Dec. 10, 1968 G. T. PHILLIPS 3,415,030

TILE SUPPORT APPARATUS

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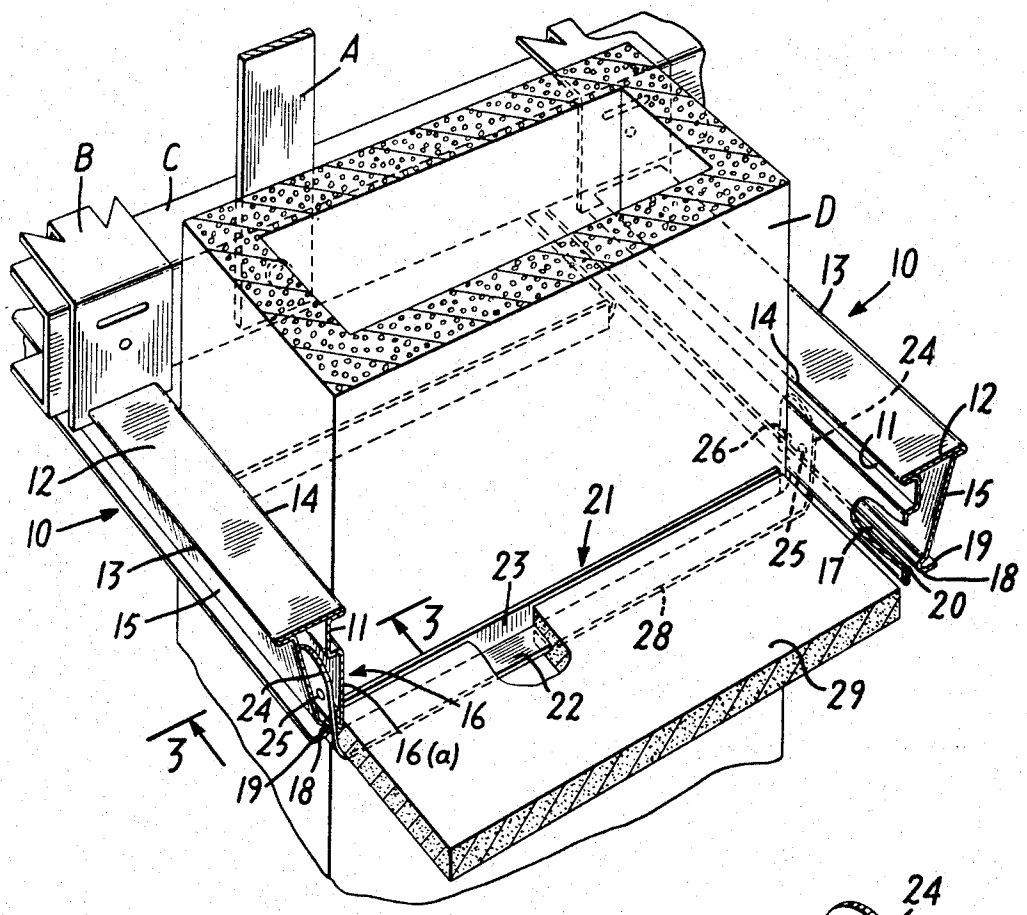



