Oct. 27, 1925. 1,558,725

F. A. UPHAM

WINDOW STAGING

Filed Oct. 25. 1924 3 Sheets-Sheet 1

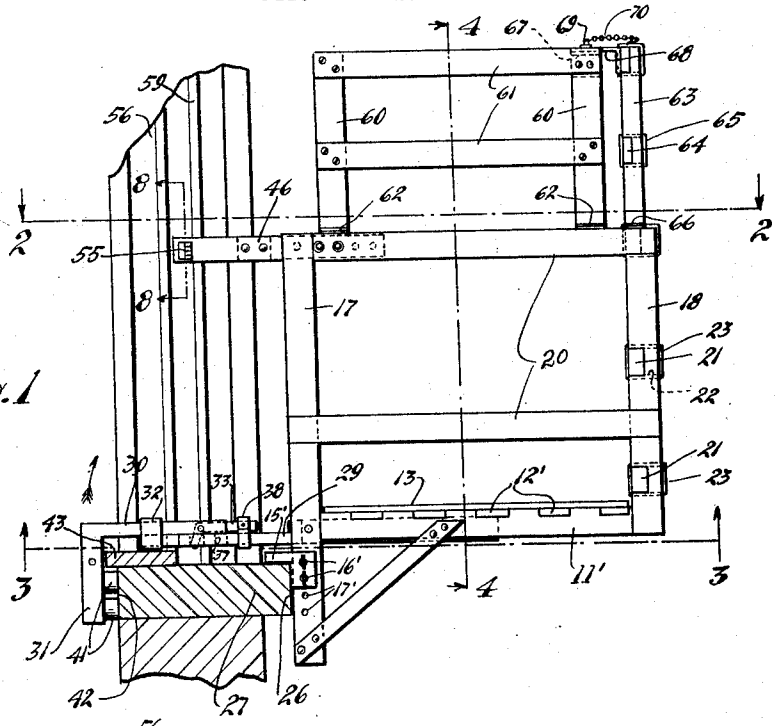


Fig. 1

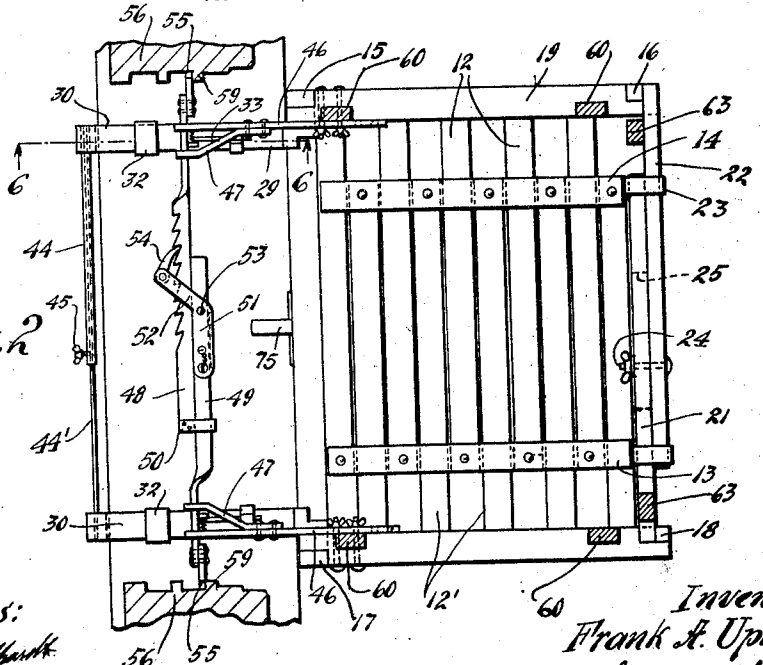


Fig. 2

Witnesses:
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WINDOW STAGING

Filed Oct. 25, 1924 3 Sheets-Sheet 2

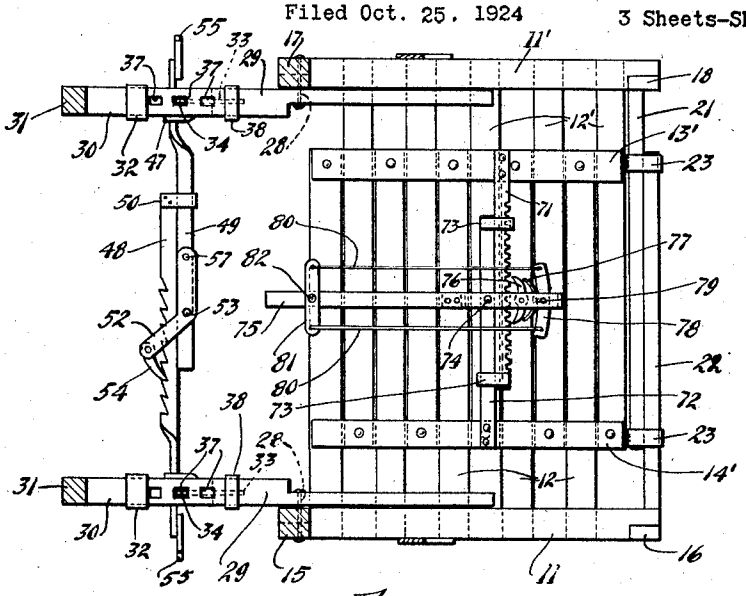


Fig. 3

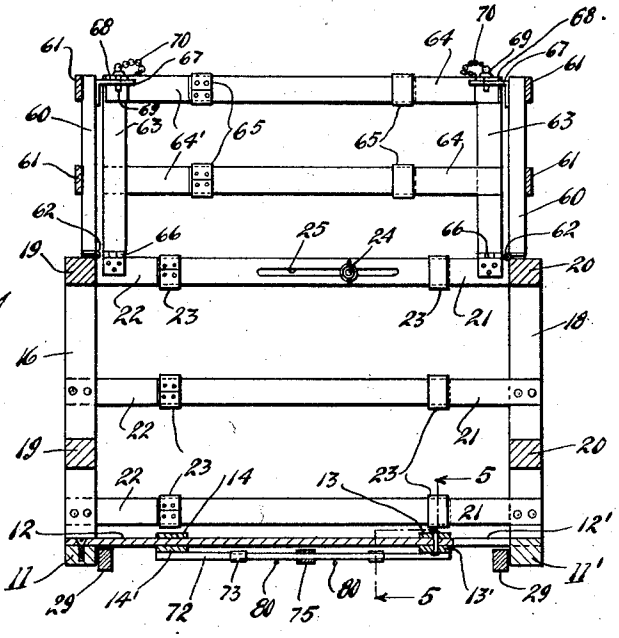


Fig. 4

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WINDOW STAGING

Filed Oct. 25. 1924 3 Sheets-Sheet 3

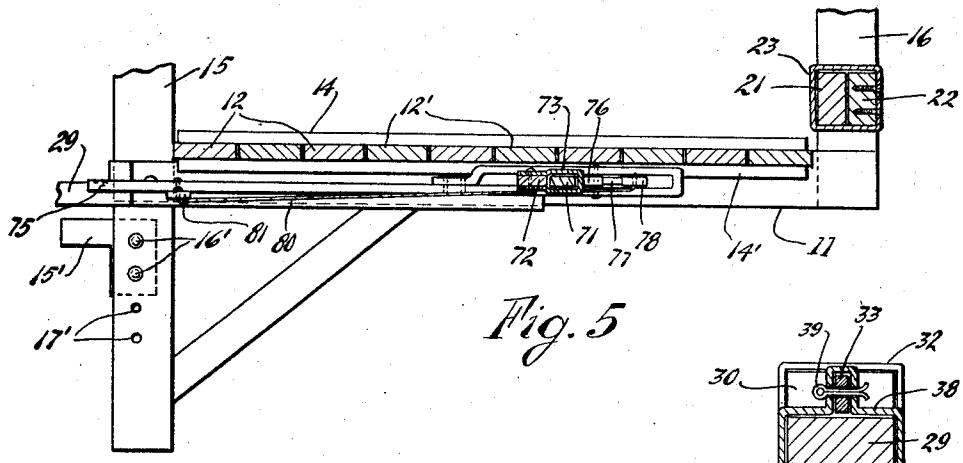


Fig. 5

Fig. 7

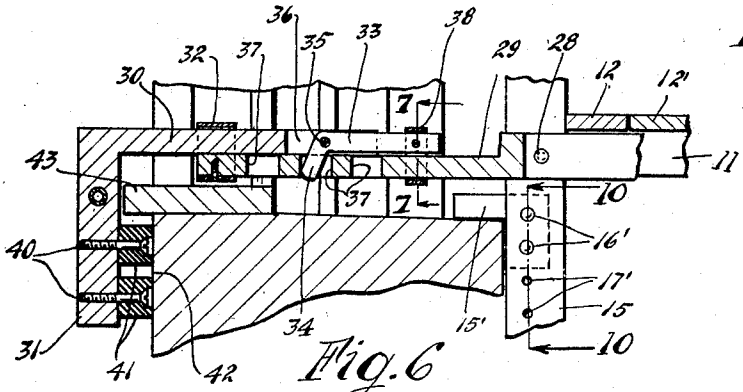


Fig. 6

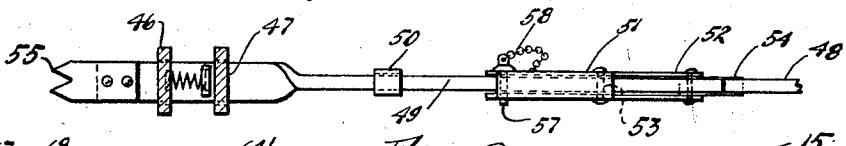


Fig. 8

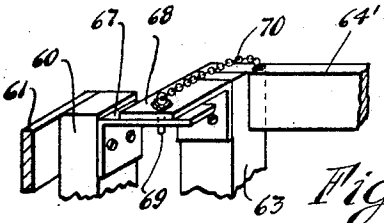


Fig. 9

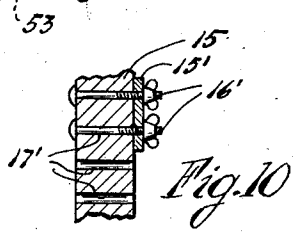


Fig. 10

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Patented Oct. 27, 1925. 1,558,725

UNITED STATES PATENT OFFICE.

FRANK A. UPHAM, OF OELWEIN, IOWA.

WINDOW STAGING.

Application filed October 25, 1924. Serial No. 745,778.

