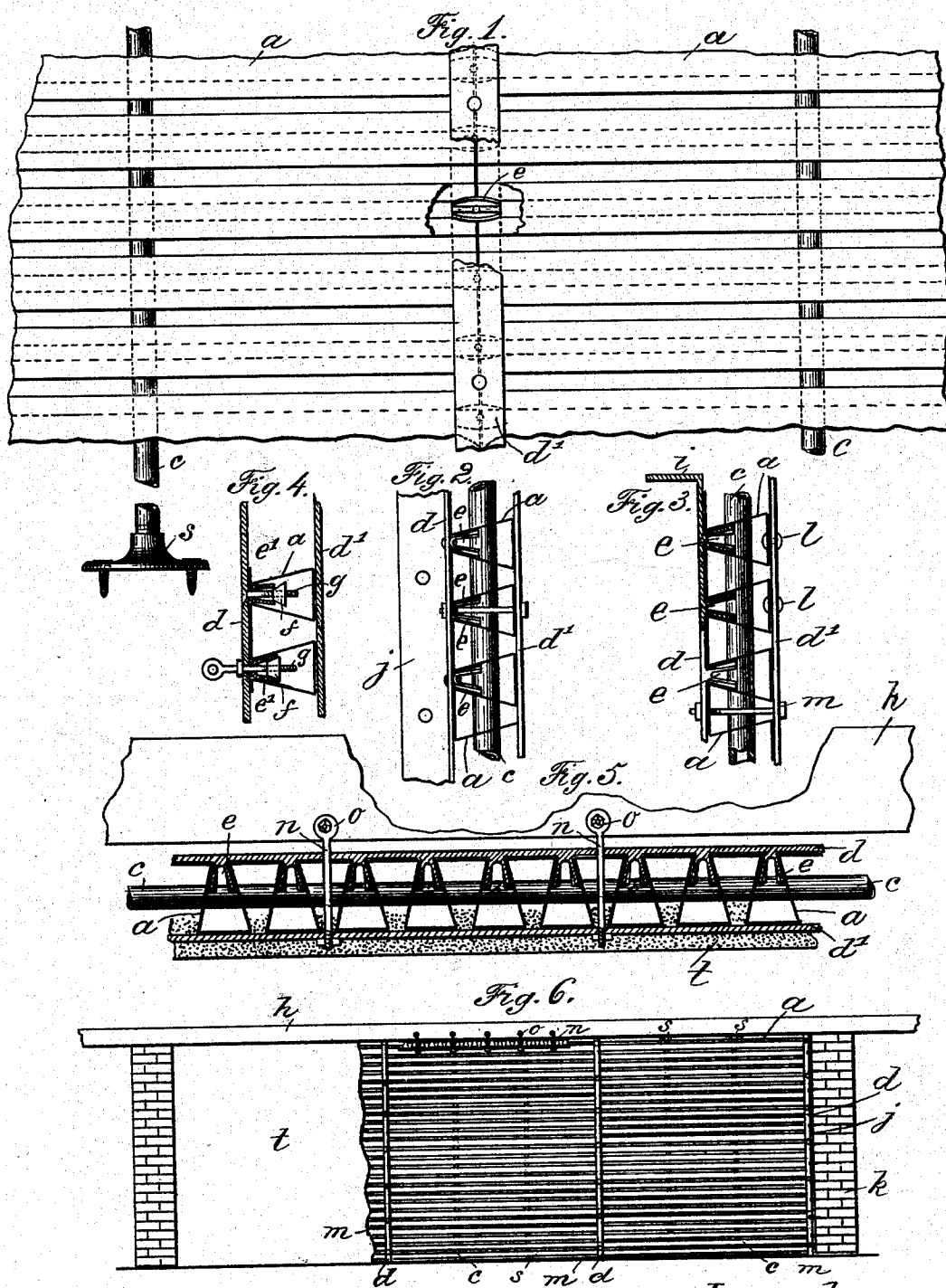


(No Model.)

T. BAILEY
PARTITION.

No. 504,858.

Patented Sept. 12, 1893.



Witnesses:
Ernst Sundgren,
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att'y

UNITED STATES PATENT OFFICE.

THOMAS BAILEY, OF NEW YORK, N. Y.

PARTITION.

SPECIFICATION forming part of Letters Patent No. 504,858, dated September 12, 1893.

Application filed August 10, 1892. Serial No. 442,735. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BAILEY, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Fireproof Building Material, of which the following is a specification.

My invention consists in various improvements in fireproof building material as partitions, ceilings and the like the foundation of which is reversely bent and alternately dovetail ribbed and grooved metallic sheets with stiffening and supporting studs and fire clay or other plastic coating of the character described in the patent granted to me September 13, 1887, No. 369,680, all as hereinafter described reference being made to the accompanying drawings in which—

Figure 1, is a front elevation of a portion of the skeleton of a partition as I now construct it preparatory to applying the plaster, with a part broken out. Fig. 2, is an end elevation of a portion of a like skeleton, with a flange at one end to abut on and fasten to a wall or transverse partition. Fig. 3, is partly an end elevation and partly a sectional elevation of a like skeleton with a flange at the top of one of the upright strips to fasten to the under side of an upper floor beam. Fig. 4, is a detail in vertical section showing some of the parts in modified form. Fig. 5, is a transverse sectional elevation of a ceiling in accordance with my invention. Fig. 6, is a side elevation of a partition partly covered with plaster and a section of a portion of a ceiling of my invention, on a reduced scale.

