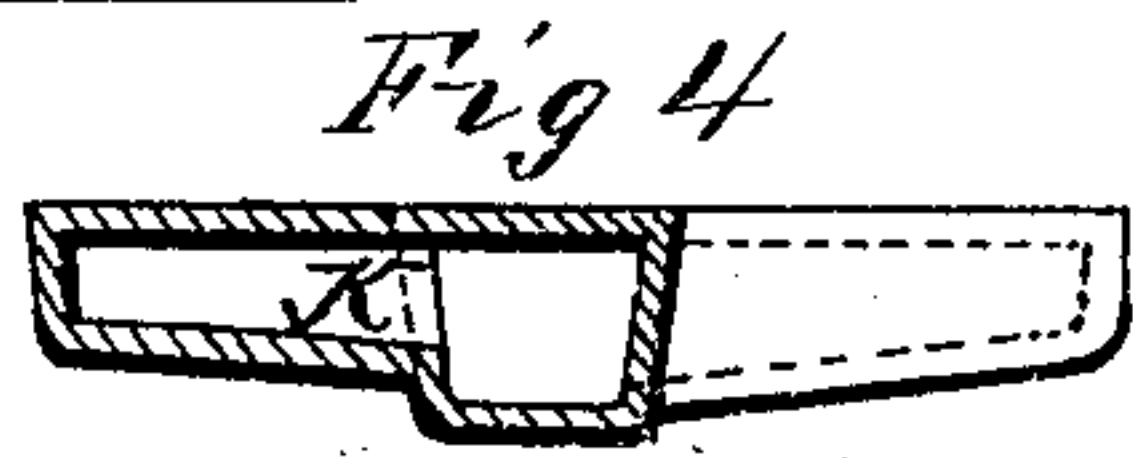