FIG. 1

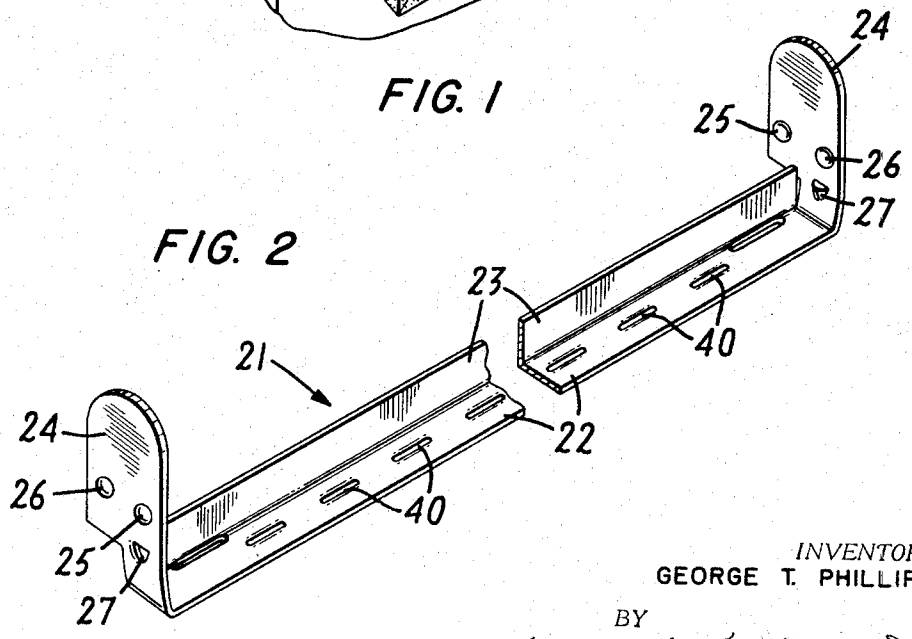



FIG. 2

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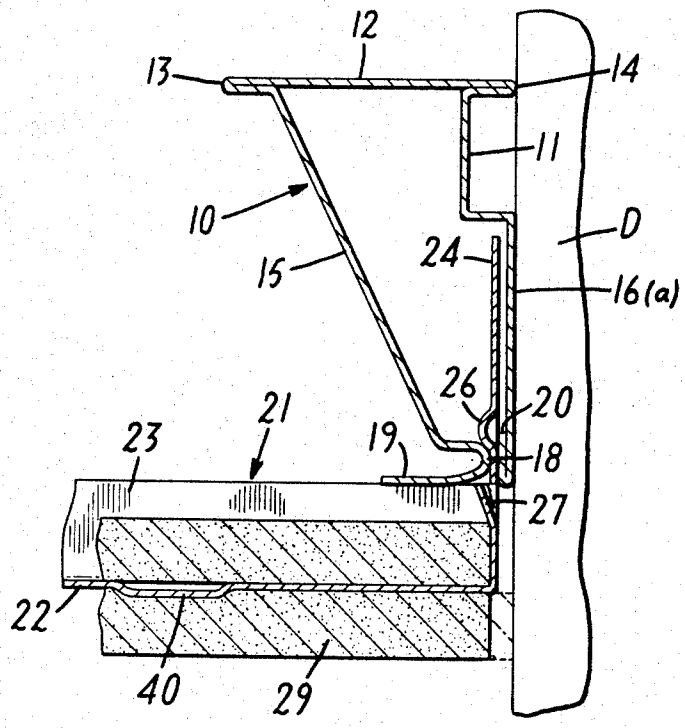
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FIG. 3




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3,415,030

# TILE SUPPORT APPARATUS

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5 Claims. (Cl. 52—493)

## ABSTRACT OF THE DISCLOSURE

A support device for a suspended ceiling system. A support runner consists of a flat base, one perpendicular side and one inclined side. The flat perpendicular side rests against a wall structure and the flat side and inclined side form a slot structure for receiving tile support splines. The tile support splines have flanges which snap into the slot of the runnner. The splines have a horizontal surface which supports the ceiling tiles, while a flat side perpendicular thereto is adjacent a wall structure.

Dropped ceilings, formed from an array of removable panels, tiles or acoustical tiles supported from hangers, are often found in contemporary buildings. These ceilings are employed, inter alia, to enhance the aesthetic and acoustical qualities of the room in which they are placed. The tiles comprising the aforesaid ceilings are frequently supported by means of a continuous prefabricated assembly structure.

One type of assembly consists of a furring runner having laterally-extending arms or brackets upon which the tiles are mounted. In this respect, I refer to my United States Patent No. 3,058,172, granted Oct. 16, 1962 and to my pending application Ser. No. 375,473, filed June 16, 1964 now Patent No. 3,271,918, both of which illustrate this type of assembly.

