

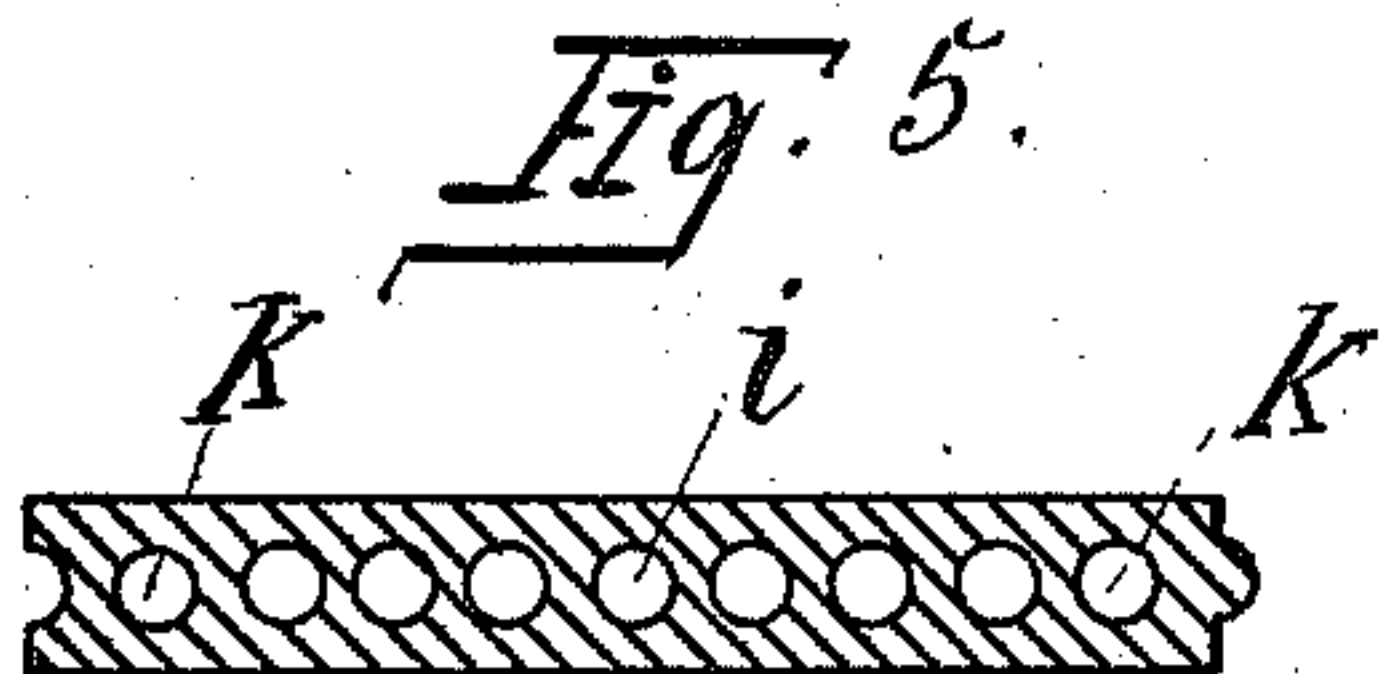
