No. 737,133. PATENTED AUG. 25, 1903.

T. O'BRIEN.

ADJUSTABLE JOIST FOR SUPPORTING FIREPROOF FLOORS.

APPLICATION FILED NOV. 15, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

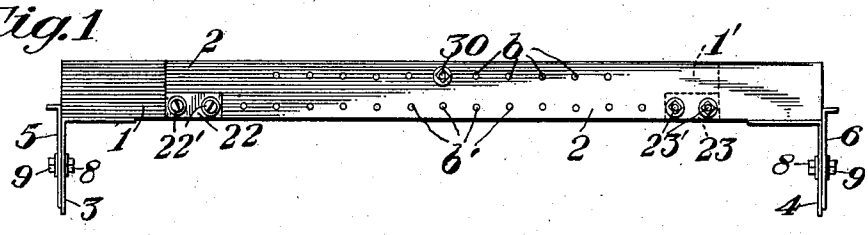


Fig. 2

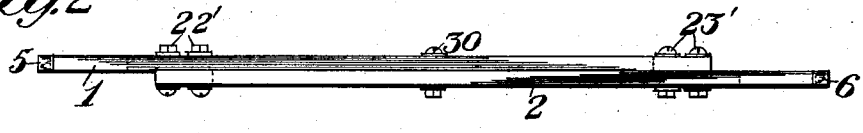


Fig. 3

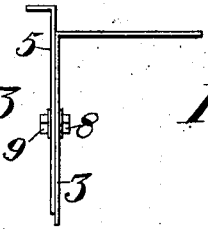


Fig. 4

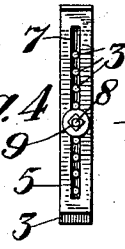


Fig. 5

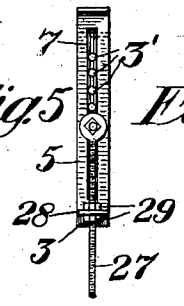


Fig. 6

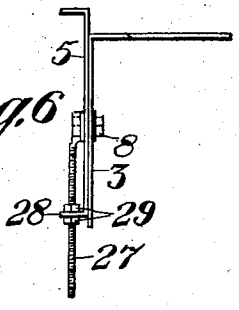
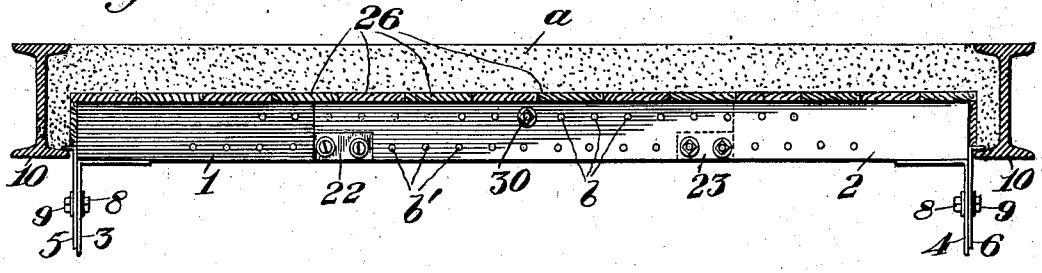


Fig. 7



Witnesses:
Geo. B. Rowley.
C. A. Williams

Inventor;
Timothy O'Brien
By J. J. Smith & Rowley
His Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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T. O'BRIEN.

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APPLICATION FILED NOV. 15, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 8

