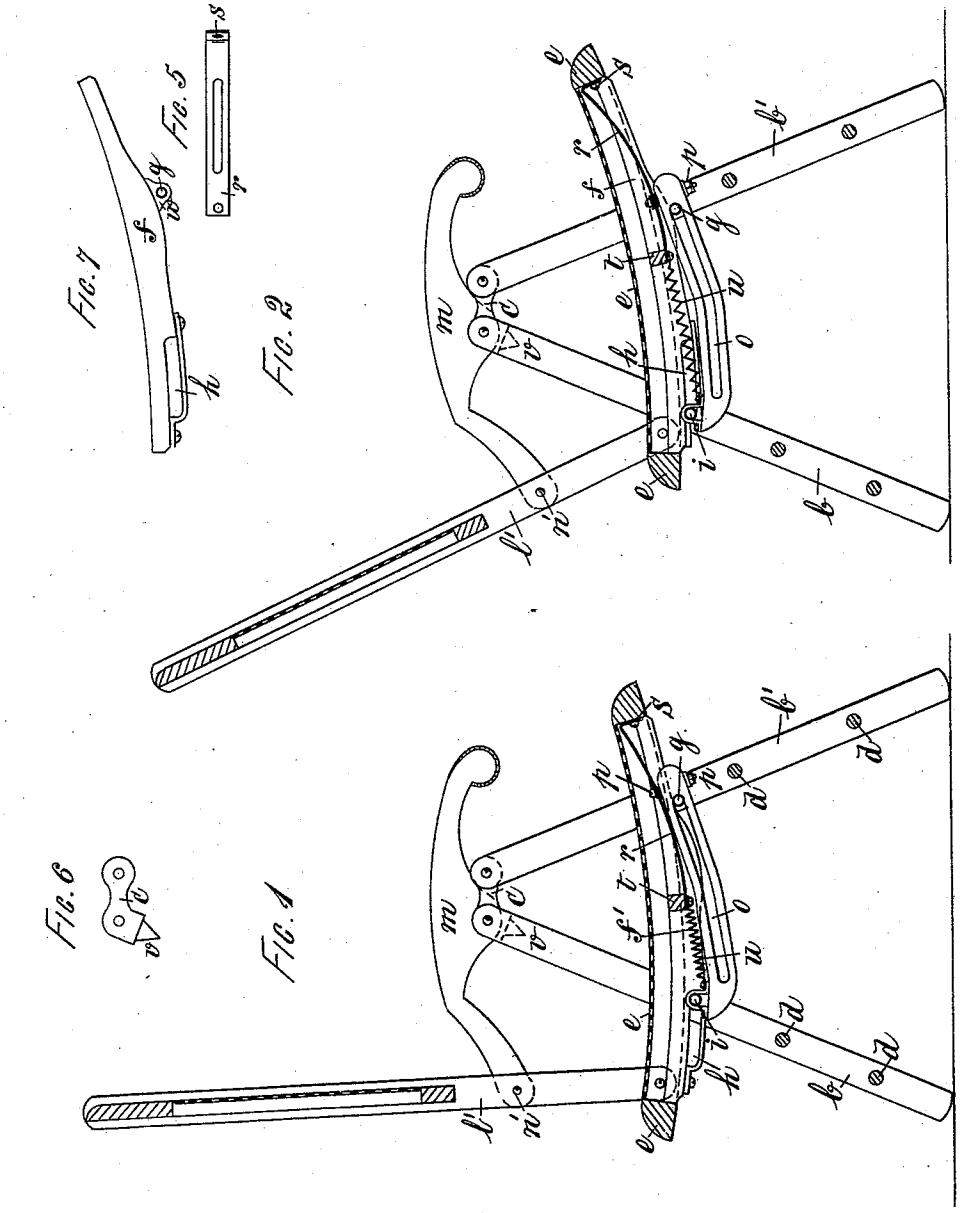
(No Model.) 2 Sheets—Sheet 1.

A. EDWARDS & T. GRIFFIN.

ADJUSTABLE CHAIR.

No. 414,801. Patented Nov. 12, 1889.



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(No Model.) 2 Sheets—Sheet 2.

