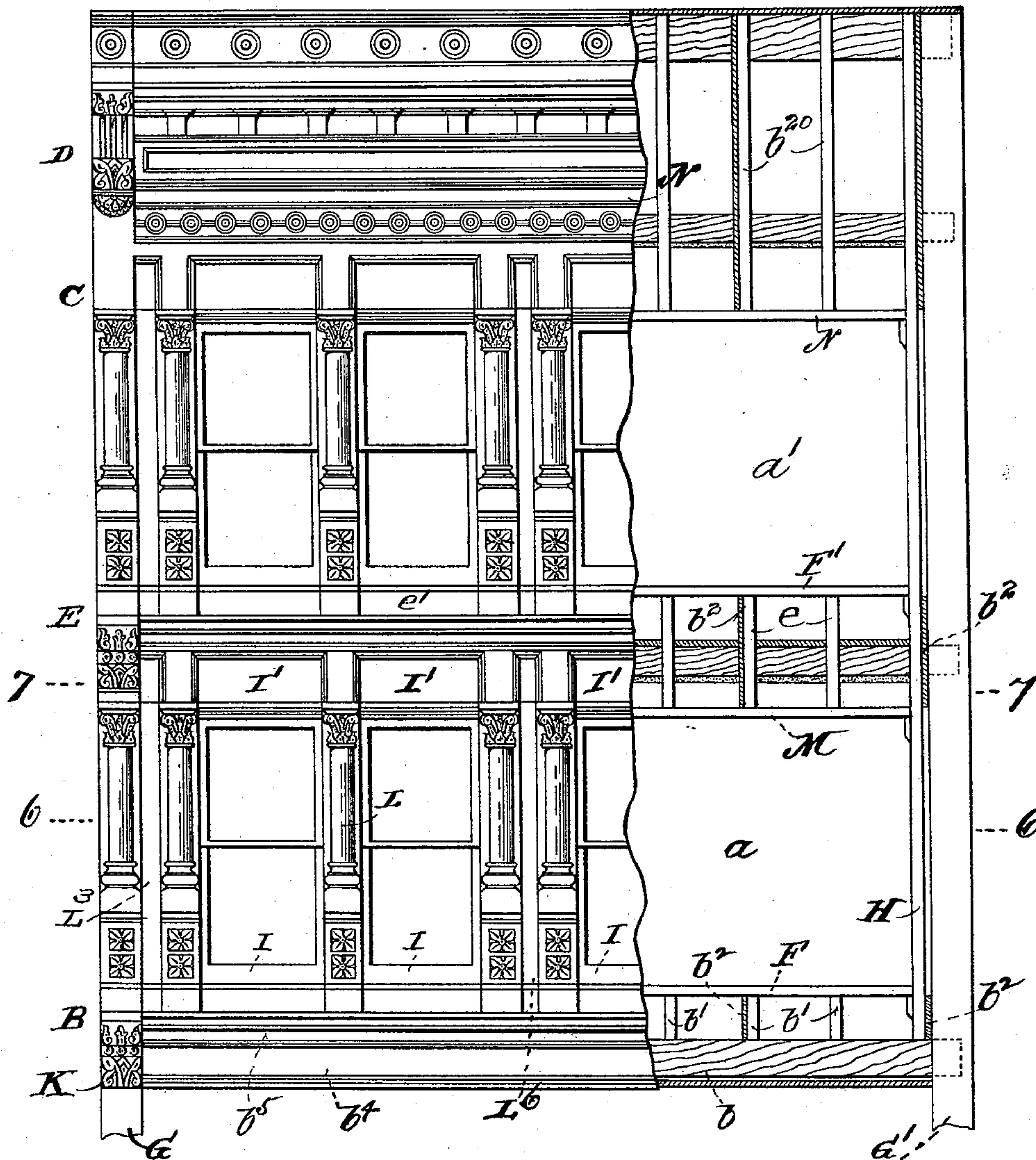


6 Sheets—Sheet 1.

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Fig. 1.



