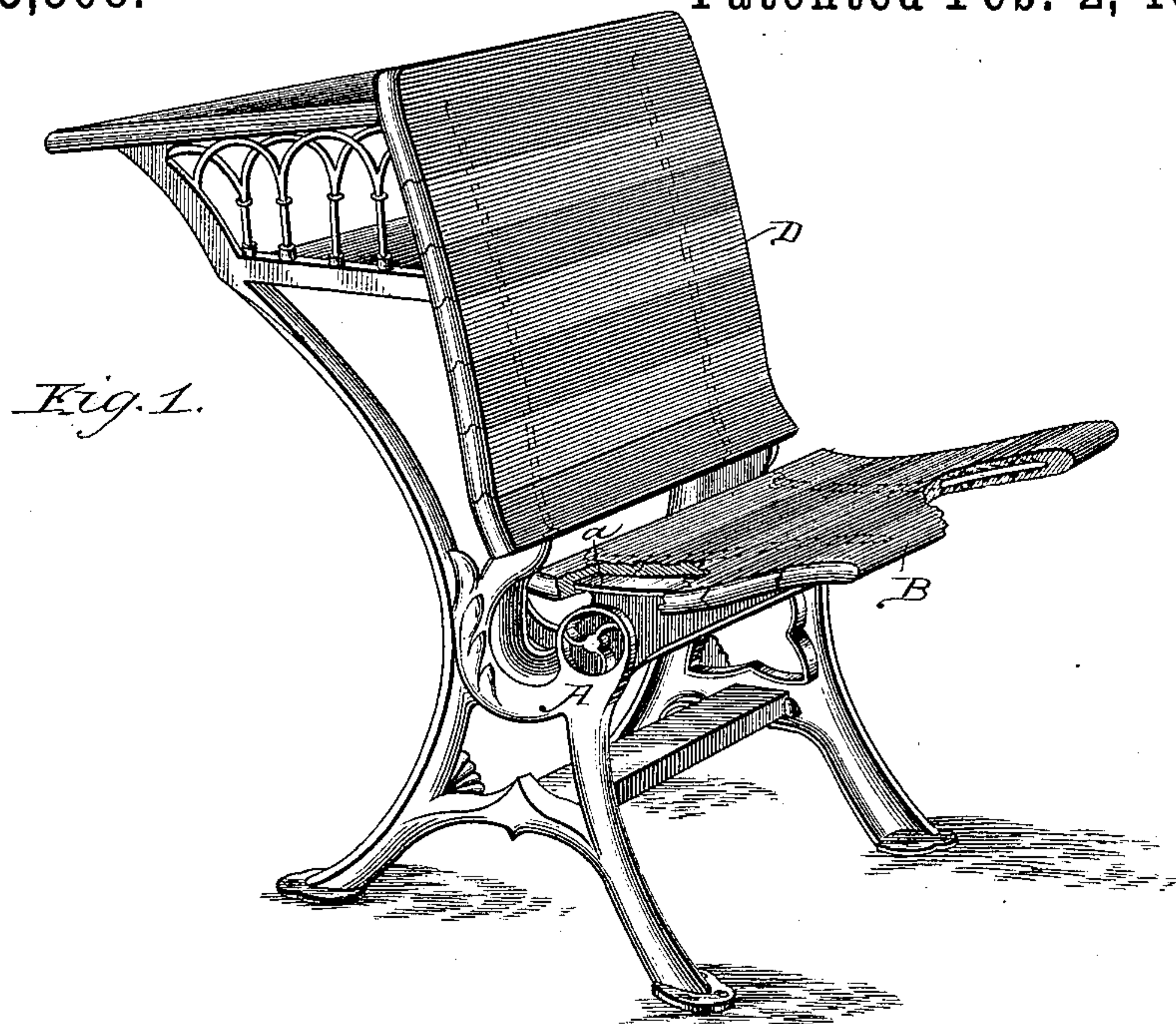


(No Model.)

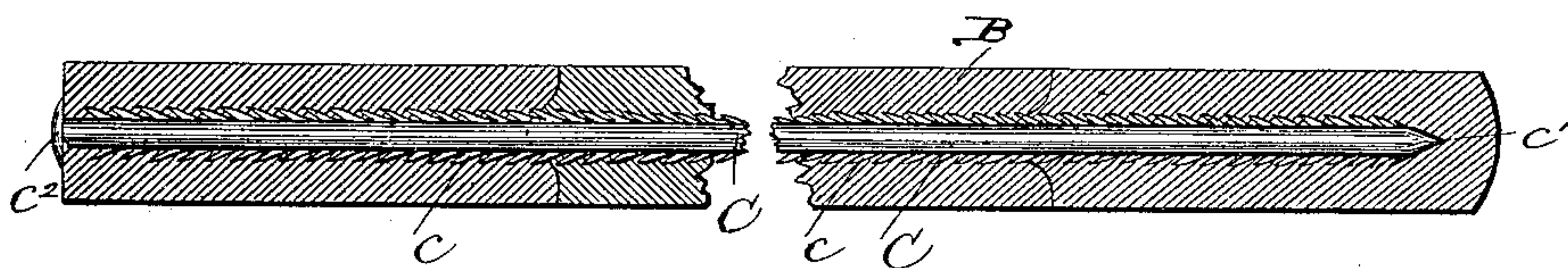
J. F. COULTER.  
SCHOOL DESK AND SEAT.

