

July 12, 1960

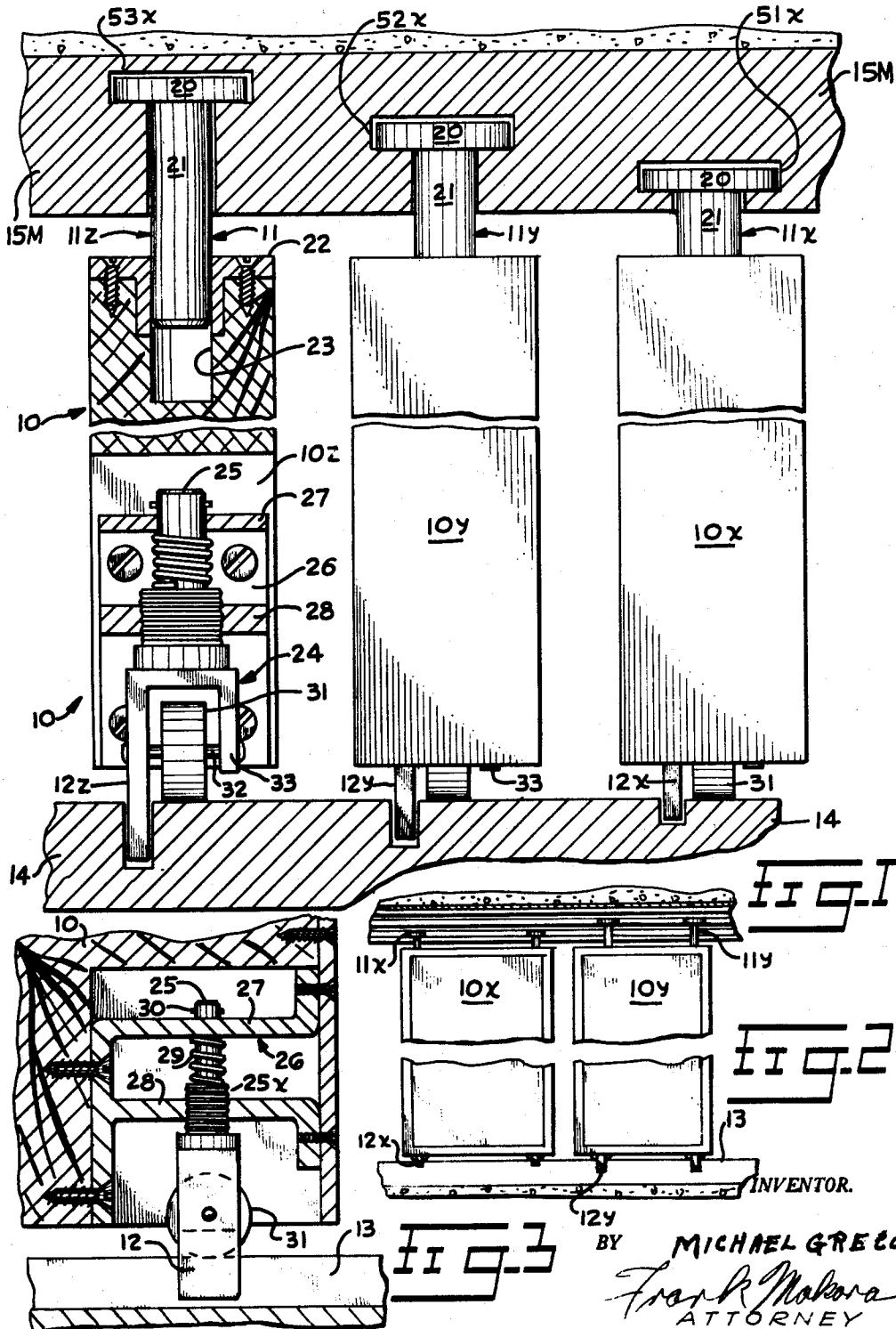
M. GRECO

2,944,282

CONCEALABLE PARTITIONS

Filed Aug. 17, 1959

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

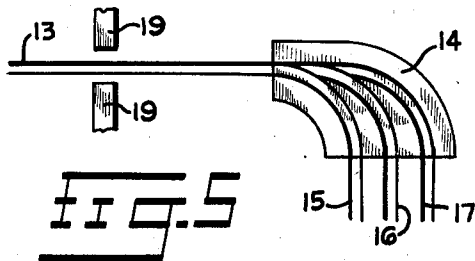


FIG. 5

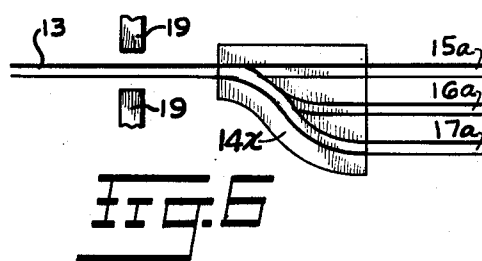


FIG. 6

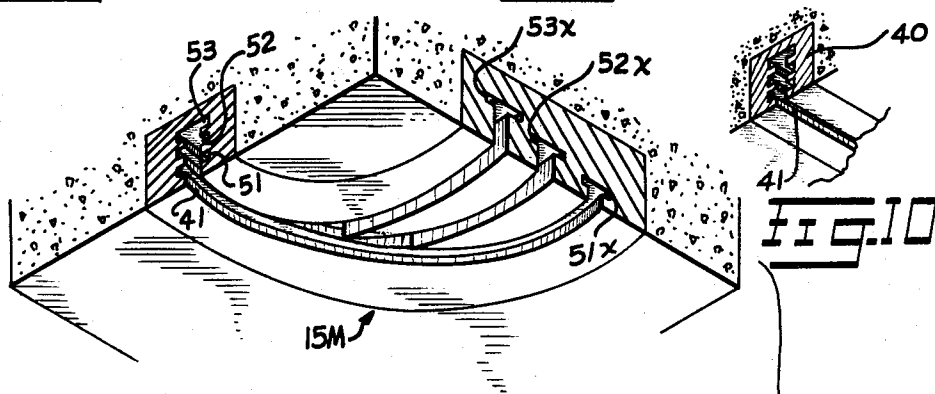


FIG. 10

FIG. 4

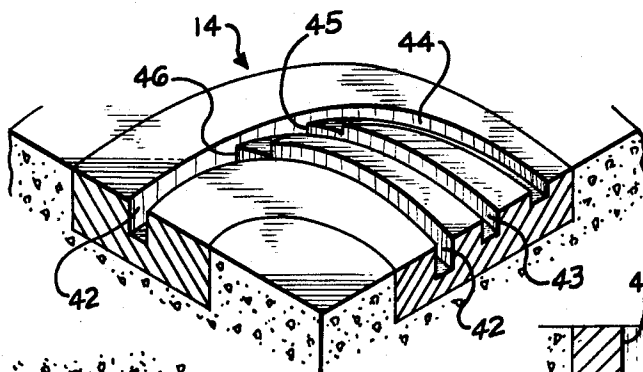


FIG. 9

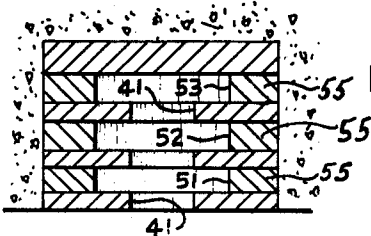


FIG. 7

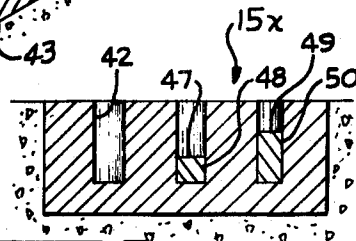


FIG. 8

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1
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CONCEALABLE PARTITIONS

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5 Claims. (Cl. 16-87)

This invention relates to partitions used to form a temporary wall thereby dividing a single large room into two smaller rooms.

It is an object of this invention to provide jam proof sliding partitions forming a wall.