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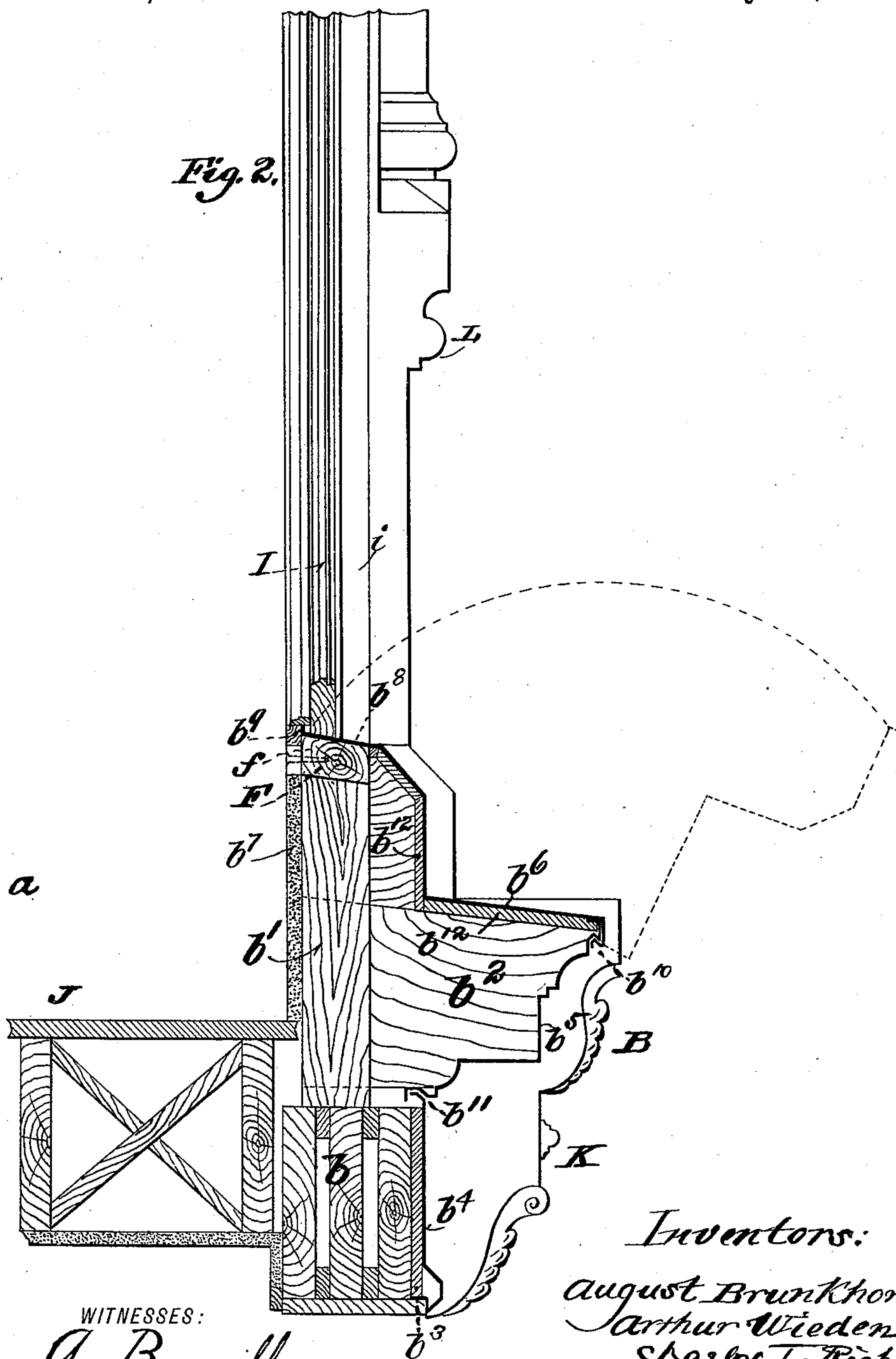
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6 Sheets—Sheet 2.