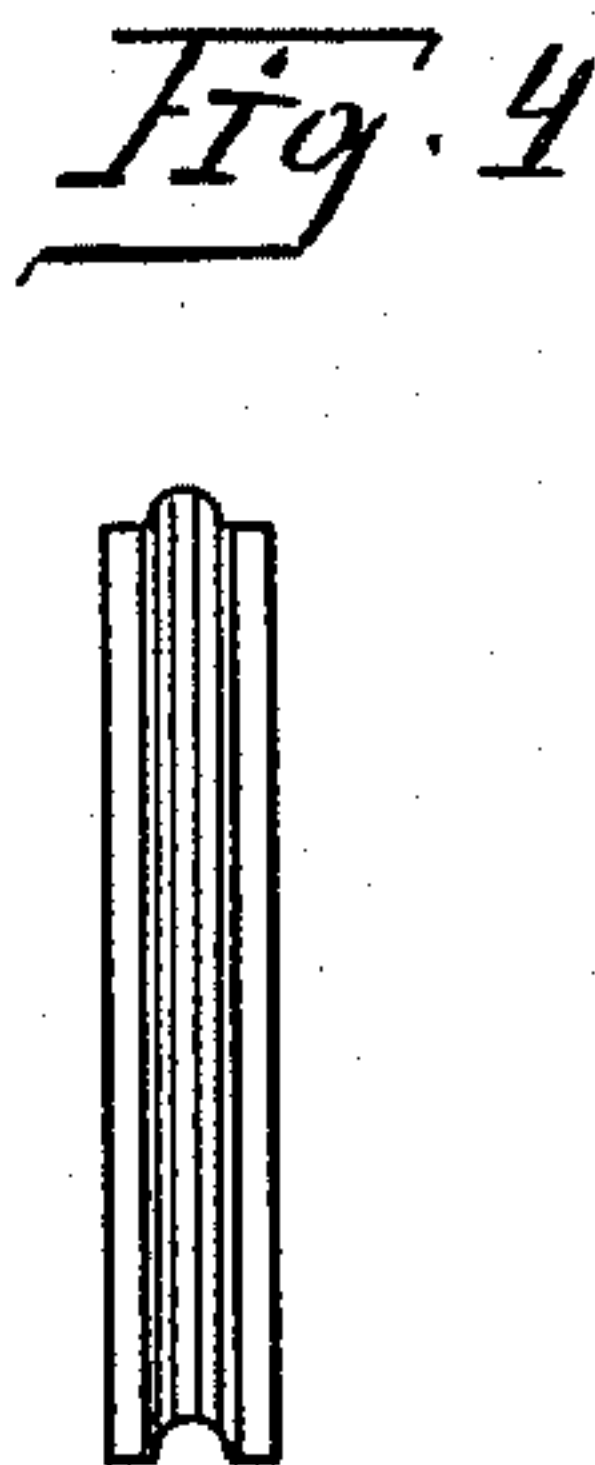
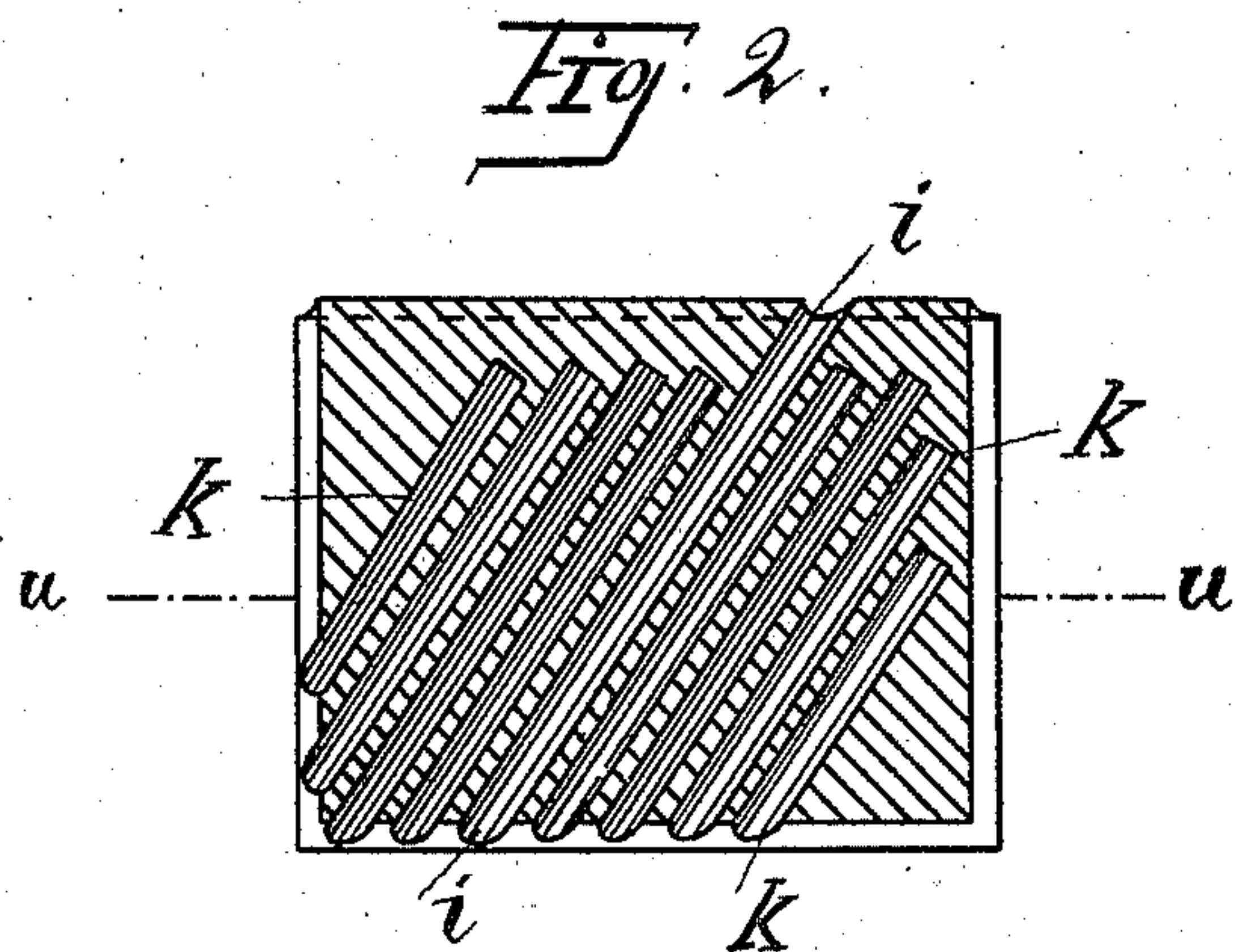