It is a further object to provide an improved ceiling track for the guidance and storage of said sliding partitions.

It is another object to provide improved ceiling track means and improved floor track means for facilitating the jam proof storage of said partitions.

These and other objects of this invention will become apparent upon reading the following descriptive disclosure taken in conjunction with the accompanying drawing in which;

Fig. 1 is an end view of Fig. 4 showing three wall partitions, broken away in part disposed in storage, one of said doors being in transverse section to show the roller means for supporting the weight of the door adjacent a floor guidance track and to show the T-shaped ceiling guide used to captively hold the top of the partition in the ceiling tracks and to guide the top of the partition during the process of storing the partition into predetermined stalls.

Fig. 2 is a side view of a pair of partitions, broken away in part, showing the varying height of the pair of T-ceiling guide bars and the pair of floor guide lugs used for each respective door.

Fig. 3 is a section view of the holder block showing the manner of supporting the weight of the door on the roller therein and showing the manner of disposing the floor guide lug in the floor track as well as the manner of securing the block to the bottom of the partition.

Fig. 4 is a perspective view in section of the ceiling turning block and of the co-acting floor turning block disposed directly below the ceiling block.

Fig. 5 is a top view of the floor turning block showing the manner of shunting door from a single floor track into a plurality of floor storage stalls disposed at a right angle to the single floor track.

Fig. 6 is a top view of a modified floor turning block for shunting partitions from a single track into storage stalls disposed parallel to the single track and used in co-action with a similar ceiling block.

Fig. 7 is an end view of a modified ceiling turning block, showing the manner of constructing the block from suitable laminated plates instead of milling it out of a single piece of metal.

Fig. 8 is a section view of a modified floor turning block showing the manner of construction used in lieu of a single suitably grooved metal block.

Fig. 9 is a perspective view of a wedge used in the modified turning block of Fig. 8.

Fig. 10 is a perspective view of the ceiling track.

Turning to the drawing, and particularly to Figs. 1 and 2, the individual and separate partitions 10 are each provided with a pair of T-guide bars 11 disposed in spaced-apart relationship in the top edge of the partitions and also with a pair of spaced-apart floor guide lugs 12 for traveling in a floor track 13.

Each pair of T-guide bars 11 of a partition is captively held in its respective T-shaped ceiling channel. The height of the T-guide bar of the partitions varies with the separate partitions.

Where three storage stalls are employed, the heights of the pairs of T-bars on the three partitions varies so as

2

to give pairs of T-bars of three different heights relative to the top edge of the partitions (Fig. 1).

Co-acting with the respective pairs of T-guide bars 11 on the top of the respective partitions is a respective pair of lugs 12 disposed directly beneath the bars 11. The heights of the pairs of lugs 12 for each partition varies so that where three storage stalls are employed three pairs of lugs heights are used, one height for each partition.

All the lugs of all the partitions travel in a suitably deep floor track 13 separating the room to be partitioned. However, the separate partitions 10 are routed to predetermined storage stalls by a floor routing block 14 co-acting with the respective pairs of lugs 12 of varying heights in conjunction with a co-acting ceiling routing block 15M co-acting with the respective pairs of T-guide bars 11 of a respective partition 10.

Routing block 14 and 15M are each preferably integral metal blocks having suitable grooves milled therein by conventional machine tools. The ceiling block 15M is disposed directly over its co-acting floor block 14 to facilitate turning of the separate partitions into their respective storage stalls.

Where two partitions are each provided with T-guide bars 11 of the same height and with suitable co-acting lugs 12 of the same height or depth, then in this instance two partitions are routed to a suitable storage receiving stall.

The storage receiving floor stalls 15, 16, 17 are disposed behind a concealing wall 19 of the room being divided. The stalls 15, 16 and 17 may be made to receive one or more partitions 10 depending upon the space available behind the wall 19. However, each stall 15 and 16 and 17 has a suitable top groove adapted to receive a respective pair of T-bars 11 therein and a suitable bottom co-acting groove adapted to receive a respective pair of lugs 12.