To all whom it may concern.

Be it known that I, FRANK A. UPHAM, a citizen of the United States, and a resident of the city of Oelwein, county of Fayette, and State of Iowa, have invented certain new and useful Improvements in Window Staging, of which the following is a specification.

My invention relates to window staging, adapted to be supported from a window on the outside thereof for use by persons in washing windows or in working upon the windows or window frames, and my invention has for its primary object the provision of an improved construction of this character which will be highly efficient in use.

Another object of my invention is the provision of a portable window staging embodying novel features of adjustment in order to be used in connection with windows of different dimensions and in order to be secured to window frames and ledges of different dimensions.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a side elevational view of a structure made in accordance with my improvements, the structure here being shown in connection with a fragmentary portion of a window frame,

Fig. 2 is a horizontal section through the parts shown in Fig. 1 on the line 2—2 thereof,

Fig. 3 is an underneath plan view of the structure, taken on the line 3—3 of Fig. 1,

Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 1,

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4 and illustrating in particular the means for manually adjusting the structure,

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 2,

Fig. 7 is a vertical cross section taken on the line 7—7 of Fig. 6,

Fig. 8 is a detailed view of a portion of the railing adjustable between confronting faces of the window frame, this view being taken on the line 8—8 of Fig. 1,

Fig. 9 is a perspective view illustrating the means employed for detachably connecting an end auxiliary frame with a back auxiliary frame,

Fig. 10 is a vertical section taken on the line 10—10 of Fig. 6.