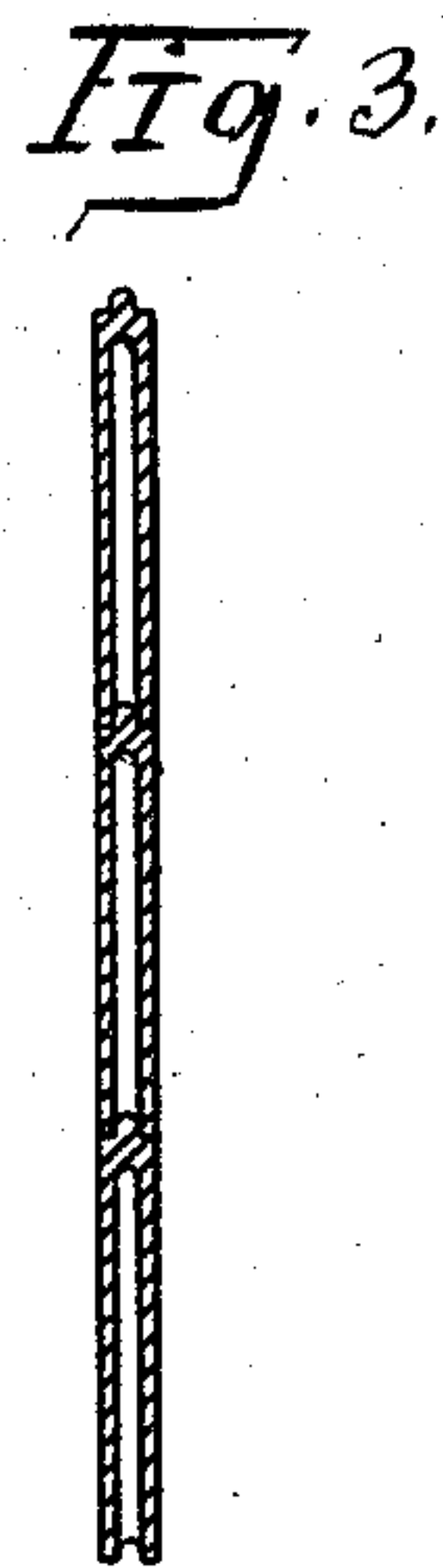
