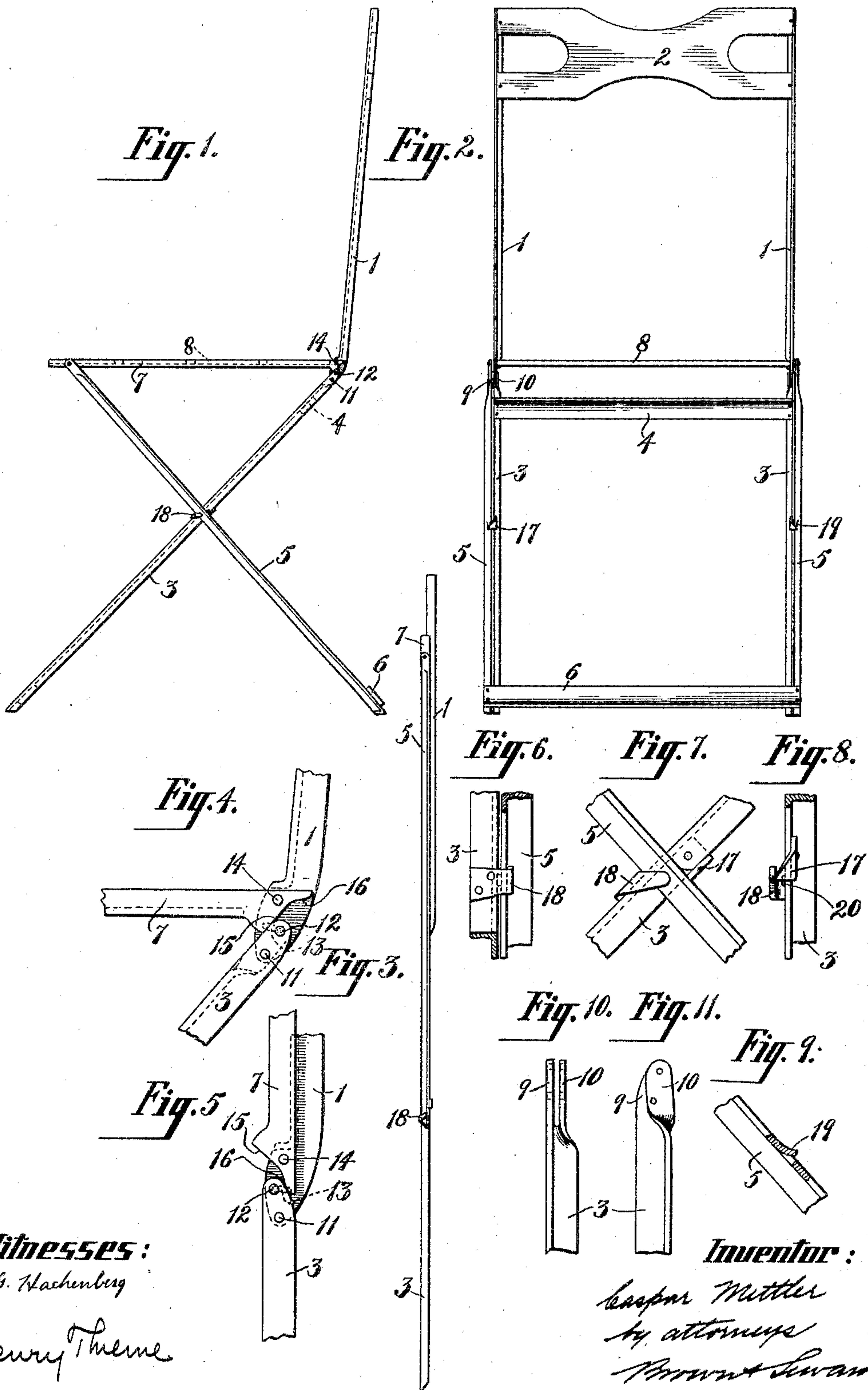


No. 780,009.