In referring with particularity to the accompanying drawings, wherein I have exemplified the preferred embodiment of my invention, it will be seen that the staging construction includes an adjustable platform consisting of opposed end rails 11 and 11′, from each of which projects towards the other a series of spaced apart platform members or slats, the numeral 12 herein designating the platform members or slats projecting from the end rail 11 and the numeral 12′ designating the platform members or slats projecting from the end rail 11′, it being observed that this arrangement is such that the platform members 12 and 12′ are interengaged in slidable relation. Upon the inner extremities of the platform members 12 are secured the connecting cleats 13 and 13′, through which the platform members 12′ pass; while upon the inner extremities of the platform members 12′ are secured the cleat connections 14 and 14′ in which the platform members 12 have slidable engagement.

The end rail 11 is attached to posts 15 and 16. Similarly the end rail 11′ is attached to posts 17 and 18. On the posts thus provided are constructed end and back frame structures, which rise above the platform in order to prevent the occupant thereof from falling off while working. Thus, as herein shown, the posts 15 and 16 are connected by end frame members as 19 and the posts 17 and 18 are shown as connected by end frame members 20. The posts 16 and 18, which constitute the posts at the rear of the structure are connected by the pairs of back frame members 21 and 22 which are held in slidable contact by means of straps 23 provided thereon, this arrangement being such that these back frame members 21 and 22, held by the straps in sliding engagement, may be adjusted in accordance with the adjustment of the sections constituting the platform. For holding the structure in locked adjustment, a pair of the back frame members 21 and 22, herein shown as the topmost members, are provided with locking means, preferably consisting of a thumb screw 24 which extends through an elon-

gated slot 25 provided in the member 21 and is made fast in the other member 22. The front posts 15 and 17 extend a distance below the platform in order to abut on the outside face 26 of a window ledge as 27. Upon each of the posts 15 and 17 there is pivoted upon a stud 28 an inner arm member 29 the point of pivoting being such that when this arm member is moved into horizontal position as illustrated in Fig. 1, a portion thereof will extend underneath the platform members or slats for the support of the structure exteriorly of the window. Slidably upon each of the inner arm members 29 is an outer arm member 30 which is formed with an angular extremity 31. The arm members 29 and 30 are held in operative relation by means of an encompassing strap 32 and they may be locked together by a locking mechanism comprising a latch 33 formed with an angularly projecting portion 34 and pivoted at 35 in a slot 36 provided in the outer arm member 30, there being provided in the inner arm member 29 a plurality of openings or keepers 37 to afford a choice of positions for the engagement of the latch member accordingly as it is desired to adjust the outer and inner arm members. When the latch has been engaged with a keeper sleeve 38 carried by th inner arm member 29 may be slid thereupon and secured thereto by a key element 39, thereby holding the latch against accidental disengagement. The angular portions 31 of the outer arm members are provided with screw elements 40 carrying discs 41 adapted to engage upon the inside of the window frame as at 42 over the inwardly projecting window sill 43 as clearly shown in Fig. 6. The discs 41 are preferably made of rubber in order not to mar the face of the window frame. As best shown in Fig. 2 the outer arm members 30 are connected by the telescoping members 44 and 44′, designed to serve as a handle in applying and removing the outer arm members to the window frame and also adapted to afford a firm connection between these outer arm members, the member 44 being provided with a thumb screw 45 adapted to be turned into tight engagement with the member 44′.

Projecting forwardly from each of the posts 15 and 17 to which it is bolted is an arm 46 carrying an offset portion 47. As illustrated in Figs. 2 and 8 the projecting arms 46 with the offset portions 47 thereon carry an extensible railing consisting of a rack bar 48 and a supporting bar 49 slidably held thereto by strap 50. 51 represents the U-shaped body portion of an angular member 52, said U-shaped body portion being pivoted at 53 to the supporting bar 49 which it partially envelops and being also provided with a pivoted pawl 54 designed to engage the teeth of the rack bar. When the rack bar 48 and supporting bar 49 have been adjusted in the position necessary to maintain the toothed extremities 55 thereof in engagement with the sides 56 of the window frame, the pawl 54 engaged in a tooth of the rack bar maintains the parts against displacement, provision being made to hold the latch firmly upon the supporting bar 49 by means of a pin 57 which is enterable in suitable apertures provided in the U-shaped body portion 51 of the latch and also in the supporting bar 49. The pin 57 is attached to a chain 58 in order that it may not be lost when disengaged. As clearly shown in Fig. 2 the toothed ends 55 provided on the rack bar 48 and on the supporting bar 49, respectively, are engaged in the confronting sides of the window frame over the sash guides 59.

