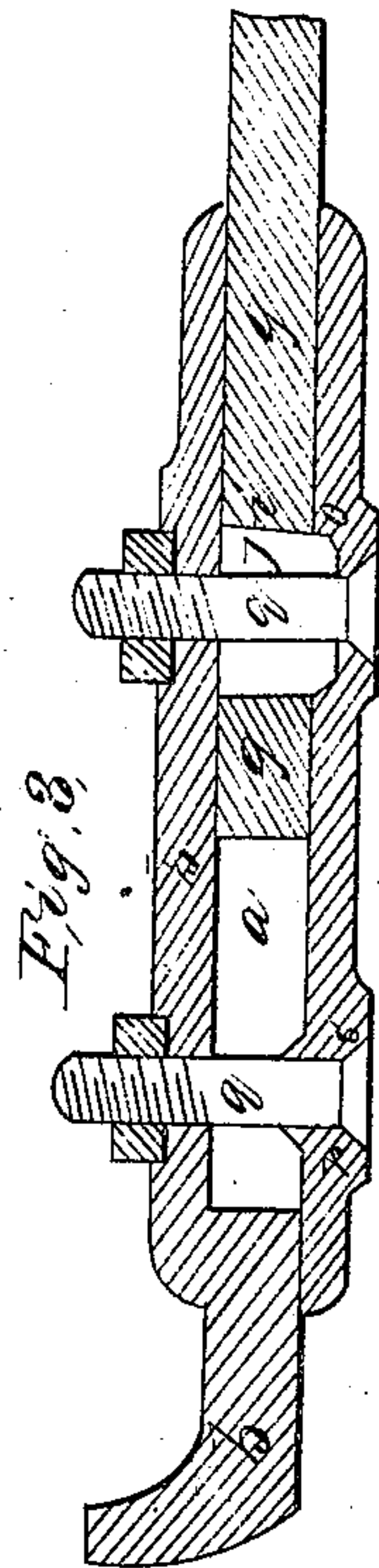
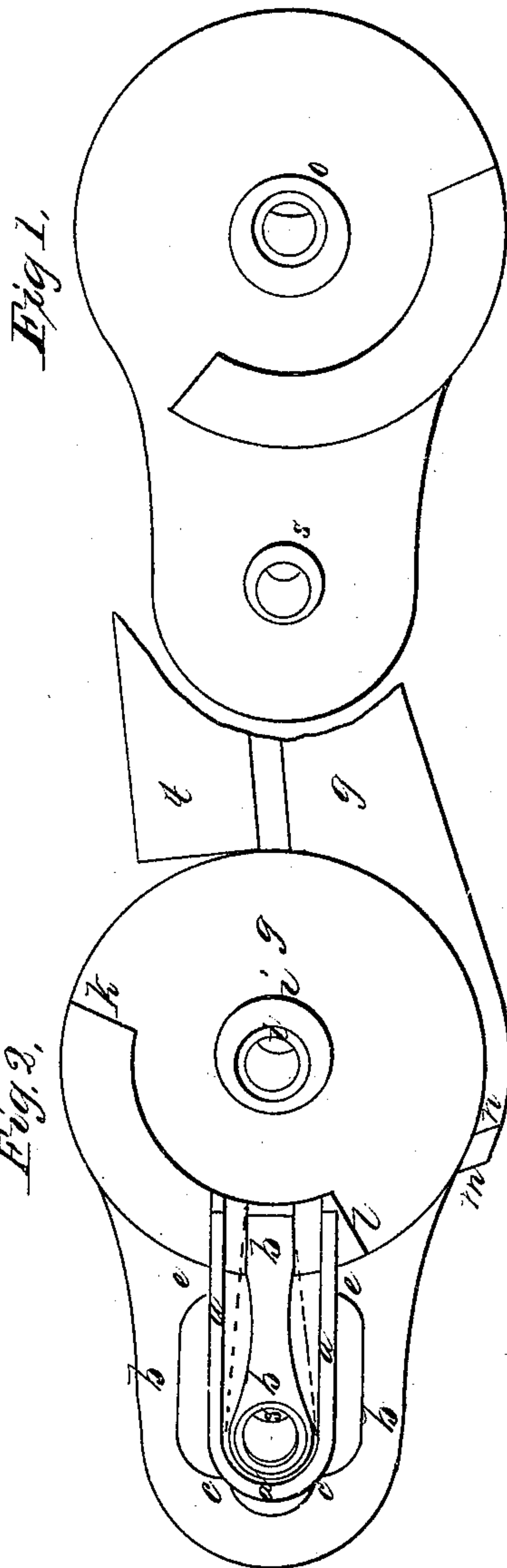
