B. P. BURNS.

ADJUSTABLE BACK REST.

APPLICATION FILED FEB. 28, 1920.

1,365,223.

Patented Jan. 11, 1921.

3 SHEETS—SHEET 1.

FIG. 1.

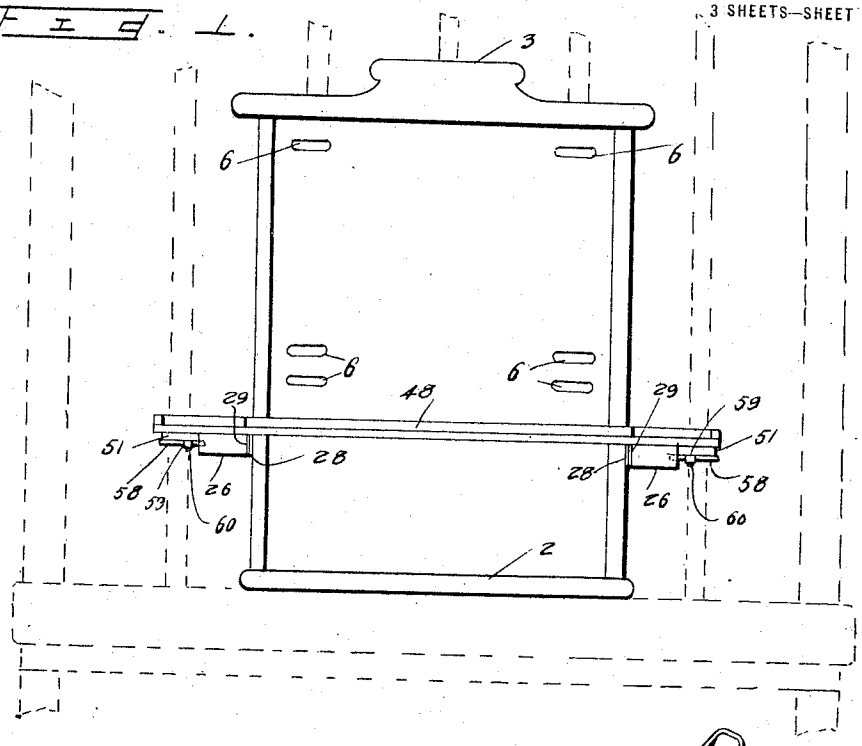
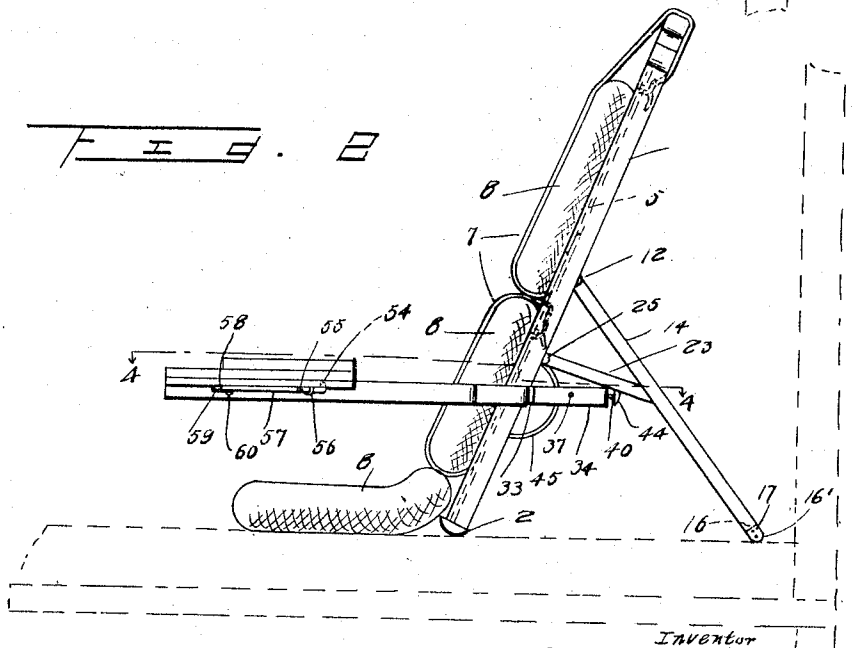


FIG. 2.