No. 335,508.

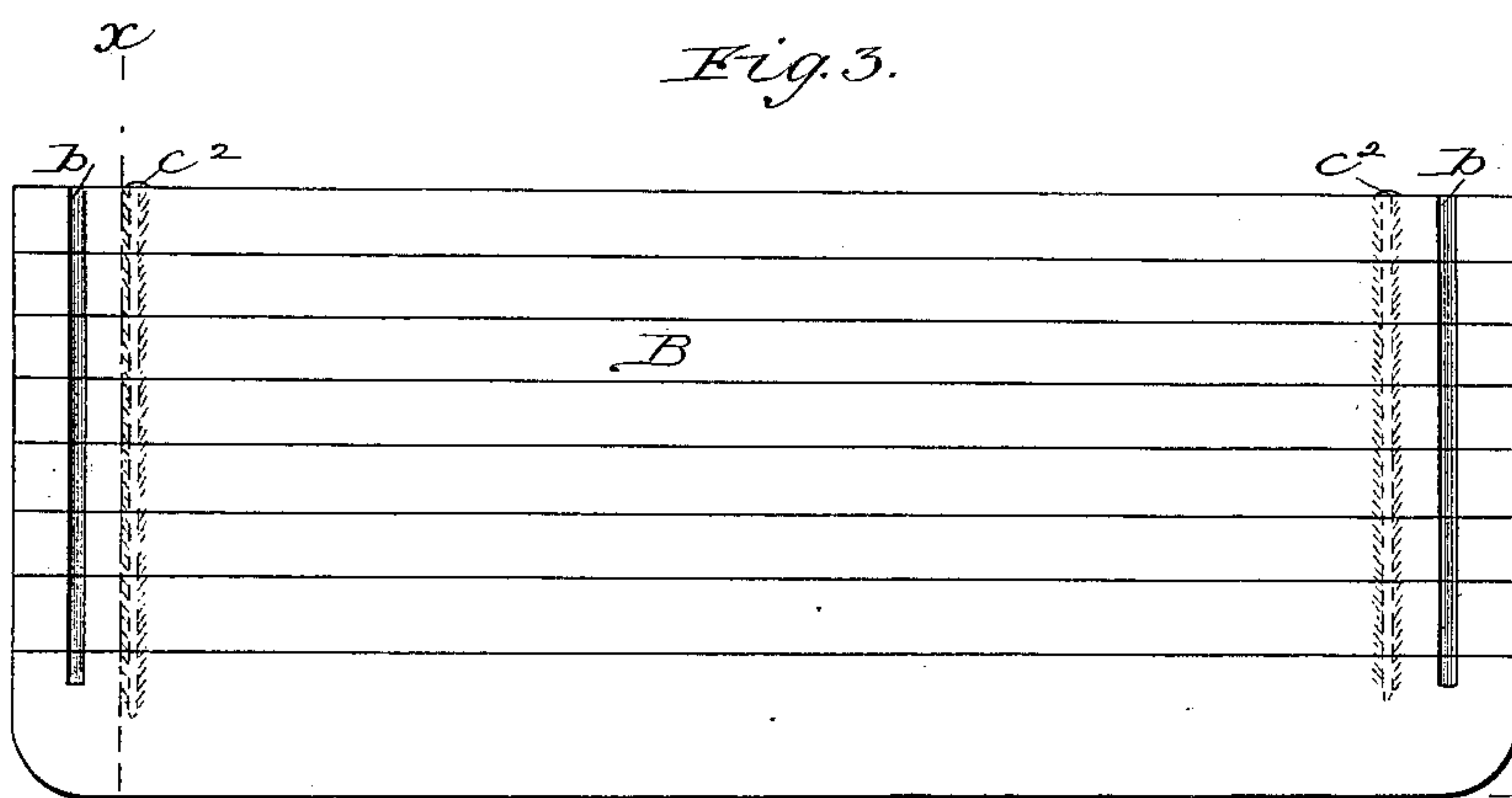
Patented Feb. 2, 1886.



*Fig. 2.*



*Fig. 3.*



Witnesses:  
W. Rossiter.  
H. Y. Barnett.

Inventor:  
Joseph F. Coulter  
By: Price & Fisher  
His Attys.



# UNITED STATES PATENT OFFICE.

JOSEPH F. COULTER, OF BURLINGTON, IOWA.

## SCHOOL DESK AND SEAT.

SPECIFICATION forming part of Letters Patent No. 335,508, dated February 2, 1886.