A. BRUNKHORST, A. WIEDEN & C. T. RICHARDS.
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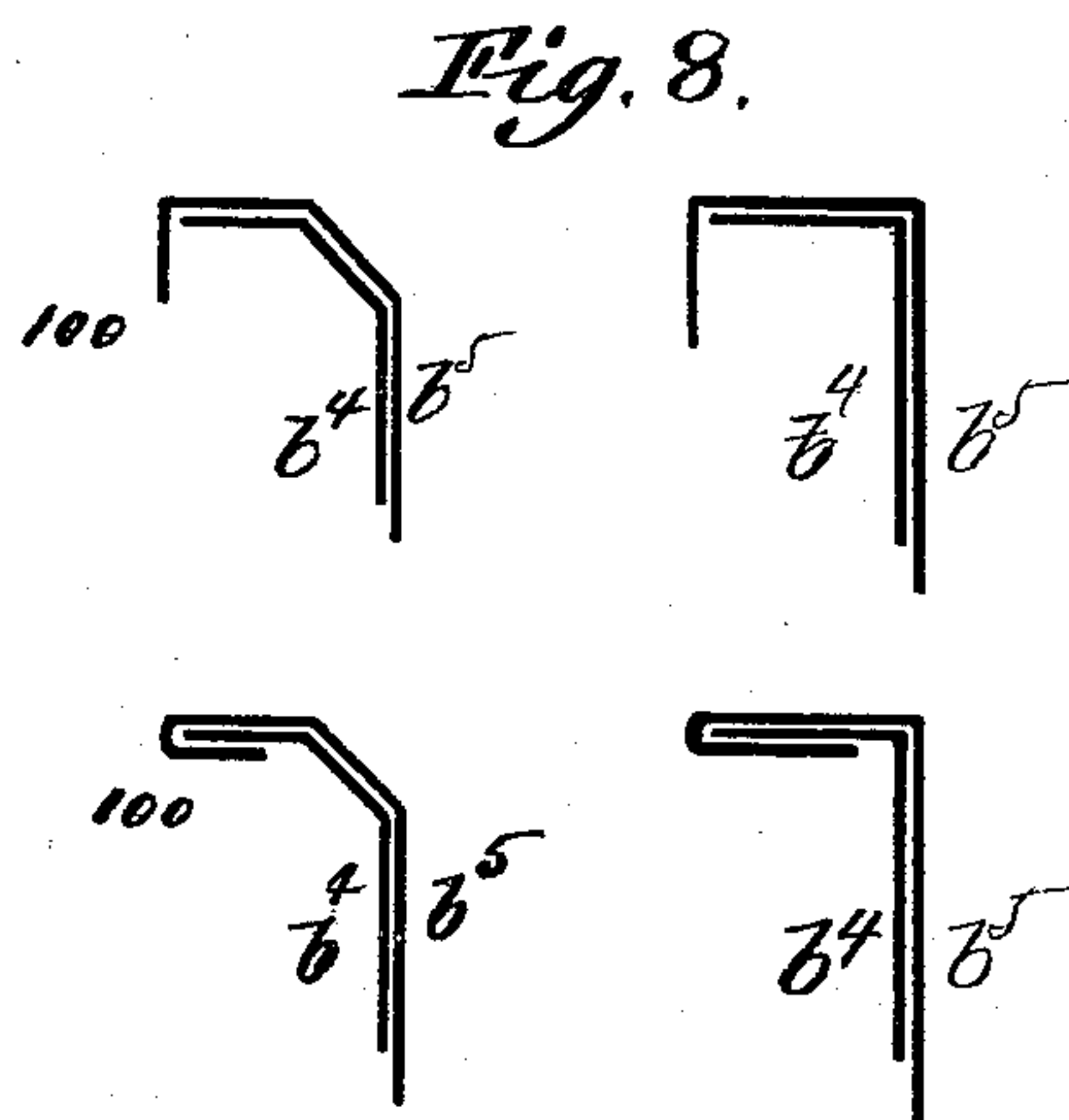
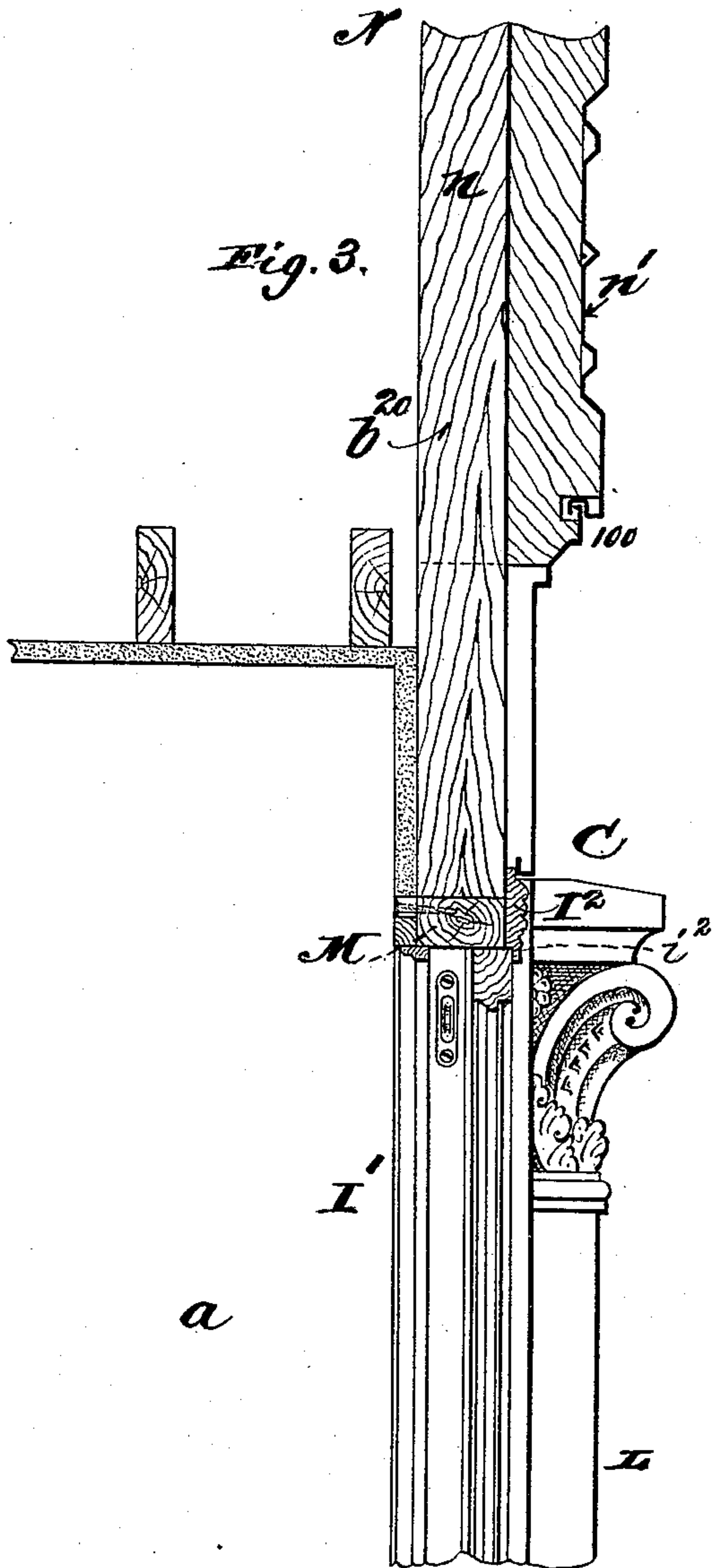
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6 Sheets—Sheet 3.

