

(No Model.)

2 Sheets—Sheet 1.

C. W. ECKERSON.

ASH PAN.

No. 375,416.

Patented Dec. 27, 1887.

Fig. 1

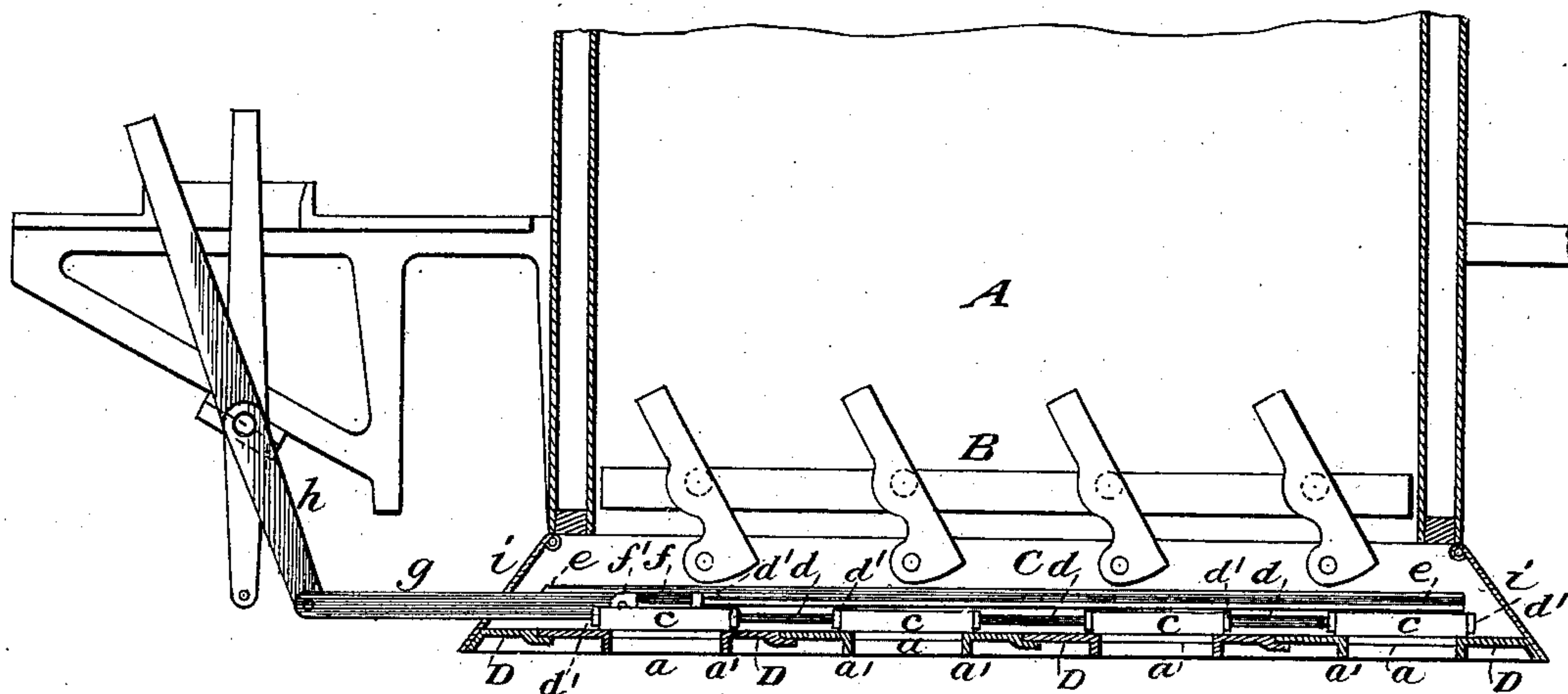


Fig. 2.

