(No Model.)

A. KRAUSE.

STRUCTURAL METAL WORK.

No. 515,963. Patented Mar. 6, 1894.

Fig. 1.

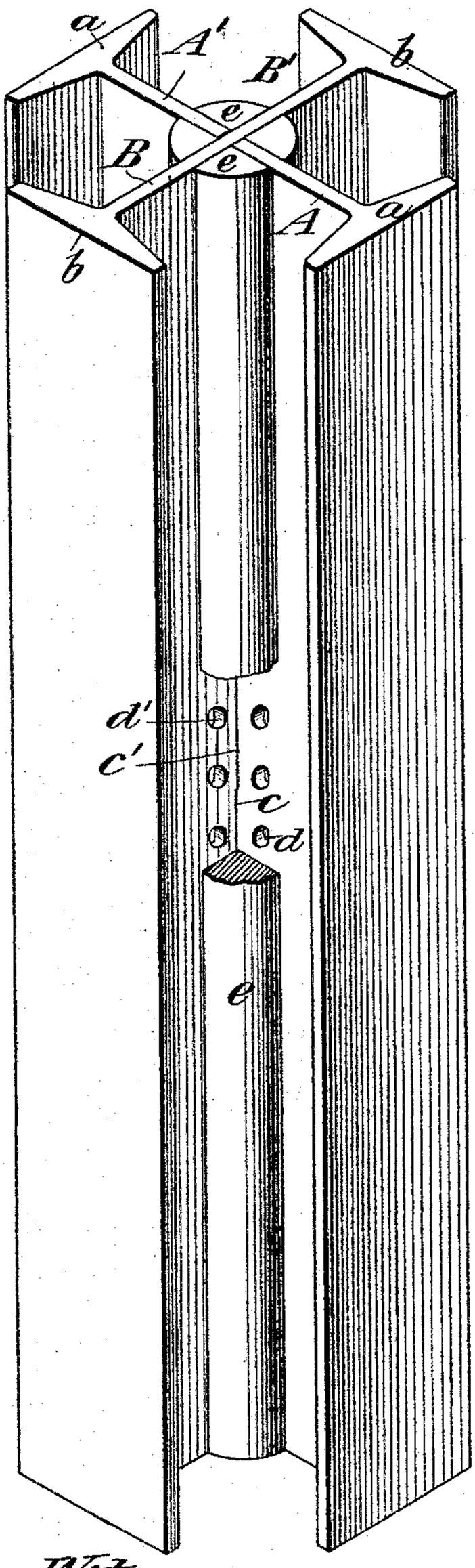

Fig. 2.

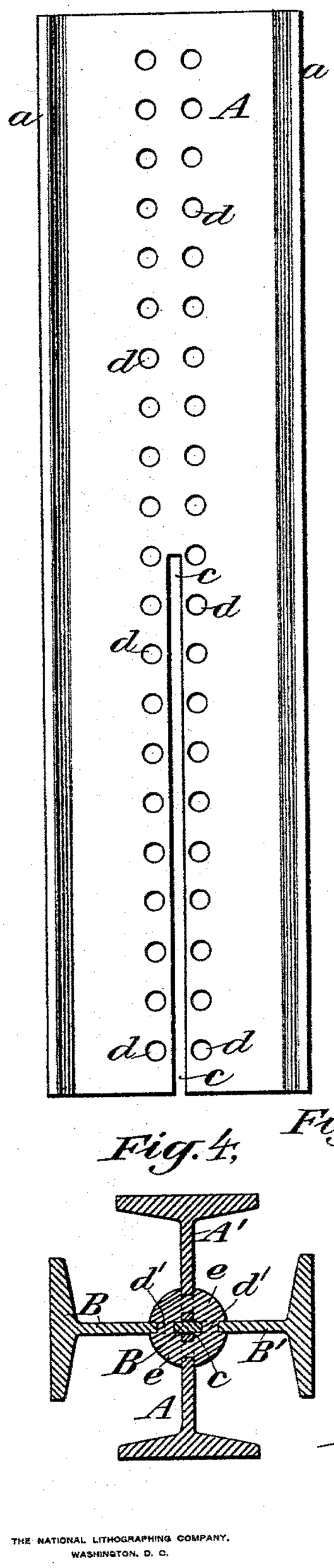

Fig. 3.