A. BRUNKHORST, A. WIEDEN & C. T. RICHARDS.
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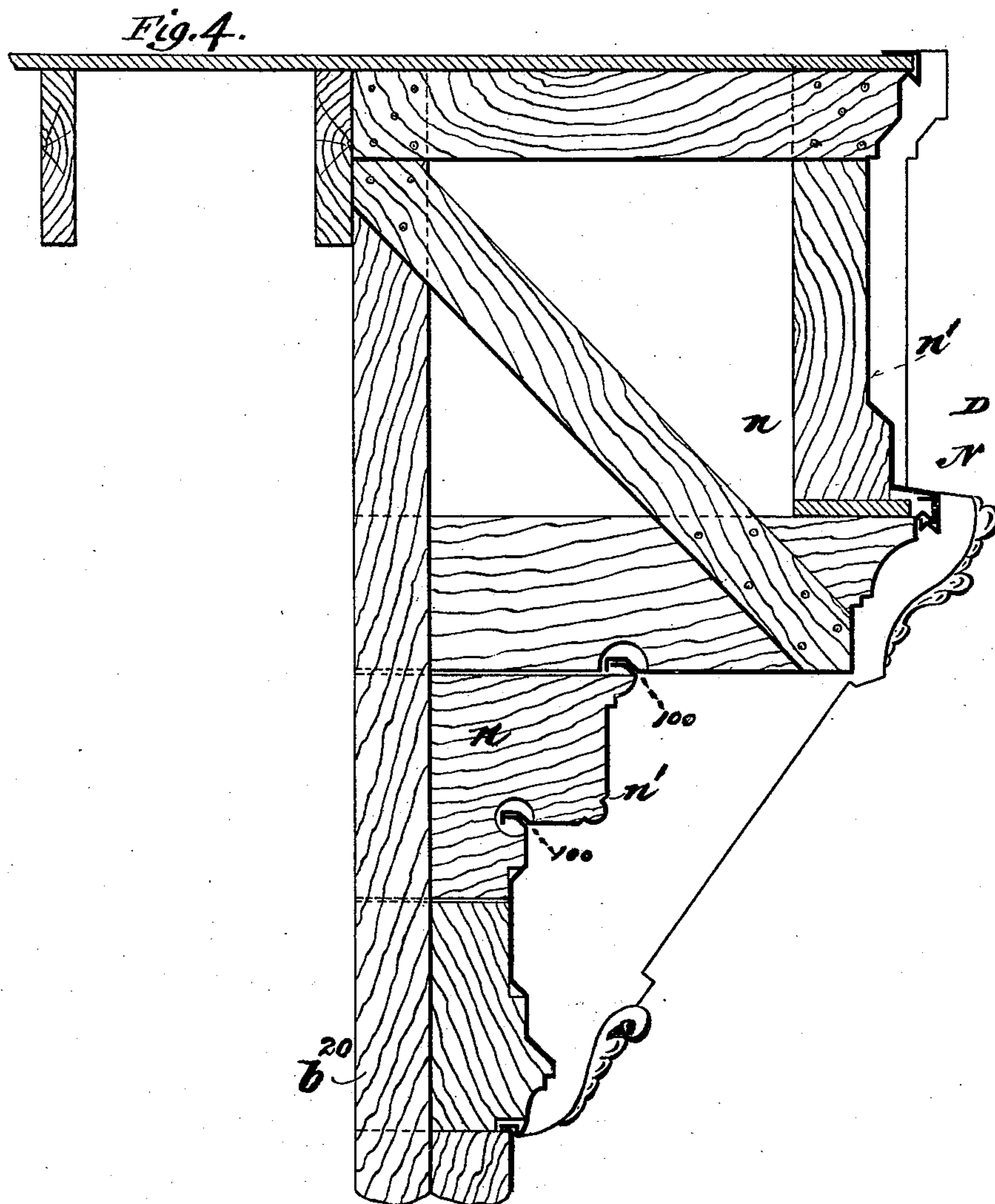
(No Model.)