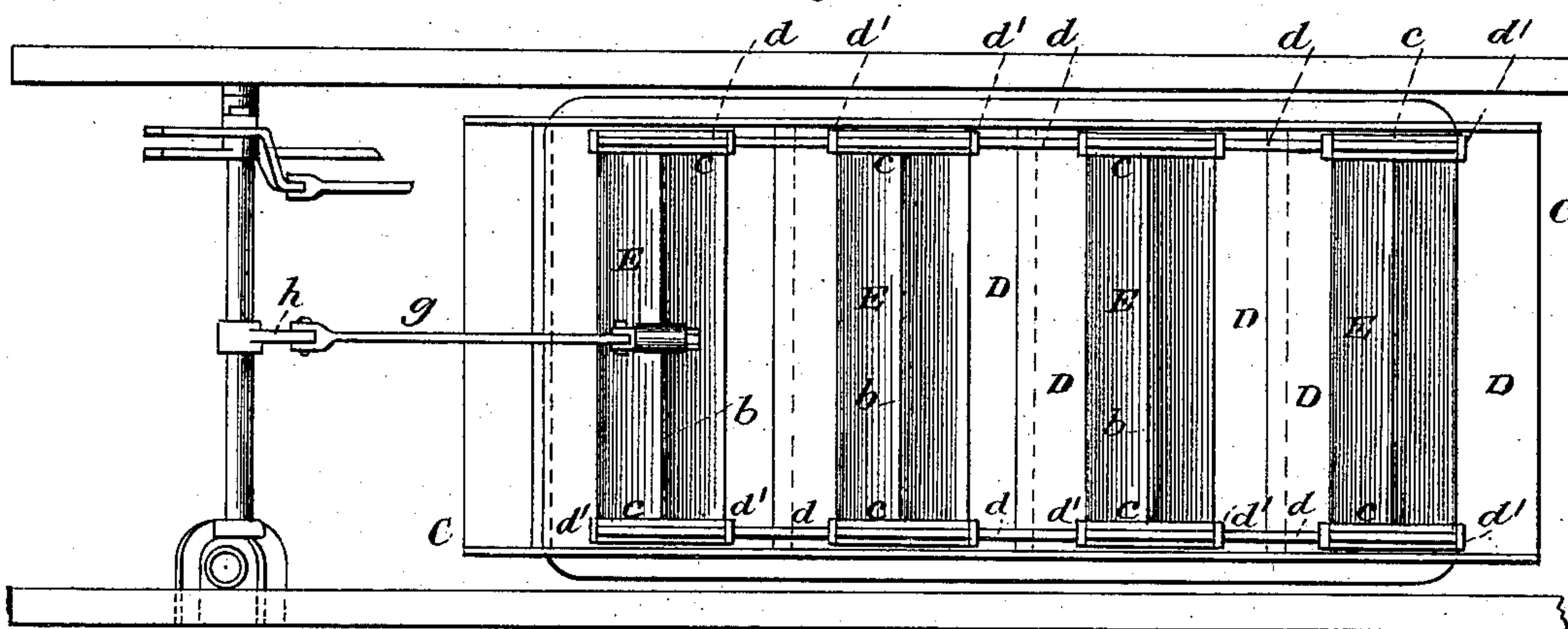