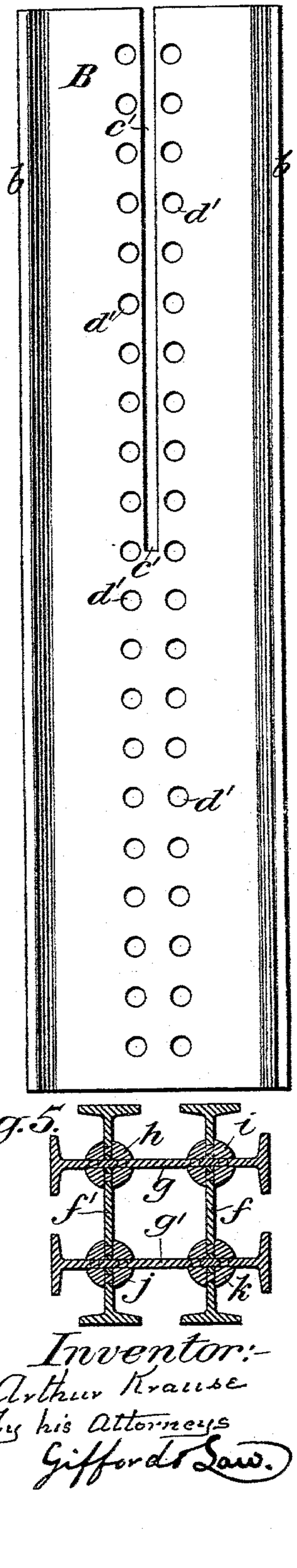

Fig. 4.

Fig. 5.

Witnesses:-

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ARTHUR KRAUSE, OF JERSEY CITY, NEW JERSEY.

STRUCTURAL METAL-WORK.

SPECIFICATION forming part of Letters Patent No. 515,963, dated March 6, 1894.

Application filed June 14, 1893. Serial No. 477,533. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR KRAUSE, of Jersey City, county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Structural Metal-Work, of which the following is a specification.

My improved construction is especially adapted for columns but may be used as a beam or girder.

In the accompanying drawings, Figure 1 is a square column constructed according to my improvement, having a portion broken away to show a detail of the construction. Figs. 2 and 3 are the separate plates or pieces of which the column is composed, and Fig. 4 is a cross section of the completed column. Fig. 5 is a column composed on a similar principle of four beams.

To construct a column according to my improvement, I take plates of metal A A′ and B B′. These are preferably ordinary iron or steel beams having the flanges *a* and *b*. I form along the center of each beam for half its length, a slot *c c′* of a width equal to the thickness of the plates. On each side of each slot, and extending beyond the latter the entire length of the beam, is formed a row of holes *d d′* of any suitable size. The beams thus prepared are brought together preferably at right angles to each other, in such a manner that the solid part of the web or plate of one beam lies within the slot in the other. The two beams, thus interlocking, are then bound together and securely held by a casting of metal *e* which is cast as a hub around the joint where the two beams intersect and which in casting flows through the holes *d* and *d′*. The casting thus extends in one piece all around the line (though not necessarily the whole length) on which the plates intersect and through the openings in the plates. It will be seen that a column may thus be formed of the ordinary beams without bending.

I do not wish to be understood as limiting myself to having the plate A′ in the same piece with A or as having the plate B′ in the same piece with B, or to having them interlocking at the center provided the parts of the several plates adjacent to the center are embedded in the central hub casting *e*.

In Fig. 5, I have shown the same principle employed in the construction of a column from the four beams *f*, *f′*, *g*, *g′*. In this case, four cast metal hubs *h*, *i*, *j*, *k* of the same character are employed.

I do not wish to be understood that the casting must extend continuously from one end of the column to the other. I prefer it unbroken as shown in the drawings, but am aware that this is not essential.

I have described the cast hub around the joints as the best means for constructing my invention but I do not thereby wish to be understood as limiting myself to that specific means.

I claim—

1. In combination, two metal plates interlocking with each other at an angle, each provided with openings adjacent to their line of intersection, and a cast metal hub inclosing their line of intersection and extending through said openings, substantially as described.

2. In combination, the radial plates A, A′, B, B′ and the central hub of cast metal within which the portions of the plates adjacent to the center are embraced substantially as described.

3. In combination the structural sections halved together substantially at right angles, and means whereby they are secured in that position, substantially as described.

ARTHUR KRAUSE.

Witnesses:
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