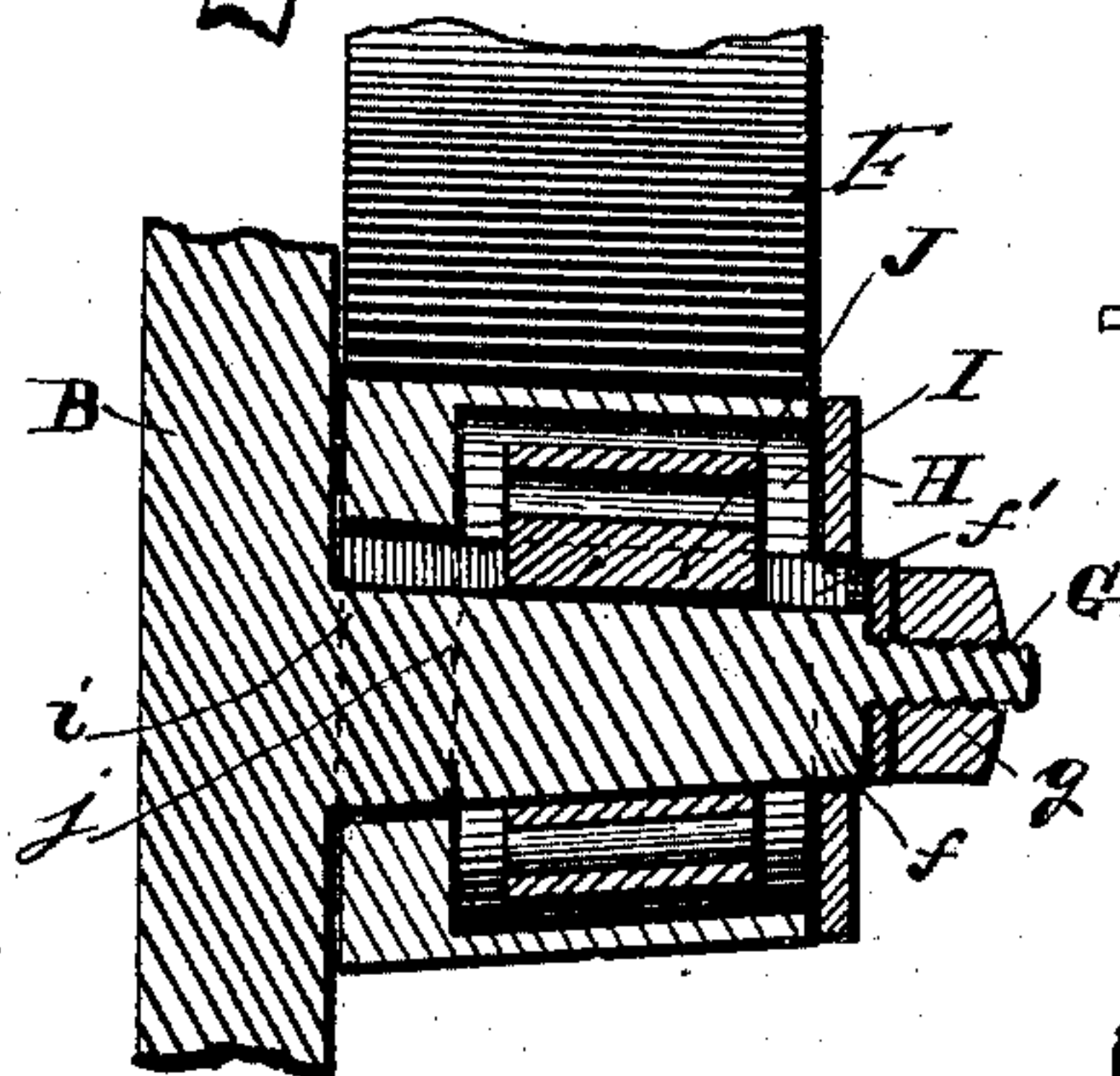