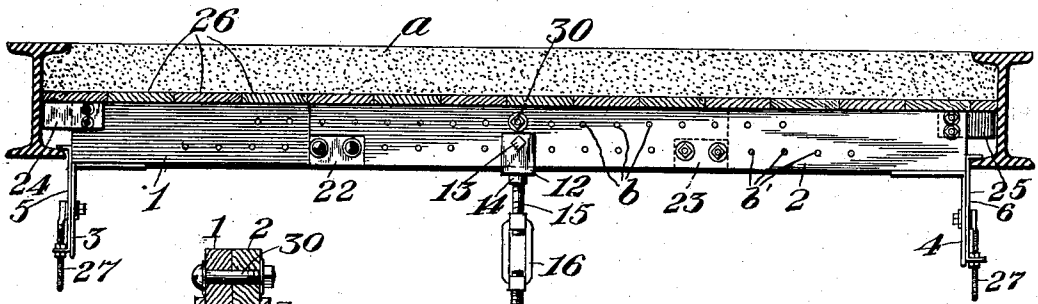


Fig. 9

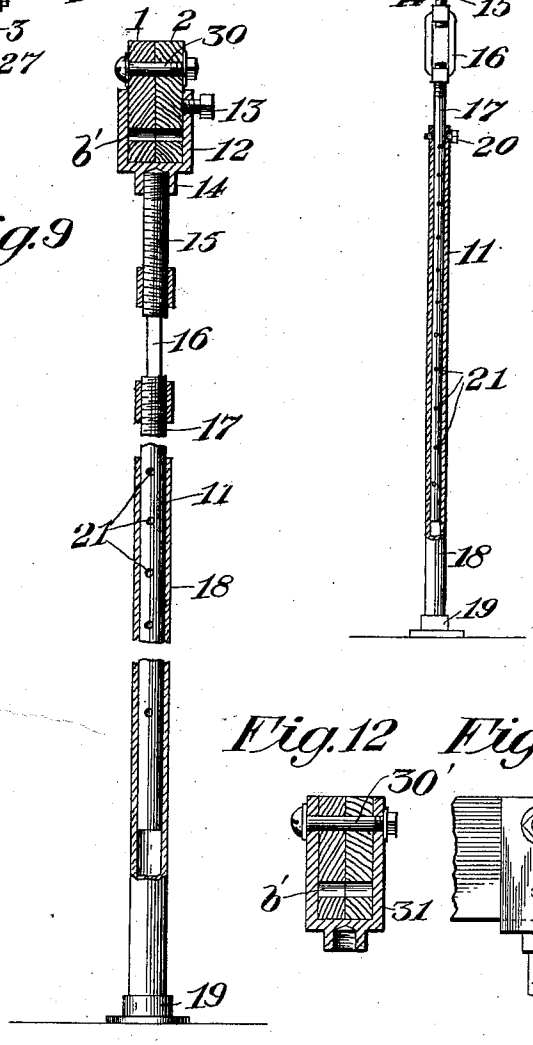


Fig. 10

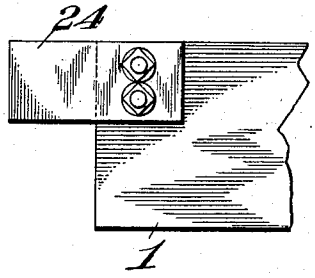


Fig. 11

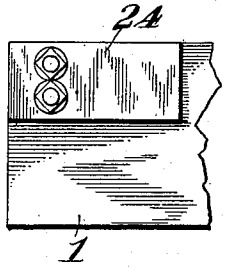
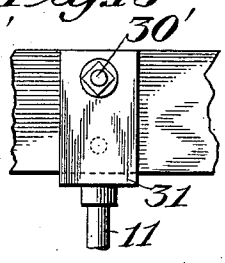


Fig. 12

Fig. 13



Witnesses:
Geo. B. Rowley.
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Inventor:
Timothy O'Brien
By John H. Rowley
his Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 737,133. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

TIMOTHY O'BRIEN, OF PITTSBURG, PENNSYLVANIA.

ADJUSTABLE JOIST FOR SUPPORTING FIREPROOF FLOORS.

SPECIFICATION forming part of Letters Patent No. 737,133, dated August 25, 1903.

Application filed November 15, 1902. Serial No. 131,465. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY O'BRIEN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Adjustable Joists for Supporting Fireproof Floors, of which improvement the following is a specification.

My invention relates to improvements in devices to temporarily support concrete or fireproof floors or arches during the time the cement is setting.

The object of my invention is to produce a cheap and simple device of this general character capable of adjustment longitudinally to support a span of concrete floors of varying lengths, also of vertical adjustment, for the purpose of enabling the formation of floors of different thickness.

To accomplish these objects, my invention consists in the novel construction and arrangement of parts hereinafter more fully described, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 indicates a side elevation of my improved device. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of the support and adjusting-bracket. Fig. 4 is an end view of the same. Fig. 5 is an end view of a modified form of same. Fig. 6 is a side elevation of same. Fig. 7 is a side elevation of the device in operative position. Fig. 8 is a side elevation of a modified form of device in operative position. Fig. 9 is a side view in section of the vertical support-brace, the floor-supports being also shown in section. Fig. 10 is a side elevation of one end of one of the floor-supports, showing extension-block in operative position. Fig. 11 is the same, the block swung back out of position. Fig. 12 is a vertical section of a modified form of brace-yoke, showing a transverse section of the sections of the floor-supports; and Fig. 13 is an elevation of the same.

Like reference characters indicate like parts wherever they occur throughout the several views.