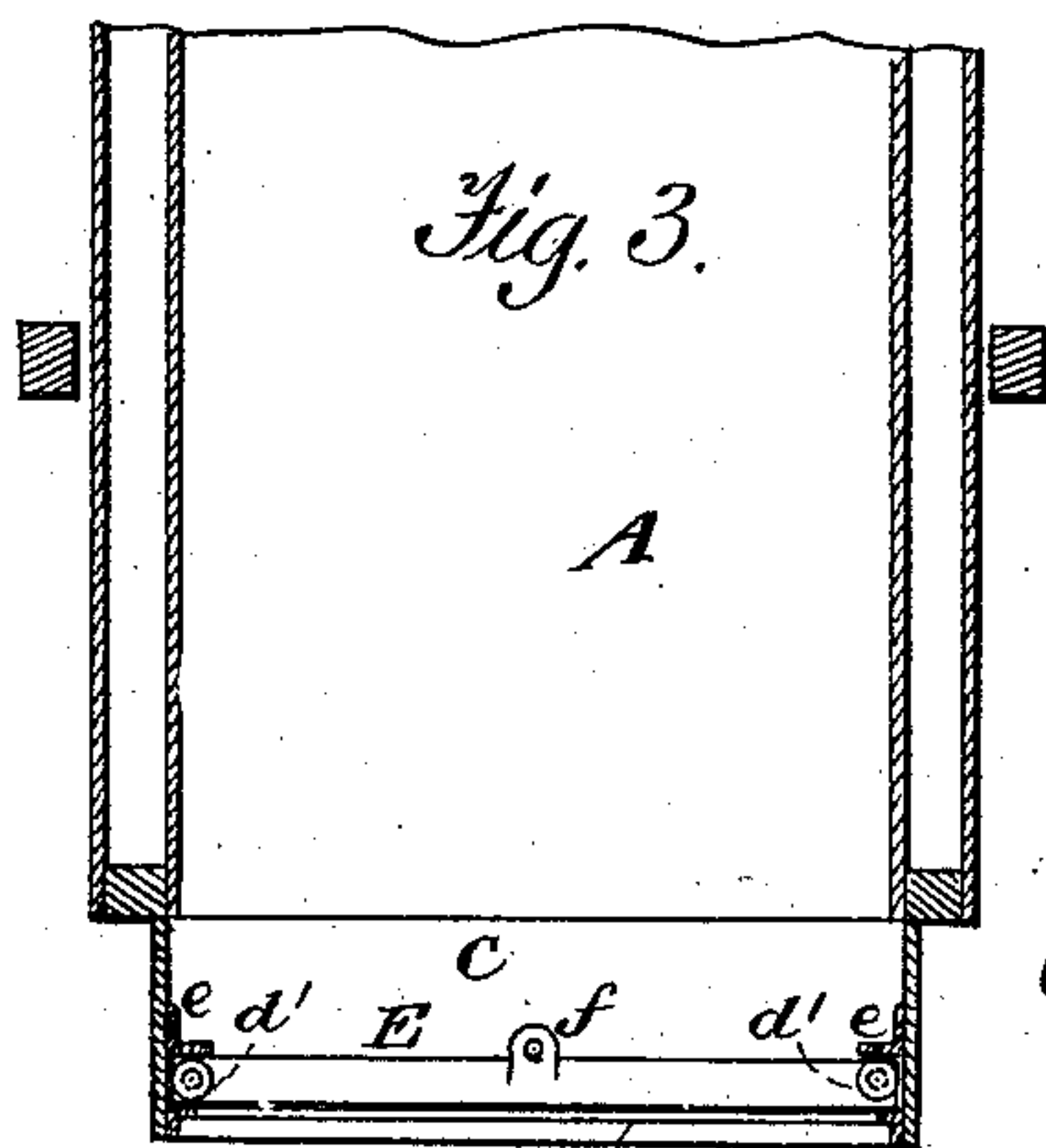