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3 SHEETS—SHEET 2.

FIG. 3.

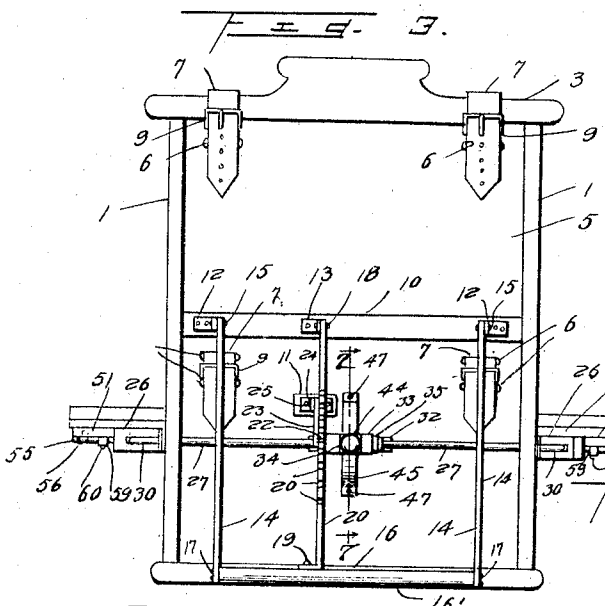


FIG. 11.

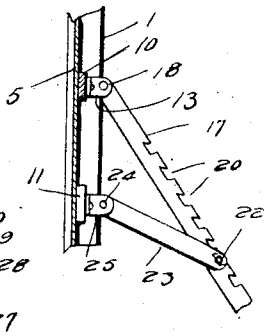


FIG. 4.

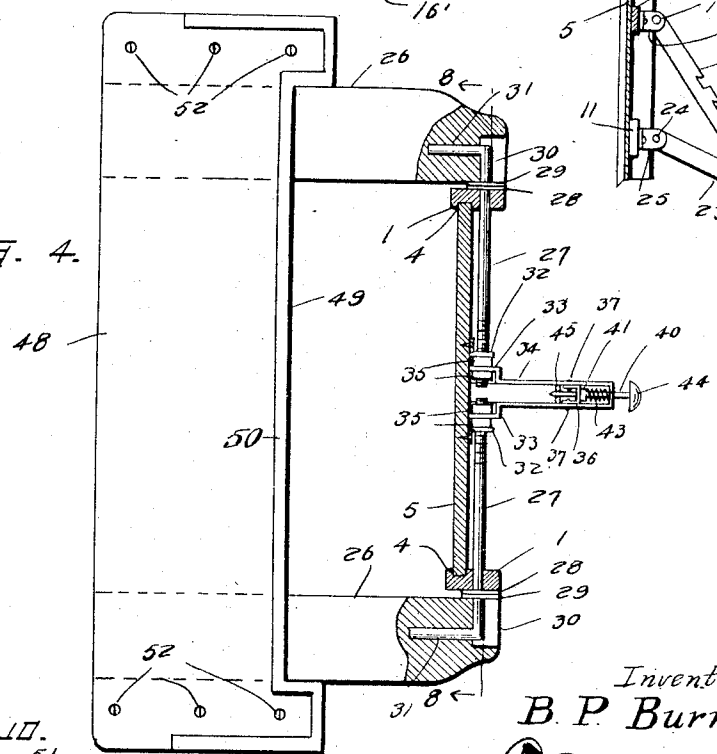
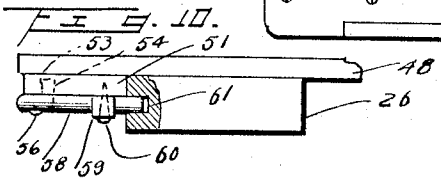


FIG. 10.



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ADJUSTABLE BACK REST.

APPLICATION FILED FEB. 28, 1920.

1,365,223. Patented Jan. 11, 1921.

3 SHEETS—SHEET 3.

FIG. 5.