PATENTED JAN. 10, 1905.

C. METTLER.
FOLDING CHAIR.
APPLICATION FILED MAR. 17, 1904.



UNITED STATES PATENT OFFICE.

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FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 780,009, dated January 10, 1905.

Application filed March 17, 1904. Serial No. 198,547.

To all whom it may concern:

Be it known that I, CASPAR METTLER, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Folding Chairs, of which the following is a specification.

My invention relates to an improvement in folding chairs, and has for its object to provide certain improvements in the construction, form, and arrangement of the several parts of the chair whereby it may be folded into a very small space to permit a large number of chairs when folded to occupy a correspondingly small space.

A further object is to provide a chair in which the back when the chair is folded occupies a plane parallel with the legs to which it is hinged and when unfolded will occupy a position at an angle with respect to its legs for rendering the chair more comfortable when in use.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the chair in side elevation in its unfolded position. Fig. 2 is a back view of the same. Fig. 3 is a view in side elevation of the chair in its folded position. Fig. 4 is an enlarged detail side view of the connection between the corresponding side members of the back, seat, and legs with the parts in the position which they assume when the chair is unfolded as in use. Fig. 5 is a similar view with the parts in the position they assume when the chair is folded. Fig. 6 is a detail view, on an enlarged scale, showing the sliding connection between the legs when viewed from the front. Fig. 7 is a similar view when viewed from the side. Fig. 8 is a rear view of one of the leg members, showing the clip and stop carried thereby. Fig. 9 is a detail side view, partly in section, showing the abutment on the other leg member, which is fitted to engage the stop on its adjacent leg member when the chair is unfolded. Fig. 10 is a detail rear view of the upper end

of one of the leg members to which the chair-back is hinged, and Fig. 11 is a side view of the same.

The two side members or rails of the back are denoted by 1, and they are connected by one or more cross-pieces 2. These side rails are hinged at their lower ends to the upper ends of the side members 3 of one pair of legs, which members are connected by one or more cross-pieces 4. The side members of the other pair of legs, which have a sliding connection with the side members 3 of the first-named pair of legs, are denoted by 5, and they are connected by one or more cross-pieces 6.

The side rails of the seat are denoted by 7, and they are connected by a plurality of cross-pieces 8, which serve to complete the seat. The outer ends of these side members 7 are hinged to the upper ends of the side members 5 of one pair of legs. The inner ends of these side members 7 of the seat are hinged to the lower ends of the side members 1 of the back at points a short distance above the hinged connection between the side members of the back and the side members 3 of the pair of legs to which the back is hinged.

The side members of the back, the two pairs of legs, and the seat are all of angle-iron construction, thus producing a chair of great strength with a minimum amount of material and size. The cross-pieces which connect the side members of the back, the two pairs of legs, and the seat may be made of wood or other suitable material, as desired.

The construction and arrangement of the parts at the hinged connection between the side members of the back, seat, and legs, to which the back is hinged, is as follows: The upper end of the leg member 3 is provided with a pair of ears 9 and 10, spaced apart, which ears are formed the one by an extension of one flange of the leg and the other by bending the other flange of the leg around into a plane parallel with, but spaced from the ear 9. The lower end of the back side member 1 is inserted between these ears 9 and 10 and is hinged at 11. Above the hinged connection

11, between the members 1 and 3, the said members have a pin-and-slot connection 12 and 13 for limiting the swinging movement of the member 1 with respect to the member 3. The side member 7 is hinged at 14 to the side member 1 of the back at a point above the hinged connection 11, between the members 1 and 3.

