

No. 719,038.

PATENTED JAN. 27, 1903.

J. C. PELTON,
CONSTRUCTION OF FLOORS AND CEILINGS FOR BUILDINGS.

APPLICATION FILED MAR. 5, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1

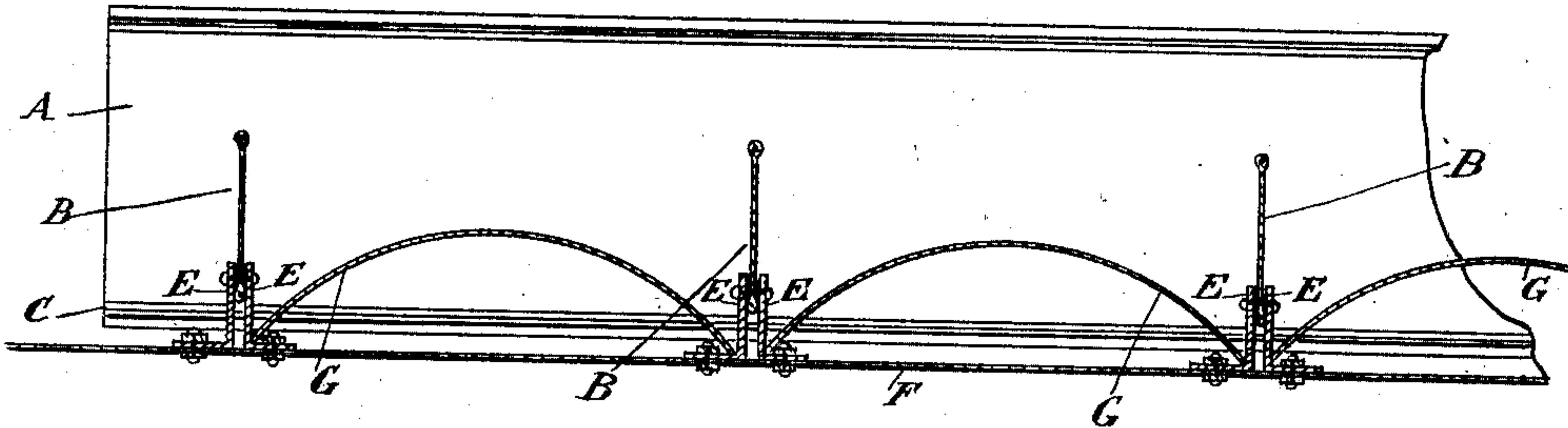