In dropped ceilings, it is highly desirable that minimum space exist between the tiles comprising the ceiling and a protrusion such as a beam, wall, ceiling fixture, or the like. Such spaces are undesirable because they tend to reveal support structures for the tiles, thus detracting from the aesthetic quality of the ceiling and otherwise requiring masking. Heretofore, the construction of prior art assemblies was such that certain spaces necessarily appeared between the protrusion and the tile inserted adjacent thereto when the elements of the assemblies abutted protrusions.

It is an object of this invention to eliminate this problem. In accordance with the present invention, there is provided a new assembly comprising a furring runner and a bracket, so constructed that when either of them abuts a protrusion, the separation of the tile inserted adjacent the protrusion and the protrusion itself will be so reduced that it would not detract from the aesthetic quality of the ceiling and not require masking.

For a better understanding of the present invention, reference may be had to the following description and to the drawings, in which:

FIGURE 1 is a perspective view in section of an assembly employing the invention showing a tile supported thereon;

FIGURE 2 is a perspective view of a tile support bracket in accordance with the invention; and

FIGURE 3 is a view taken along line 3—3 of FIGURE 1.

Referring to FIGURE 1, the furring runner **10** comprises a base **12** having edge flanges **13** and **14** and resiliently spaced sidewalls **15** and **16** which converge at their lower portions to define a longitudinal slot **17** extending lengthwise of the runner. The furring runner **10** may be supported from portions of the room in which



it is situated by usual support elements A, B, and C, or other means. The sidewall **15** extends downwardly and angularly towards the bottom portion of the sidewall **16**. The bottom of the sidewall **15** terminates in an inwardly bent flange **18** and an outwardly bent flange **19**. As best seen in the right hand portion of FIGURE 3, it is the portion of the flange **18** adjacent the sidewall **16** which converges with the lower portion of the vertical sidewall **16** to form the longitudinal slot **17**.

The sidewall **16** is substantially perpendicular in relation to the base **12** of the furring runner **10**. The upper portion of the sidewall **16** which is integrally formed with the base **12** extends downwardly and is contoured to form a recessed receiving channel **11**. Extending downwardly from the lower portion of the channel **11** is the remaining portion of the sidewall **16**(*a*). The remaining portion of the sidewall **16**(*a*) extends downwardly and is bent inwardly and upwardly against itself to form a shoulder **20**.

The remaining portion of the sidewall **16**(*a*) lies in substantially the same vertical plane as the periphery of the edge flange **14** below which it resides. The shoulder **20** lies on substantially the same horizontal plane as the uppermost portion of the inwardly bent flange **18**.

FIGURE 2 shows a new L-shaped spline **21** comprising a base flange **22** and a vertical flange **23**, and at each end an upwardly extending flange **24** which is in transverse relation to the base **22**. The flanges **24** are formed on the base and are of a width equal to approximately the combined height of the vertical flange **23** and width of the horizontal base flange **22**. Flanges **24** have two detents **25** and **26** equidistant from the vertical flange **23** and above the uppermost portion of said vertical flange **23**. Also formed in the flange **24** is a tongue **27** which lies in the same horizontal plane as the top surface of the vertical flange **23**. This relationship assures a proper alignment of the splines when they are placed in their corresponding receiving slots **17**, as best illustrated by FIGURE 1.

As shown in FIGURE 1, the horizontal base flange **22** is receivable in the horizontal rabbet **28** of the tile **29**. Detents **40** may be stamped or similarly formed in the horizontal base to provide a snug fit. The spline **21** is used in conjunction with the runners or bars **10** and a bar to support an edge of the tile **29**, adjacent to a ceiling protrusion as shown in FIGURE 1. The edge of the tile or panel, spaced from and parallel with the protrusion, may be supported by a conventional T-spline or a T-spline of the type disclosed in my co-pending application Ser. No. 375,473.