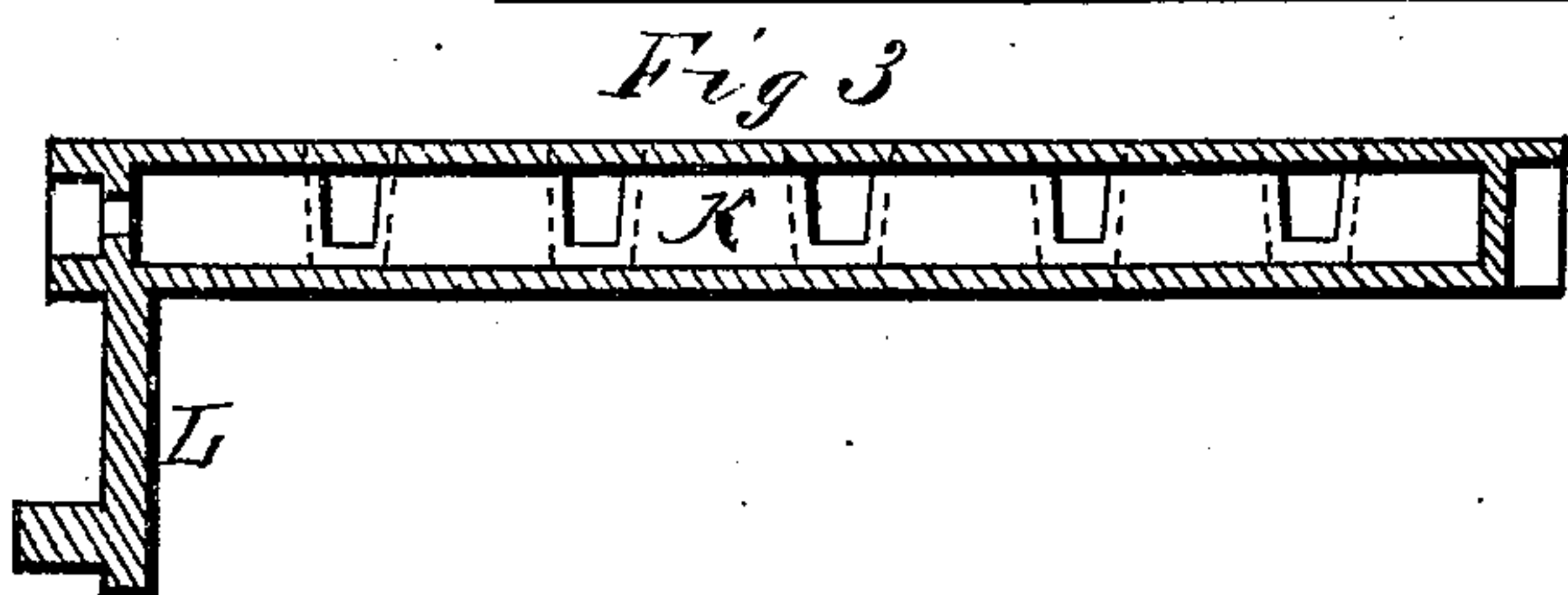
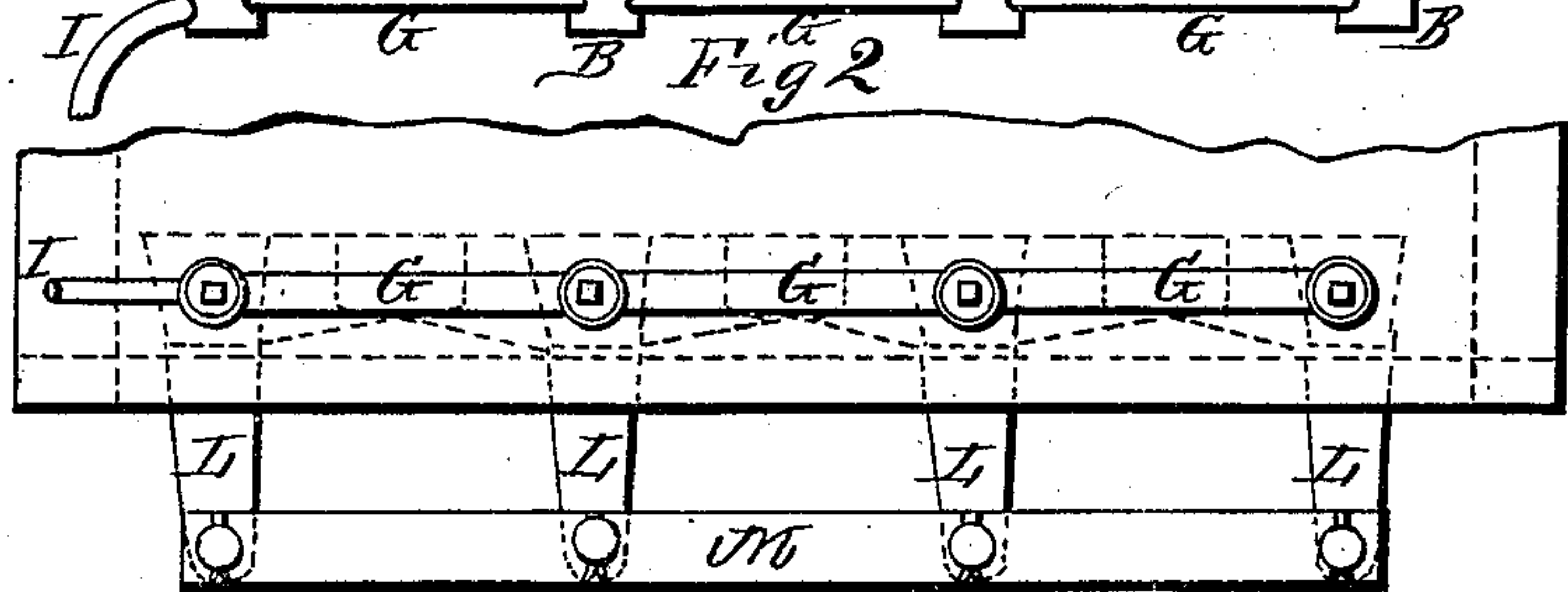