Fig. 2

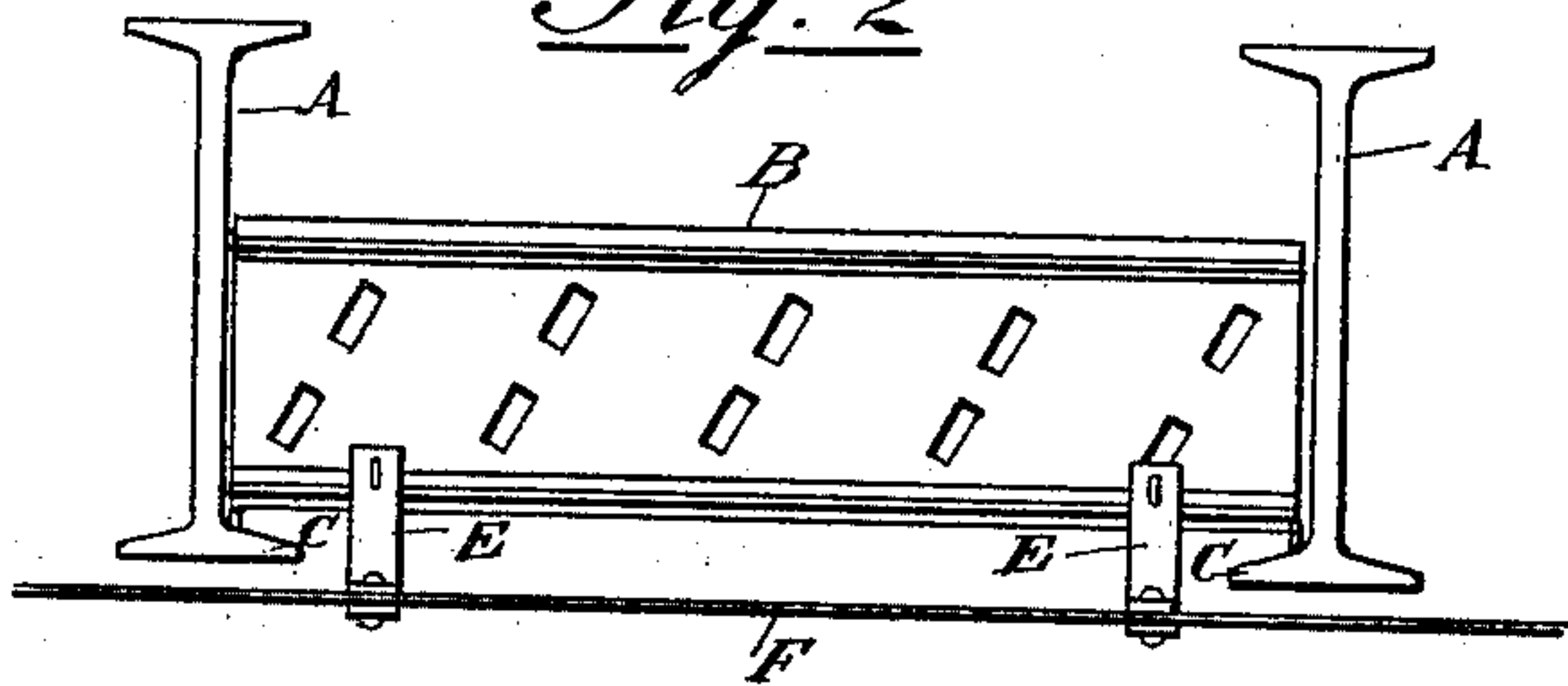


Fig. 3

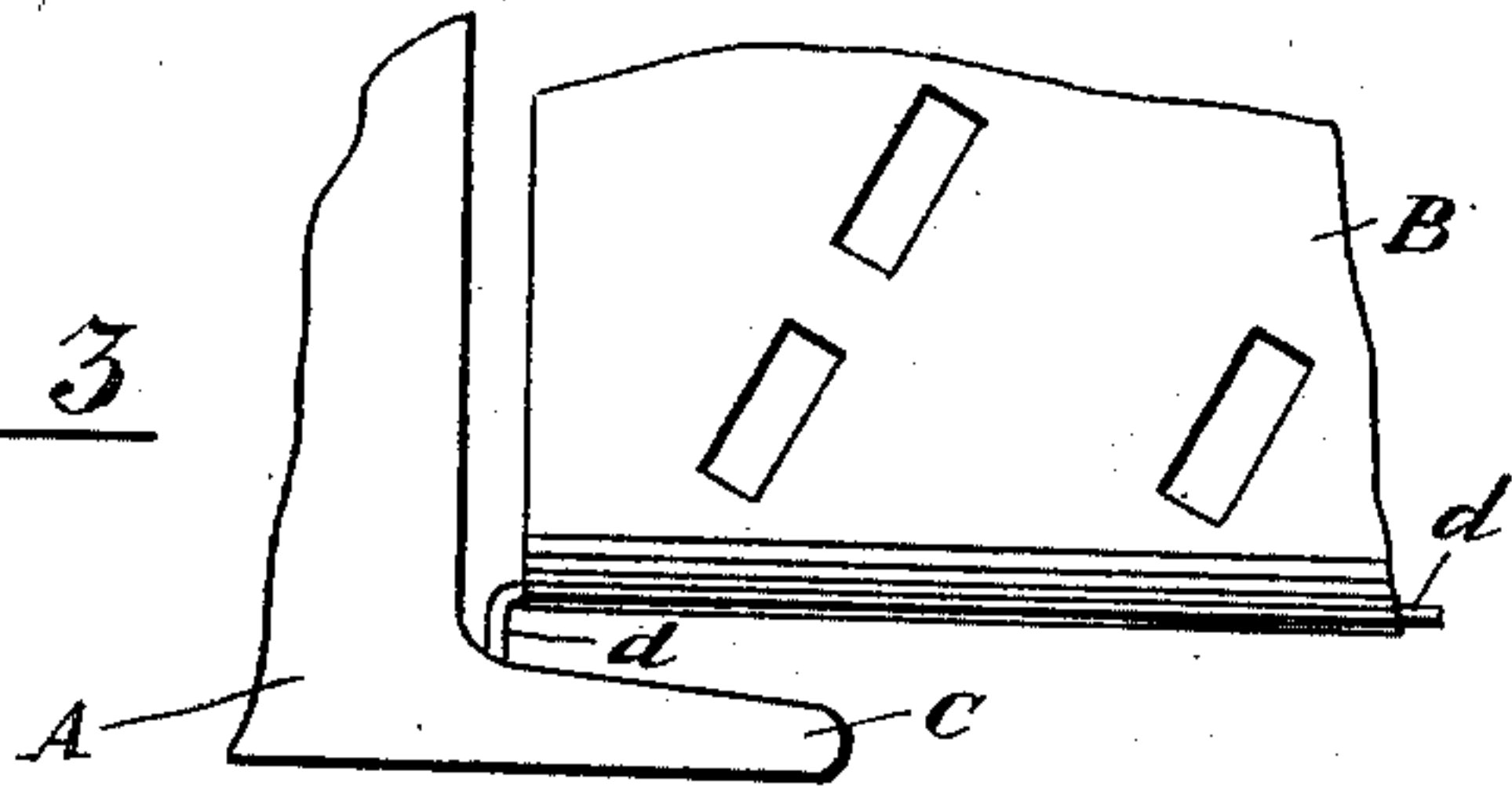