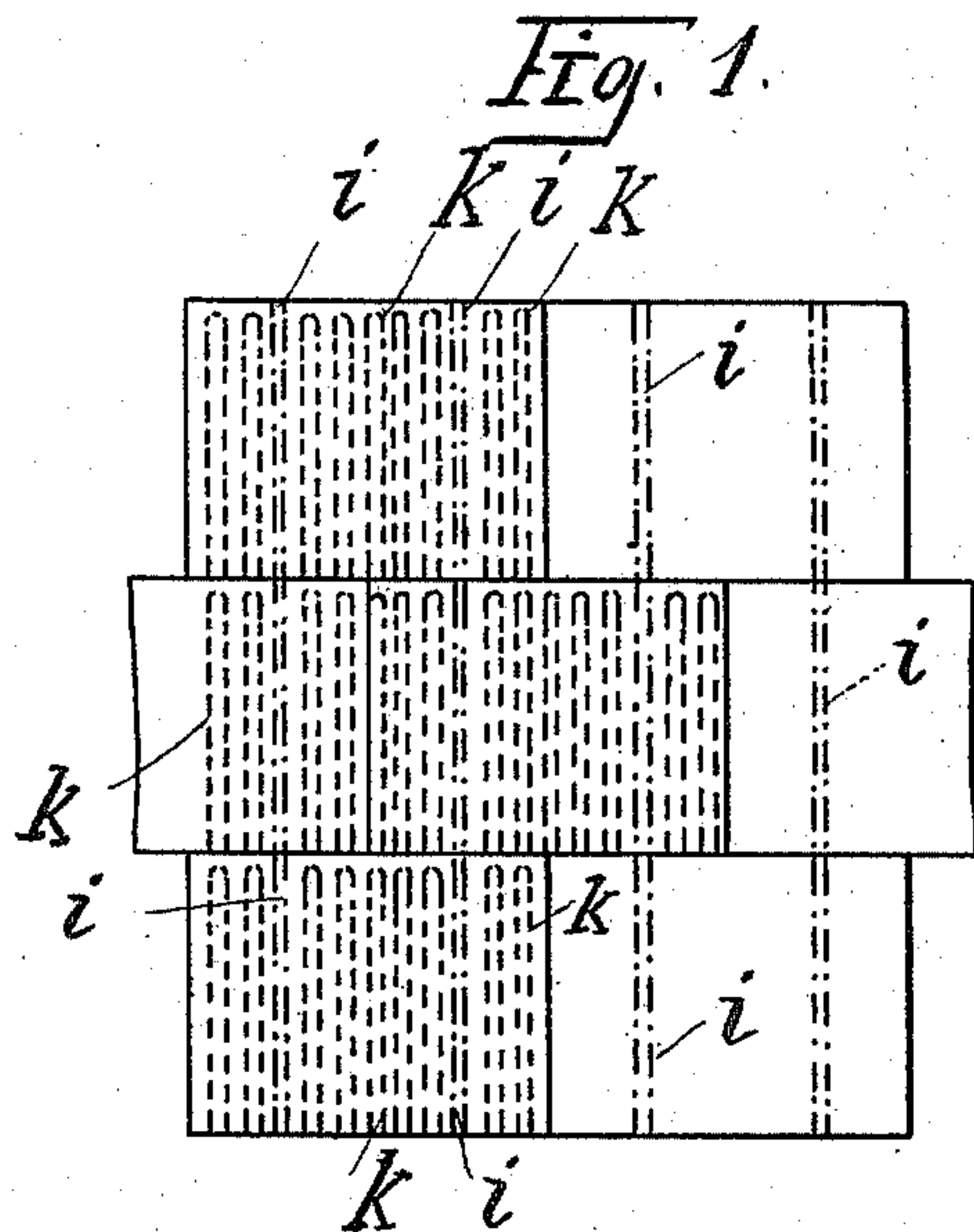
(No Model.)