6 Sheets—Sheet 4.

A. BRUNKHORST, A. WIEDEN & C. T. RICHARDS.
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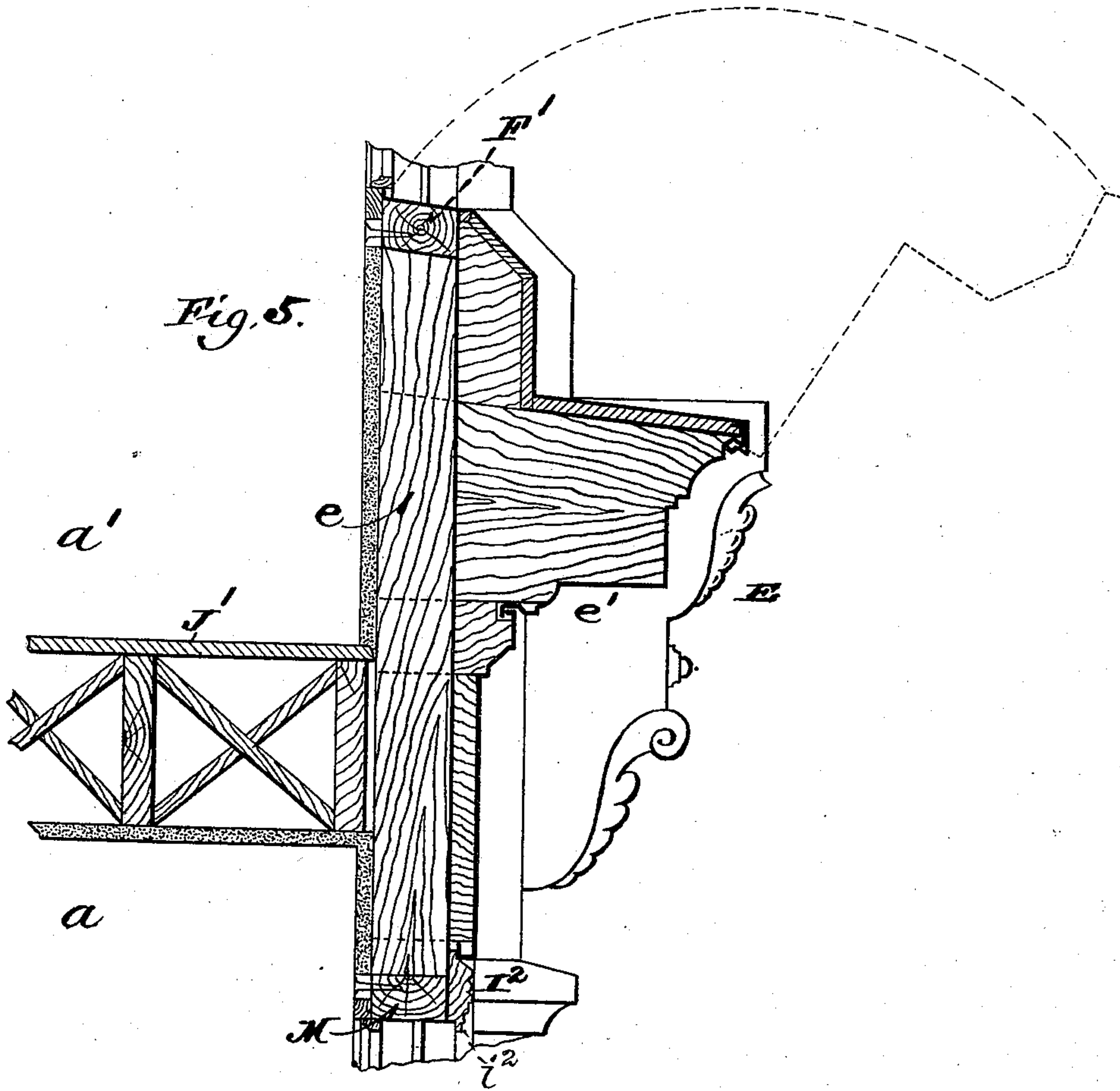
(No Model.)