Fig. 4

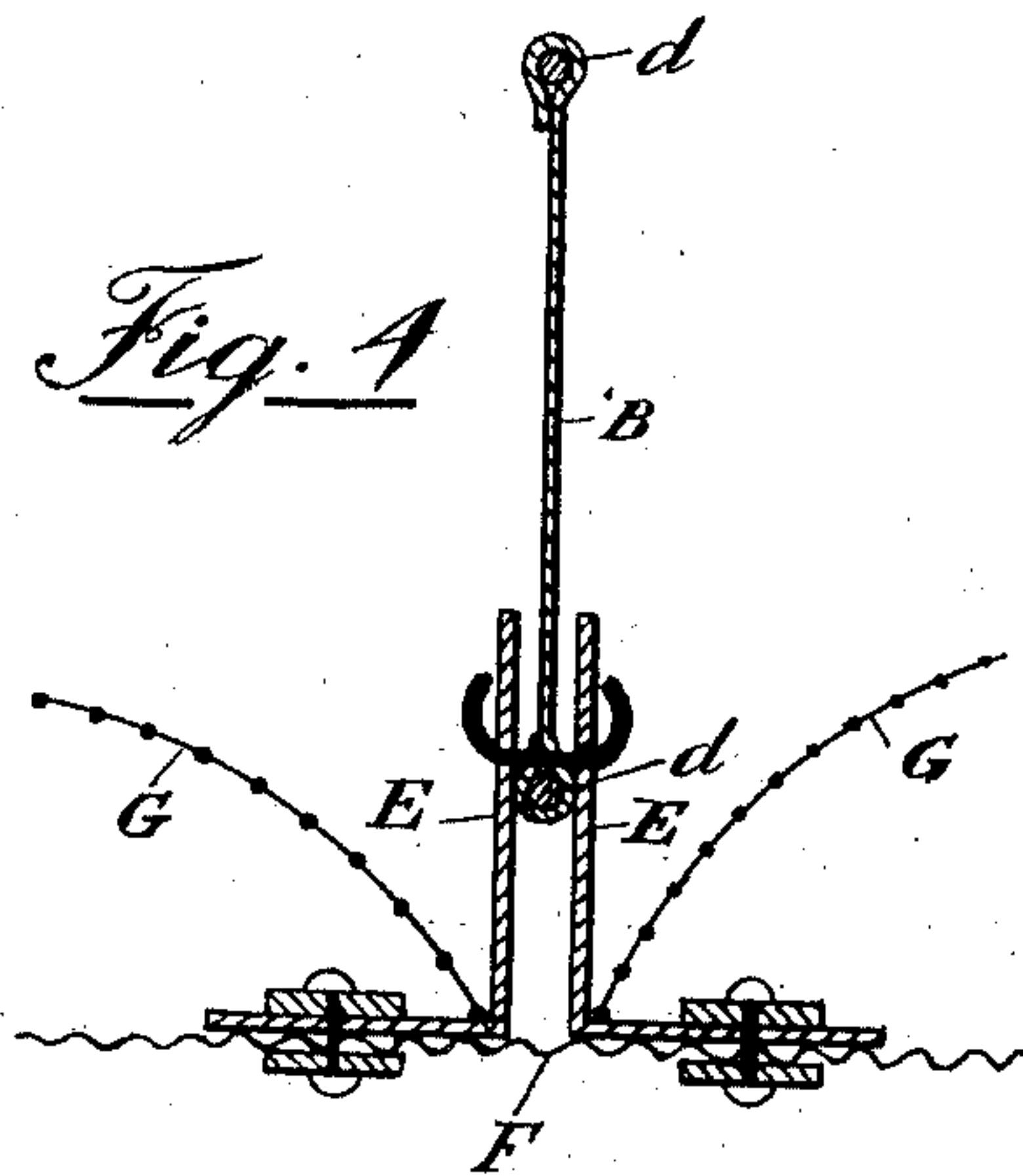
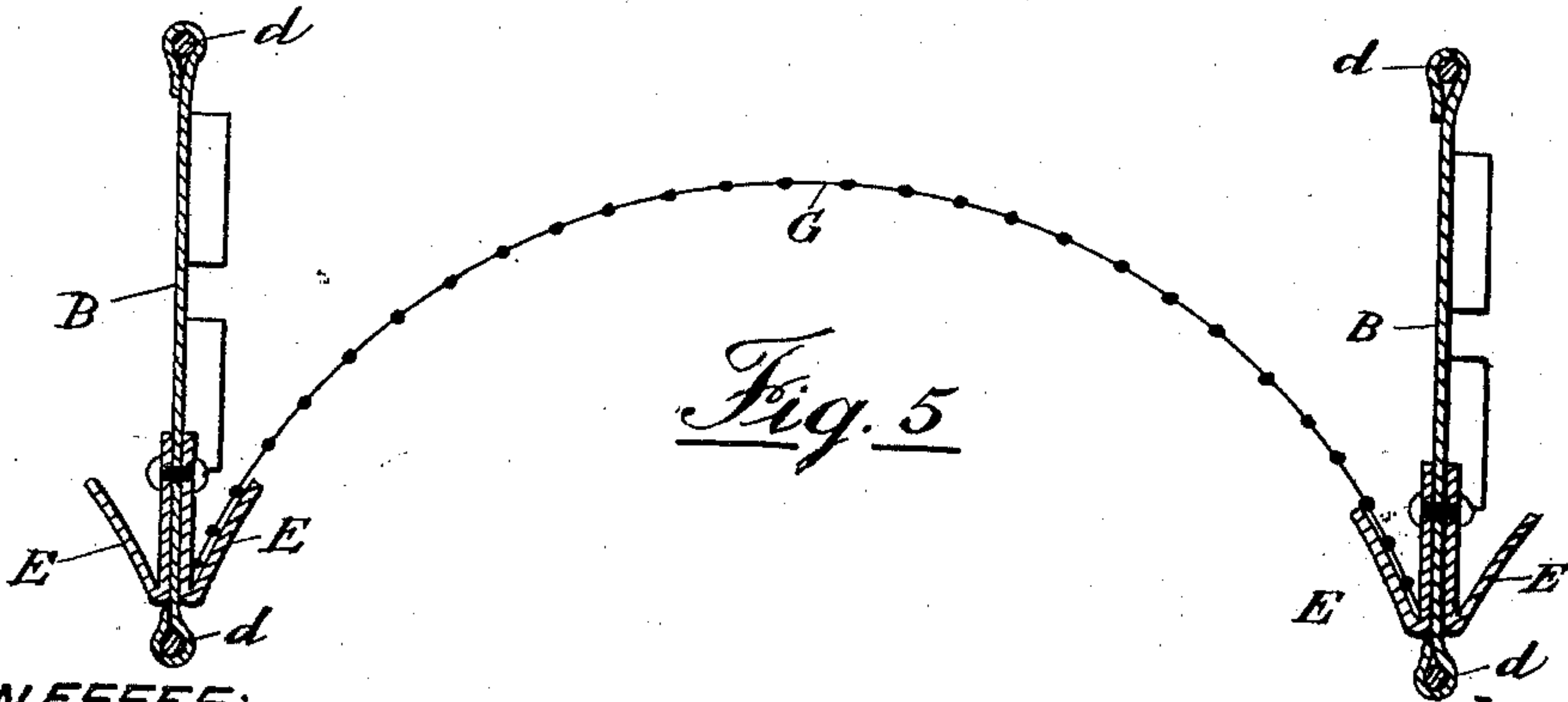