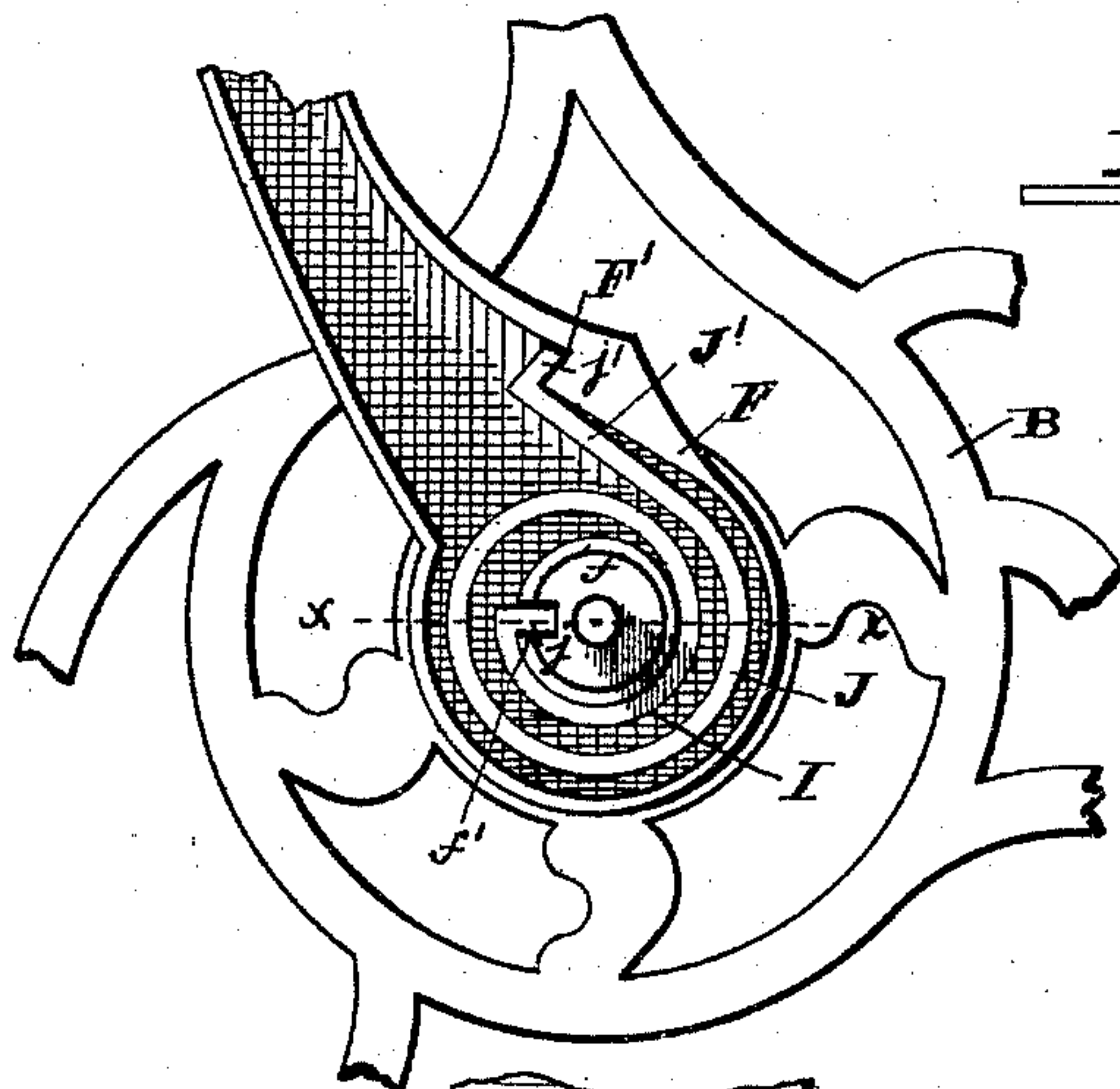