With a view of providing means for increasing the height of the end frames and also of the back frame, I provide auxiliary end frames consisting of parallel posts 60 connected by cross members 61, the posts 60 being hingedly engaged as at 62 with the topmost rails of the end frames. An auxiliary back frame consisting of parallel posts 63 connected by pairs of slidably engaged cross members 64 and 64′ is also provided (Fig. 4). The cross members are held in adjustable engagement by means of the straps 65, so that this frame will be capable of adjustment in accordance with the adjustment of the back frame for the structure. The parallel posts 63 are secured by hinges 66 to the topmost pair of back frame members 21 and 22. When the structure is not in use, these auxiliary frames may be swung interiorly over the platform, so as to be out of the way. When, however, the auxiliary end frames and the back frame are moved into elevated position, means is provided for securing them together, such means consisting of angular brackets 67 attached to the top ends of the rear posts 60 of the auxiliary side frames and of angular brackets 68 attached to the adjacent posts of the auxiliary back frame. These brackets are so mounted that one engages over the other as shown in Fig. 9 and they are provided with suitable apertures for the reception of a locking pin 69 carried by a chain 70.

Means for manually adjusting the platform members are provided underneath the platform members and the same consists of a rack bar 71 and a supporting bar 72 operatively connected in slidable engagement by straps 73, one of the bars herein shown to be rack bar 71 being secured at its outer end to the cleat member 13′ while the supporting bar 72 is secured at its outer end to the cleat member 14′. Pivoted at 74 to the supporting bar 72 is an operating lever 75 which pivotally carries an escapement device 76 the opposite ends of which are adapted to be

engaged with the teeth of the rack bar. For bringing either end of the escapement device into engagement with the teeth of the rack bar a bowed spring 77 is imprisoned between a rocker arm 78 and the escapement device. The rocker arm 78 is pivoted to the operating lever 75 at 79 and the opposite ends thereof are connected by wire elements 80 to the opposite ends of another rocker arm 81 pivoted at 82 to the operating lever 75 near the forward end thereof. The operating means is thus provided between the underneath cleats 13′ and 14′ so that the operating lever 75 will project a distance in advance of the structure for the ready adjustment thereof when applied to a window frame. By swinging the lever 75 in one direction, for instance towards the cleat 14′ (Fig. 3), that extremity of the escapement 76 which is more remote from said cleat 14′, will be brought to the teeth of the rack. Simultaneously with the movement of lever 75, rocker arm 81 is swung so that the flat spring 77 through the infringement thereon of rocker arm 78 will force the escapement into engagement with the rack; whereupon a further swing of the lever 75 will force the rack and supporting bar in a direction to draw the cleats 14′ and 13′ towards each other thereby widening the platform. On the other hand, swinging the lever 75 in the opposite direction and manipulating rocker arm 81 so as to engage with the rack that extremity of the escapement which is nearest the cleat 14′ will result in spreading cleats 14′ and 13′ and thereby narrowing the platform.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A window staging comprising sections adjustably connected together, vertically extending post members at the front of each staging section adapted to engage the outer face of a window ledge and means on said post members comprising vertically adjustable brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, substantially as described.

2. A window staging comprising staging sections connected together and including end frames, vertically extending post members at the front of each staging section adapted to engage the outer face of a window ledge, means on said post members comprising brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, upper arms carried by said posts, and adjustable means connecting said upper arms adapted to be engaged between confronting sides of the window frame, substantially as described.