The means which I employ for positively forcing the back into a position at a forward angle with respect to the pair of legs to which it is hinged when the chair is unfolded and into a plane back of but parallel with the plane of the said pair of legs when the chair is folded is constructed as follows: The upper end of the leg member 3 is tapered. The inner end of the seat side member 7 is provided with two cam-surfaces 15 16, the cam-surface 15 being fitted to engage the front of the upper end of the member 3 above the hinged connection 11 when the chair is unfolded and the cam-surface 16 being fitted to engage the back of the upper end of the leg member 3 above the hinged connection 11 as the chair is folded. This will insure the proper swinging of the back into the positions above set forth.

The sliding connection between the members of the two pairs of legs is as follows: The leg member 3 is provided with a stop 17, which projects laterally and outwardly from the back of the leg member. This leg member 3 is further provided with a clip 18, which projects rearwardly from the front of the leg member 3 toward the stop 17, but spaced a sufficient distance from the side face of the leg member to permit the vertical flange of the corresponding leg member 5 to pass between the clip and the said member 3. This leg member 5 is permitted to freely slide between the clip 18 and stop 17 until the chair reaches the limit of its unfolded position, when an abutment on the leg member 5 will engage the stop 17 on the leg member 3. This abutment 19 is preferably formed by striking it from the lateral flange of the leg member 5. The two leg members are preferably spaced a very slight distance apart by forming a lug 20 on the outer side face of the leg member 3 back of the clip 18, on which lug the vertical flange of the leg member 5 slides.

When the chair is folded, the seat and the two pairs of legs are brought into the same transverse plane and the back into a parallel plane immediately back of the plane of the other parts. This produces a chair which occupies an extremely small amount of room when folded and yet when unfolded permits the back to be brought into a comfortable position with respect to the seat, which is the object of the present invention. Furthermore, it will be seen that the side members of the back and the side members of the legs to which the back is

hinged are caused to occupy the same fore and back plane, thus also materially enhancing the value of the chair.

By forming the side members of angle-iron construction I am enabled to produce a chair which is much simpler than when formed of wood and, furthermore, one which is not affected by weather conditions which warp or destroy wooden chairs. This chair as above described also better withstands the rough usage to which this type of chair is subjected.

What I claim as my invention is—

1. A chair comprising two pairs of legs having a sliding connection, a back hinged to one pair of legs, a seat hinged to the other pair of legs and to the back, and means for automatically and positively swinging the back into a forward angle with respect to the pair of legs to which it is hinged when the chair is unfolded and into a plane parallel therewith when folded.
2. A chair comprising two pairs of legs having a sliding connection, a back hinged to one pair of legs, a seat hinged to the other pair of legs and to the back, and means for automatically and positively swinging the back into a forward angle with respect to the pair of legs to which it is hinged when the chair is unfolded and into a plane parallel therewith but offset therefrom when the chair is folded.
3. A chair comprising two pairs of legs having a sliding connection, a back hinged to one pair of legs, a seat hinged to the back and to the other pair of legs, each side member of the seat being provided with cam-surfaces arranged to engage the front and back of the corresponding side member of the legs to which the back is hinged for positively swinging the back into an angle forward of its legs when the chair is unfolded and into a plane parallel therewith when the chair is folded.
4. In a folding chair, the combination with two pairs of legs of angle-iron construction, of a sliding connection between corresponding leg members comprising a stop and a clip on one leg member forming a guide for the other leg member and an abutment struck from the said other leg member for coacting with the stop to limit the downward-sliding movement of the last-named leg member.
5. In a folding chair, the combination with two pairs of legs, of a sliding connection between the corresponding leg members comprising a clip and stop carried by one leg member forming a guide for the other leg member, an abutment carried by said other leg member arranged to engage the stop for limiting the downward-sliding movement of the last-named leg member and a lug projecting outwardly from the first-named leg member for spacing the members apart.
6. In a folding chair, a leg member, a back member hinged thereto, a pin-and-slot connection

tion between the two members above the hinged connection and a seat member hinged to the back member and having two cam-surfaces fitted to engage the front or back of the
5 leg member above the hinged connection between the back and leg member.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of two witnesses, this 9th day of March, 1904.

CASPAR METTLER.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.