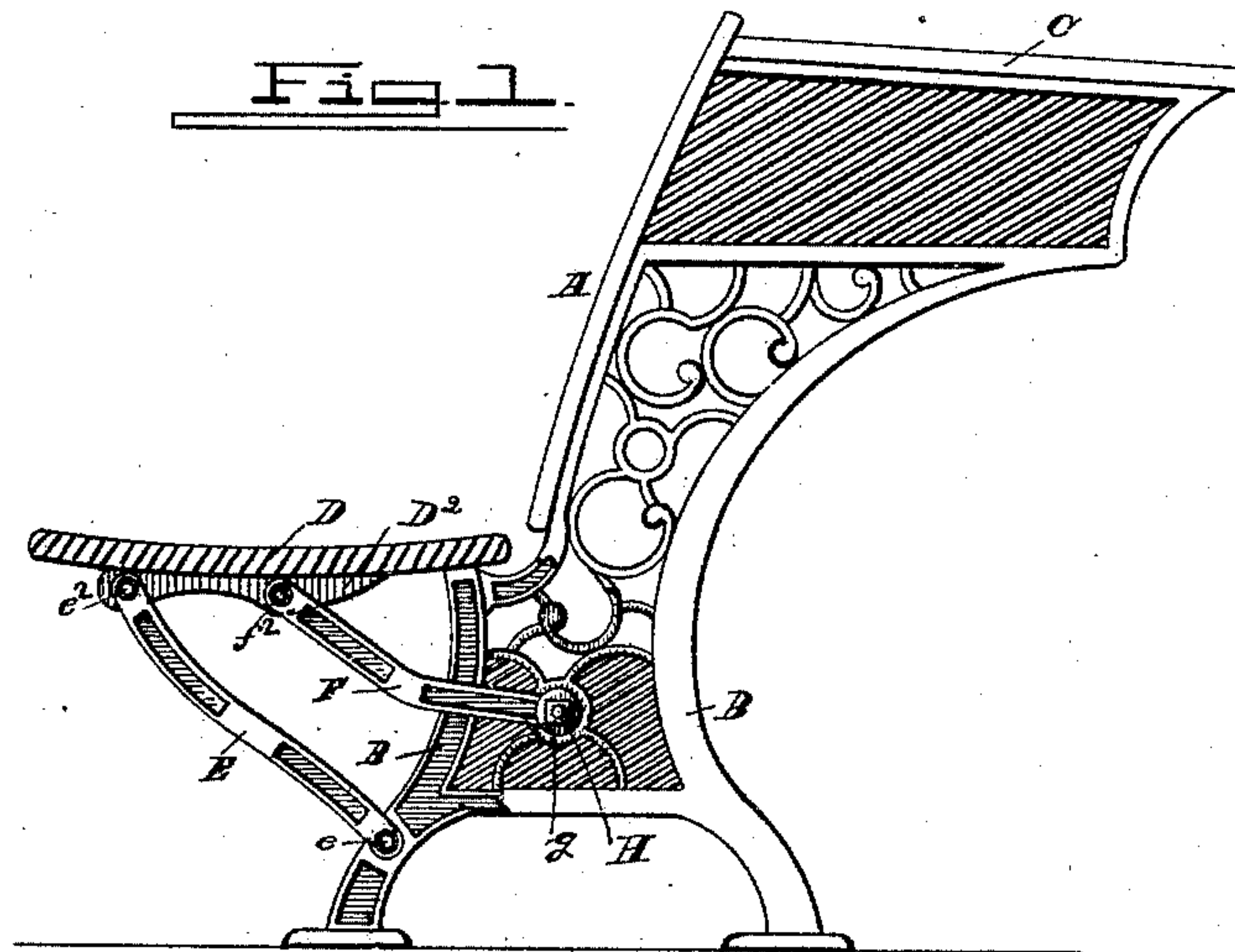


