G. F. CLUFF, Jr.

CHAIR.

APPLICATION FILED JUNE 13, 1918.

1,291,413. Patented Jan. 14, 1919.

Fig. 1

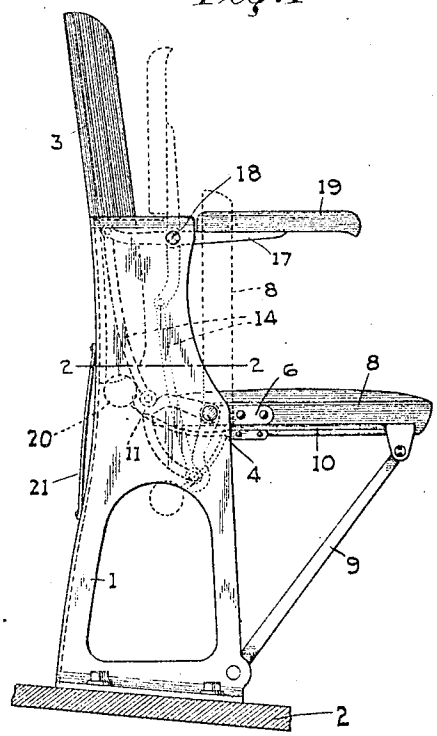


Fig. 3

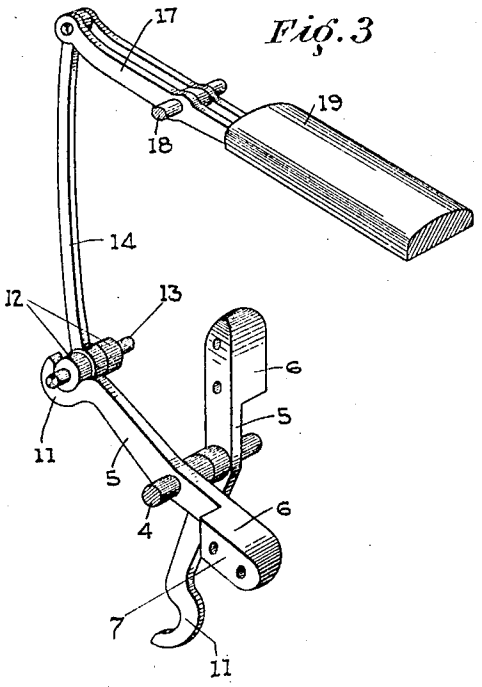


Fig. 4

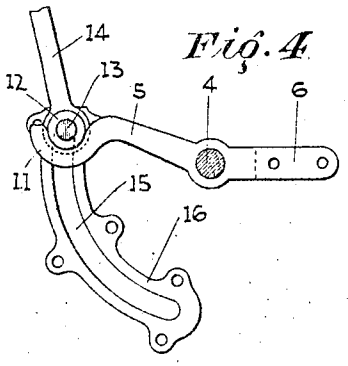
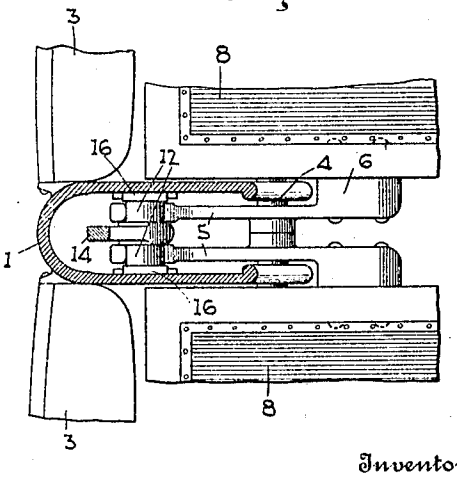


Fig. 2



Inventor

George F. Cluff Jr.

By Percy S. Webster

Attorney

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

UNITED STATES PATENT OFFICE.

GEORGE FRANKLIN CLUFF, JR., OF SACRAMENTO, CALIFORNIA.

CHAIR.

1,291,413. Specification of Letters Patent. Patented Jan. 14, 1919.

Application filed June 13, 1918. Serial No. 239,712.

To all whom it may concern:

Be it known that I, GEORGE F. CLUFF, Jr., a citizen of the United States of America, residing at 2316 N St., Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Chairs; and I do declare the following to be a clear, full, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in chairs, and more particularly to that type used in theaters and similar places, in which the seat folds up in order to obtain as large a seating capacity as possible within a certain floor space.

The distance between the rows of chairs is often so small that it is difficult to pass along the row even when the seat is folded up, if the arms remain down and to provide an automatic self-folding device for both seat and arms is the principal object of my invention.

The chair is so constructed that upon arising from the seat thereof, the same automatically folds upwardly, while if the adjacent seat is also vacated, the arm between the two will also automatically fold upward, but if only one seat should be vacated, the arms remain in their normal horizontal position. This permits of a much clearer and wider space between seat rows than is at present obtained, especially when the entire row is emptied, and would be a great convenience and an assurance of more safety and speed in reaching the exits in case of a fire or panic.