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FIG. 4

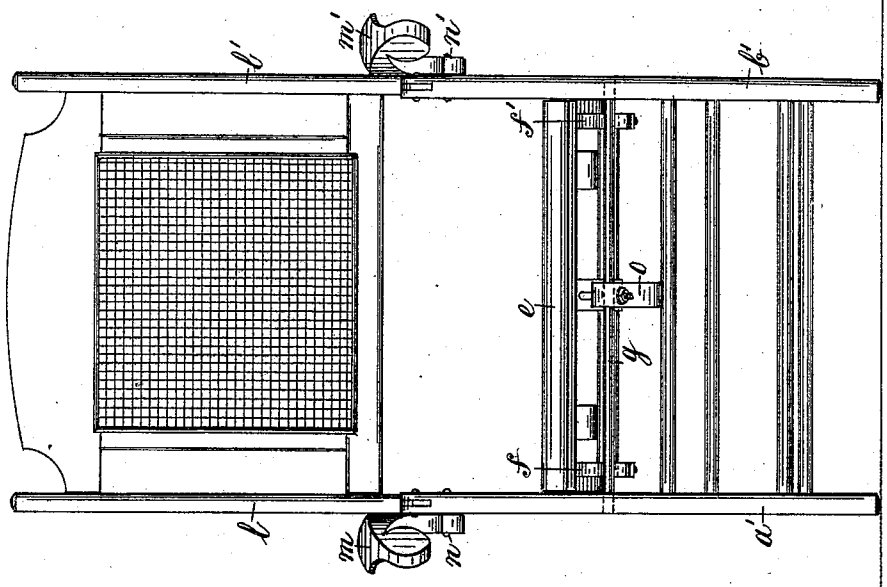
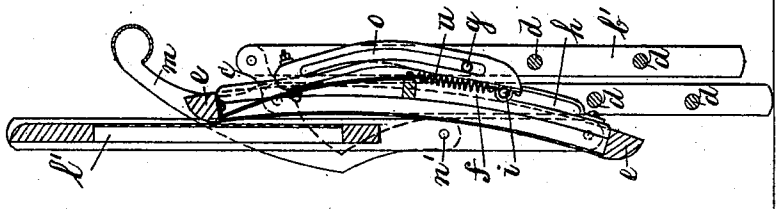


FIG. 3



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UNITED STATES PATENT OFFICE.

ARCHER EDWARDS AND THOMAS GRIFFIN, OF LONDON, ENGLAND.

ADJUSTABLE CHAIR.

SPECIFICATION forming part of Letters Patent No. 414,801, dated November 12, 1889.

Application filed February 12, 1889. Serial No. 299,678. (No model.)

To all whom it may concern:

Be it known that we, ARCHER EDWARDS and THOMAS GRIFFIN, manufacturers, subjects of the Queen of Great Britain, both of Charles Street, Curtain Road, in the city of London, England, have invented certain new and useful Improvements in Adjustable Chairs; and we do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to improvements in chairs in which the several parts can be folded together when not in use; and the said invention consists in the construction and combination of parts hereinafter set forth and claimed.

Figure 1 is a vertical section through the entire chair, with its back nearly vertical. Fig. 2 is a similar section with the back inclined backward. Fig. 3 is a similar section showing the chair folded together. Fig. 4 is a front view of the chair as shown in Fig. 1. Fig. 5 is a detailed view of the plate *r*. Fig. 6 is a detailed view of the joint at the top of the legs of the chair; and Fig. 7 is a detailed view of the side plates *f*, Figs. 1, 2, 3, and 4.

Similar letters refer to similar parts through the several views.

The two side frames of the chair consist each of two legs *a a'* and *b b'*, pivoted at their upper ends to the joint plate *c*, (shown separate on a larger scale in Fig. 6,) the pivots being side by side, so that when the chair is folded up, as shown in Fig. 3, the legs occupy little width. The two side frames are arranged parallel to each other at a distance apart equal to the width of the seat, as shown in Fig. 4, and they are stayed together by stays *d d*. At a convenient distance below the pivots, at *c*, is arranged the seat *e*, consisting of a frame filled in with cane or other suitable material; or it may be solid. To each side of the seat *e* is attached a plate of wood or metal *f f'*, which may be made as ornamental as desired. The lower edge of these plates at their center and front is curved, as shown separately in Fig. 7, and rests upon a transverse rod *g*, (preferably a metal tube,) the ends of which are fixed in the proper position in the front legs *a' b'*. Instead of resting directly upon the rod *g*, the plate *f* may rest upon a block pivoted upon the rod, as shown at *w* in Fig. 7. The plates *f f'* are also provided near their back ends with a slot *h*, Fig. 7, horizontal or nearly so, extending nearly to the back of the seat *e*, and these slots fit upon a second transverse rod or metal tube *i*, the ends of which are fixed in the proper position in the back legs *a b*. In Figs. 1, 2, 3, and 7 the slots *h* are shown formed by a plate or strap screwed to the plates *f f'*. The seat *e* can therefore be moved backward and forward upon the rods or tubes *g i*, as shown in Figs. 1 and 2, without altering its horizontal position more than is desirable. To the back of the seat *e* are pivoted at *k* the lower ends of the side frames *l l'* of the back of the chair, which are connected together by a sufficient number of transverse stays or rails and a back of cane or other suitable material in the usual way. Side rails or arms *m m'* are also provided, pivoted at or near their center to the pivot upon which the upper end of the legs *a b* turn, and at their back ends, at *n n'*, to the side frames *l l'* of the back of the chair.

