

(No Model.)

F. R. KIRCHHOFF.

CONSTRUCTION OF PILLARS OR SUPPORTS FOR BUILDINGS, &c.

No. 435,429.

Patented Sept. 2, 1890.

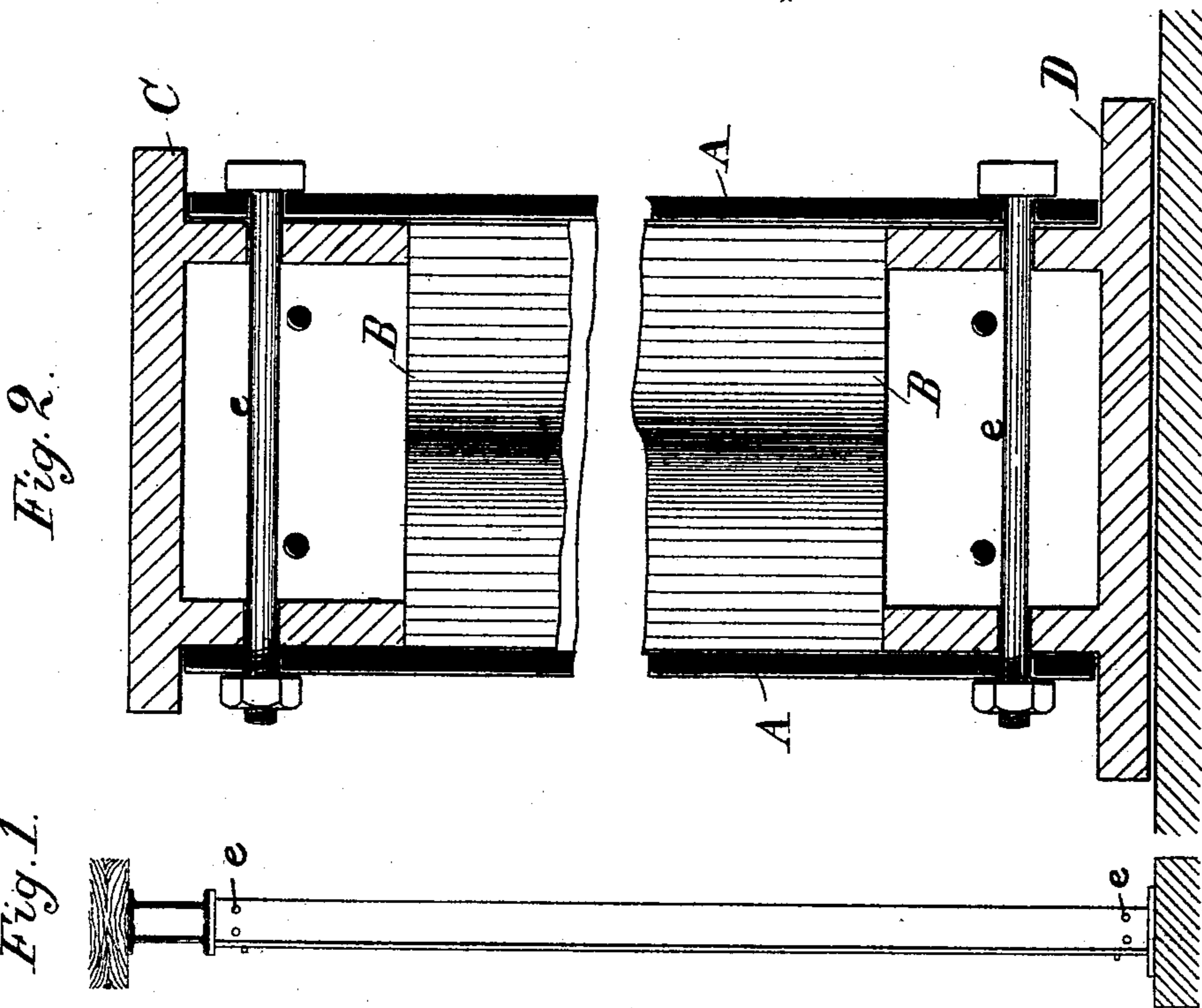
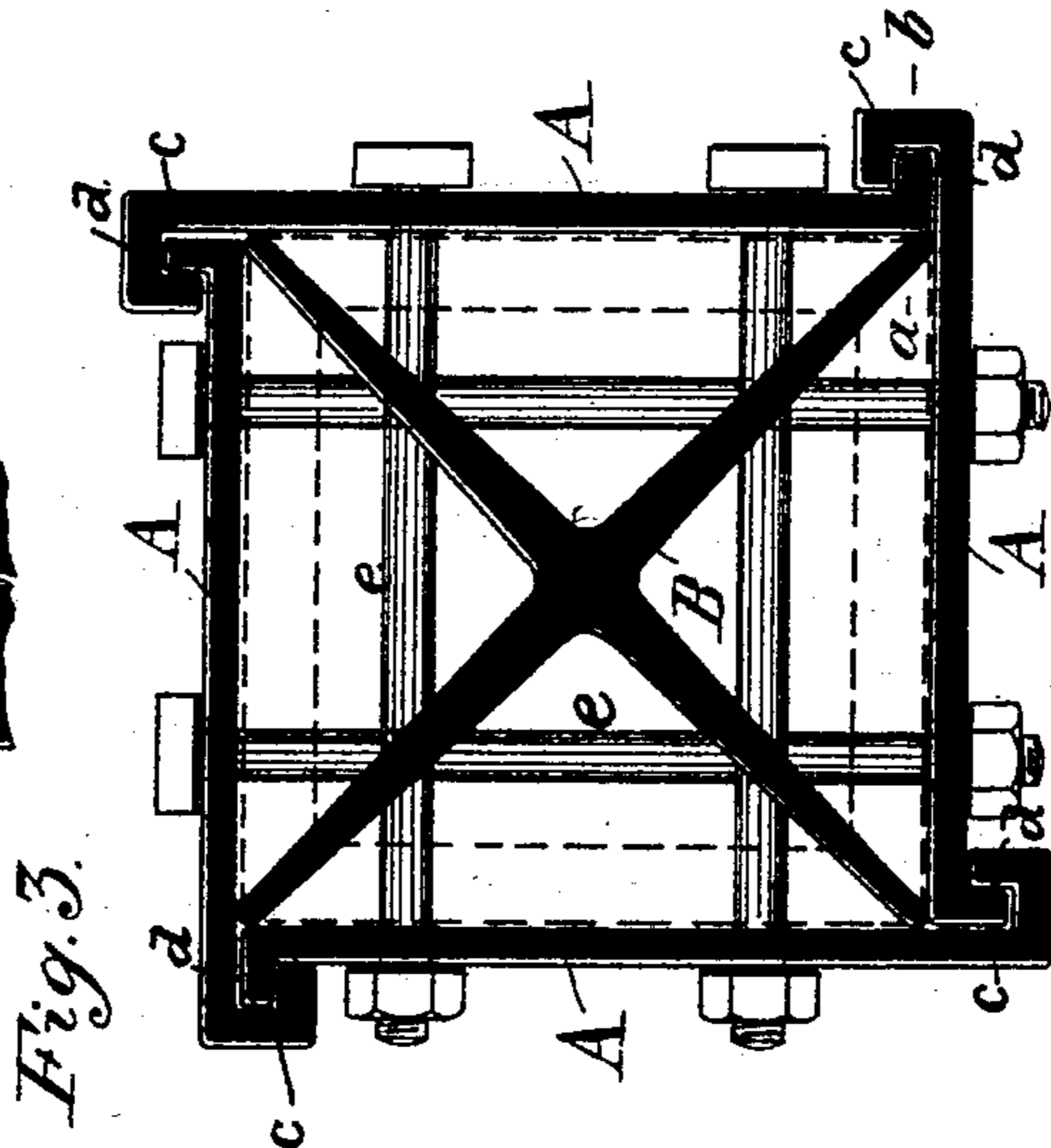
