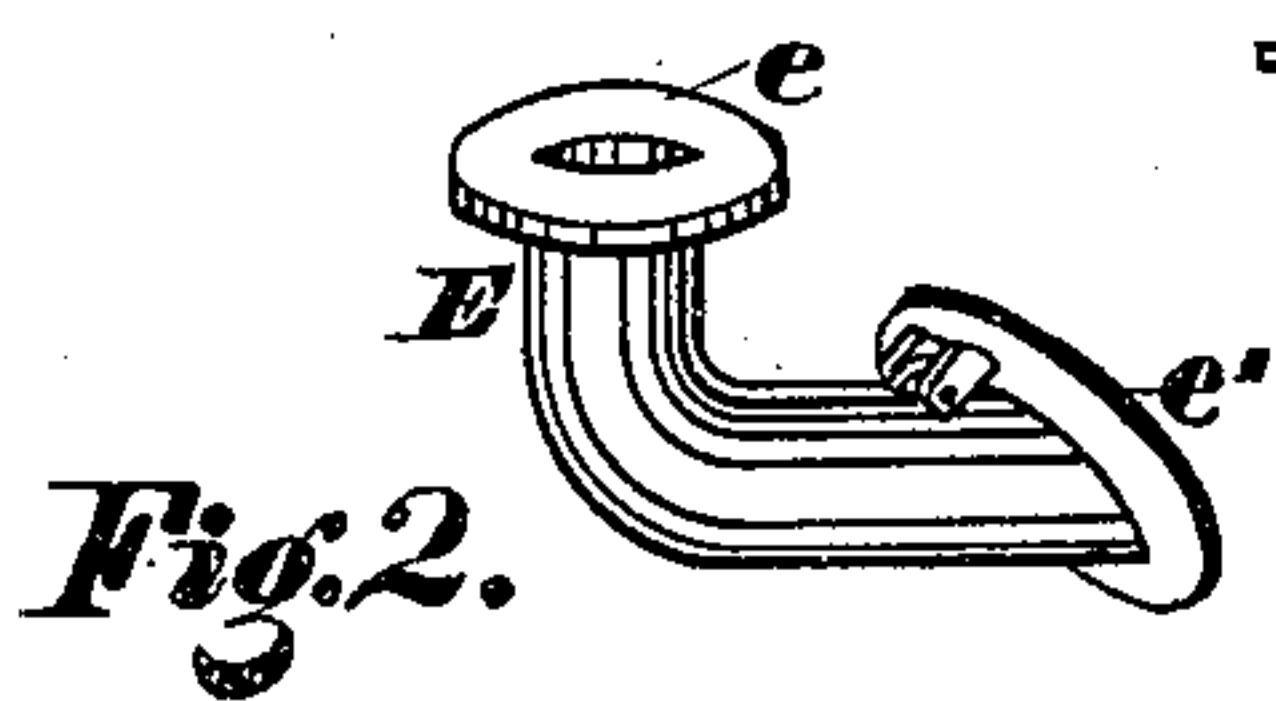
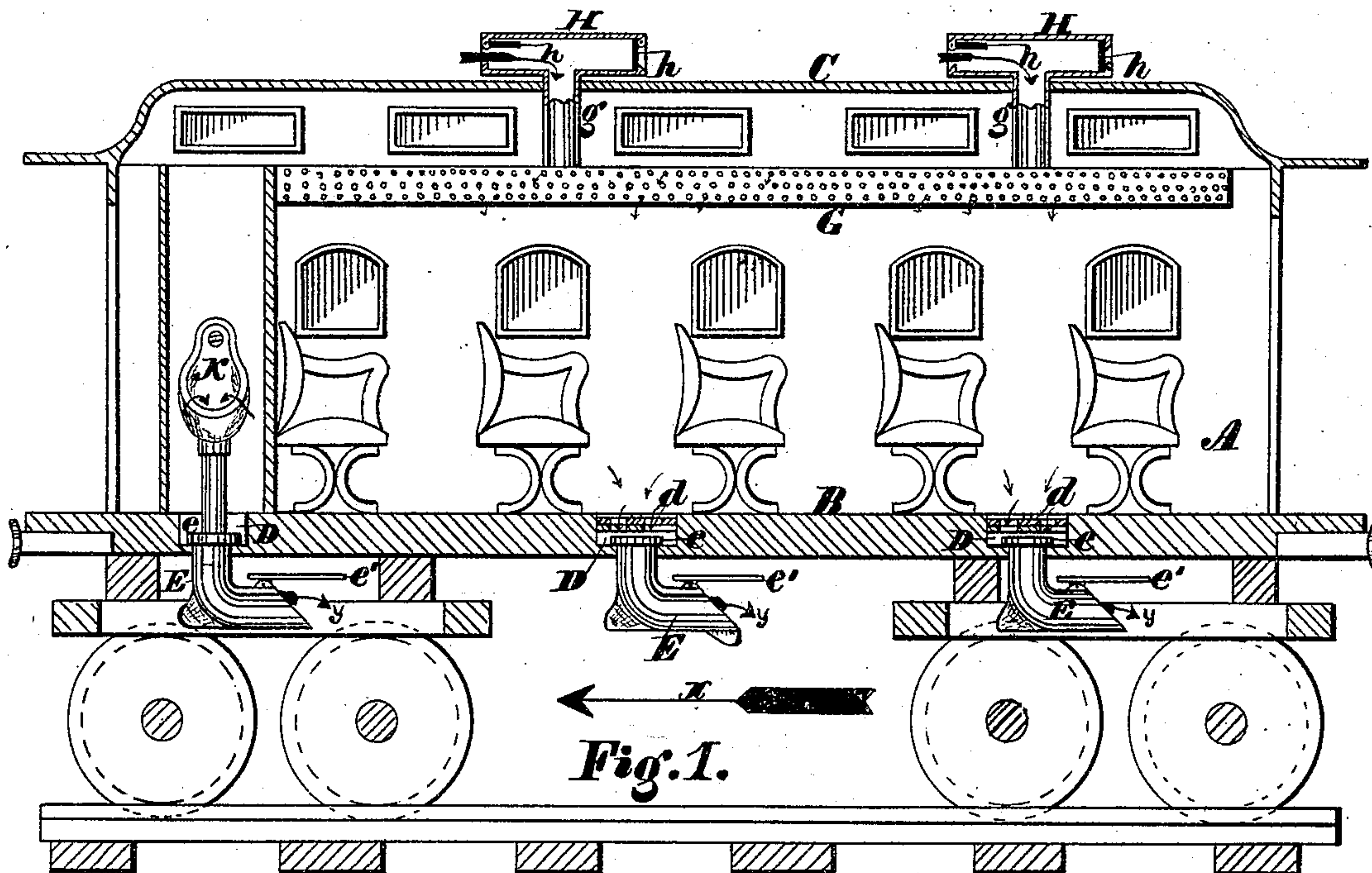