The reversely bent and alternately dovetail ribbed and grooved metallic sheets *a*, to be covered on one or both sides with plaster *t*, as for a partition or ceiling, are the same as in my former patent referred to, and the posts or rods *c*, extending lengthwise of the plates through the perforated cross-webs formed in producing the dovetail ribs or grooves, and employed to stiffen them may also be used with my present improvements if desired, and I so represent them in the drawings, but they may be omitted.

I now propose to employ flat bars as *d*, transversely to the said dovetail ribs and

grooves or lengthwise of the plates and applied to the outside for stiffening them. I prefer to connect said bars by means of the flaring yoke cleats *e*, attached to or formed on said bars the distance apart corresponding with the pitch of the grooves, and adapted to connect with the plates by sliding into the grooves lengthwise from the edges of the plates; these flaring cleats being of the same width where they join the bars as the narrow openings of the grooves, "justify" the ribs and grooves which owing to the thin and unstable character of the plates do not retain such uniform relation of the parts when placed in position as is desirable especially when the rods *c*, only are used for stiffening and adjusting the plates; the cleats also draw the plates and bars closely and firmly together through the effect of the flaring shape of the cleats and the "undercut" form of the grooves. To facilitate the entering of the ends of the cleats in the ends of the grooves, the cleats are made tapering from the middle to the ends as shown in Fig. 1 whereby the ends of the cleats will enter the grooves when closed more than their due dimensions and the wider middle portions of the cleats spread the grooves to the proper extent.

By another plan expansible cleats as *e'*, somewhat narrower than the grooves so as to enter freely may be expanded by taper nuts *f*, and screw bolts *g*, inserted through the plates *d*, and the cleats, the said bolts and nuts also being the means of securing the cleats to the bars, or the cleats may be otherwise fastened. The cleats and bars may be integral castings as in Figs. 3, 4, and 5. These bars *d*, may be used at the edges of the plates only, where besides stiffening the plates and "justifying" the ribs and grooves they serve to couple two plates together, the plates being placed edge to edge and the bars and cleats applied half to each plate as in the middle of Fig. 1, other bars may be used at intermediate positions along the sheets as in the places of the rods *c*. The coupling or splicing and intermediate bars *d*, will have a flange as *i* at each end to fasten on the floor at the lower end and on the under side of a beam or ceiling at the upper end, and where the end of a partition joins a transverse partition, or a side

wall as *k* at the right hand of Fig. 5, the bar *d*, will have a flange *j* along one edge to fasten to said transverse partition or wall.

I propose in some cases to employ other stiffening bars *d'*, on the other sides of the sheets together with bars *d*, either riveting them on as at *l*, Fig. 3, or bolting or riveting them through the plates and bars *d*, as by the bolts *m*, *n*. These bars *d* will be more particularly useful in the case of ceilings as in Fig. 4, and the bolts *n*, will have an eye *o*, a suitable distance above the bar *d*, for suspending the fire proof material from the wood beams *p*, by spiking the eyes to the beams. The length of the eye portions of the bolts above the bars *d*, will be such as to afford ample air space between the metallic portion of the ceiling and the wood for protection against fire. Bolts *g* may also have eyes for suspending the ceiling in like manner. When the rods *c* are used the plates *a*, are perforated at suitable distances apart before bending them to cause the holes to come in line suitably for admitting the rods. The rods have flange collars as *s*, at the ends on the floor or ceiling.

t represents the plaster applied to the ceiling in Fig. 1, and to the partition in Fig. 5.

I claim—

1. The combination with the bent and alternately dove-tail ribbed and grooved sheet metal partition or ceiling plates, of a bar extending lengthwise along and attached to the surface of the plate substantially as described.

2. The combination with the reversely bent and alternately dove-tail ribbed and grooved sheet metal partition or ceiling plate, of a bar extending lengthwise along each side and attached to said plate substantially as described.

3. The combination with the reversely bent and alternately dovetail ribbed and grooved sheet metal partition or ceiling plate, of a bar extending lengthwise along said plate and attached thereto by the transversely flaring cleats confined in the undercut grooves substantially as described.

4. The combination with the reversely bent and alternately dovetail ribbed and grooved sheet metal partition or ceiling plate, of a bar extending lengthwise along said plate and attached by the expansible cleats confined in the undercut grooves substantially as described.

5. The combination with the reversely bent and alternately dovetail ribbed and grooved sheet metal partition plate, of a bar extending lengthwise along each side of said plate and bolted or riveted together through the plate substantially as described.

6. The combination with the reversely bent and alternately dovetail ribbed and grooved plate, of a bar extending lengthwise along and attached to one side of said plate, and eye bolts projecting laterally from said plate substantially as described.

7. The combination with the reversely bent and alternately dovetail ribbed and grooved plate, of a bar extending lengthwise along and attached to said plate, and a flange along one edge of the bar substantially as described.

8. The combination with the reversely bent and alternately dovetail ribbed and grooved plate, of a bar extending lengthwise along and attached to said plate, and a flange at one or both ends of said bar substantially as described.

9. The combination with the reversely bent and alternately dovetail and ribbed and grooved plate, of a bar extending lengthwise along and attached to one side of said plate by the transversely flaring and lengthwise tapered yoke cleats substantially as described.

10. The combination with the reversely bent and alternately dovetail and ribbed and grooved plate, of a bar extending lengthwise along and attached to one side of said plate, and one or more rods extending lengthwise through the cross webs of the plate substantially as described.

11. The combination with the reversely bent and alternately dovetail and ribbed and grooved plates joined edge to edge, of a coupling bar extended lengthwise along the plates at the joints and connected to said plates by yoke cleats attached to it and engaging the undercut grooves of each plate substantially as described.

Signed at New York city, in the county and State of New York, this 29th day of July, A. D. 1892.

THOMAS BAILEY.

Witnesses:

W. J. MORGAN,
A. P. THAYER.