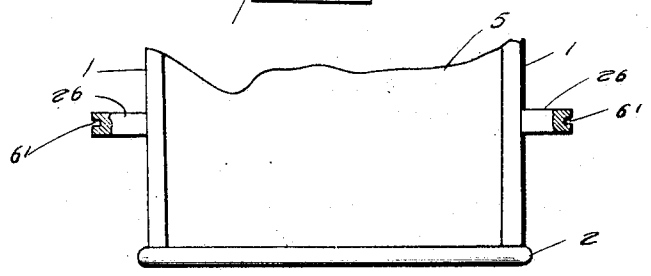


FIG. 6.

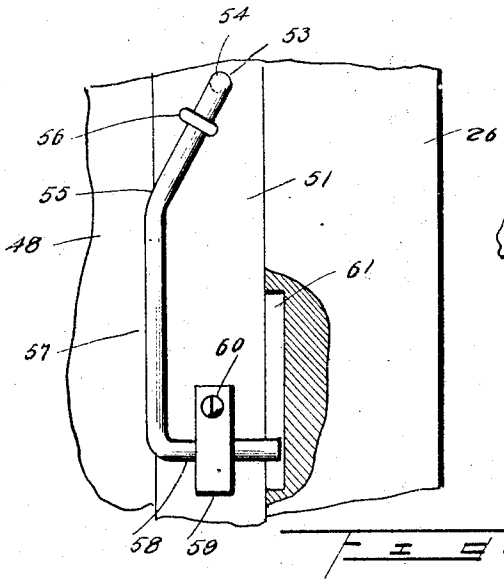


FIG. 7.

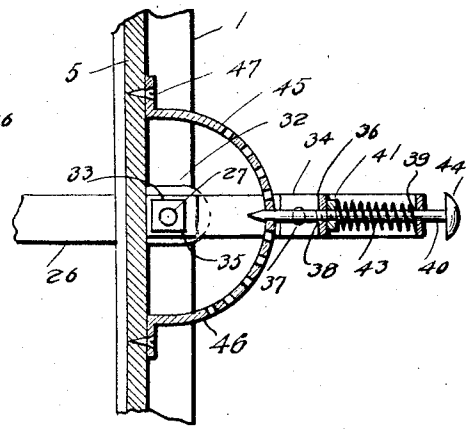


FIG. 4.

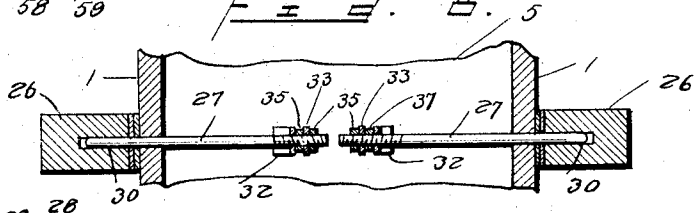
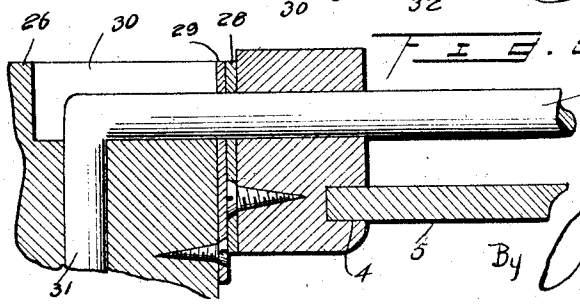


FIG. 8.



Inventor
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By [signature]
Attorney

UNITED STATES PATENT OFFICE.

BARTHOLOMEW P. BURNS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO JOHN V. LAVERY, OF CHICAGO, ILLINOIS.

ADJUSTABLE BACK-REST.

1,365,223. Specification of Letters Patent. Patented Jan. 11, 1921.

Application filed February 28, 1920. Serial No. 362,002.

To all whom it may concern:

Be it known that I, BARTHOLOMEW P. BURNS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Back-Rests; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in an adjustable back rest and has for its primary object the provision of an adjustable back rest which is specially adapted for use by invalids and the like, which is so constructed that the same can be positioned at various angles in relation to the bed upon which it is placed and which will serve to support pillows or cushions for the patient to lean against.

Another object of the invention resides in the provision of an improved adjustable back rest of the above stated character, the supporting mechanism of which may be readily adjusted and the supporting pillows or cushions remounted upon or removed from the body of the device.