The T-bars 11 are integral elements having an oval or round head plate 20 integral with a stem 21 of suitable length. The stem 21 is disposed slidably in an aperture plate 22 secured by screws over a suitably deep cavity 23 in the top edge of each partition. The purpose of the plate 22 is to prevent wear of the cavity 23 and may be omitted if desired.

The lugs 12 are part of an integral U-shaped yoke 24 wherein the lug 12 is a leg of the yoke given a pre-determined height or depth so that it may frictionally engage pre-determined curved surfaces in the floor turning block 14.

The yoke 24 is provided with an integral spindle 25. A support 26 having an integral pair of parallel plates 27 and 28 is secured within a suitable cavity in the bottom edge of the partition 10.

As shown in Fig. 3, the plate 27 is provided with an aperture to slidably receive the non-threaded top of spindle 25. The spindle 25 is provided with a threaded wide portion 25X disposed in a threaded aperture provided in plate 28.

A spring 29 may be disposed on the wide portion 25X and against the bottom surface of plate 27. Preferably a locking pin 30 is disposed in a suitable transverse aperture in the top of the spindle 25. The legs 12 and 33 of the yoke 24 are each provided with suitable apertures and a wheel 31 and axle 32 is journaled therein.

As shown in Fig. 1, partition 10X is provided with a relatively short lug 12X and a relatively short T-bar 11X, and partition 10Y is provided with an intermediate lug 12Y and T-bar 11Y while partition 10Z is provided with longest T-bar 11Z and the longest lug 12Z.

In operation the wheel 31 rides on the floor adjacent groove 13 and carries the weight of the partition 10. The spindle 25 is adjustably screwed into plate 28 so that the lug 12 extends a suitable distance into the groove 13.

3

The ceiling track 40 (Fig. 10) is provided with a plurality of parallel disposed channels having a common channel stem 41 each channel being adapted to receive the T-bar heads 20 of respective T-bars 11.

Preferably the ceiling rail 40 is of extruded metal, for example, aluminum alloy, but it may be made by suitably laminating metal sheet stock (Fig. 7).

The ceiling track 40 mates with the ceiling block 15M so that the channel grooves of the track 40 continue without interruption into block 15M.

In block 15M the separated parallel disposed head receiving channels have a common channel stem 41 mating with the different levels in track 40. These composite channels are separated in block 15M into individual channels for use of T-bars having a common height. Thus all the stems of the T-bars ride in the stem channel 41 of the ceiling groove but only stems 21 of predetermined height ride in the pre-determined stall channels.

The floor block 14 is preferably made from a single block of metal by milling out a groove of a common width at three different heights at pre-selected locations. Thus groove 42 is a continuation of groove 13 of the floor and receives all lugs 12X, 12Y and 12Z. The groove 42 is milled in a suitable curve through 90 degrees to give the groove leading to stall 16. At a suitable point directly in line with the floor groove 13, the milling cutter is raised and a curved groove 43 of less depth than groove 42 is cut in the block 14. Next the milling cutter is raised again to cut a third groove 44 of least height and adapted to receive the shortest lug 12X. Clearly groove 43 receives lug 12Y and groove 42 receives lug 12Z.

In operation the lugs 12X of the partition 10X ride without opposition or hitting an obstruction to rub against the outer wall of groove 44 and to rout the partition 10X to stall 17 having the stall groove of least depth. However the lugs 12Y hit the outer wall of groove 43 at point 45 and are turned into groove 43 and thence into stall 16 of similar intermediate groove depth. Partition 10Z has its lugs 12Z engage the outer wall of groove 42 at the turning point 46 thereby directing the partition 10Z to stall 15.

As shown in Fig. 8, the floor block 15X may be made by cutting the block with curved grooves of uniform depth 42 and thereafter inserting wedge 47 of suitable height 48 into a middle groove and wedge 49 of height 50 in the extreme outer groove. In any event the floor turning block has three grooves at different levels leading to a common groove which mates in height with the floor groove 13.