As shown in FIGURE 1, a rabbeted edge **28** of the tile **29** is slipped on the horizontal base **22** of the spline **21** with the vertical flange **23** abutting or close to the protrusion D. The opposite edge of the tile is similarly slidably received on a T-spline of conventional type or the type disclosed in my co-pending application. When so placed the upper half of the edge of the tile or tiles abuts the vertical flange **23** of the L-shaped spline **21**.

The detents on the horizontal flanges **40** function to engage in a surface of the rabbeted edge of the tile **29** and retain the tile thereon. Flanges **24** of the L-shaped spline **21** and the opposite edge T-spline are retained thereon and are engaged in the longitudinal slot **17** of the parallel furring runners or bars **10** by means of the detents thereon, for example, the detents **25** and **26** which are disposed above and in engagement with the curved inner flange **18** of sidewall **15** and the shoulder **20** on sidewall **16**.

The L-shaped spline **21** can be adjusted along the slot **17** into tight abutment with the protrusion D. This means that when a tile **29** is secured adjacent the protrusion D (as shown in FIG. 1), it is separated from the protrusion

by only the width of the vertical flange **23**. This spacing is so minimal that it does not detract from the aesthetic quality of the ceiling and does not require masking, or built in flanges on edges of protrusions to cover any gap between protrusions and a tile.

To further facilitate an understanding of the advantages of my invention, reference may also be had to FIGURE 3. As shown therein, the vertical sidewall **16**(*a*) of the furring runner or bar **10** abuts the protrusion D; tiles **29** which are supported by L-shaped splines **21**, remounted at one end on the bar **10** and extending away from the protrusion perpendicular to the bar **10**, are separated from the protrusion only by the thickness of the vertical side member **16**(*a*) and consequently only a negligible gap remains between the edge of a tile or tiles and the protrusion D. In prior devices the tile would be separated from the protrusion by a distance at least equal to the width of the flange **19** or one-half the width of the base **12**, whichever is the greater. It will be understood that the gap may be entirely eliminated by built in flanges on the ends of the protrusions or by a slight extension of the lower portion of the tile **29**, as illustrated by the dotted lines in FIGURE 3.

While a representative embodiment of the present invention has been shown and described for purposes of illustration, various changes and modifications may be made therein without departing from the principles of this invention. For example, the standard type shoe device may be employed to connect separate furring runners **10**. Therefore all such changes and modifications are included within the intended scope of the invention as defined by the following claims.

I claim:

**1.** A supporting structure comprising a runner having an elongated base with substantially parallel opposite edge flanges, a pair of sidewalls extending from one side of said base, one of said sidewalls being in substantially perpendicular relation to said base of the runner and disposed in a plane which contains the peripheral edge of one of said edge flanges, the other sidewall being resilient and converging outwardly from said base toward the outer end of said one sidewall and defining therebetween a slot.

**2.** The structure set forth in claim **1** in which said one sidewall includes a channel adjacent to said base.

**3.** The structure set forth in claim **1** in which said one sidewall has an upwardly facing shoulder on its inner side and said other sidewall terminates in an inwardly bent flange.

**4.** The structure set forth in claim **1** comprising a spline having a pair of right-angularly related elongated flanges, one of which is for engaging and supporting the edge of a tile, panel and the like, end flanges perpendicular to and at opposite ends of one of said right-angularly related flanges, each end flange being engageable on a slot in said runner to position said other right-angularly related flange in face-to-face engagement with a protrusion.

**5.** The invention as set forth in claim **4**, wherein said end flanges have abutments thereon to limit the extent of entry of said end flanges into said slots.




**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 2,188,021 | 1/1940 | Thompson | 52—493 |
| 2,478,060 | 8/1949 | Spiess | 52—493 |
| 3,058,172 | 10/1962 | Phillips | 52—145 |
| 3,271,918 | 9/1966 | Phillips | 52—493 |



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U.S. Cl. X.R.

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