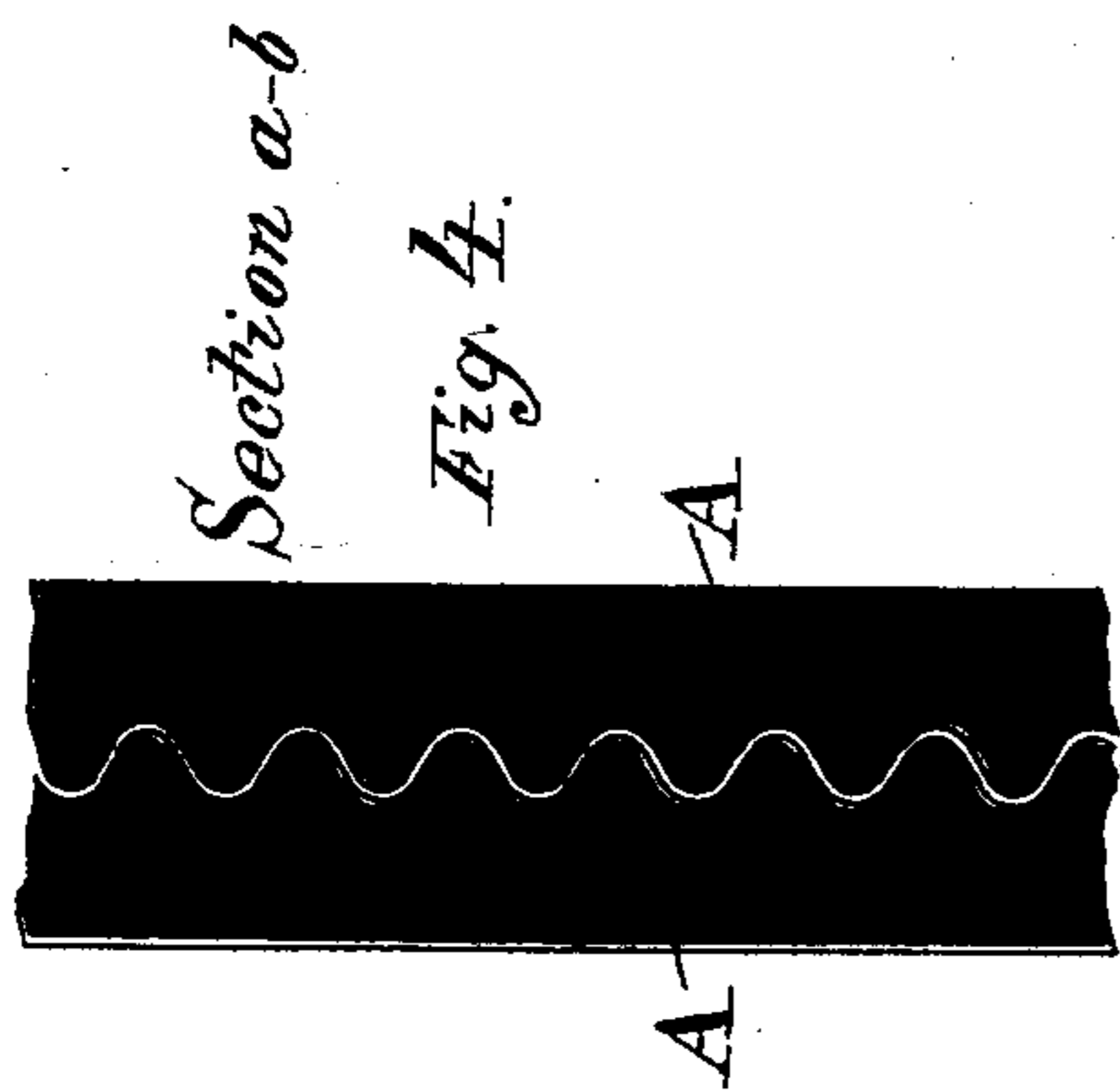
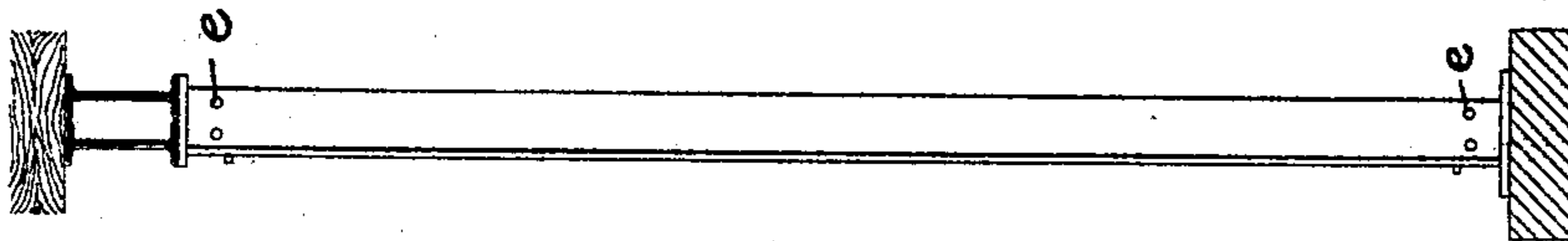