2 Sheets—Sheet 1.

A. BRUCKNER.
HOLLOW PLATE WALL.

No. 575,209.

Patented Jan. 12, 1897.



Witnesses
Marl Osius
Edwin Leckel

Inventor
A. Bruckner
by Eustace W. Thompson
Attorney

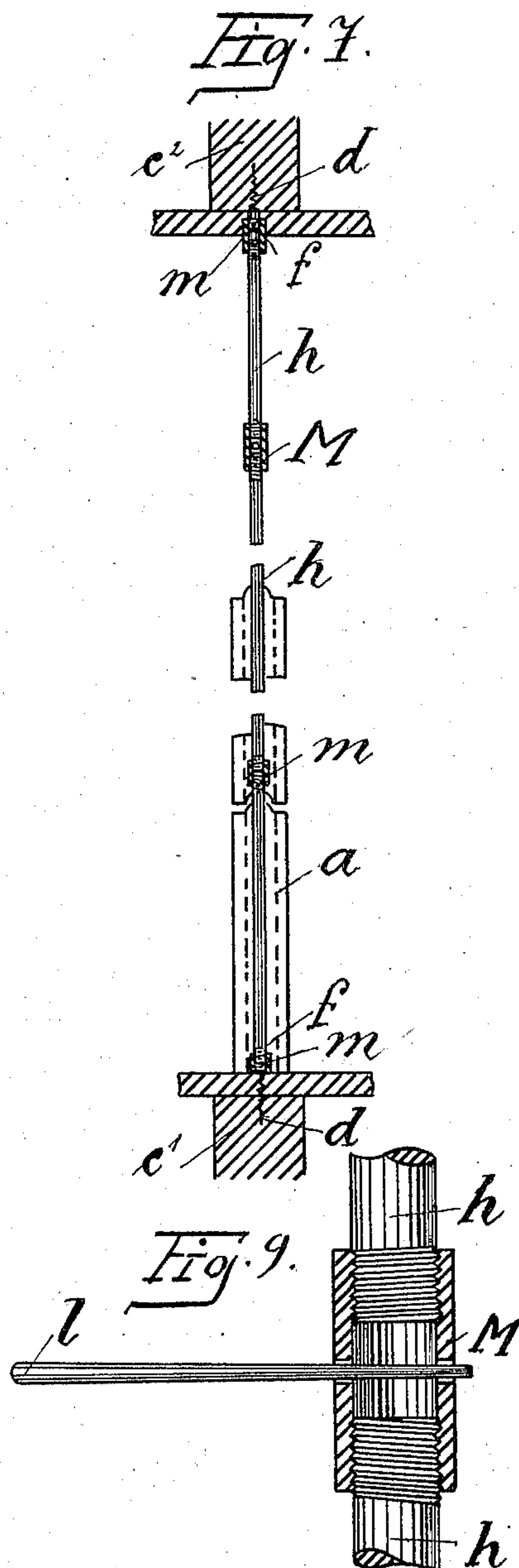
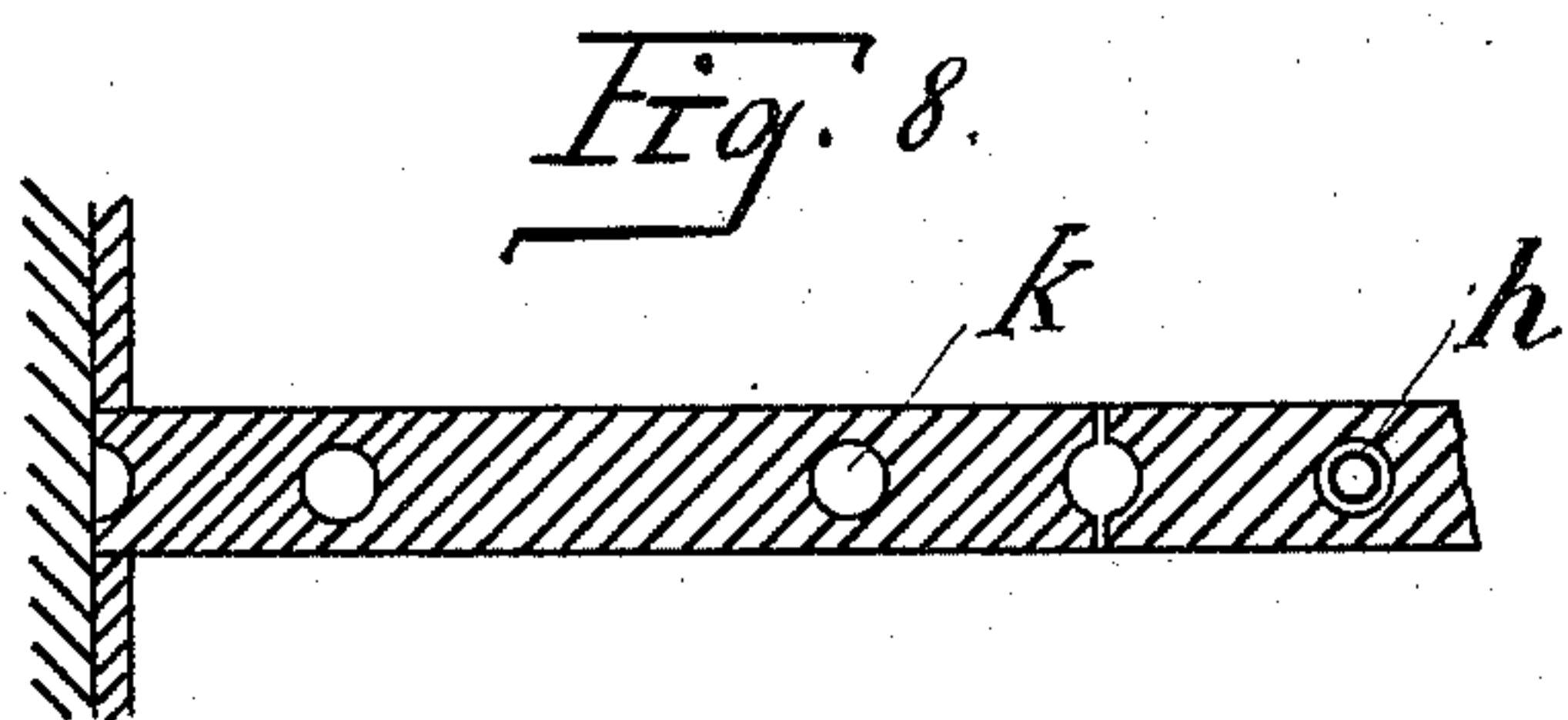
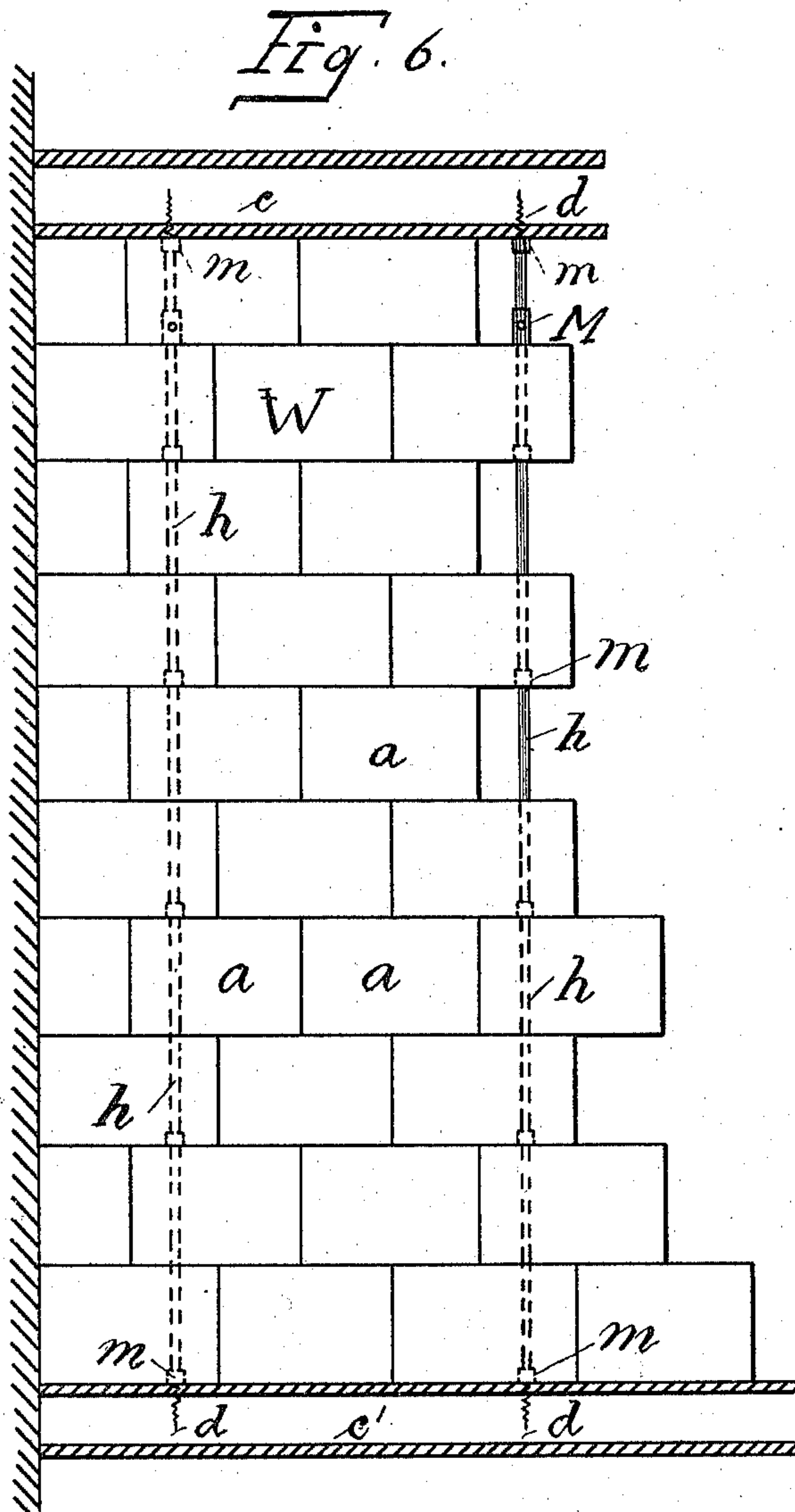
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2 Sheets—Sheet 2.