Fig. 5



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APPLICATION FILED MAR. 5, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

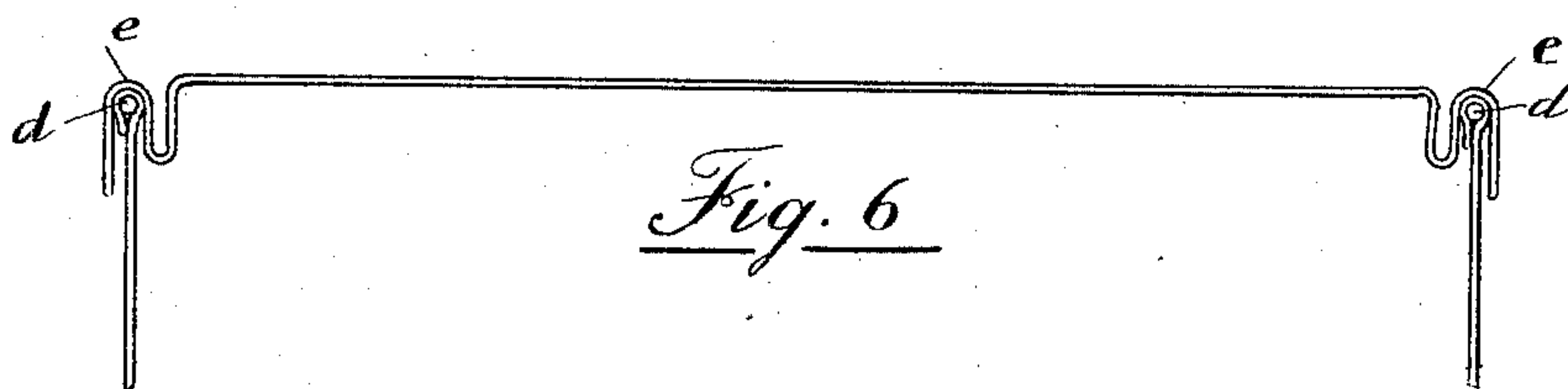


Fig. 7

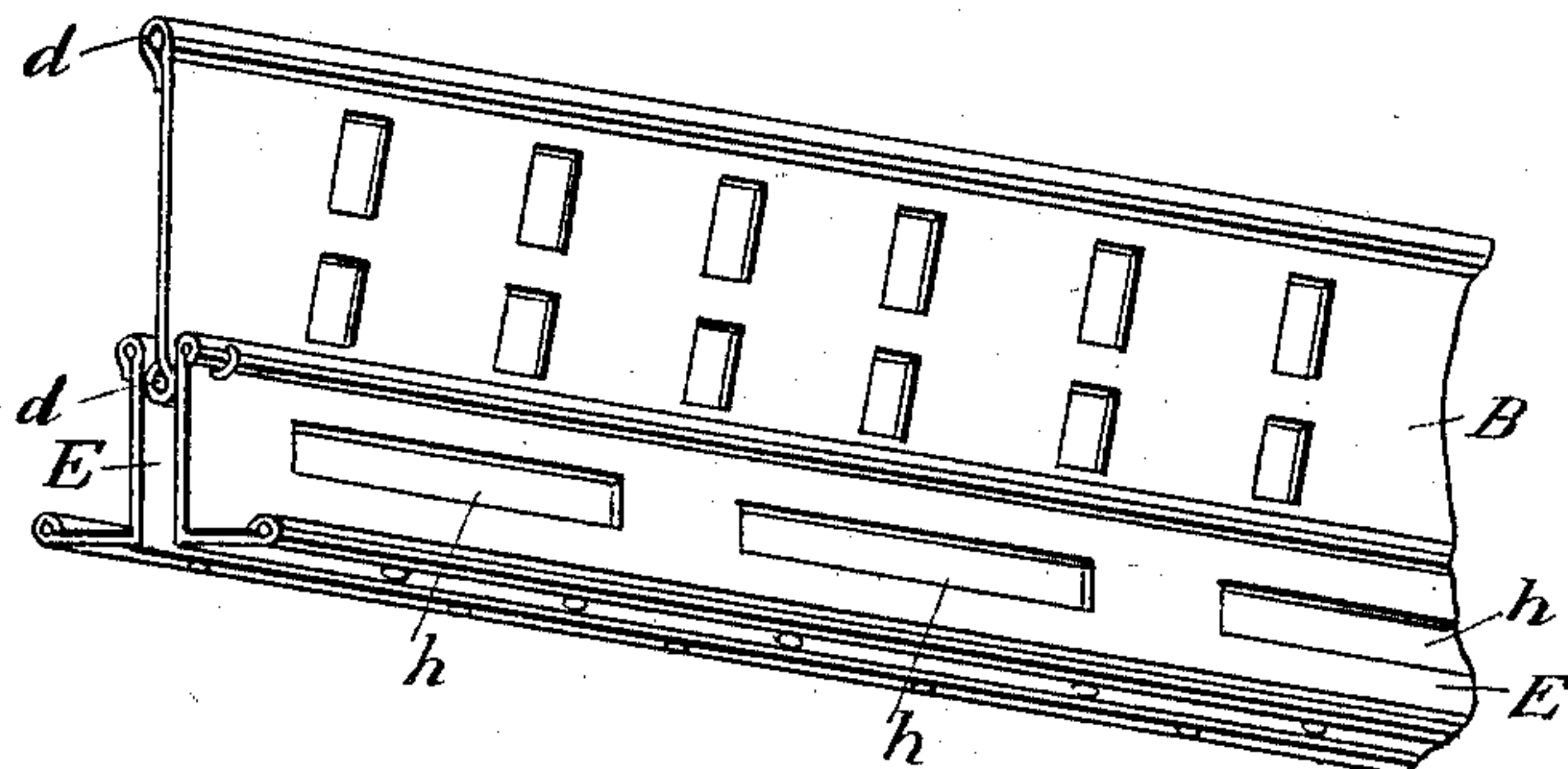


Fig. 8

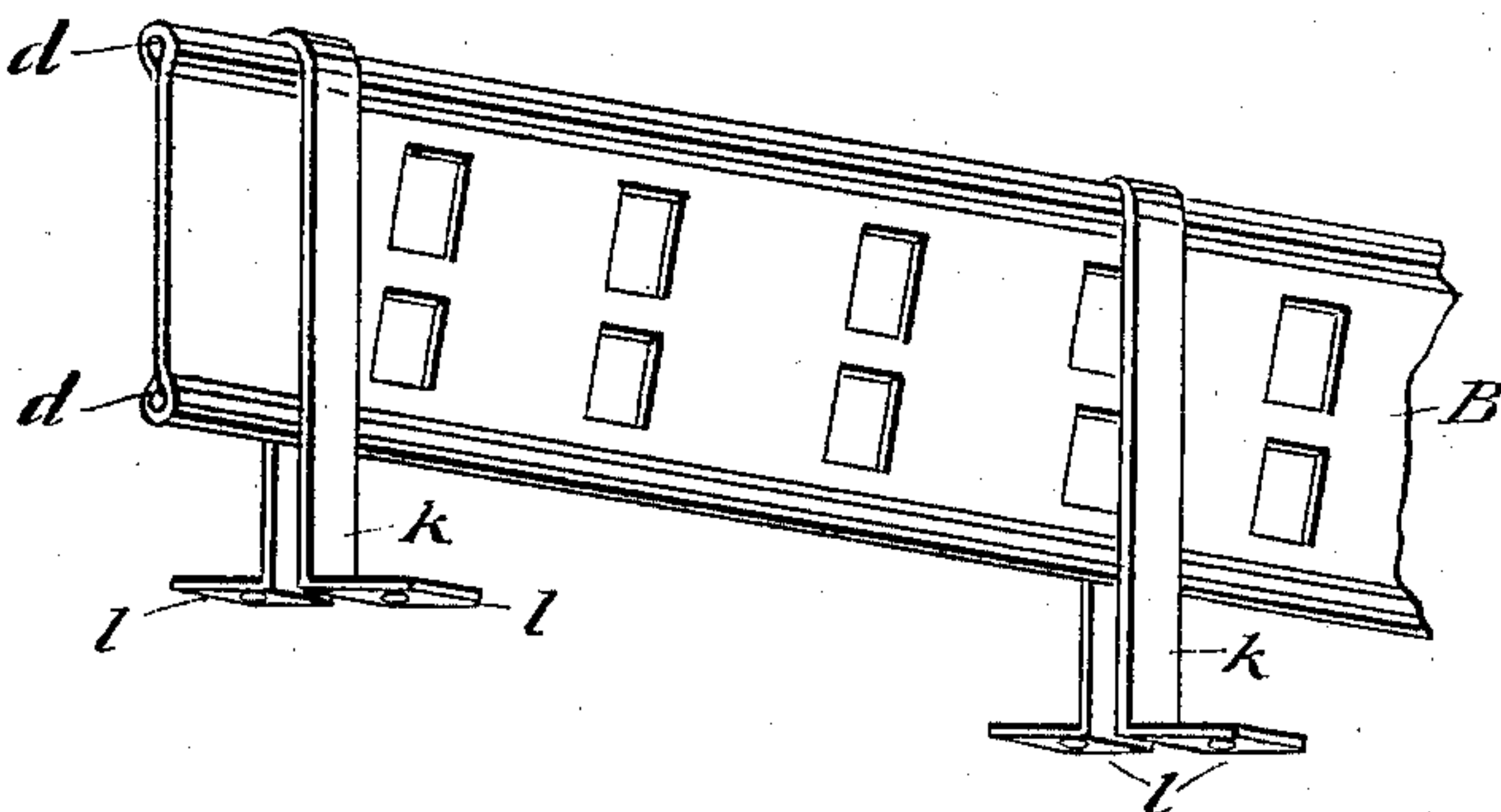


Fig. 9

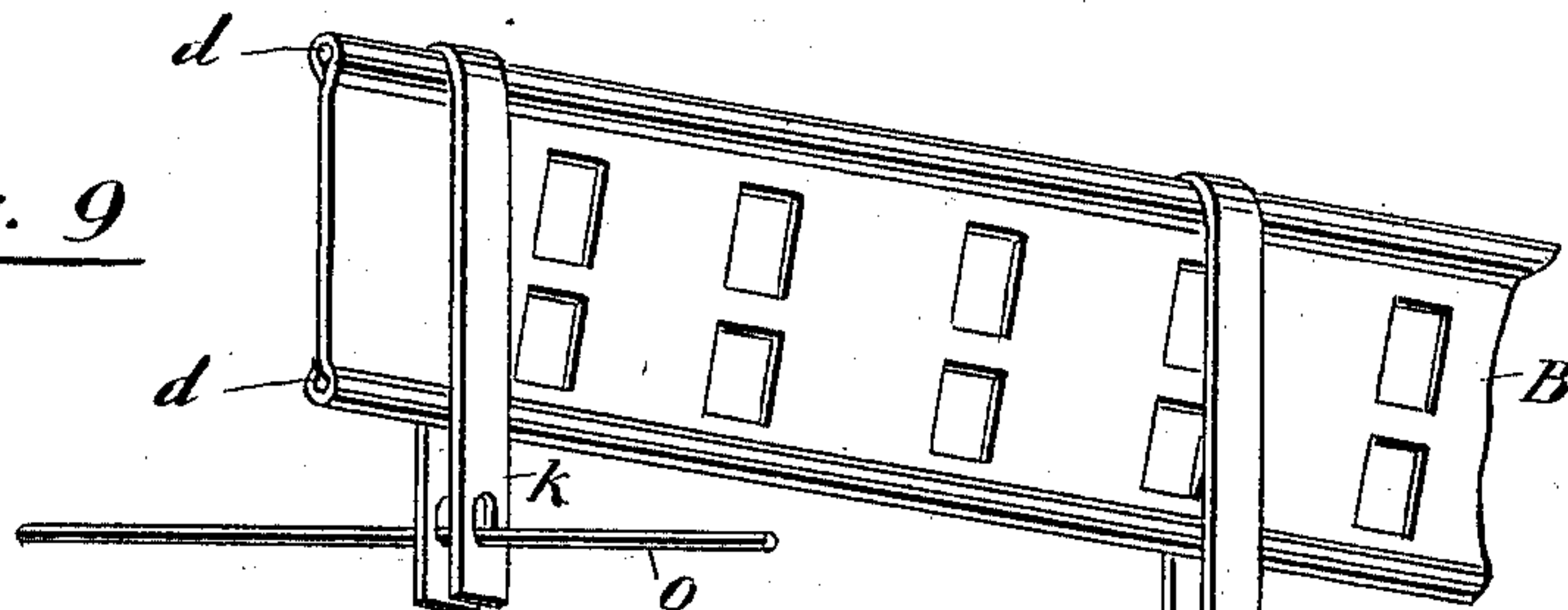
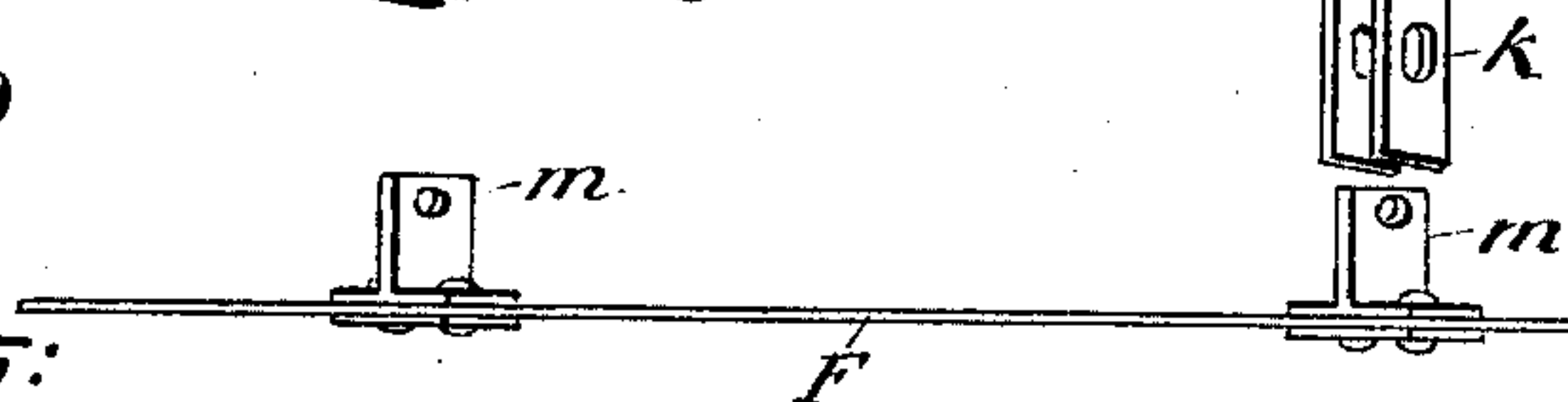


Fig. 10



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UNITED STATES PATENT OFFICE.

JOHN COTTER PELTON, OF SAN FRANCISCO, CALIFORNIA.

CONSTRUCTION OF FLOORS AND CEILINGS FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 719,038, dated January 27, 1903.

Application filed March 5, 1902. Serial No. 96,823. (No model.)

To all whom it may concern:

Be it known that I, JOHN COTTER PELTON, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented certain new and useful Improvements in the Construction of Floors and Ceilings for Buildings; and I do hereby declare that the following is a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention relates to the construction of floors and ceilings for that class of buildings and structures in which iron beams or struts are used as a main support and composite or concrete filling between the beams forms the floor-body; and one of the main features of my invention is to so unite the ceiling with its supporting floor structure that they form a unit of construction, being simultaneously put in place and bound together by the same filling material that forms the body of the floor.