Fig. 3.



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Fig. 4.

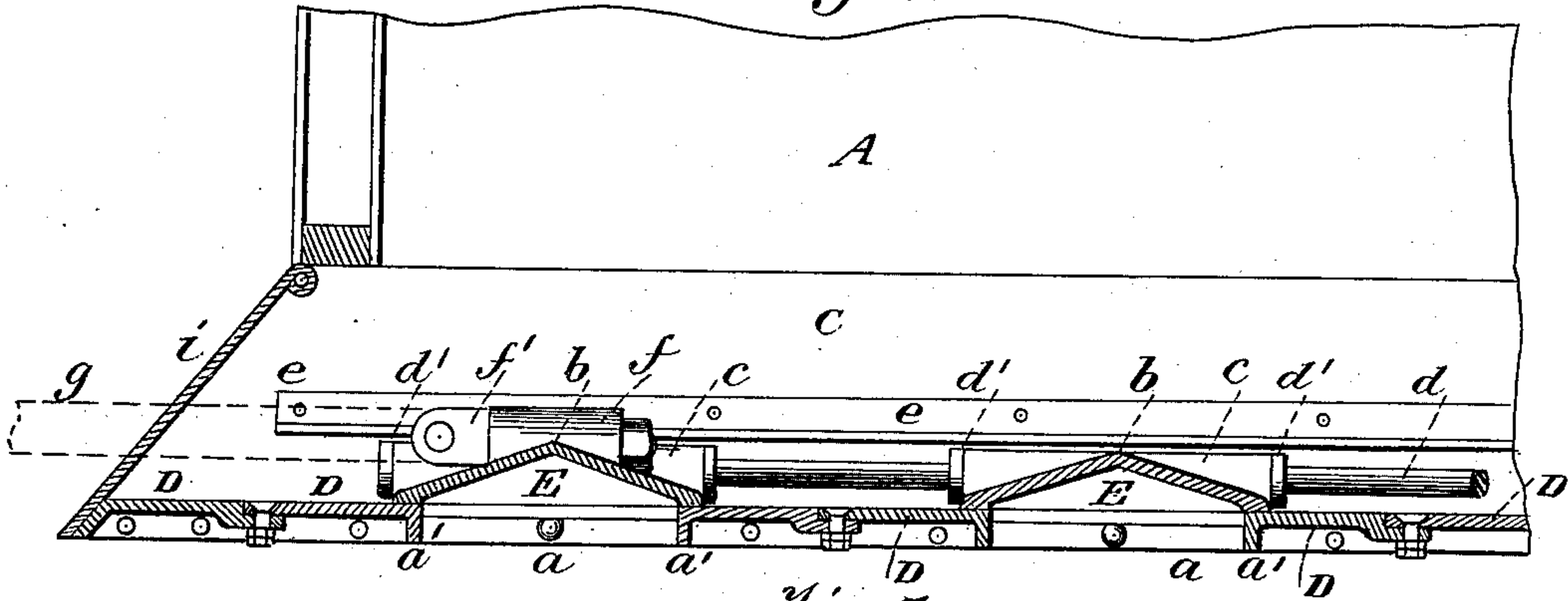


Fig. 5.

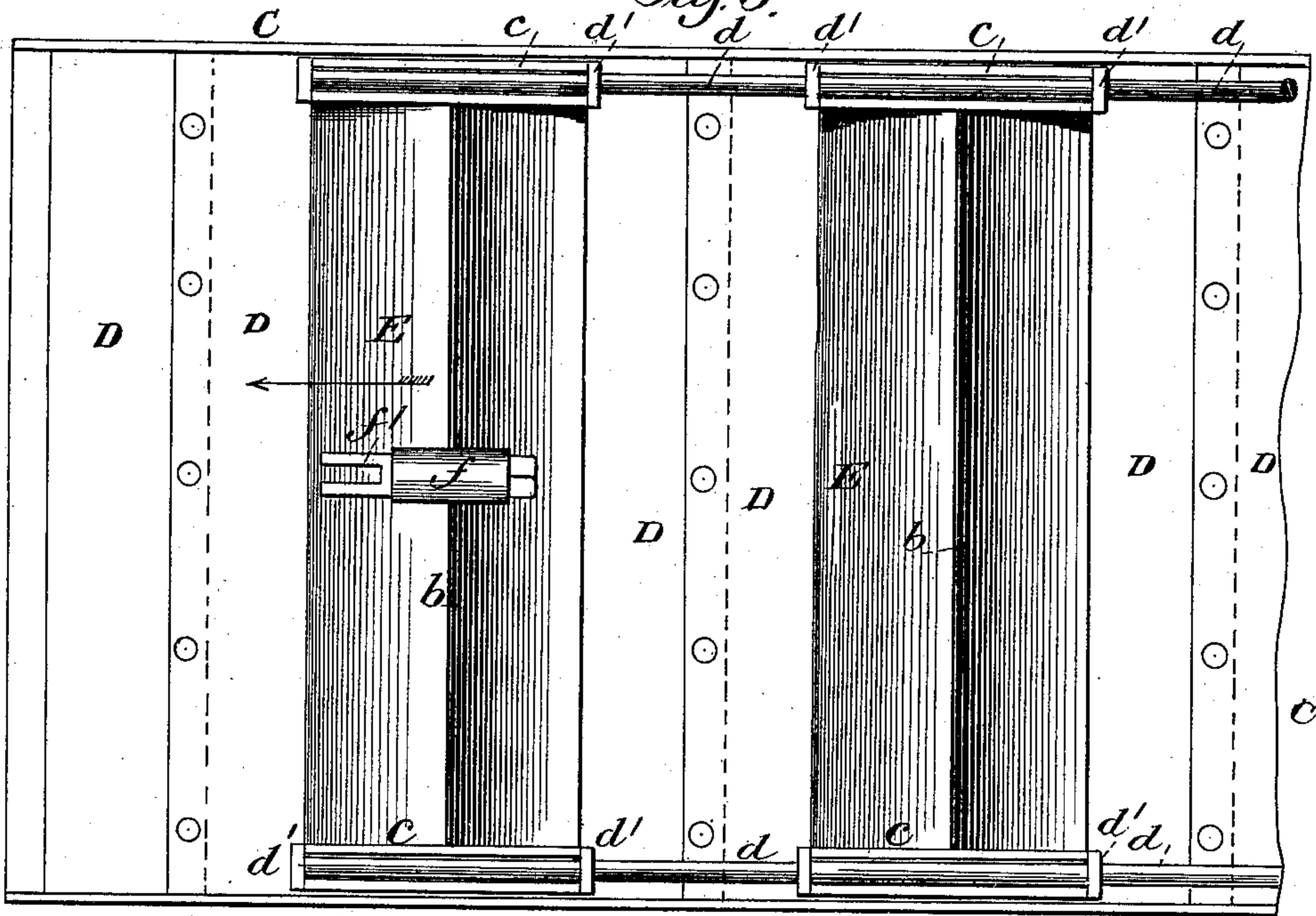


Fig. 6.