6 Sheets—Sheet 5.

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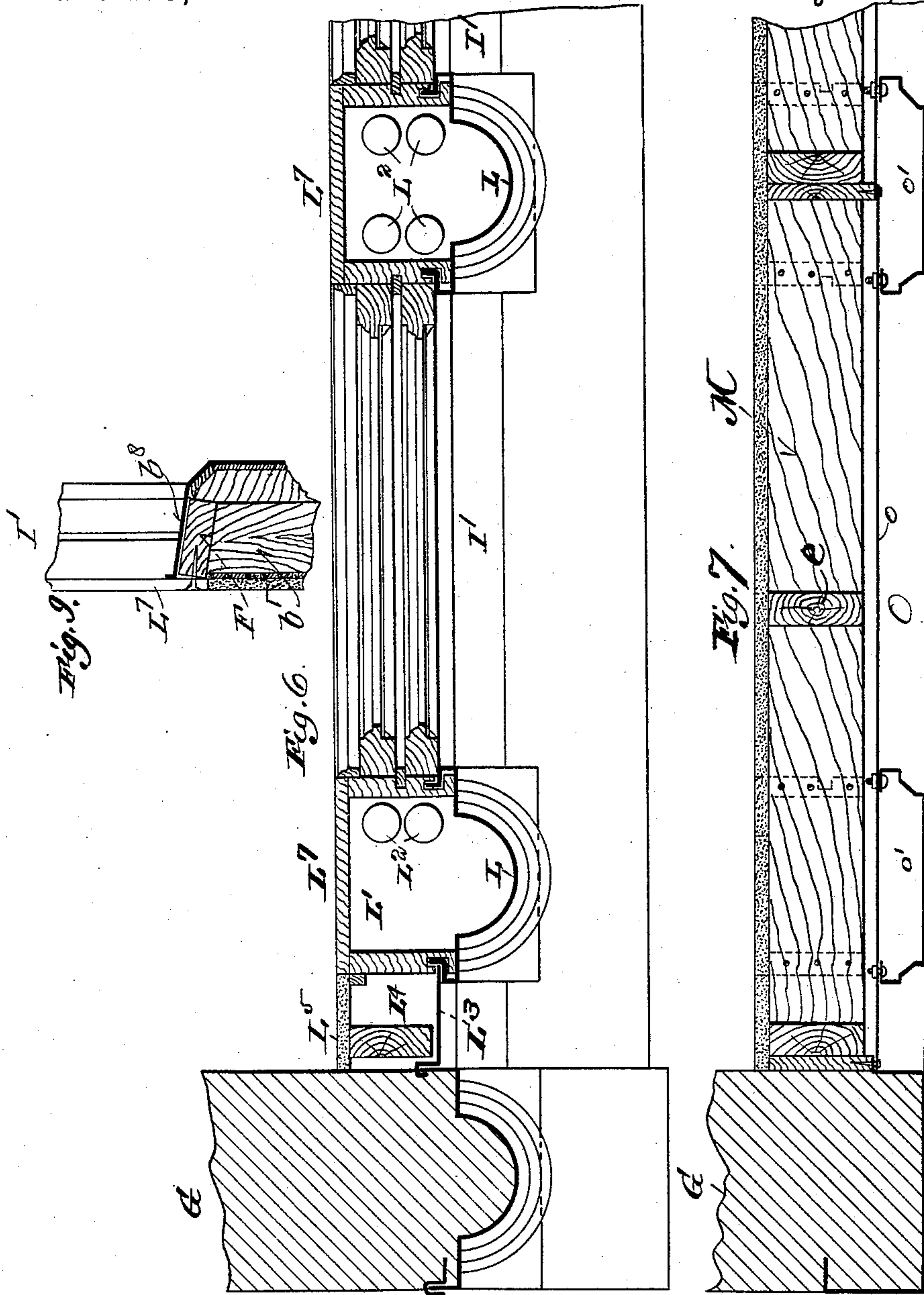
(No Model.)

6 Sheets—Sheet 6.

A. BRUNKHORST, A. WIEDEN & C. T. RICHARDS.
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UNITED STATES PATENT OFFICE.

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ST. LOUIS, MISSOURI, ASSIGNORS TO MESKER & BRO., OF SAME PLACE.

BUILDING-FRONT.

SPECIFICATION forming part of Letters Patent No. 478,974, dated July 12, 1892.

Application filed July 2, 1891. Serial No. 398,302. (No model.)

To all whom it may concern:

Be it known that we, AUGUST BRUNKHORST, ARTHUR WIEDEN, and CHARLES T. RICHARDS, of the city of St. Louis, Missouri, have jointly made a new and useful Improvement in Building-Fronts, of which the following is a full, clear, and exact description.

The present improvement relates more especially, but not exclusively, to that class of building-fronts which are largely composed of a wooden foundation and a sheet-metal surface; and the improvement consists, partly, in the combination of parts composing the front as an entirety, whereby the construction generally is simplified, concentrated, and cheapened, and at the same time strengthened at various points, and partly in various combinations of parts which respectively constitute leading features of the front.

The improvement also has special relation to the sills and heads of the window-frames, whereby said parts are combined or embodied in the front, all substantially as is hereinafter described and claimed, aided by the annexed drawings, making part of this specification, in which—

Figure 1 is a front elevation, partly broken away, of that portion of the building-front with which the improvement under consideration is more directly connected—that is, the improvement relates to that portion of the front which is above the lower story thereof; Fig. 2, a vertical section of the lower portion of the front exhibited in Fig. 1; Fig. 3, a vertical section of that portion of the front which is above the portion shown in Fig. 2; Fig. 4, a vertical section of the upper portion of the front, or that portion which is above the portion shown in Fig. 3; Fig. 5, a vertical section of that portion of the front which is inserted when the building is more than three stories high; Figs. 6 and 7, horizontal sections respectively on the line 6 6 and the line 7 7 of Fig. 1; Fig. 8, a detail illustrating the mode of interlocking some of the sheet-metal parts, and Fig. 9 a detail in section. The views are not all upon the same scale.