Another feature of my invention is the absence of all springs or catches which are apt to wear out or lose tension and require constant attention and adjustment.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

Additional features incorporated in my folding chair are already covered in my Letters Patent No. 1,231,129, dated June 26th, 1917, the construction shown in which may be used in connection with this present application.

The objects of this application, as heretofore set forth, I accomplish by means of such structure and relative arrangement of the parts as will fully appear by a perusal of the following specification and claims.

On the drawings, similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side view of the chair in its normal extended position, the folded position being shown by dotted lines.

Fig. 2 is a sectional plan view taken relatively on a line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the automatic folding mechanism removed from the frame.

Fig. 4 is a fragmentary side elevation of a seat supporting arm and a grooved guide member.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 designates the frame of the chair, preferably of U-shaped construction, as shown in Fig. 2, each of said frames 1 forming the stand or supporting means for two adjacent seats, and being suitably secured to the floor 2. Between such stands and at the back thereof are suitably located rigidly secured seat backs 3, of the usual cushion construction.

Extending horizontally through the front of said frame 1 is a shaft 4 on which are swivelly mounted two seat supporting arms 5 suitably spaced. The outer ends of said arms terminating in bosses or lugs 6, suitably drilled for bolts or rivets, the outer faces 7 of said bosses extending slightly beyond the outer edge of the frame 1. Seat members 8 are rigidly secured to said arms 5 by means of bolts, etc., through bosses 6, said seats extending back between said frames 1 to within a short distance of the back member 3. Similar arms 5 are connected to the other side of the seat 8 in the next frame 1, and so on throughout the row. Of course it will be understood that the frame on the end of a row need be only half as wide as the others, having only one-half the mechanism therein.

Brace arms 9 are pivoted to the frame 1, the top ends thereof being adapted to slide along said seat frame on either side thereof in grooves 10 when said seat is raised, and brace the same when occupied, besides acting as a stop against further downward movement of the seat. The inner ends of the arms 5 terminate in a semi-circular hook shaped form, as at 11, adapted to receive rollers 12 mounted on a shaft 13 on either side of a link 14. Said shaft 13 is adapted to travel in a guide groove 15 of suitable length which may be in a separate member

such as 16, attached to the sides of the frame 1, or may be made an integral part of said frame, being radially located with regard to the shaft 4, and in such a position that the top of the groove is reached when the seat 8 or arm 9 is lowered thus preventing the arm from further downward movement.

The upper end of the link 14 is pivotally connected to the inner end of a split arm 17 which is suitably pivoted to the frame 1 by a shaft 18, an arm rest 19 of the usual wood or cushion construction being attached to the arm 17 at the outer end thereof, the weight of the members 12, 13 and 14 being greater than that of the arm rest 19. A weight member 20 is suitably attached to the rear of the seat 8, being of sufficient weight to nicely overbalance the weight of the seat when its occupant leaves it. A curved guard plate 21 of sufficient height to cover the space occupied by the weight is secured to the standards 1 at the back thereof, thus forming a brace and preventing the weight from being tampered with or used as a foot rest by the occupant in the seat behind.

The operation of this chair will be apparent from a perusal of Fig. 3 of the drawings. When one seat is vacated, the seat and arm 5, attached thereto, raises to a vertical position, as shown, impelled by the weight 20, and disengaging from contact from one of the rollers 12, but unless the adjacent seat is also vacated, one of said rollers 12 remains in contact with the hook 11 of the other arm 5, and the arm-rest 19 cannot raise. When this seat is also vacated, however, both rollers 12 are then released and the arm rest 19 is raised owing to the greater weight of its counter-balancing members 12, 13, etc., the shaft 13 traveling in the groove 15, so that one of said hooks 11 will immediately engage one of the rollers 12 whenever a seat is lowered, thus automatically raising the arm rest to position.

Thus it will be seen from the foregoing description that I have produced such a device as substantially fulfils the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice, such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A plurality of folding chairs in combination comprising standards, an arm rest common to two adjacent chairs pivotally mounted in said standards, back rests rigidly secured between said standards, seats pivotally hung between a pair of said standards, means whereby any of said seats automatically assumes a vertical position when vacated independent of said arm rests, and means whereby said common arm rest automatically assumes a vertical position when both of two adjacent chairs are vacated, as set forth.

2. A plurality of folding chairs in combination, comprising U-shaped standards, back-rests rigidly secured between said standards, an arm rest common to two adjacent chairs pivotally mounted in said standards, a pair of seat supporting arms pivotally mounted on the one shaft but having independent action in each of said standards below said arm rests, seats secured to the adjacent supporting arms in any two standards, and extending back between the same, a link arm extending downwardly from the inner end of the said arm rest, rollers on either side of the lower end of said link arm and adapted to engage with hook shaped extensions on said seat supporting arms, a shaft through said rollers and link arm, the ends thereof adapted to travel in a groove in said standard radial with the pivotal point of said seat supporting arms, as and for the purpose set forth.

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

GEORGE FRANKLIN CLUFF, JR.

Witnesses:
VERADINE WARNER,
BERNARD PRIVAT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."