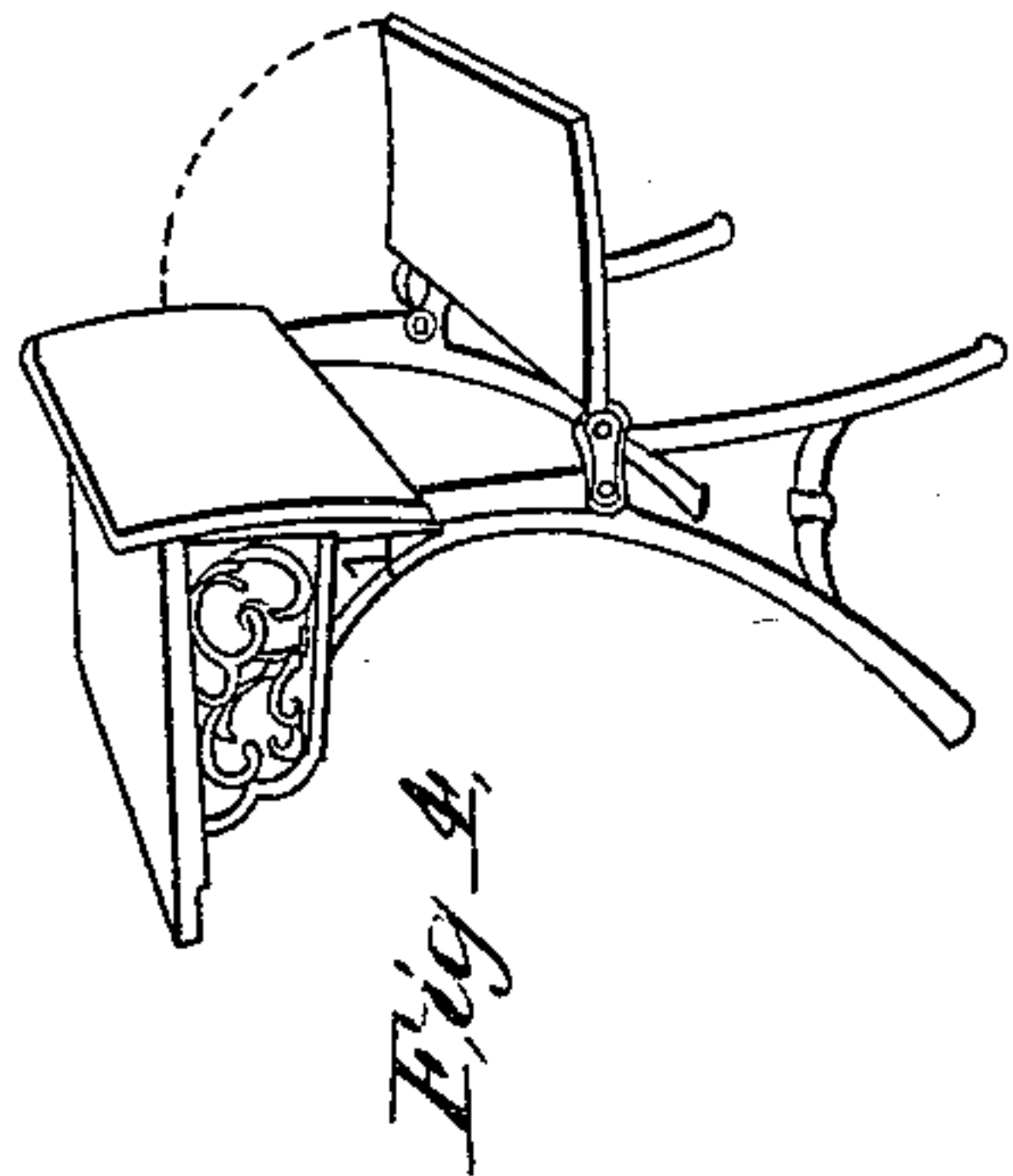