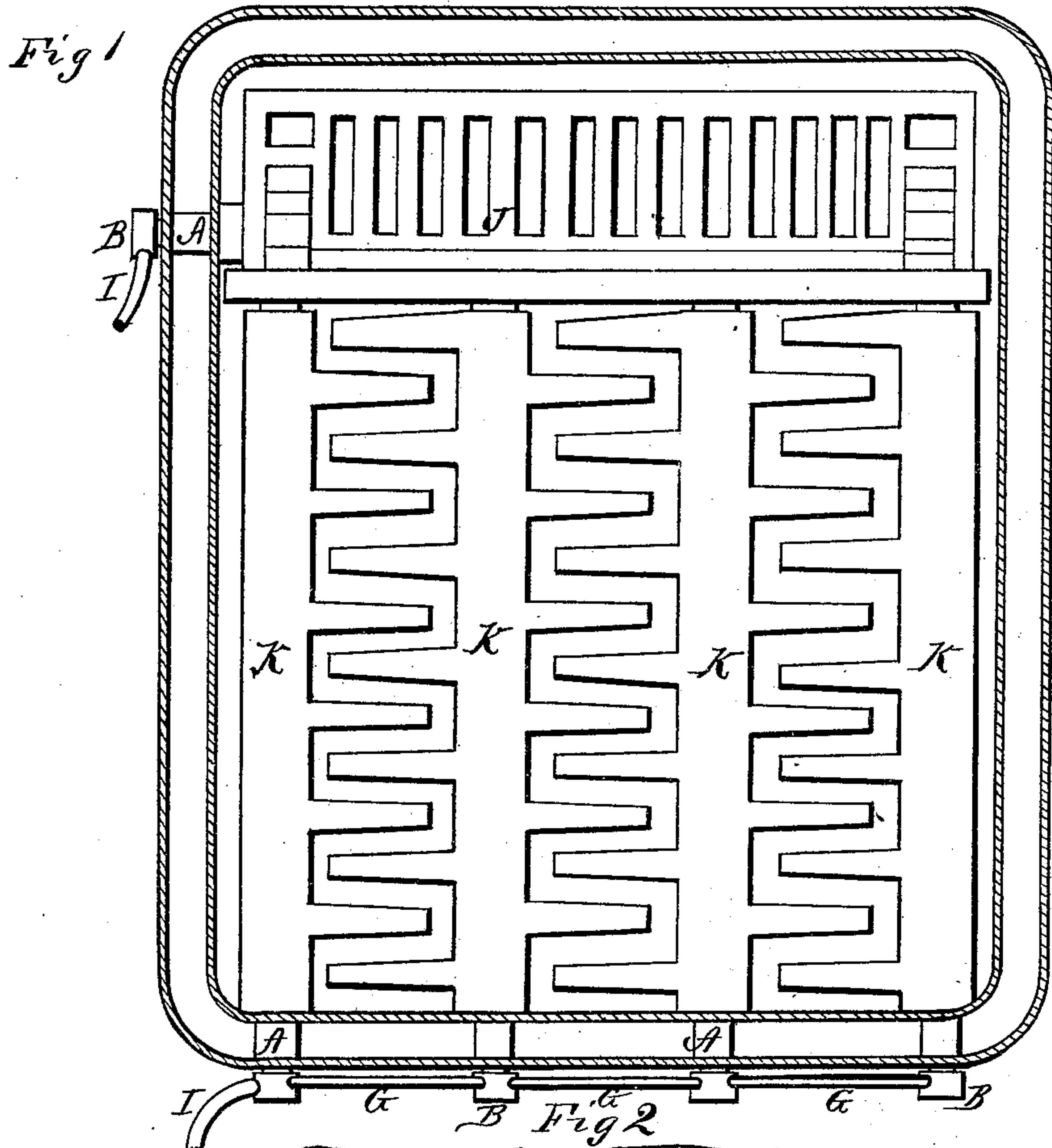