The same letters of reference denote the same parts.

The front A is of the usual construction,

saving as it may be modified or supplemented by the improvement under consideration.

B represents the portion of the front at the top of the lower story and the lower part of the second story and being the lower portion of the front, as shown in Fig. 1.

C represents that portion of the front which is opposite and in the vicinity of the top of the second story, and D represents the upper portion of the front—that is, said portions B C D unitedly constitute one form of our improved building-front—but in adapting the improvement to a building-front having three stories, such as shown in Fig. 1, an intermediate portion E is inserted. Said portion E, when used, is arranged opposite and in the vicinity of the top of the second story, and in such event the parts C and D are successively arranged above said inserted part E, and so on, a part similar to the part E being inserted as often as an additional story is used, and when as many of the portions E are inserted in the front as may be necessary the front is completed with the portions C D.

Referring to the B portion of the front, *b* represents the lintel; *b'*, the studs which are supported upon the lintel; *b²*, the lookout supported and projecting outward from said studs; *b³*, furring upon the lintel; *b⁶*, the sheet-metal facing upon said furring; *b⁵*, the cornice upon the lookout; *b⁵*, the sheet-metal or sill course upon the top of the lookout; *b⁷*, plaster-work on the inner side of said studs, and F a plate which extends horizontally across the building between the two end studs, which are arranged against or near, substantially as shown, the side or partition walls, respectively, of the building. In Fig. 1 said walls are represented at G G', respectively, and but one H of said end studs is shown, the other thereof being concealed from view by the sheet-metal work. Said sill-course *b⁶* at the upper edge *b⁸* thereof rests upon said plate F, the extreme upper edge *b⁹* of said sill-course coming within the position of the inner window-sash I and being upturned, as shown. The parts *b⁵* *b⁶* are interlocked at *b¹⁰*, and the parts *b⁴* *b⁵* are interlocked at *b¹¹*, substantially as shown—that is, in Figs. 2, 3, 4, and 5 the locking is not all shown completed, but in the lower portion of Fig. 8 the lock is shown completed.

J represents the floor of the second story *a* of the building, K the end block against the wall G at the level of said floor, and L represents one of the sheet-metal columns or pilasters which occur in the front. A prominent feature of the front is the plate F. It serves not only as a principal member of the front for the studs *b'* to connect with, but also for the sills of the windows I' I' in the front—that is to say, the usual window-sill as a separate piece is dispensed with and said plate is virtually made part of the window frame or frames. Said plate is pitched higher at its back *f*, substantially as shown, and the studs *b'* at the upper end thereof are fitted to said plate, substantially as shown, and the pulley-stiles *i* at the lower end thereof are beveled to rest upon said plate and the interposed edge *b^s* of the sill-course. There is a suitable sheathing *b¹²* upon the lookouts, and constituting, with said plate F, the immediate support for said sill-course.

The front above the sill-course described is usually composed, mainly, of windows I' I', the parts intervening between the windows, and the parts immediately in front of the side and partition walls. In forming the window-frames the pulley-stiles *i* rest mediately, as stated, upon the plate F, and they are completed at the top by means of the lintel M, which appears in the C portion of the front—that is, the tops of the window-frames are not parts belonging exclusively thereto, respectively, but are in the form of a plate extending continuously, in a manner analogous to that of the plate F, horizontally across the building between the end studs H, and thereby forming a principal member of the front, as well as serving for the heads of said windows. The parts intervening between said windows usually consist, substantially, of the columns L and the box-frames L', respectively, behind said columns—that is, a column and a box-frame for containing the weights L², united substantially as shown, form that portion of the front which occurs between adjoining windows I' I', and also at the outer side of each of those windows which constitute the outer ones of the series of windows used in the front, substantially as shown in Figs. 1 and 6, and between the outer side of each said outer window and the adjacent wall G or G' a sub-column L³, in combination with a suitable backing of studding L⁴ and plaster-work L⁵ or other equivalent finish, is generally used. A construction analogous to that last described may also be used between two principal columns, as at L⁶, Fig. 1, when it is desired to modify the width of the front. Immediately in front of either a side or a partition wall a column L is used, substantially as shown. A feature of the box-frames L' is the inside finish-board L⁷, which at its lower end is extended downward below the level of the stiles L⁷ to come against and be nailed to the inner side of the plate F, Fig. 9, and at its upper end is ex-

tended upward above the stiles to come against and be nailed to the inner side of the lintel M.