Application filed August 10, 1885. Serial No. 173,967. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH F. COULTER, a citizen of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in School Seats and Desks and Like Articles of Furniture, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention, while capable of more general application in the construction of articles of furniture, has particular relation to improvements of that class of school and other seats wherein a number of separate slats constituting the seat or its back are joined to the metallic seat-frame in such manner that the seat and its back can be removed therefrom, to permit the parts to be packed within very small compass for storage or shipment, and can be put together for use without the necessity of employing skilled labor for this purpose.

In the construction of this class of seats, as at present commonly practiced, it is customary to form each of the slats of which the seat or its back is composed with a transverse dovetail or T-shaped groove near each end, adapted to fit upon a correspondingly-shaped cast-metal rib on the seat-frame. These slats, being kept off the frame in storage and transportation, are apt to become warped, and, having been passed through the planing and finishing machines separately, are apt to be of somewhat unequal length and thickness, so that when placed upon the ribs of the seat-frame the surface and edge of the seat and its back are frequently found to be so uneven as to rapidly wear out the clothing of the occupant. A further objection encountered in this class of seats arises from the fact that the slats, being separate and having become somewhat warped, are apt to require considerable time and trouble in the operation of placing them in proper position upon the frame when being set up for use.

It has been heretofore proposed to prevent the irregularity of the slats incident to their becoming warped after having been set in position on the frame by embedding in the slats a

plain metallic rod at the time of placing them upon the seat-frame, and it has also been proposed to unite the abutting edges of the slats by short dowel-pins of wood or metal. I have found by long practice, however, that neither the plain metal rods nor the short dowel-pins are entirely effective, for the reason that in the shrinkage of the wood the slats are apt to become loose and slip on the metal rod or dowels, and, moreover, the unevenness of the seats incident to planing and finishing the slats separately or keeping them separately in storage cannot be remedied in any measure by such devices.

My present invention has for its object to overcome the above-mentioned difficulties, and at the same time to attain all the advantages at present derived from forming the seat and its back of comparatively narrow wooden slats. This object I have accomplished by connecting the several slats, of which the seat or its back is formed, by means of barbed metal rods embedded in such slats and firmly uniting them together, so that after being so united the slats can be passed simultaneously through the smoothing or surfacing machine to finish their surfaces and ends uniformly as a single piece of board, and can be placed upon the ribs of the seat-frame with much less difficulty and much more quickly than is possible where the slats are shipped separately to their destination and afterward put together upon the seat-frame.

My invention therefore consists, primarily, in the combination, with the usual slats of which the seat or its back is constructed, of barbed metal rods embedded in said slats in such manner as to firmly unite them together.

My invention also consists in combining the usual slats composing the seat or its back with the specific construction of rods hereinafter described, and illustrated in the accompanying drawings.

Figure 1 is a perspective view of a combined school desk and seat embodying my invention, portions being broken away for the purpose of better illustration. Fig. 2 is a detail view, upon line *xx* of Fig. 3, of a seat detached. Fig. 3 is an inverted plan view of a school-seat with my invention applied thereto.

A designates the main sustaining-frame of



a combined school desk and seat of usual construction, and *a* the T-shaped or dovetail ribs that fit within the correspondingly T-shaped or dovetailed grooves *b*, formed near the ends of the slats B, that constitute the seat or back. These slats B are connected firmly together by means of the rods C, one of which is embedded in the slats near each of the ends. These rods are provided throughout their length or a portion thereof with suitable barbs or projections, *c*, which serve to securely prevent the slipping or displacement of the slats upon the rods, and each rod is preferably pointed at one end, *c'*, to facilitate its being driven through the slats, and is provided with the rounded head *c''* at its opposite end.

In practicing my invention I prefer to first "match" the slats in the usual manner, and provide them with the transverse dovetail or T-shaped grooves *b*, and bore them with suitable small holes to receive the rods C, after which the slats will be placed in the press and drawn tightly and securely together, and the rods will be embedded in the slats, as seen in the accompanying drawings. This method of connecting the slats by means of the barbed metal rods enables the several slats to be passed through a smoothing or surfacing machine at the same time, so that their surfaces can be made of perfectly uniform thickness, and the seat or back in the finishing operations can be treated precisely as if composed of a single board, for the reason that the barbs of the metal rods so firmly unite the slats that all danger of their separation in such operation is with certainty guarded against. In this

manner all unevenness of surface commonly found in school-seats as usually constructed of separate slats is avoided. The slats thus joined together and finished can be kept in storage and shipment without danger of becoming warped, and when the seat has reached its destination can be placed much more quickly and easily upon the ribs of the seat-frame than would be possible were the slats in separate condition.

Referring to Fig. 1 of the drawings, it will be seen that my invention is also applied in the construction of the back D of the seat, and it will also be understood to be applicable in the construction of various articles of furniture, such as settees and the like, where separate slats are employed.

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

1. In a school seat or desk, (or like article of furniture,) the combination, with the slats, of the metal rods for connecting said slats, said rods having barbs or projections on the surface thereof, substantially as described.

2. In a school seat or desk, (or like article of furniture,) the combination, with the slats, of the long pointed and headed barbed metallic rods for connecting said slats, substantially as described.

JOSEPH F. COULTER.

Witnesses:

H. A. KELLEY,  
W. L. COOPER.