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Rocking Grates.

No. 143,034.

Patented September 23, 1873.



WITNESSES
F. L. Ourand
C. L. Ewert.

INVENTOR
James Seddon
By J. M. Perkins
Attorney

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Fig 5

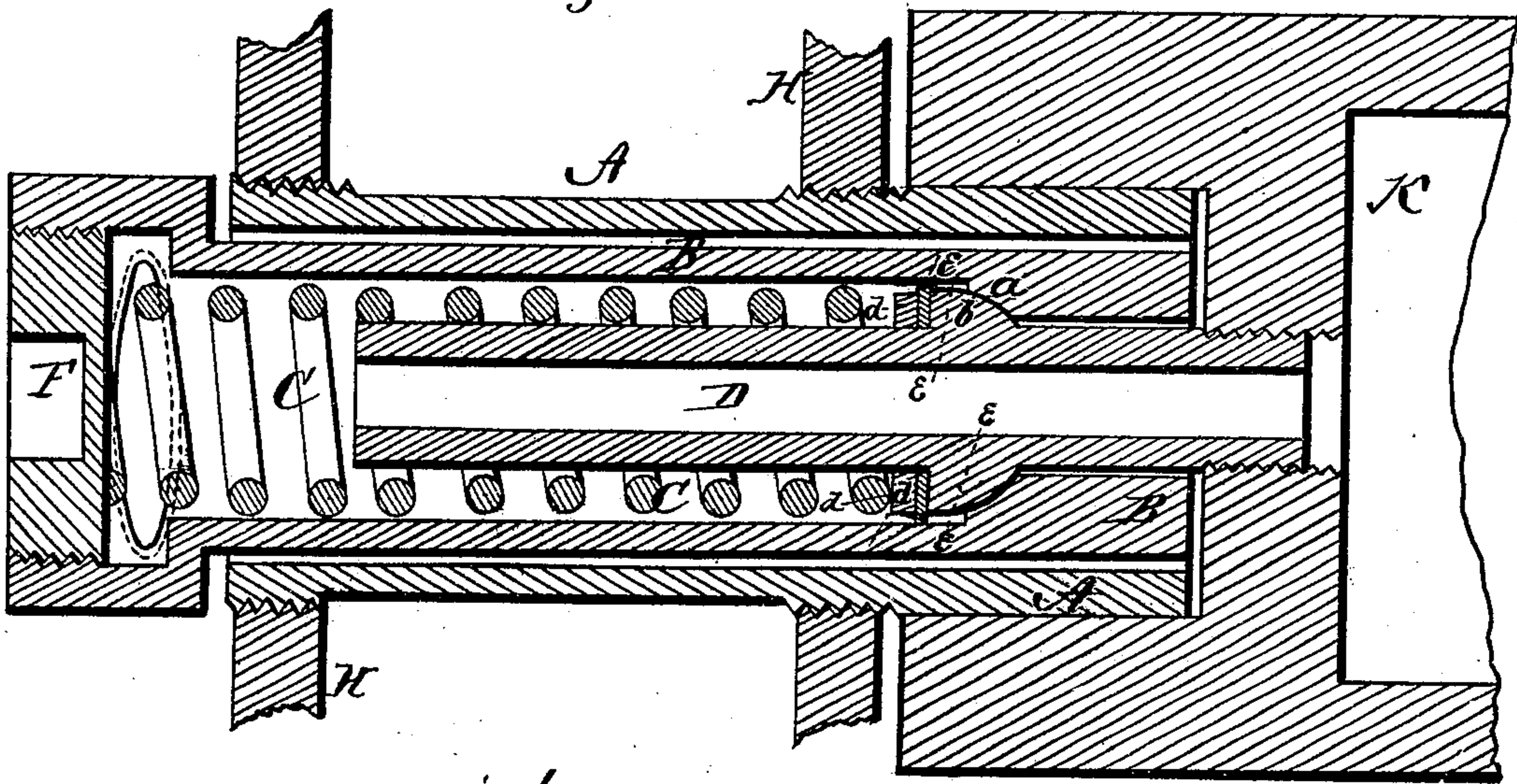


Fig 6

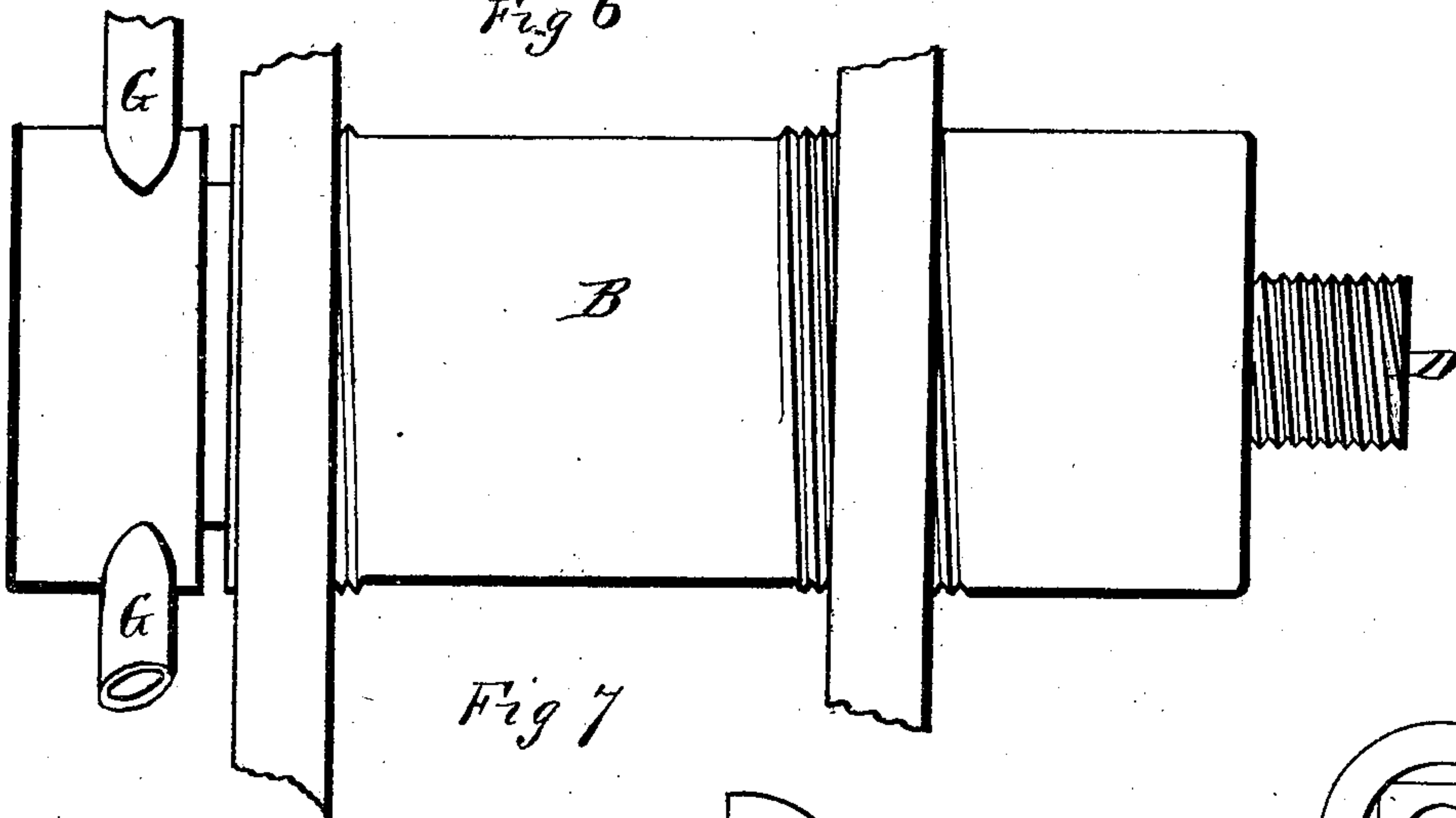
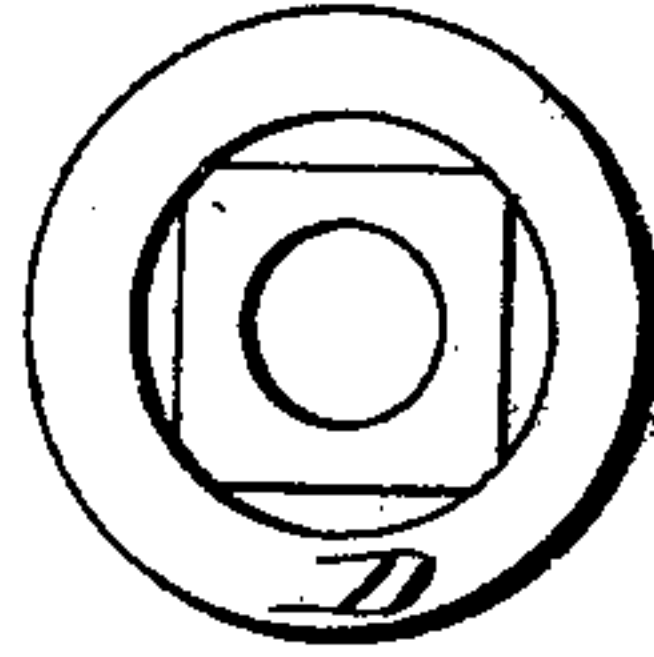
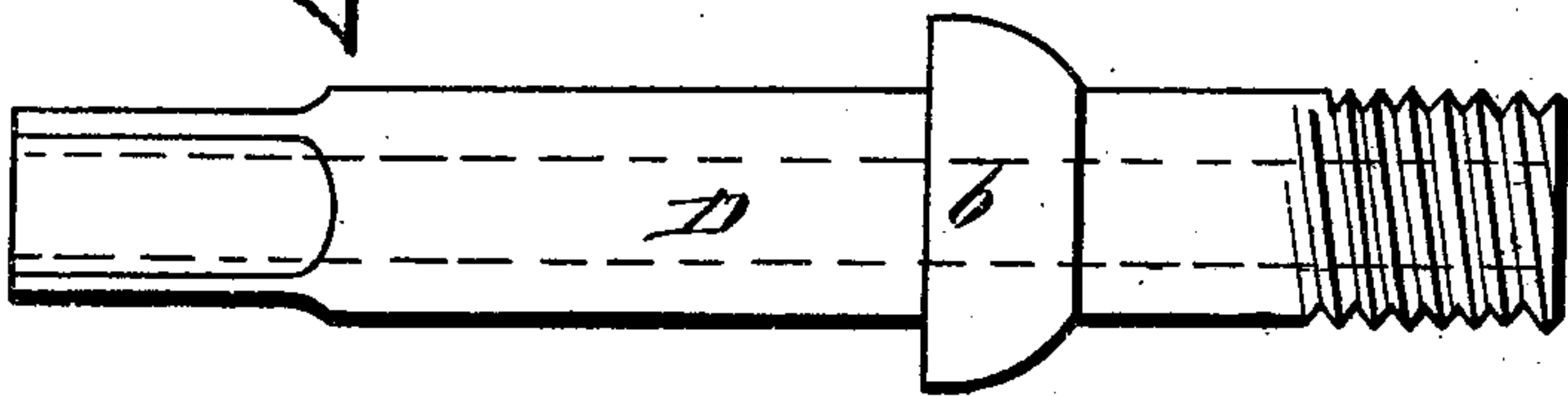