By the method of construction and arrangement described if the lower ends of the legs of the side frames *a a'* and *b b'* be brought together, as shown in Fig. 3, the back ends of the arms *m m'* turn down upon their front pivots at *c*, taking with them the back of the chair until the latter is parallel with and close to the legs, Fig. 3. The seat *e* also turns upon the pivots at the lower end of the back, and the chair is then folded up, as shown in Fig. 3, and is portable and occupies little room. By turning the seat *e* down and separating the lower ends of the legs the chair is brought back into the position shown in Figs. 1, 2, and 3, and the person using it can adjust the position of the back and seat as he may desire by simply leaning forward or backward.

In order to insure the proper movement of all the parts of the chair when the latter is opened or closed, we use a curved slotted guide *o*, of wood or metal, as shown in Fig. 4. The back of this guide is fitted upon the transverse rod or tube *i*, round which it can turn, and the curved slot fits round the other

bar or tube *g*. The length of the slot is such that it prevents the legs from opening too wide, as shown in Figs. 1 and 2.

The front end of the slotted guide *o* is connected to the front of the seat *e* in the manner hereinafter described, and the shape of the slot is such that when the seat is turned up against the back for the purpose of folding, as shown in Fig. 3, the front legs *a' b'* are also folded against the back ones, as shown, by the action of the curved slot against the transverse bar or tube *g*. The front end of the slotted guide *o* is connected by a bolt or stud *p* to a slotted spring *r*. (Shown separately in Fig. 5.) The bolt *p* passes through the slot, a washer of leather or other soft material being placed round the bolt upon each side of the spring *r*, so that the bolt may move smoothly in the slot. The front end of the spring *r* is fixed to the front of the seat at *s*, and its back end to a transverse rail *t*, carried by the seat. A spring *u* connects the rail *t* to the transverse bar or tube *i*, so as to assist in bringing the back of the chair up when the sitter leans forward, and also to insure the legs closing together properly. The upper side of the slot *h* may be lined with leather in order to cause a certain amount of friction upon the bar or tube *i* as the seat of the chair moves backward and forward.

The upper ends of the legs *a a'* and *b b'* are pivoted by means of a plate, (shown upon a larger scale in Fig. 6,) the plate being fitted into slots cut in the upper ends of the legs, as shown in Fig. 4, and the plate being retained in place by the pivot passing through it and by a projecting point *v*, which is driven into the bottom of the slots in the legs *a b*, as shown in Figs. 1 and 2.

We are aware that prior to our invention chairs have been made with adjustable backs and capable of being folded up when not in use, and we do not claim, broadly, such a combination; but

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a folding chair, the combination of legs pivoted together in pairs, with rods *g i*, connecting said legs transversely, a seat supported by said rods but movable backward and forward over them, a back having pivotal connection to said seat and to supports attached to said legs, and the guide *o*, which is pivoted to one of said rods and slotted to move freely on the other, substantially as set forth.

2. In a folding chair, the combination of the legs and pivoted back, pivoted to supports attached to said legs, with a seat attached to said back, the transverse rods *g i*, which support said seat but allow it to move freely forward and back over them, the guide *o*, which is pivoted to one of said rods and slotted longitudinally to move freely over the other, and the spring *r*, which is attached to said guide and also to said seat, substantially as set forth.

3. In combination with the folding legs of a chair and transverse rods attached to said legs, a seat movable forward and back over said rods, a guide attached to one of said rods and slotted to move freely over the other, a back pivoted to said seat and to an attachment of said legs, a spring *u*, connecting said seat to one of said transverse rods, and a spring attached to said guide and also to said seat, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 4th day of January, 1889.

ARCHER EDWARDS.
THOMAS GRIFFIN.

Witnesses:
ARTHUR E. EDWARDS,
T. G. RIDGWAY.