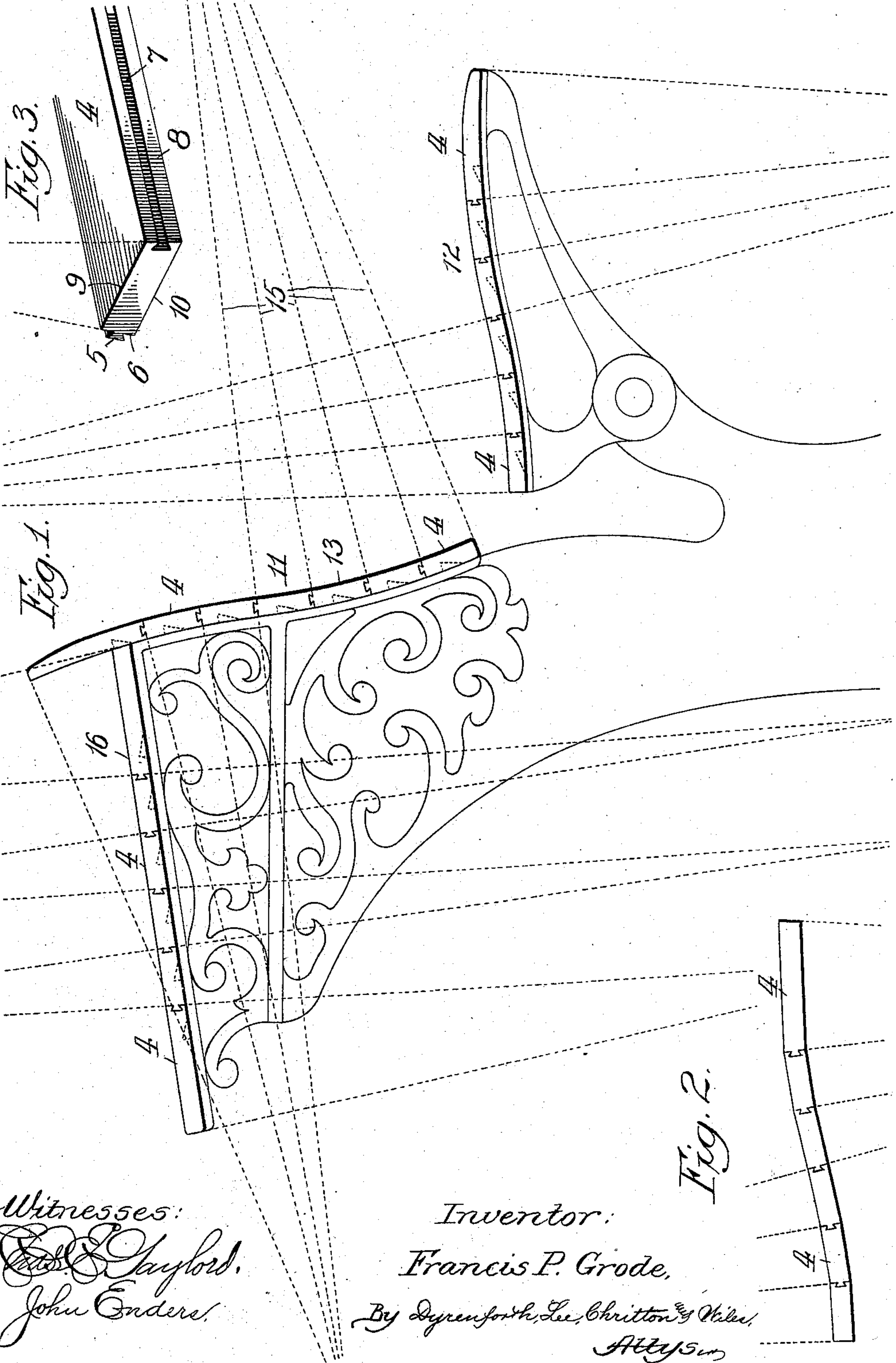


F. P. GRODE.
FURNITURE SLAT.
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UNITED STATES PATENT OFFICE.

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FURNITURE-SLAT.

No. 900,523.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCIS P. GRODE, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented a new and useful Improvement in Furniture-Slats, of which the following is a specification.

My invention relates to an improvement in furniture slats of the variety of which desks, seats and other articles of furniture are formed.

Heretofore, especially in the manufacture of school desks having seats and backs and flat tops, it has been the practice to form these parts of slats joined together with bead joints at their sides, the slats being formed of a shape necessitating the use of a number of different shapes of slats with the disadvantage of necessitating great care on the part of the workmen in forming each different slat with the desired bevel and in selecting the proper shape of slats to successively assemble them to form, as near as possible, the desired curvature to the article to be formed of slats. Further disadvantages of employing slats of different shapes are those of producing irregularity of curvature of the article formed, and of entailing great expense in forming separate slats by reason of the requirement that the slats be of different shapes. Furthermore, a disadvantage arising from the use of non-interchangeable slats having different bevels, in accordance with the practice as hitherto practiced, is that of necessitating in the manufacture of a number of pieces of furniture the finishing of all the slats to form the articles of furniture, before the work of assembling them may commence, this disadvantage being great where, as for instance in the case of desks, the articles are formed of a relatively large number of different shaped slats. A further disadvantage rising from the use of slats, as hitherto provided, is that of lack of strength in the completed slat-structure owing to the use of glued bead-joints, which joints serve merely to furnish a greater area of surface for gluing and do not in themselves resist separation of the slats at their joints, a further disadvantage of the bead-joint construction arising from the necessity of using clamps in gluing the slats together.