Fig 7



WITNESSES

F. L. Ourand
C. L. Everts.

INVENTOR

James Liddon
Benj. J. Mc. Perkins
Attorney

Attorney.

UNITED STATES PATENT OFFICE.

JAMES SEDDON, OF SUSQUEHANNA DEPOT, PENNSYLVANIA.

IMPROVEMENT IN ROCKING-GRATES.

Specification forming part of Letters Patent No. **143,034**, dated September 23, 1873; application filed July 28, 1873.

To all whom it may concern:

Be it known that I, JAMES SEDDON, of Susquehanna Depot, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Rocking-Grates; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a rocking water-grate, and in the means for supplying the same with water, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is an open or plan view of the grate. Fig. 2 is an end view of the same, showing the manner of working the same. Figs. 3 and 4 are sections of one of the grate-bars. Fig. 5 is an enlarged sectional view of the end of a grate-bar, showing the mode of supplying the same with water; and Figs. 6 and 7 are detached views of certain parts thereof.

K K represent hollow grate-bars, constructed in the ordinary manner, but one end of each grate-bar forms a trunnion, having its bearing in a suitable cross-bar, or in the wall of the fire-box. The other end of the grate-bar has a circular recess, in which is placed the inner end of a hollow tube, A, said tube being screwed into the water-legs H H of the boiler-furnace. Within the hollow tube A is placed a cylindrical hollow valve-cage, B, provided on its inner side, near the inner end, with a valve-seat, *a*. Within the cage B is placed a tube, D, having a projection, *b*, around it, which forms the valve and fits against the seat *a*. The inner end of the valve-tube D is screwed firmly into the end of the rocking-grate K. The main part of the tube D is surrounded by a spiral spring, C, one end of which rests against a plug-nut, F, screwed into the outer end of the valve-cage B, while

the other end of the spring has its bearing against the shoulder of the valve *b*, a washer, *d*, of metal, and another, *e*, of canvass, rubber, or other suitable material, being interposed between the end of the spring and the valve. The washer *e* prevents sand or gravel from getting into the valve-seat. The outer ends of the valve-cages B B are connected by hollow oval spring tubes G G, for supplying the grate-bars with water through the valve-stems D. I represents the supply-pipe from the tank or cistern or upper part of the boiler to supply the grate with water. To each tube A is attached a downward-projecting arm, L, and the lower ends of these arms are connected by means of a bar, M.

It will readily be seen that the grate-bars can, by this means, be rocked without interfering with the devices for supplying them with water.

The spring C holds the valve closed at all times, preventing the escape of any water.

The drop-grate J, where the cinders and ashes are emptied out of the furnace, may be supplied with water by the same means, as shown in Fig. 1.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The hollow bar K, having hollow arms and provided with trunnions on one end, which have a bearing in the cross-bar, in combination with the circular recess in the opposite end of the bar, which is connected to the water-pipe A, substantially as shown and described.

2. The combination of the hollow grate-bar K, tube A, valve-cage B with plug F, valve D *b*, and spring C, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of July, 1873.

JAMES SEDDON.

In presence of—

WM. GOWENLOCK,
J. N. SEDDON.