The invention has for a further object, the provision of an improved adjustable back rest of the above stated character in which the supporting arms projecting forwardly therefrom may be readily adjusted at various inclined positions or in a horizontal position and a tray or writing table or leaf secured upon or removed from the arms as desired.

The invention has for a still further object, the provision of an adjustable back rest of the above stated character which will be readily folded or collapsed and transported or stored in a small space when not in use.

The invention has for a still further object, the provision of an improved adjustable back rest of the above stated character which will be of comparatively simple and inexpensive construction, simple to manufacture and which will be highly efficient in use.

With the foregoing and other objects in view, as will appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of coöperating elements as hereinafter more specifically set forth, claimed and shown in the accompanying drawings forming a part of the present application in which:

Figure 1 is a front elevation of the improved adjustable back rest, showing the same in operative position on a bed and with tray or writing leaf engaged upon the arms of the back rest.

Fig. 2 is a side elevation of the device as shown in Fig. 1.

Fig. 3 is a rear elevation thereof.

Fig. 4 is a horizontal section on the plane of line 4—4 of Fig. 2, looking in the direction indicated by the arrows, with the tray or writing leaf removed.

Fig. 5 is a detail front elevation with the tray or writing leaf removed.

Fig. 6 is an enlarged detail view, partly in section and showing the under face of one of the arms and the portion of the tray or writing leaf to disclose the manner in which the latter is locked in position upon the arms.

Fig. 7 is an enlarged detail section taken vertically through the device as shown on the plane of line 7—7 of Fig. 3.

Fig. 8 is a detail section on the plane of line 8—8 of Fig. 4.

Fig. 9 is an enlarged detail section to disclose the manner in which a central panel is mounted in the frame.

Fig. 10 is a detail view of one of the spring locking members with the tray or writing leaf, removed.

Fig. 11 is a detail sectional view showing the adjustable supporting means for the back rest.

Referring more in detail to the drawings in which similar reference characters designate corresponding parts throughout the several views, 1 indicates the stiles or side members of the main frame, 2 the bottom rail and 3 the top or upper rail thereof and all of which are provided with grooves 4 to receive the edges of the panel 5, as shown in detail in Fig. 9 of the drawings. The panel 5 is preferably constructed of wood in a suitable manner and is provided with slots 6 near its upper edge and at the side thereof and also about midway the length of the channel 5 and at the side edges to accommodate straps or ribbons 7 to be engaged therethrough and around the upper and inter-

mediate pillows or cushions 8, as clearly shown in the drawings, the straps or ribbons 7 being provided with buckles or other suitable connecting members 9 for their ends so that they may be readily adjusted to retain the pillows or cushions 8 in proper position on the front face of the panel 5.

A transverse bracing strip 10 and a bearing bolt 11 are mounted on the rear main frame and the panel 5, respectively, the purpose of which will presently appear. It will also be noted by referring to the drawings that the bottom frame member 2 has a rounded lower face 2′ which is also slightly inclined rearwardly and upwardly so as to properly rest upon the bed upon which the device is positioned.