Referring to said drawings, 1 and 2 are two bars arranged side by side and adapted to be secured together, as hereinafter set forth. The outer ends of said bars respectively are securely fastened to the brackets 3 and 4, said brackets being adjustably secured upon the shoes 5 and 6. The said brackets are provided with series of holes 3′ and the shoes with vertically-disposed slots 7 7, through which the bolts 8 8 pass and are secured by the nuts 9 9, whereby the bars 1 and 2, which constitute one beam when adjusted as shown in Fig. 7 to support the concrete floor *a*, regardless of the height of the girder or I-beams used, the beam being supported between the girders 10 10 on the shoes, the hooked upper end of which engages the lower flange of said girders, as shown. It may be that the span between the girders is so great that it may be necessary to support the temporary beam at the center, in which case I provide a vertical support 11, the upper end of which terminates in a yoke 12, adapted to be clamped or otherwise secured upon the temporary beam by the bolt 13. The lower end of the yoke is provided with a threaded socket 14, in which the upper threaded end of the tube or pipe 15 is secured. The lower end of said tube is also threaded and secured in the threaded orifice of the turnbuckle 16, the lower end of which is secured to the upper end of the tube or rod 17, the lower end of which projects in the large tube 18, which may terminate in a base 19, adapted to be secured upon the floor below that in the process of formation. The said tube or rod 17 telescopes in said larger tube 18 and is secured thereby by the bolt 20, which is adapted to pass through holes 21, transversely in said tubes. The turnbuckle 16 enables the support to be adjusted to distances intermediate said holes. The inner ends of said bars 1 and 2 terminate in tongues 1′ 2′, formed by contracting or undercutting the upper edge of said bars a short distance from the end thereof, and the said tongues are adapted to rest upon or overlap the blocks 22 23, which are adjustably secured to the sides of the said bars by the bolts 22′ 23′, the said bars having series of holes *b b′* along the upper and lower edges for the purpose of enabling the bars to be adjusted and secured at various points by the centrally-disposed bolt 30 and the said support-blocks to be likewise secured at different points thereto for the purpose of supporting the ends of said bars at various adjustments. 24 25 are blocks

secured to said bars in such manner that a portion thereof may project beyond the ends of said bars to support the concrete when it is desirable to hold the concrete above the lower flange of the girders, as shown in Fig. 8.

In all cases where my device is used two or more are supported upon the girders, and boards 26 are arranged thereon to support the concrete while setting.

In Figs. 5, 6, 8 I show a modified form of device to secure the bracket to the shoe, which consists in a rod 27, the lower portion of which is threaded and passes through an orifice formed in the laterally-projecting flange 28 on the lower end of the hanger. The upper end of said rod terminates in a portion having an opening conforming with the shape of the nut 9 on the bolt 8, over which it engages. The nuts 29 assist in holding the rod firmly after it has been adjusted and also holds the bracket and bar secured thereto more securely.

In Figs. 12 and 13 I show a modified form of yoke, in which the said yoke is secured to the beam by means of the bolt 30', which corresponds with the bolt 30. In other words, one bolt may be used to secure both sections of the beam and at the same time secure the yoke thereto.

I claim as my invention and desire to secure by Letters Patent—

1. In temporary supports for fireproof floors, the combination of two bars arranged side by side for relative longitudinal adjustment and having overhanging portions at their inner ends, blocks secured to the sides of the bars and adjustable lengthwise of said bars, said overhanging inner ends of the respective bars overhanging and resting on the blocks, and means for supporting the bars in position.

2. In temporary supports for fireproof floors, the combination of two bars arranged side by side and adjustably secured together, each of said bars having a block adjustably secured upon the lower edge thereof, the inner end of each of said bars being adapted to rest upon the block secured on the other bar, brackets to which said bars are secured, shoes supported upon the girders, and means to adjustably secure said brackets upon said shoes.

3. In temporary supports for fireproof floors, the combination of two bars arranged side by side and adjustably secured together having extension-blocks at the outer ends thereof and provided with adjustable blocks adapted to be secured along the lower edge thereof, and means to adjust said bars vertically.

4. In temporary supports for fireproof floors, the combination of two bars arranged for relative longitudinal adjustment, each of said bars having a block adjustably secured thereto, the inner end of each of said bars being adapted to rest upon the blocks secured on the other bar, and means for supporting said bars in position.

5. In temporary supports for fireproof floors, the combination of two bars arranged for relative longitudinal adjustment and having extension-blocks at their outer ends which project beyond said ends, and independent means at the outer ends of the bars adapted to engage the girders of the floor.

6. In temporary supports for fireproof floors, the combination of bars adapted for relative longitudinal adjustment, and means for supporting said bars from the girders, of a vertically-adjustable support for said bars which arises from the floor.

7. In temporary supports for fireproof floors, the combination of a bar for supporting the floor, brackets at the ends of the bar having a vertical series of apertures, shoes adapted to engage the girders and also provided with flanges, vertical adjusting-screws passing through the flanges, and fastenings connecting said screws to the shoes and brackets through the slot and apertures aforesaid.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

TIMOTHY O'BRIEN.

In presence of—
CLARENCE A. WILLIAMS.
JOHN H. RONEY.