(No Model.)

A. CARY.  
SCHOOL DESK SEAT.

No. 445,946.

Patented Feb. 3, 1891.



WITNESSES

L. W. Seville,  
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by  
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# UNITED STATES PATENT OFFICE.

ALANSON CARY, OF NEW YORK, N. Y., ASSIGNOR TO THE UNION SCHOOL FURNITURE COMPANY, OF BATTLE CREEK, MICHIGAN.

## SCHOOL-DESK SEAT.

SPECIFICATION forming part of Letters Patent No. 445,946, dated February 3, 1891.

Application filed August 6, 1890. Serial No. 361,198. (No model.)

*To all whom it may concern:*

Be it known that I, ALANSON CARY, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in School-Desk Seats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view of my improved swinging automatically-folding seat for school-desks, &c., the seat and nearest side frame being broken away to show the attachment of the arms. Fig. 2 is an enlarged detail view showing the springs for operating the swinging arms in position. Fig. 3 is a transverse sectional view on line  $x x$ , Fig. 2, through one of the arms and its journal-bearing and spring.

This invention is an improvement in furniture, and relates particularly to chairs and school-seats wherein the seat is movable and is supported on swinging arms or levers as contradistinguished from ordinary hinges.

The present invention is designed to render the folding or closing of the seat automatic; and to this end it consists in employing springs which will control the arms supporting the seat, and thereby cause the folding of the seat, and which are arranged in recesses in the arms around the studs to which the arms are pivoted, substantially as set forth hereinafter and claimed.

Referring to the drawings by letters, A represents a school-desk, having metallic side frames B B and top or box C, as in ordinary forms of desks.

D designates the seat, which is mounted on four arms E E and F F, one pair of arms E F being at each end of the seat. The arms F are shorter than arms E, and the said arms E and F are journaled at their lower ends on studs  $e f$ , respectively, projecting from the inner faces of frames B B, studs  $f$  being above and in rear of studs  $e$ , so that when the seat is lowered, as indicated in Fig. 1, it will assume a proper horizontal position, but when raised or closed it will assume a vertical or edgewise position, its front edge lowermost

and face outward. The upper ends of the arms are preferably connected to similar studs  $e^2 f^2$ , projecting laterally from pieces  $D^2 D^2$ , secured transversely of and beneath the seat near the ends thereof. The studs are preferably made conical and their extremities are reduced and screw-threaded, as indicated at G, Fig. 3. The ends of the arms are conically bored or journaled, as at  $i$ , to fit on the conical studs and are confined thereon by washers H and nuts  $g$ . This construction permits wear of the journals to be compensated for by tightening nut  $g$ . The inner faces of arms F F, and if desired of arms E also, are recessed, as indicated at I, around one or both bores  $i$  for the reception of springs J, (see Fig. 2,) each of which is of convolute form, having its inner end bent at right angles into or formed with an inwardly-projecting tooth  $j$ , and its outer portion  $J'$  straightened tangentially for a short length and then bent outwardly at right angles into a tooth  $j'$ . Each stud has a slot or notch  $f''$  in it, with which tooth  $j$  of a spring J is engaged. After the parts of the desk are assembled and put together and the seat mounted on its arms, but before the washers and nuts have been placed on the studs, a spring J is slipped over one or more of the studs, say stud  $f$ , into the recess of arm F and its tooth  $j$  locked into notch  $f''$ , as shown, thereby preventing turning of the spring on the stud, while portion  $J'$  of the spring is forced down into the recess and its tooth  $j'$  engaged with a shoulder or notch F', formed in the side of recess I, as shown.

The spring tends to throw arm F upward, and if said arm be depressed the spring is additionally tensioned. Washer H is slipped on stud  $f$  and secured by nut  $g$ , as described, the washer covering recess I and confining the arm on the stud and the spring in the recess of the arm also protecting the spring from injury. Springs J are preferably attached to each arm F, and, if desired, may be likewise applied to arms E. When the occupant rises from the seat, the springs throw the arms upward, thereby giving the seat an upward and rearward movement, folding it against the back of the desk and out of the way, yet presenting its finished surface outward. The



seat thus automatically folds out of the way noiselessly and quietly. There are no hinges employed, and the springs are so arranged that they are partly or entirely covered and  
5 are never subjected to damaging strain. By providing two or more slots or notches in the studs or two or more shoulders on the arms the relative position of the spring and arm or stud could be varied and its tension or power  
10 increased or diminished.

It is obvious that this invention is applicable to any seat supported on pivoted or swinging arms as contradistinguished from ordinary hinges irrespective of the particular  
15 manner or direction of folding thereof.

Having thus described my invention, what I claim is—

The combination, with the side frames having projecting studs provided with longitudinal slots and swinging arms pivoted on said  
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studs and each having a recess around the stud in the side opposite the frame and a shoulder or offset at one side of and within said recess, of the convolute springs inserted within the recesses of the arms and surrounding the studs, having their inner ends bent to engage the slots of the studs and their outer ends bent to engage the shoulders at the side of the recesses, the plates slipped on the studs covering the recesses in the arms, and the nuts  
25 screwed on said studs to confine the plates and arms thereon, all substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of  
30 two witnesses.

ALANSON CARY.

Witnesses:

DANIEL LEVY,

JAMES LITTLEFIELD.