A. BRUCKNER.
HOLLOW PLATE WALL.

No. 575,209.

Patented Jan. 12, 1897.



Witnesses
Edwin Speckel
Karl Osius

Inventor
Alfred Buckner
by ^{Business} Attorney

UNITED STATES PATENT OFFICE.

ALFRED BRUCKNER, OF AIX-LA-CHAPELLE, GERMANY.

HOLLOW-PLATE WALL.

SPECIFICATION forming part of Letters Patent No. 575,209, dated January 12, 1897.

Application filed June 15, 1896. Serial No. 595,685. (No model.) Patented in Germany December 31, 1893, No. 78,867; in England July 4, 1894, No. 18,583; in Austria December 1, 1894, No. 44/6,185, and in Switzerland September 4, 1895, No. 10,832.

To all whom it may concern:

Be it known that I, ALFRED BRUCKNER, a subject of the King of Prussia, German Emperor, and a resident of Aix-la-Chapelle, in the German Empire, have invented certain new and useful Improvements in Hollow-Plate Walls, (for which I have obtained patents in Germany, No. 78,867, dated December 31, 1893; in England, No. 18,583, dated July 4, 1894; in Switzerland, No. 10,832, dated September 4, 1895, and in Austria, No. 44/6,185, dated December 1, 1894,) of which the following is a full, clear, and exact description.

The present invention relates to the construction of walls of hollow plates or slabs of plaster-of-paris, cement, or like material and to the construction of the said slabs; and it consists in the details hereinafter set forth, and pointed out more particularly in the claims; and in order to render the present specification more easily intelligible reference is had to the accompanying drawings, in which similar letters of reference denote similar parts throughout the several views.

Figure 1 is a part front elevation of a wall constructed according to the present invention; Fig. 2, a vertical longitudinal section through a slab or brick of which the wall is built; Fig. 3, a vertical cross-section through the wall shown at Fig. 1; Fig. 4, an end elevation of Fig. 2; Fig. 5, a section on line *u u* of Fig. 2; Fig. 6, a part elevation of a wall, showing the manner in which the same is stayed by rods or tubes extending therethrough; Fig. 7, a side elevation of the wall of Fig. 6, some of the slabs or plates being removed; Fig. 8, a horizontal section through the wall of Fig. 6; and Fig. 9, a detail of the sleeve for tightening up the rods or tubes, as hereinafter described.