Fig. 1.



Witnesses:

W. H. Bristol.
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Inventor:

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by A. Faber du Faur,
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UNITED STATES PATENT OFFICE.

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CONSTRUCTION OF PILLARS OR SUPPORTS FOR BUILDINGS, &c.

SPECIFICATION forming part of Letters Patent No. 435,429, dated September 2, 1890.

Application filed March 25, 1890. Serial No. 345,211. (No model.)

To all whom it may concern:

Be it known that I, FRANZ RICHARD KIRCHHOFF, a subject of the King of Saxony, residing at Ludwigshafen-on-the-Rhine, Bavaria, Germany, have invented new and useful Improvements in or Appertaining to the Construction of Pillars or Supports for Buildings and other Purposes, of which the following is a specification.

My invention has reference to improvements in compound columns or pillars for use in constructional work; and it has for its object the production of a strong durable column, the various parts of which can be readily made and fitted together without the use of rivets.

To this end my invention consists, essentially, in providing the side sections with longitudinal interlocking sockets and tongues, and in addition thereto inserting into the hollow column formed by the side sections a suitable stay, the whole being set up in a base and provided with a cap, as more fully pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents an elevation of a column constructed according to my invention. Fig. 2 is a sectional elevation, on a larger scale, part being broken away. Fig. 3 is a horizontal section. Fig. 4 is a section in the plane *a b*, Fig. 3.

Similar letters indicate corresponding parts.

In the drawings, the letters *A A* designate the side sections of a column, each of which is provided with a longitudinal socket *c*, extending throughout its whole length, and with an opposite corresponding tongue *d*, the same interlocking when the side sections are fitted together, as best seen in Fig. 3. The sockets may be formed by bending the metal twice at approximately right angles, and the tongue may be formed by bending the metal once at right angles. Into the interior of the column formed by the union of the side sections is introduced a stay *B*, provided with radial arms which extend into the angles of the column, whereby the side sections are prevented from collapsing and all the parts are held firmly together.

In setting up the column its lower end is fitted over or into a suitable base, as *D*, and over or into its upper end is fitted a cap *C*. The cap and base are united to the column by suitable bolts, as *e*, said cap and base fitting into the column and serving also to hold the several sections together.

It will be seen that when a column such as described is subjected to compression, all parts thereof act as a unit to meet the strain, and the neutral axis of bending lies in the center line of the structure.

In cases where a cap is not to be used or where it is desired to more firmly unite the side sections to each other, the interlocking parts of the side sections are provided with serrations or corrugations, as best seen in Fig. 4. The side sections may be made of any suitable metal—such as wrought-iron or steel—and if the interlocking surfaces do not fit closely together the interstices may be filled up with any suitable cement, or with sheet-zinc or the like. After the side sections are properly fitted together, they are heated to about 200° or 300° centigrade, and then the stay *B* inserted cold, so that the side sections in cooling will shrink upon the said stay.

In the example illustrated by the drawings I have shown a four-sided column. However, it is evident that a column having three, five, six, or more sides could be similarly constructed, the stay in each case being provided with as many radial arms as are angles in the column. To columns having five sides or more it is advisable to make the stay sectional, or it may under circumstances be omitted entirely, as the several side sections in such structures are self-sustaining.

What I claim as new, and desire to secure by Letters Patent, is—

1. A compound column composed of the side sections provided with interlocking tongues and grooves and a base-plate and cap fitted to said column to hold the several parts together, substantially as described.

2. A compound column consisting of interlocking side sections and an inserted stay, substantially as described.

3. A compound column consisting of inter-

locking side sections and an inserted stay, in combination with a base-plate and cap, substantially as described.

4. A compound column consisting of interlocking corrugated or serrated side sections, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

FRANZ RICHARD KIRCHHOFF,

Witnesses:

AUGUST BOCK,
EMERICH AUGSTEIN.