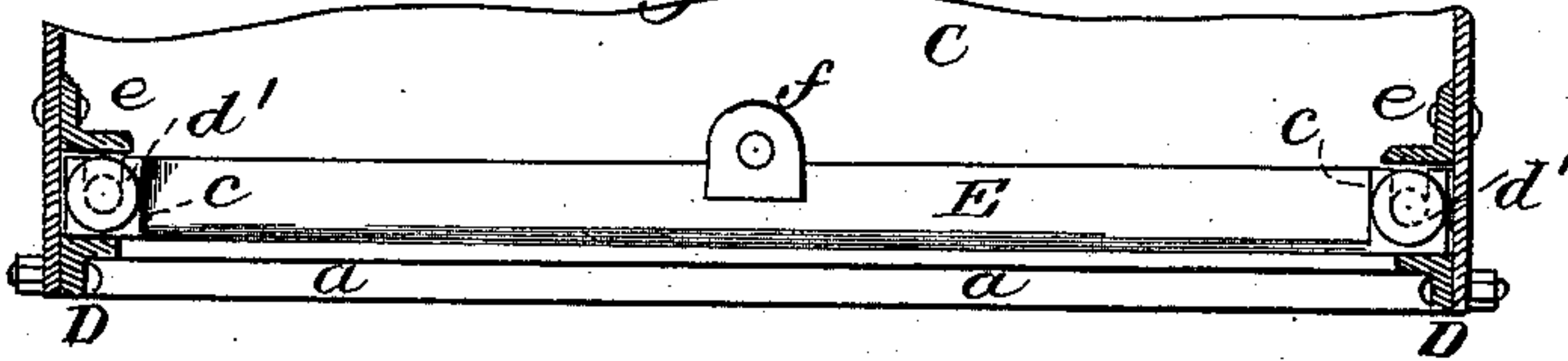
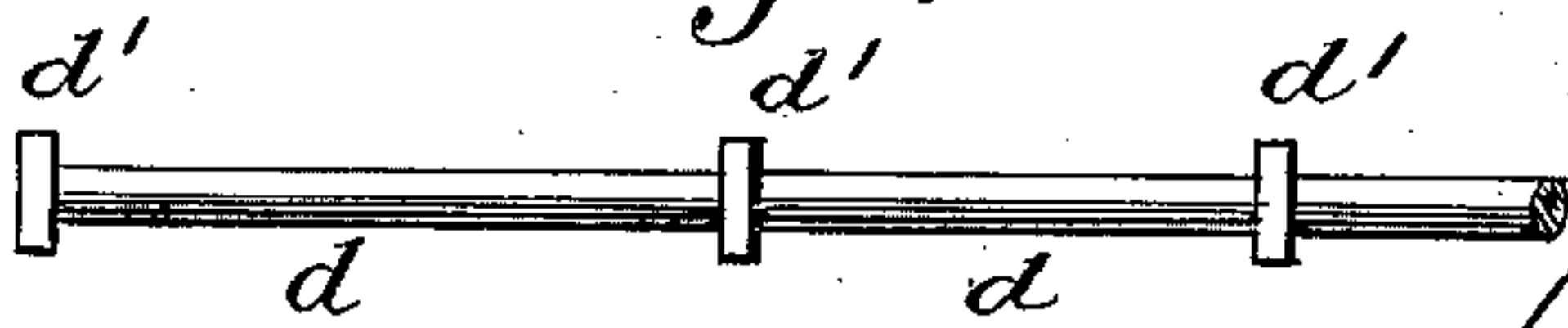


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES W. ECKERSON, OF CRESTON, IOWA.

ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 375,416, dated December 27, 1887

Application filed August 22, 1887. Serial No. 247,546. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ECKERSON, a citizen of the United States, residing at Creston, in the county of Union and State of Iowa, have invented certain new and useful Improvements in Ash-Pans, of which the following is a specification.

