

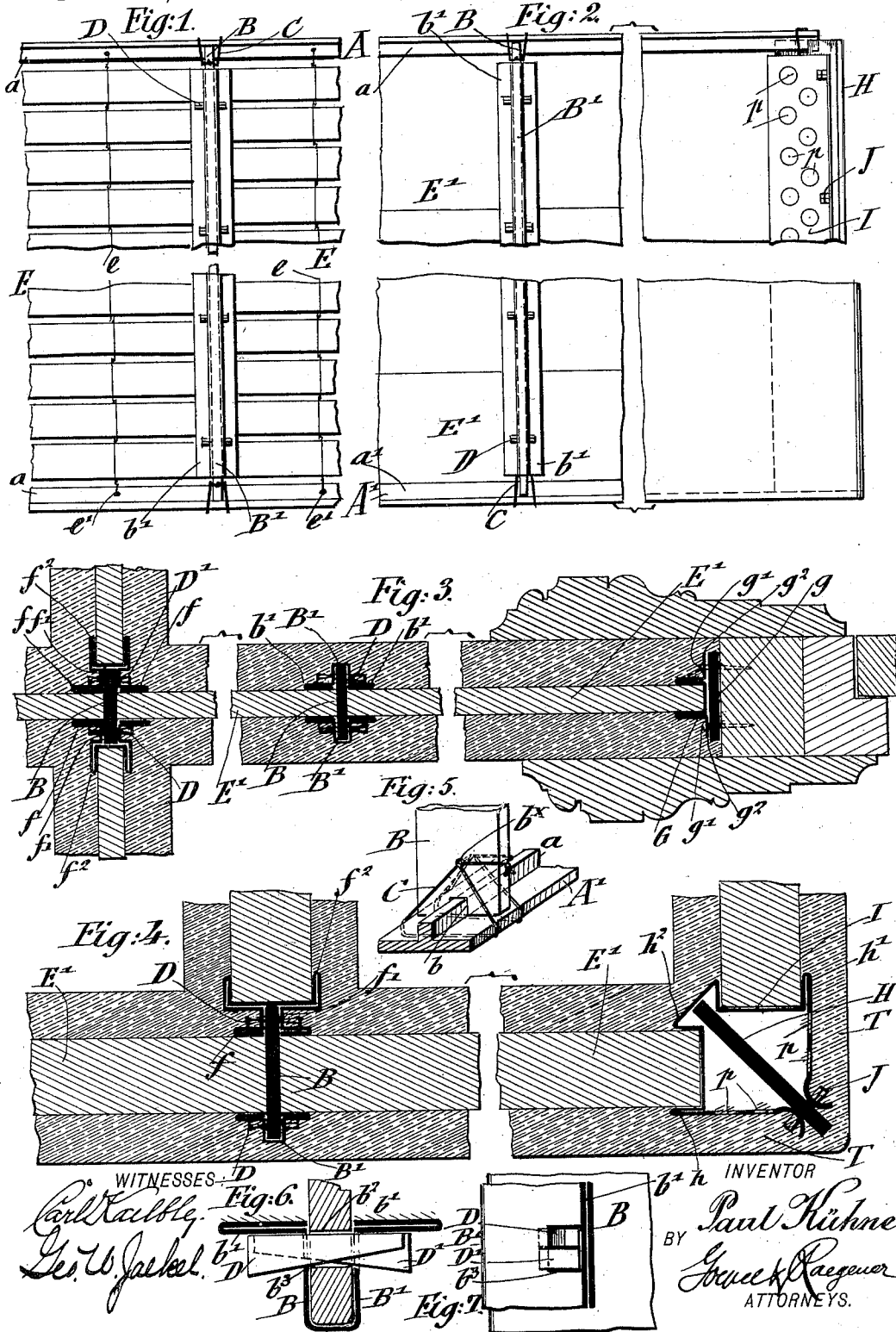
(No Model.)

P. KÜHNE.

SKELETON STRUCTURE FOR FIREPROOF PARTITIONS.

No. 606,348.

Patented June 28, 1898.



UNITED STATES PATENT OFFICE.

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SKELETON STRUCTURE FOR FIREPROOF PARTITIONS.

SPECIFICATION forming part of Letters Patent No. 606,348, dated June 28, 1898.

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To all whom it may concern:

Be it known that I, PAUL KÜHNE, a citizen of the United States, residing in Stapleton, county of Richmond, State of New York, have
5 invented certain new and useful Improvements in Skeleton Structures for Fireproof Partitions, of which the following is a specification.

This invention relates to a skeleton structure for fireproof partitions which can be very quickly erected and which is both strong and efficient after it is put up, and as it is light and not cumbersome it does not take up much space.

15 This invention consists, mainly, of a metal-lic strut, to each edge of which are applied longitudinally-recessed clamping-pieces, which are tightened thereonto and against the filling material, which is arranged to be clamped
20 between the lips or flanges of said clamping-pieces by means of suitable keys or wedges, which pass through registering holes in the edges of the strut and through the recessed portions of the clamping-pieces.

25 The invention further consists of top and bottom T-irons, struts connected with the same at the top and bottom, and clamping pieces or strips applied and fastened to each edge of each strut, so as to hold between them
30 the filling material.