Secured to the transverse member 10 are the end brackets 12 and the central bracket 13 which have outwardly directed portions. The flat steel arms 14 of the adjustable support for the main frame are pivoted at their upper ends to the end bracket 12, as shown at 15, while their lower ends are connected to the lower supporting frame 16, as shown at 17. This member 16 also has a rounded lower face 16′ so as to prevent injury to the bed clothing upon which it may be engaged or the head board of the bed. A central steel bar 17 is pivoted at its upper end to the central supporting bracket 13, as shown at 18 and has its lower end turned and secured to the upper flat face of the bar 16, as shown at 19. This bar 17 has the notches 20 formed in its outer or upper edge with the teeth 21 therebetween. A pin 22 is extended laterally from the rear or free end of the pivoted adjusting arm 23 and adapted for engagement in the notches 20 between the teeth 21 of the bar 17 to retain the supporting frame in proper adjusted position to hold the main frame and panel 5 in the desired inclined position upon the bed or other support upon which the device is positioned. The bar 23 is pivoted at its remaining end, as shown at 24, between the outstanding parallel portions of the bracket members 25 mounted near the center of the bar 11, as clearly shown in the drawings. It will be readily understood that the pin 22 may be engaged in the proper notches 20 or disengaged from the notch, as desired. In the construction of this adjustable back rest I have included a pair of side arms 26 which are mounted upon the turned rods 27 which extend through the stiles 1 through the plates 28 mounted on the onter face thereof and through the plates 29 secured to the opposite faces of the arms 26 at the rear ends thereof and then into recesses 30 in the ends of said arms 26, after which the free ends 31 of the turned rods 27 are directed at an angle and extended forwardly in recesses provided therefor in the arms 26, as clearly shown in the drawings. It will therefore be seen that the arms 26 are securely mounted on the turn rods 27. The turn rods 27 are extended through suitable bearings 32 provided therefor near their inner ends and secured to the panel 5. The opposed inner ends of the turn rods 27 are slightly spaced from one another and mounted thereon are the outwardly offset extremities 33 of the substantially U-shape adjusting lever 34. The ends 33 of the lever 34 are clamped securely between a clamping nut 35 threaded upon the inner end of the turn rods 27 to securely clamp the lever 34 to both of the turn rods 27 for operating together the side arms 26 to raise or lower the latter. A pocket is formed in the outer end of the lever 34 by placing a channel iron 36 in the outer end portion and securing the outer portions of the channel iron to the sides of the lever 34 as shown at 37. A central opening 38 is formed in the channel iron 36 in alinement with a corresponding central opening 39 in the end of the lever 34 to accommodate the lock pin 40 which is extended through the openings 39 and 38 and has a stop lock or nut 41 threaded upon the outer end thereof and within the pocket so that the coil spring or helical spring 42 within the pocket and surrounding the shank 40 with one end bearing against the outer end of the lever 34 while its opposite end bears against the stop lock or nut 41 will serve to force the latter into engagement with the channel iron 36 and thereby retain resiliently the pin 40 in its innermost or operative position. It will be understood that the pin 40 is provided with a suitable head 44 on its outer end, by means of which the pin may be withdrawn to permit swinging movement of the lever 34 to vary the height of the forward end of the side arms 26. When the pin 40 is in operative position the point thereof is engaged in one of the openings 45 in the arcuate or semi-circular locking member 46, the opposite ends of which are turned outwardly or upwardly and downwardly respectively and secured upon the rear face of the panel 5, as shown at 47. It will therefore be seen that the side arms 26 may be readily changed from one position to another or folded in practically parallel relation with the stiles 1.

A removable tray or writing leaf is provided with the center of its rear portion cut away, as shown at 49 and an upstanding rim 50 positioned along the rear edge and a part of the end portions of the tray or writing leaf 48, to prevent dishes or the like from sliding off of the tray or leaf. The tray or leaf 48 may be composed of any suitable material but is preferably formed of three ply veneered wood or the like. The tray or leaf 48 has a pair of cleats 51 secured to its under face, along its end portions by suitable securing members such as

the screws 52. These cleats 51 are positioned outwardly of the side arms 26 when the tray or leaf 48 is placed thereon, as shown in the drawings.

Each cleat 51 has an upwardly directed opening 53 formed therein in its under face and within which is engaged the upturned end of a spring locking member 55 which is secured against the under face of the cleat 51 by the staple 56 or some other suitable means engaged over the spring bar 55 and driven into the under face of the cleat 51, adjacent the upturned ends 54 of the spring bar 55. The main portion of the spring bar 55 is turned at an angle and extended, forwardly, as shown at 57 with the free extremity thereof turned at a right angle, as shown at 58 and directed through the substantially U-shaped guide clip 59, which is secured also to the underface of the cleat 51 adjacent the inner longitudinal edge thereof, by a suitable securing member 60 extended through the main portion. The turned or right angled end of the member 57 engages the under face of the cleat 51 and spaces the main portion from said cleat. As the rear or first mentioned end of the spring bar 55 is held rigid, owing to the upstanding ends 54 engaged in the opening 53 of the cleat 51 and the staple 56 holding the spring bar 55 at these two points, the free end 58 normally projects past the inner edge of the cleat 51, as shown in the drawings, and when the tray or leaf 48 is secured in position upon the side arms 26, this free end 58 of the spring bar 55 will extend into the elongated slot 61 provided therefor in the outer longitudinal edge of the adjacent side arm 26. It will therefore be seen that when it is desired to place the tray or leaf 48 in position on the side arms 26 or remove the same, it is necessary to engage the main or forwardly extended portions of the spring arm 55 and withdraw the ends 58 thereof to their normal positions and retain these ends in a position inwardly of the inner edges of the cleat 51 so that the leaf or tray 48 may be lowered to position upon the side arms 26 or raised from engagement thereon.