*G. W. Hildreth.*

*School Seat.*

*N<sup>o</sup> 107,048.*

*Patented, Sept. 6, 1870.*



*Witnesses*  
*Joseph Clark*  
*Dan J. McKinn*

*Inventor,*  
*G. W. Hildreth*

# UNITED STATES PATENT OFFICE.

GEORGE W. HILDRETH, OF LOCKPORT, NEW YORK.

## IMPROVEMENT IN SCHOOL-SEATS.

Specification forming part of Letters Patent No. 107,048, dated September 6, 1870.

*To all whom it may concern:*

Be it known that I, GEORGE W. HILDRETH, of Lockport, in the county of Niagara, in the State of New York, have invented new and useful Improvements in School-Seats; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which refer to the same parts in the various figures.

Figure 1 is a cap. Fig. 2 is a side elevation. Fig. 3 is a transverse section. Fig. 4 is a perspective view of the entire seat and desk.

The nature of my invention consists in hanging the seat so as to turn up and down by a peculiar hinge, consisting of a tapering pivot-and-socket joint, with a bolt passing through it, similar to the one described in my patent June 5, 1866, but now further improved by a cap over the small end of the pivot, and a double-acting spring, something in the form of the letter U, and so arranged that the entire length of the spring will act and react when the pressure is applied to either end of it. Said spring is inclosed in a recess, requiring no holes to be made through it to hold it in place, which holes, if made, would weaken the spring and shorten the elastic portion of it. The object of the spring is to prevent noise in raising or lowering the seat, and also to give more elasticity when sitting upon it. This spring may be made of steel or brass, or any elastic material, even of rubber or leather, to form a pad in a similar form, to deaden the sound as the seat falls or is turned up suddenly.

To enable others skilled in the art to make and use my invention, I will proceed to describe it more in detail by drawing.

Fig. 2 is a side elevation, with the spring *a* inserted in a recess in the main frame *b b b*. It is kept in place by resting against two points outside, *c c*, and one point inside, *d*. Its expansion at the other end is governed by two points, *e e*, and its contraction or inward motion is governed by the stop *f*.

The arm *g g*, to which the seat *t* is attached, has a tapering hole, *i*, suited to the pivot *j*, projecting from the frame *b b*, as seen in Fig. 3 at *i* and *j*, on which the arm turns up until *k* strikes the spring *a*, in Fig. 2, and presses it toward the stop *f*, which prevents the seat,

when turned up, from making a noise, by striking the desk which forms a back for the turn-up seat, as seen in Fig. 4, at the dotted quarter-circle line. Also, in lowering the arm *g*, *b* strikes the spring *a* and prevents a noise which would be made by a sudden stop without the spring, and, as the weight is put upon the seat, the spring *a* is forced to bear against the stop *f*, which sustains the arm and seat in the right position to sit upon.

The arm *g* has an additional bearing at *m* and *n*. The pivot *j* projects through the arm *g* into the cap, as will be seen in Fig. 3, at *j* and *o*.

A countersink in the cap at *o*, Fig. 3, and also seen in the cap at *o*, Fig. 1, is made to fit, making what a mechanic would call a "dowel-joint." Then, with the addition of the bolt *p*, it clasps the arm *g*, making a very strong joint. Another bolt, *q*, further fastens the cap to the main frame at *r*, with the cap doveled into the frame *b* inside of the spring, as will be seen at *s*, in Figs. 2 and 3, with the cap, Fig. 1, turned over and bolted to the main frame, Fig. 2, over the arm *g*, doveled and bolted to said main frame, for the purpose of sustaining the outer end of the pivot where it enters into the cap at *o*, in Fig. 3, making an extraordinary strong joint with comparatively a small amount of metal.

The nuts for both of the bolts are sunk into the main frame, so they cannot be turned by the fingers or a wrench, to prevent boys getting them off and mischievously disabling the seat. The bolts can only be turned by a strong screw-driver.

The advantage of the pivot-joint over the ordinary bolt is, that should the bolt be removed after the wood seat *t* is screwed to the two arms, said arms could not be spread so as to come off of the pivots and render the seat useless, as would be the case with merely a bolt.

A portion of the wood seat *t*, upon the arm *g*, is seen in Fig. 2.

I claim—

The U-shaped spring *a*, constructed as described, in combination with the arm *g* and standard *b* of a school-desk.

G. W. HILDRETH.

Witnesses:

JOSEPH CLARK,  
DAVID MCKIM.