In the accompanying drawings, Figure 1 is a broken side elevation showing the preferred form of my fireproof skeleton structure for partition-walls. Fig. 2 is a broken side elevation of another form of the invention. Fig. 3 is an enlarged transverse section, parts broken out, showing the construction at four meeting rooms, the intermediate portion of a partition, and at the part adjacent to a door-frame. Fig. 4 is also an enlarged transverse section, parts removed, showing clearly the corner construction and a modified form of clamping-piece. Fig. 5 is a detail perspective view showing the manner of connecting
45 a strut with a T-iron; and Figs. 6 and 7 are respectively a detail transverse section and side elevation enlarged, showing the key or wedge connection of a clamping-piece with a strut.

50 Referring to the drawings, A A' represent, respectively, the top and bottom T-irons of

the ceiling and floor. The flanges *a* of the top and bottom T-irons are received by end notches *b*, formed in the struts B, which extend from the floor to the ceiling and are connected firmly with the T-irons by means of
55 suitable wire ties C, said struts being perforated at the ends at *b*^x, Fig. 5, so as to facilitate the application of the said tie-wires. Applied to the opposite edges of each strut B
60 are clamping pieces or strips B', longitudinally recessed or which are U-shaped in cross-section and which are provided with side flanges *b'*, these flanges being adapted to hold and bind the filling between them in the man-
65 ner now to be described.

Referring more particularly to Figs. 6 and 7, it will be seen that each strut B is provided with a hole *b*², which registers with corresponding holes *b*³, formed in the clamping-
70 strips. Into these holes are driven from the opposite sides two keys or wedges D D', which when driven forcibly into the holes at opposite sides of the structure come in contact with and force the flanges of the opposite
75 clamping-strips toward each other, thus tightly binding the filling between them. The inclined faces of the wedges are so disposed as that when they are driven in they will act to force the clamping-strips inwardly against
80 the filling.

In Fig. 1 a form of filling is shown which consists of suitably-spaced laths or strips E, which are connected by means of interwoven
85 wires *e*, the ends of which are passed through holes *e'* in the flanges *a* of the T-irons, so that the said wires can be connected therewith. I have in the other figures shown filling-slabs E'; but I do not limit myself to the use
90 of either the described or any other filling.

The clamping-strips shown at the extreme left of Fig. 3 are of modified form—that is to say, they are each formed of a laterally folded and bent plate or strip of sheet metal with doubled flanges *f*, a web or neck section *f'*,
95 and a double-flanged head *f*². The filling material E' of the main wall is clamped between the flanges *f* of said clamping-strips in the above-described way by means of the wedges or keys D D', which pass through the
100 neck or web portions *f'* and through the edges of the strut B.

To the framework of the door the filling F or its equivalent, as shown at the extreme right of Fig. 3, is connected and applied by means of the doubly-flanged sheet-metal strip 5 G, which is applied to a metallic strut *g*, which is secured to the door-frame by means of suitable fastening-nails or the equivalent *g'*, which are driven through the side flanges *g*² of said doubly-flanged strip and through 10 the side perforations of the strut *g*. At the left of Fig. 4 a clamping-strip *ff' f*² is shown, which is the equivalent of that shown at the left of Fig. 3 and is to be applied to one of the edges of a strut B in the main wall for 15 supporting a partition-wall extending at right angles thereto. This clamping-strip is applied to one edge of the strut B, while to the other edge is applied a clamping-piece B', similar to that shown in Figs. 1 and 2, and 20 these are connected in the usual way.

At the right of Figs. 2 and 4 my improved corner-post is shown, which consists of a strut H, contained in a hollow sheet-metal casing I, said casing being formed of a bent-up sheet 25 of metal, the edges of which are secured to the strut by means of keys or wedges J in a similar manner to that in which the clamping-strips are secured to the partition-struts. The sheet-metal casing is bent into the form 30 shown, so as to provide side flanges *h h'*, which extend at right angles relatively to each other, while between the said flanges the casing is formed with a triangular key head or rib *h*². When the corner-post is set up, the 35 ends of the filling material are inserted between the side flanges *h h'* and the head *h*², while the plastering T is applied to the perforated sides of the strut H, so that the plastering or cement material can enter the per-

forations *p*, and thereby be prevented from 40 clipping off. The key-shaped head on the casing further strengthens and reinforces it in connection with the strut H, while at the same time and mainly it supports the filling 45 material and partition against falling inwardly. The strut H is wired to the ceiling and floor T-irons in a similar manner to the partition-struts.

Having thus described my invention, what I claim is— 50

1. In a skeleton structure for fireproof partition-walls, the combination of a metallic strut provided with transverse holes near its edges, flanged clamping-strips applied to each edge and having transverse holes immediately adjacent to the flanges and registering 55 with the holes in the strut, and keys or wedges driven through the holes in the clamping-strips and strut and being in contact at each end with the flat surfaces of said flanges, 60 substantially as set forth.

2. In a skeleton structure for fireproof partition-walls, the combination with the ceiling and floor irons, and struts connected with said irons and provided with transverse holes 65 near their edges, of U-shaped clamping-strips provided with holes registering with the holes in said struts, and keys driven into the registering holes of the strips and struts, for clamping the filling material between the said 70 clamping-strips, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

PAUL KÜHNE.

Witnesses:

GEO. W. JAEKEL,
PAUL GOEPEL.