It also includes details of construction which will be made apparent in the following description, in which reference is had to the accompanying drawings.

In the drawings, Figure 1 represents a longitudinal section of one of the iron supporting-beams, showing the application in section of the intermediate diaphragm-plates and ceiling-supports. Fig. 2 is an end view of two iron beams, showing one of the diaphragm-plates in position between them and the ceiling-supports. Fig. 3 is a broken view showing the bearing of the diaphragm-plate on the base-angle of the iron beam. Fig. 4 is an end sectional view of one of the diaphragm-plates with its angle-plate attachments for supporting the ceiling and arch formers. Fig. 5 is an end sectional view of two diaphragm-plates with angle attachments for supporting the arch-formers without ceiling-supports. Fig. 6 is a longitudinal side view of one of my spacing-rods. Fig. 7 is a perspective view of a diaphragm-plate with its attached angle-plate. Fig. 8 is a perspective view of one of my diaphragm-plates with loop-hangers, showing one means for supporting the ceiling. Fig. 9 shows one of my diaphragm-plates with looped hangers, showing another means for

attaching the ceiling to the hangers; and Fig. 10 is a longitudinal view of a section of a ceiling-wire with attached clips adapted to unite with the hangers in Fig. 9.

In the construction of modern fireproof structures the main floor-supports are composed of iron beams, (marked A in the drawings,) commonly known as "I-beams," spaced apart and resting at their ends in the wall structure. The spaces between these beams are filled with plaster or concrete, which forms the main body or floor. This floor structure has heretofore been completed before the ceiling below the floor is put in place. Various means for attaching it to the finished floor structure have been applied; but I propose to make the ceiling a part of the floor structure and build the whole as a unit and at the same time, so that when the floor is finished the ceiling below will be complete and an integral part of the floor structure. To do this, I employ diaphragm-plates B at intervals between the beams. These plates are placed edgewise between the beams, with their ends resting upon the lower flanges C of the beams. I prefer to stiffen the upper and lower edges of these diaphragm-plates by encircling in each edge a strong wire rod *d*, and the plates should be perforated to allow the plaster or cement in which they are finally embedded to penetrate through the perforations and more firmly key them in the plaster or cement. In laying a floor these plates should be set up singly and each two adjoining plates supported in an upright position by means of the spacing rod or wire shown at Fig. 6. This rod has its ends bent to form a hook *e*, which passes down over the upper edges of two adjoining plates and keeps them in their upright position. I attach to the lower edge of each diaphragm-plate B a rectangular strap or plate E, one on each side and at each end, as shown at Fig. 2. The projecting feet of these angle-plates then serve as supports for the arch-formers G, which spans between each two plates. The angle-plates may extend the entire length of the diaphragm-plates, as shown at Fig. 7. These plates are perforated, as at *h h h*, to permit the plaster or concrete to penetrate into the space between them.

In order to suspend the ceiling from the diaphragm-plates, I employ stirrup-hangers *k k*,

(shown at Figs. 8 and 9,) looped over the diaphragm-plates and extending down below them, and to the lower ends of these hangers I suspend the ceiling, either by riveting or
5 wiring the wire-cloth ceiling to rectangular feet *l l* at the lower ends of the hangers or by interlocking lugs *m m*, which are secured to the wire-cloth of the ceiling and which pass up between the downward-extending
10 arms of the hangers and are secured to them by a wire *o*, which passes through a hole in the hanger ends and through a corresponding hole in the lugs, thus, as it were, pinning them together. All this is done before the
15 plaster or concrete filling is put in place, so that the ceiling is complete long before the floor is completed. The filling in of the plaster or concrete unites and unifies the whole, so that the floor structure and ceiling form an
20 integral part, one being dependent upon the other.

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

25 1. In the construction of floor structures for buildings in which the floors are supported

by iron beams, perforated diaphragm-plates, placed edgewise, at intervals across between each two parallel beams, so as to be supported
30 upon the lower angles of the beams; rectangular straps or plates secured to the lower edges of the plates, and means for securing the ceiling to the rectangular straps or plates, substantially as described.

2. In the construction of floor structures for
35 buildings in which the floors are supported by iron beams, diaphragm-plates, placed edgewise, at intervals, so as to be supported at each end upon the lower angle of the beams; spacing rods or wires having hooks formed on
40 their ends and adapted to pass down over the upper edges of the two adjoining plates to keep them in an upright position, and means connected with said plates by which the ceiling-wire is secured below the beams and
45 plates, substantially as described.

In witness whereof I have hereunto signed my name.

JOHN COTTER PELTON.

Witnesses:

E. W. WOODWARD,
THOS. VARNEY.