Referring to Figs. 2, 4, and 5, the slabs or plates are formed with suitable grooves and ledges along their sides to enable them to fit or dovetail one into the other in the well-known manner. These plates are provided with a series of perforations *i* and *k*, of which the former extend longitudinally, *i. e.*, in the plane of the plate, through the same from top to bot-

tom, either vertically, as shown at Figs. 1 and 3, or at an incline, as shown at Figs. 2 to 5. The latter perforations extend from the bottom edge of the plate inwardly in the same direction as the channels *i*, but do not penetrate the plate, being stopped shortly before they reach the top edge, as shown at *k*. In practice a series of these plates are built up, as indicated at Fig. 3, so that the through-going holes *i* of the one plate correspond or cover with those of the next to produce a channel extending through the whole wall from the top to the bottom or at an incline. These channels are filled with some binding mass or fluid, which hardens and binds all the plates together, thus forming a very strong and durable wall.

In cases where additional strength is required some of the through-going channels may be provided with metal stays, as shown at Figs. 6 to 9, such stays consisting either of tubes or of rods, as may be desired or advisable. Although these tubes or rods may be fixed in any suitable manner, I prefer to employ tubes *h*, as shown at Fig. 6, and to attach them to the floor and ceiling *c'* and *c''* by means of screwed plugs *f*, Fig. 7, carrying internally-threaded sleeves *m*, into which the lengths of tube are screwed, said lengths being attached one to the other by means of internally-screwed sleeves *m*. One of these sleeves, as at *M*, may be provided with right and left hand internal threads, the tube or rod ends being threaded accordingly, and the said sleeve, Fig. 9, may be perforated transversely to receive a key or lever *l*, by means of which the said rod or tube *h* may be tightened between the floor *c'* and the ceiling *c''*. Outside the rod or tube *h* some suitable binding material may be poured into the channels of the plates, whereby the rod or tube will be firmly bound to the plates and the latter will be cemented together by the material poured in passing between the crevices of the plates. This material will not, however, fill up the perforations or channels *k*, but merely seal the ends of the same, thereby forming a sealed air-chamber, which chambers will effectually

prevent the transmission of noise, at least to a certain extent, and also act to prevent the damp and moisture from penetrating the wall.

Walls formed as above described with stays
5 are of great strength and durability.

Obviously the channels containing the rods or tubes may be arranged at an incline, as shown at Fig. 2, in which case the stays would be slanting instead of perpendicular.

10 In building up the wall the metal rods may be easily arranged in their respective orifices, as the same are made in sections, and the last section may be passed downward from the ceiling and screwed into the sleeve of the
15 section below it after the plates have been placed in position, or, in case an upper plug is employed, as shown, the sections may first be screwed entirely down in their respective sleeves and then the whole rod lengthened by
20 turning the sleeves in the manner previously described, whereby the upper end of the rod may be made to engage the plug fast in the ceiling.

I claim as my invention—

25 1. A wall composed of hollow plates or slabs each having a series of through-going channels and a series of channels partially extending through, as specified, said through-going

channels of the one slab corresponding with those of the adjacent slab, metal stays extending through said through-going channels, means for attaching same to the floor and ceiling, and a binding material arranged in said channels around said stays substantially as described. 30

2. A wall composed of hollow plates or slabs each having a series of through-going channels and a series of channels extending partially through them as specified, said through-going channels of the one slab corresponding 35 with those of the adjacent slabs, metal stays extending through said channels, said stays being in sections, a sleeve to connect said sections having internal threads in opposite directions and means for turning said sleeve 40 and a binding material around said stay within said channels substantially as described and shown and for the purpose specified. 45

In testimony whereof I have signed my name to this specification in the presence of 50 two subscribing witnesses.

ALFRED BRUCKNER.

Witnesses:

JOHN HECKMANNS,

WILHELM WHÜTHUT.