My object, generally stated, is to overcome the disadvantages referred to and to provide a construction of slat which will enable the article of furniture to be manufactured, to be formed of slats of uniform shape; and

another object is to provide a construction of slat which, when united in a series, will form an article of furniture capable of resisting to a high degree any strain imposed upon it in use.

My invention has especial application to school desks, in which preferably the top, seat and back thereof are formed of slats, and in this connection an additional object of my invention is to provide a construction of slat which will afford the advantage of enabling all of these parts of the desk to be formed of slats of uniform shape, thereby rendering the slats interchangeable and avoiding the objections to structures as hitherto provided.

Referring to the accompanying drawing—Figure 1 shows by a view in side elevation a finished school desk formed of slats embodying my invention; Fig. 2 is a view in end elevation of the seat of the desk illustrated in Fig. 1, showing it in the undressed condition in which it is provided upon assembling the slats, when the latter are assembled in the manner preferred; and Fig. 3 is a broken perspective view of a slat embodying my invention.

As the manufacture of desks, seats, and other articles of furniture formed of slats, is expedited by forming the tongues and grooves on them before the faces of the slats are curved to the shape desired in the finished article, I have illustrated my invention in connection with a desk manufactured in this preferred way, in which the slats are assembled, preliminary to dressing them, to form the back, seat and top of the desk.

In the construction shown, each slat 4 is formed with a tongue 5, preferably of the dove-tail construction illustrated, extending longitudinally of the slat along a side 6 thereof, and with a groove 7 in its opposed side 8, of a shape and size in cross-section corresponding with the shape and size of the tongue 5, in the construction illustrated this groove being of dove-tail shape. The tongue-equipped side 6 and the groove-equipped side 8 of each slat converge toward each other and extend at equal angles to the opposed faces 9 and 10 of the slats, and the tongue and groove of each slat are arranged at right angles to the sides bearing them midway between the opposed faces of the slat. Thus when a number of these slats are assembled to interengage at their tongues and grooves, to form a blank to be afterwards dressed, with the faces 9 forming one

side of the blank, a blank of general arc-shape is provided. The angular relation of the sides 6 and 8 to the faces 9 and 10 may be varied to produce any arc-shape curvature to the blank.

In forming a desk, it is desired that the back and seat, as for example the back 11 and seat 12, be of reverse-curve shape in cross-section, and to form such a back and seat of my improved slats, it is desirable first to describe an arc 13 to form a curve of the desired shape and from the point, (not shown) forming the radius of the arc 13, drawing radii 15 intersecting the arc 13, the radii being of a distance apart on the arc corresponding to the width of slats of which it is desired to construct the article. The slats are then formed to cause their tongue and groove-equipped sides 6 and 8 to converge toward each other along lines coinciding with the radii 15 with said sides extending at equal angles to the opposed faces of the slats. Thus a reverse-curve seat and back may be formed by assembling a portion of the slats to cause their narrow faces to extend on one side of the blank, the remaining portion of the blank being formed by other slats assembled with their narrow faces extending along and forming the opposite side of the blank. As each slat has its sides 6 and 8 converging toward each other and extending at equal angles to the opposed faces of the slats, a back or seat of the desired curvature may thus be manifestly formed by increasing or decreasing the number of slats forming each portion of the reverse-curve.

The top 16 of the desk may be formed of a series of my improved slats by arranging the latter with their wider and narrower faces alternating, as illustrated in Fig. 1, the converging sides of the slats, disposed as described, causing the latter to fit together and form a flat top. After forming the back and seat, as described, the opposed sides thereof present the angular condition illustrated in Fig. 2, and to obviate this these parts may be passed through any suitable machine for dressing them to the desired curved condition, as for instance that illustrated in Fig. 1, in a well known manner. The top of the desk being formed of flat-faced slats requires but slight dressing to put it in the desired condition.

It is readily apparent that the slats may be curved preliminary to assembling them to cause them to conform to the curve desired to be given the back and seat of the

desk, and thus dressing of the seat and back would be rendered unnecessary. The top would, however, be in such a condition as to render dressing of it necessary.

What I claim as new, and desire to secure by Letters Patent, is—

1. An article of furniture having either its seat or back or both of said parts formed of a series of interchangeable slats joined together by tongue and grooved joints, the tongue-equipped and groove-equipped sides of the slats converging towards each other and extending at equal angles to the face of the slats, with the slats assembled in reverse series to produce the plane of the surface desired.

2. An article of furniture having a portion of its structure composed of a series of flat-surfaced interchangeable slats having converging tongue and groove sides and arranged in single alternate relation one with another to form a flat surface and in alternate group relation to form surfaces of differing curves, as set forth.

3. An article of furniture having a portion of its structure composed of a series of flat-surfaced interchangeable slats having converging tongue and groove sides and arranged in alternate group relation to form surfaces of differing curves, as set forth.

4. A school desk composed of a series of interchangeable slats forming a reverse-curve seat, back and flat top, with tongue and groove joints joining the slats together, said slats having their tongue-equipped and groove-equipped sides converging toward each other and extending at equal angles to the face of the slats, the slats forming the seat and back being arranged in reverse series for the purpose set forth.

5. A school desk composed of a series of interchangeable slats forming a reverse-curve seat, back and flat top, with tongue and groove joints joining the slats together, said slats having their tongue-equipped and groove-equipped sides converging toward each other and extending at equal angles to the face of the slats, the slats forming the seat and back being arranged in reverse series and the slats forming the top of the desk being arranged with their wide and narrow faces in staggered relation, for the purpose set forth.

FRANCIS P. GRODE.

In presence of—

A. U. THORIEN,
R. A. SCHAEFER.