From the foregoing, taken in connection with the accompanying drawings, it will be evident that this adjustable back rest may be readily positioned upon a bed or the like and the three pillows placed thereon, the lowermost pillow or cushion 8 resting partially upon the lower end of the frame and partially upon the bed or other support upon which the device is placed, while the upper and intermediate pillows or cushions 8 are secured by the straps 7, as previously described. The device may also be used either with or without the removable tray or leaf 48 and with the arms 26 in any desired position. The frame may also be tilted at any desired angle and securely supported therein by proper adjustment of the supporting mechanism.

While the preferred embodiment of the invention has been shown and described, it will be understood that minor changes in the details of construction, and arrangement of parts may be readily resorted to within the scope of what is claimed without departing from the spirit of the invention.

What is claimed is:—

1. An adjustable back rest comprising a main frame, a panel within said main frame, means to support cushioning members, said main frame including stiles, rock bars extended through said stiles, side arms mounted on the outer end of said rock bars, a bifurcated lever rigidly connected with the inner ends of said rock bars to swing said side arms to various inclined positions and to a horizontal position, a locking pin carried by said lever, and means for coöperation with said locking pin to hold said side arms in adjusted position.

2. An adjustable back rest comprising a main frame, a panel within said main frame, means to support cushioning members, said main frame including stiles, rock bars extended through said stiles, side arms mounted on the outer end of said rock bars, a bifurcated lever rigidly connected with the inner ends of said rock bars to swing said side arms to various inclined positions and to a horizontal position, a locking pin carried by said lever, means for coöperation with said locking pin to hold said side arms in adjusted position, a supporting frame for said main frame to support said main frame in various inclined positions, and means carried by said main frame and adapted for coöperation with the supporting frame to lock the main frame in adjusted inclined position.

3. An adjustable back rest comprising a main frame, crossbars carried by said main frame at the rear thereof, a supporting frame pivotally mounted on said cross bars, said supporting frame including a toothed bar, means mounted on one of said cross bars and carrying the member adapted for engagement with the toothed bar to lock the supporting frame in adjusted position to support the main frame in an inclined position, said main frame and said supporting frame having lower frame members provided with rounded lower faces to prevent injury to a stationary support upon which the back rest is positioned, and side arms mounted on said main frame adapted for adjustment at an angle with respect thereto.

4. An adjustable back rest comprising a main frame, a panel within said main frame, means to support cushioning members on said panel, said main frame including stiles, rock bars extended through said stiles, side

arms mounted on the outer end of said rock bars and adapted to support a movable tray, a bifurcated lever connected with the inner ends of said rock bars to swing the latter into various planes, means for coöperation with said lever to lock the same in adjusted position.

5. An adjustable back rest comprising a main frame, cross bars carried by the main frame at the rear thereof, a supporting frame mounted on said cross bars, means mounted on one of said cross bars for cooperation with the supporting frame to lock the latter in adjusted position for supporting the main frame in an inclined position, and guide arms mounted on said main frame and adapted to support a removable tray in various inclined positions and in a horizontal position.

6. An adjustable back rest comprising a main frame, means for supporting cushioning members on said main frame, a central panel within said main frame, rock bars extended through the sides of said main frame, side arms mounted on said rock bars and adapted to support a tray locked thereon, a lever connected with said rock bars to swing the latter in various planes, means for locking said lever in adjusted position, a supporting frame for said main frame, and means for locking said supporting frame in various inclined positions.

In testimony whereof I affix my signature in presence of two witnesses.

BARTHOLOMEW P. BURNS.

Witnesses:
GEORGE F. MATTHEWS,
FRANK A. KILL.