The feature of the window-frames at the top thereof is the outside finish-piece I², which is extended downward at *i²* to lap upon the outside window-sash I², substantially as shown. Continuing upward from said lintel M the front is construed substantially as follows: *b²⁰* *b²⁰* represent a series of studs resting upon said lintel M and extending thence upward (when the building has two stories only) to the top of the building, and the entablature N, consisting of the wooden foundation *n* and the sheet-metal facing *n'* and supported upon said studs *b²⁰*, serves to complete the front in the customary manner, saving that, in common with that portion of the front which has been previously described, it is concentrated to form a thinner front than those hitherto in use, for, owing to the described manner of combining the columns with their respective box-frames, the columns and the inside of the box-frames can be brought closer together, and in consequence largely thereof the entire front can be concentrated in the direction of its depth—that is, the distance between the outer metallic facing or whatever constitutes the outer surface of the front and the inner surface of the front can be less than that occurring in a front of the kind under consideration as heretofore made—that is, beginning at the bottom of the present front, the lintel *b* need not be as wide (viewed from above) as in previous constructions, the lookout *b²* need not project outward as far and can be supported, mainly, if not exclusively, by the studs *b'*, and the metal facing *b⁶* can be secured to the plate F with its upper edge in the immediate vicinity of the inner surface of the front. At the top of the window-frames the outer surface of the front can be brought nearly, if not quite, to the studs *b²⁰*, and in forming the entablature a single row of studs *b²⁰* suffices in place of two rows arranged one in front of the other, as heretofore.

When the building has more than two stories—as, for instance, as in Fig. 1, in which two upper stories *a a'* are shown—the part E is brought into requisition. It is substantially similar to the portion B of the front, saving that it is suitably modified to conform to the position in the front which it occupies—that is, in place of resting the studs *b²⁰* upon the lintel M an intermediate set of studs *e* are carried up from said lintel and a plate F' rests upon said studs *e* and a cornice *e'* substantially similar to the cornice shown in said B portion is supported upon said studs *e*, and in other respects that portion of the front which is opposite the story *a'* of the building is substantially similar to that portion of the front which is opposite the story *a* thereof. J' represents the floor of said third story *a'*. An additional feature of the building-front is associated with that portion of the front which

is immediately above the windows and columns in either of the stories of the building. The panels O are obtained by means of a flat piece or pieces *o*, fastened to the lookouts *n*, and the projections *o'*, which are shaped and bolted to said flat piece or pieces, substantially as shown in Fig. 7.

Fig. 8 illustrates the mode or modes of forming the joints at certain points—say at 100, Figs. 3 and 4, or *b''*, Fig. 2. In the upper portion of the figure the lock is not completed. In the lower portion of the figure it is completed.

We claim—

15 1. The combination of the lintel *b*, the stud *b'*, the plate F, extending horizontally across the building-front, and the lookout *b²*, substantially as described.

20 2. The combination of the stud *b'*, the lookouts *b²*, the plate F, extending horizontally across the building-front, and the sheet-metal facing *b⁴*, substantially as described.

25 3. The combination of the lintel *b*, the studs *b'*, the lookouts *b²*, the plate F, extending horizontally across the building-front, and the sheet-metal facing *b⁴*, substantially as described.

30 4. The building-front having the windows *I'* and the plate F, said plate extending horizontally across the building-front and also constituting the sills of said windows, substantially as described.

35 5. The combination of the lintel *b*, the studs *b'*, the plate F, and the windows *I'*, said plate extending horizontally across the building-front and also constituting the sills of said windows, substantially as described.

40 6. The combination of the box-frames and the plate F, the pulley-stiles of said box-frames resting mediately, as described, upon said plate and the inside finish-board of said box-frames extending downward and being

fastened to said plate at the inner side thereof, substantially as described.

7. The building-front having the windows 45 and the lintel M, said lintel extending horizontally across the building-front and also constituting the heads of said windows, substantially as described.

8. The building-front having the windows, 50 the plate F, and the lintel M, said plate and lintel extending horizontally across the building-front and also respectively constituting the sills and the heads of said windows, substantially as described. 55

9. The building-front having the window-frames, the end studs H, extending from the upper part of the first story to the upper part of the front, and the plate F, and the lintel M, said plate and lintel extending horizon- 60 tally across said front from stud to stud and respectively constituting the sills and the heads of said window-frames, substantially as described.

10. The building-front having the plate F, 65 and the lintel M, and the box-frames and columns, as described, the inside finish-board of said box-frames being extended vertically and attached to the inner side of said plate and lintel, substantially as described. 70

11. The building-front having the box-frames, and the metallic columns, and the plate F, and lintel M, extending horizontally across the front and having connected thereto said box-frames and columns, substantially 75 as set forth.

Witness our hands this 8th day of June, 1891.

AUGUST BRUNKHORST.
ARTHUR WIEDEN.
CHARLES T. RICHARDS.

Witnesses:

PAUL BOILEAU,
FRANCIS VALLÉ.