G. F. GODLEY.
CAR-VENTILATOR.

No. 171,611.

Patented Dec. 28, 1875.



Witnesses
Saml. J. Van Stavern
Jos. B. Connolly

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UNITED STATES PATENT OFFICE.

GEORGE F. GODLEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CAR-VENTILATORS.

Specification forming part of Letters Patent No. **171,611**, dated December 28, 1875; application filed December 1, 1875.

To all whom it may concern:

Be it known that I, GEORGE F. GODLEY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Ventilators; and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a longitudinal vertical section of a car, showing the application of my invention. Fig. 2 is a perspective of the revolving elbow. Fig. 3 is a perspective of a modification. Fig. 4 is a plan of the revolving elbow. Figs. 5 and 6 are broken elevations, showing my invention applied to freight and fruit cars.

My improvements have for their object to provide means for more thoroughly and efficiently ventilating passenger and other railway cars than has been heretofore possible.

My invention consists in the peculiar construction, combination, and arrangement of parts hereinafter more fully described, having reference particularly to the provision of a swiveled elbow-pipe, intended to be placed, by preference, underneath the floor of the car, connecting with the interior of the latter by means of a registered opening, and generally so arranged that the forward motion of the car will cause said elbow to swing around in such manner that its exit-opening will be toward the rear of the train, the suction of the latter having the effect of drawing the air out of the car through said elbow.

Referring to the accompanying drawing, A designates a passenger-car; B, the floor, and C the roof, of the same. D D designate openings in the bottom of the car, located at suitable intervals in any desired position, either in the aisles, or underneath or between the seats or at the sides. These openings are provided with registers *d*, below which they receive the collars *e* of an elbow-pipe, E, said elbow by this means being swiveled, so as to turn freely in any direction upon its vertical axis. The mo-

tion of the train in a forward direction, as indicated by the arrow *x*, will cause said elbow to swing in the opposite direction, and the suction incident to the movement of a body through the atmosphere will draw the air out of the interior of the car, as indicated by the arrows *y*.

If desired, the exit-opening of the pipes E may be closed by valves *e'*, which will remain closed when the train is at a state of rest, but will automatically fly open when in motion.

Instead of a swiveled elbow a single pipe or a series of pipes, two or more, as shown at F in Fig. 3, having outwardly-opening valves *f* at each end, may be employed. In either case fresh air may be supplied to the cars through a perforated tube, G, arranged below the roof, and communicating, by branches *g*, with exterior short pipes H, having inwardly-opening valves *h h*.

For grain, fruit, or other freight cars, the registers *d* may be dispensed with, and a foraminated tube or trunk, I, substituted therefor, said trunk being combined either with the elbow E or pipe F.

The elbow E may be advantageously combined with the exit-pipe of a car-urinal, K, and by producing a forcible air-current through the same will have the effect of carrying off the ammoniacal and other obnoxious vapors usually incident to such fixtures.

What I claim as my invention is—

1. In combination with a car, a swiveled elbow-pipe depending from the floor, as shown and described, whereby, through the suction produced by a moving train, said elbow-pipe will receive and expel the vitiated air from the interior of the car, substantially as set forth.

2. In combination with the car-floor, having an opening or recess, D, the swiveled elbow-pipe E, having the collar or flange *e*, substantially as described and shown.

3. In combination with the swiveled elbow-pipe E, applied substantially as shown, an automatically opening and closing valve, *e'*, substantially as shown and described.

4. In combination with an air-pipe placed below the floor of a car, an automatically open-

ing and closing valve or valves, substantially as shown and described.

5. In combination with a perforated pipe, G, for admitting air to the car in the upper section, a pipe or tube for drawing off the vitiated atmosphere through the floor or sides, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of November, 1875.

GEORGE F. GODLEY.

Witnesses:

SAML. J. VAN STAVOREN,
JACOB R. MASSEY.