This improvement is more particularly intended for application to the fire-boxes of locomotive-boilers, but may be adapted to other classes of boilers.

The invention relates to an ash-pan having openings in its bottom and provided with slides to cover or uncover the said openings, the object of the invention being to provide, in connection with a dumping-grate, a ready means for dropping the ashes from the pan, cleaning the pan, keeping it empty, and giving free admission of air to the grates, all as hereinafter more fully pointed out. The sliding covers are preferably operated from the foot-plate of the engine by a suitable lever and rod attachment, thereby dispensing with the necessity of the fireman getting under the engine to clean out the pan, which is a tedious, disagreeable, and dangerous duty, and consequently often disregarded, the engine being thus left to run with the ash-pan choked, and so preventing the free circulation of air to the fire.

Another advantage of the invention is that by the construction described better draft or ventilation can be given to the furnace than by the simple use of ordinary dampers; and also that the openings in the bottom of the pan will allow access to the grates for the purpose of inspection or repair.

In the accompanying drawings, Figure 1 is a longitudinal section of my invention. Fig. 2 is a plan view. Fig. 3 is a transverse section. Fig. 4 is an enlarged longitudinal section of a part of the invention. Fig. 5 is a plan view. Fig. 6 is a transverse section, and Fig. 7 shows a detail.

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

A shows a locomotive fire-box, and B tilting grate-bars, which may be of any ordinary construction.

C is the ash-pan.

D D are cast-iron plates secured to the bottom of the ash-pan and having openings *a* preferably surrounded by flanges or projections *a'* for the purpose of strength.

E E are a series of slides or covers adapted to cover the openings *a*. The covers or slides E are in cross-section, preferably of the form or outline shown in Figs. 2, 4, and 5—that is to say, the center *b* is raised and the surface sloped in both directions therefrom. The slides or covers E are provided at their ends with sockets or channels *c*, in which the coupling-rods *d* rest, as shown in Figs. 1, 3, and 6. The coupling-rod *d* is shown detached in Fig. 7, said rod being provided with collars *d'*, whereby the slides or covers E are kept separated.

It will thus be seen that the series of slides or covers E coupled together can be moved longitudinally of the ash-pan C, and the openings *a* consequently covered or uncovered. Angle-irons *e*, (shown particularly in Figs. 3, 4, and 6,) are riveted to the sides of the ash-pan, serving as guides to the series of slides or covers, and also to prevent the ashes from clogging their movement.

The cover E, next to the foot-plate of the engine, is provided with a socket, *f*, having an eyebolt, *f'*, to which bolt a link, *g*, is attached, communicating with the operating-lever *h*.

The operation will be apparent from the foregoing description. The sloping surfaces of the slides or covers E allow the ashes dumped into the ash-pan from the grate to readily escape when the openings *a* are uncovered. When it is desired to dump the fire from the grate, the practice usually will be to first uncover the openings *a* by moving the series of slides or covers in the direction of the arrow in Fig. 5, and most of the fire which falls into the ash-pan will pass at once through the openings. What remains in the ash-pan can be readily removed by working the lever *h*, and by a little shaking the pan will be effectually emptied and cleaned.

Another advantage of my invention consists in the ease with which the draft can be increased. By the use of the ordinary dampers (shown by *i*) the necessary increase of draft

cannot always be obtained; but by partially uncovering the openings *a* it is seen that the draft can be readily enhanced. It is also obvious that my invention may be applied to
5 furnaces and ash-pans other than those specially designed for locomotive-boilers.

Having described my invention I claim—

1. The combination, with an ash-pan having a series of openings in its bottom, of a series of slides having the channels *c* at their
10 ends, and the coupling-rods *d*, which rest in said channels and are provided with the collars *d'*, substantially as specified.

2. The combination, with an ash-pan, of the

plates *D*, secured to the bottom thereof, said
15 plates having openings surrounded by flanges or projections, the angle-irons secured to the sides of said ash-pan, and a series of slides coupled together and moving in a guideway formed by the plates *D* and the angle-irons,
20 substantially as specified.

In testimony whereof I hereunto set my hand and seal.

CHARLES W. ECKERSON. [L. s.]

Witnesses:

JNO. MEEK,

ROBT. BISSET.