3. A window staging comprising staging sections adjustably connected together and including front post members, depending below the sections and adapted to engage the window ledge, means adjustable vertically on the posts to rest on the window ledge, arms on which the staging is adapted to rest pivoted to the post members and adapted to engage on the inner face of the window frame, said arms being extensible, and an adjustable connection between the staging sections for engagement between confronting sides of the window frame, substantially as described.

4. A window staging comprising staging sections adjustably connected together and including vertically extending front post members adapted to engage the outer face of a window ledge, angular brackets adjustable vertically on the front post members adapted to engage on the outer corner of a window ledge, inner arms on which the staging is adapted to rest pivoted to the post members, outer arms having sliding contact on the inner arms, means for adjusting and locking the outer arms on the inner arms, and an adjustable connection between said outer arms, substantially as described.

5. A window staging comprising staging sections adjustably connected together and including vertically extending front post members adapted to engage the outer face of a window ledge, brackets vertically adjustable on the front post members adapted to engage on the outer face of a window ledge, inner arms on which the staging is adapted to rest pivoted to the post members, outer arms having sliding contact on the inner arms, means for adjusting and locking the outer arms on the inner arms, said outer arms having angular portions, an adjustable connection between the angular portions of said outer arms, upper arms projecting from said post members, and adjustable means carried by said upper arms for engaging between the confronting sides of the window frame, substantially as described.

6. A window staging comprising staging sections connected together and including an adjustable platform and an adjustable back, a manually operated device for adjusting the platform and back, means for securing the back in adjusted positions, vertically extending post members at the front of each staging section adapted to engage the outer face of a window ledge,

and means on said post members comprising brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, substantially as described.

7. A window staging comprising staging sections connected together and including an adjustable platform consisting of interengaged platform members having slidable relation, a manually operated device connecting the sections underneath the platform members for adjusting said platform members whereby to vary the staging in agreement with windows of different widths, vertically extending post members at the front of each staging section adapted to engage the outer face of a window ledge, and means on said post members comprising brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, substantially as described.

8. A window staging comprising staging sections connected together and including end frames, an adjustable platform and an adjustable back frame, an auxiliary frame hinged to each of the end frames and adapted to increase the height thereof, and adjustable auxiliary frame hinged to the back frame and adapted to increase the height thereof, means for detachably connecting the auxiliary end frames with the auxiliary back frame, a vertically extending post member at the front of each staging section adapted to engage the outer face of a window ledge, and means on said post members comprising brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, substantially as described.

9. A window staging comprising staging sections connected together and including an adjustable platform, end frames, and an adjustable back frame, a manually operated device associated with the platform for adjusting the staging sections, an auxiliary frame hinged to each of the end frames and adapted to increase the height thereof, an adjustable auxiliary frame hinged to the back frame and adapted to increase the height thereof, means for detachably connecting the auxiliary end frames with the auxiliary back frame, a vertically extending post member at the front of each staging section adapted to engage the outer face of a window ledge, and means on said post members comprising brackets and pivotally mounted arms for supporting the staging from a window frame and ledge, substantially as described.

10. A window staging comprising staging sections connected together and including end frames, an adjustable platform, and an adjustable back frame, a manually operated device associated with the platform for adjusting the staging sections, means on the back frame for locking the staging sections in adjusted positions, an auxiliary frame hinged to each of the end frames and adapted to increase the height thereof, an adjustable auxiliary frame hinged to the back frame and adapted to increase the height thereof, means for detachably connecting the auxiliary end frames with the auxiliary back frame, vertically extending post members at the front of each staging section adapted to engage the outer face of a window ledge, and means on said post members comprising brackets and pivotally mounted arms for supporting the staging sections from a window frame and ledge, substantially as described.

11. A window staging comprising two staging sections connected together and including an adjustable platform, a slidably connected rack and bar secured respectively to said sections, a lever pivoted to the bar, an escapement device pivoted to said lever, means carried by said lever for moving said escapement device into engagement with said rack and comprising rocker arms pivoted to said lever, a spring imprisoned between one rocker arm and the escapement device, and lines connecting said rocker arms, substantially as described.

In testimony whereof I have signed my name to this specification.

FRANK A. UPHAM.