Similarly the ceiling block 15M is preferably an integral block provided with suitable T-shaped spaced-apart T-curved grooves at different levels meeting to form a common ceiling groove having separate channels for the T-elements of the T-bars 11.

Thus a T-bar head 20 of T-bar 11X disposed in undercut channel 51 of the composite channel is slidingly routed to a separate channel 51X and thence into a stall track having a groove of 51X configuration disposed directly over floor stall track 17. Similarly channel 52 of the composite groove of element 40 is separated at a different level to give the separate T-groove 52X of intermediate height to receive T-bar 11Y (Fig. 1).

Groove 52X connects to a like groove in the ceiling directly over floor stall 16. Lastly channel 53 of the composite rail 40 is separated in ceiling block 15M into a separate channel 53X which is of greatest stem height and adapted to receive T-bar 11Z.

The cutting out of the metal from the ceiling block 15M is done in the manner described for the floor block 14 using conventional milling tools, but in the case of the ceiling block 15M undercutting mill tools are used to provide the recessed channels 51, 52 and 53.

The ceiling block may optionally be made by use of suitable laminations (Fig. 7) wherein suitable plates are separated by suitable spacers 55, the distance between a

4

pair of opposed spacers being suitable to receive respective stem heads.

Clearly this invention is of generic scope and not limited to the illustrative embodiments.

I claim:

1. A ceiling routing block adapted to receive T-guide bars of varying heights disposed in the top of respective partitions consisting essentially of an integral block having a composite inlet channel opening having spaced-apart parallel channels and a common stem channel communicating with separate channels of varying depth corresponding to the heights of the T-bars and which curvingly merge into said composite channel whereby partitions having T-guide bars of varying pre-determined heights disposed in said composite channel are sorted into separate individual channels of varying depth disposed in parallel relationship.

2. A floor routing block for routing lugs of varying length at the base of a wall partition consisting essentially of an integral block having an incoming channel adapted to receive all lug lengths communicating with respective outgoing channels of pre-determined depths corresponding to the varying lengths of the routing lugs, a wall of each of the separated channels curvingly merging into the incoming channel to form a sliding surface for pre-determined lug lengths.

3. A concealable wall apparatus comprising a plurality of vertically disposed and separately movable partitions; a pair of spaced-apart T-bars disposed in the top edge of each of said partitions, the T-bars of one partition varying in height from the T-bars of other partitions; a pair of spaced-apart roller means disposed in the bottom edge of each of said partitions adapted to support the weight of the partition on the rollers, each of said roller means having a U-shaped yoke having a depending lug of pre-determined length, the depending lugs of one partition varying in length with the depending lugs of other partitions; a ceiling guide rail having spaced-apart horizontally disposed channels communicating with a centrally disposed vertical channel, said T-bars of varying length of said partitions being disposed in respective receiving horizontally disposed channels of said ceiling guide rail; a floor guide rail having a single vertically disposed channel adapted to receive the depending lugs of all of said roller means; a ceiling routing block engaging said ceiling guide rail and adapted to transfer partitions having T-bars of uniform height into stalls adapted to receive said uniform height T-bars, and a floor routing block disposed directly below said ceiling block and adapted to transfer partitions having lugs of uniform length into stalls adapted to receive said uniform length lugs.

4. The apparatus of claim 3 wherein the ceiling routing block has incoming spaced-apart horizontally disposed channels communicating with a centrally disposed vertical channel in registration with corresponding channels in said ceiling guide rail, said ceiling routing block having spaced T-shaped grooves of varying depth each merging at one end with said incoming channels, said T-shaped grooves coacting with said T-bars of varying height for routing the top edge of said partitions into separated parallel disposed stalls.

5. The apparatus of claim 4 wherein the floor routing block is provided with an incoming channel of extended depth at one end, said incoming channel being in registration with the channel of the floor guide rail, said floor routing block having spaced-apart grooves of varying depth emerging at the other end, said grooves co-acting with said lugs of corresponding varying length for routing the bottom edge of said partitions into separated parallel disposed floor stalls, said grooves of said floor block merging into said incoming channel in said floor block.

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