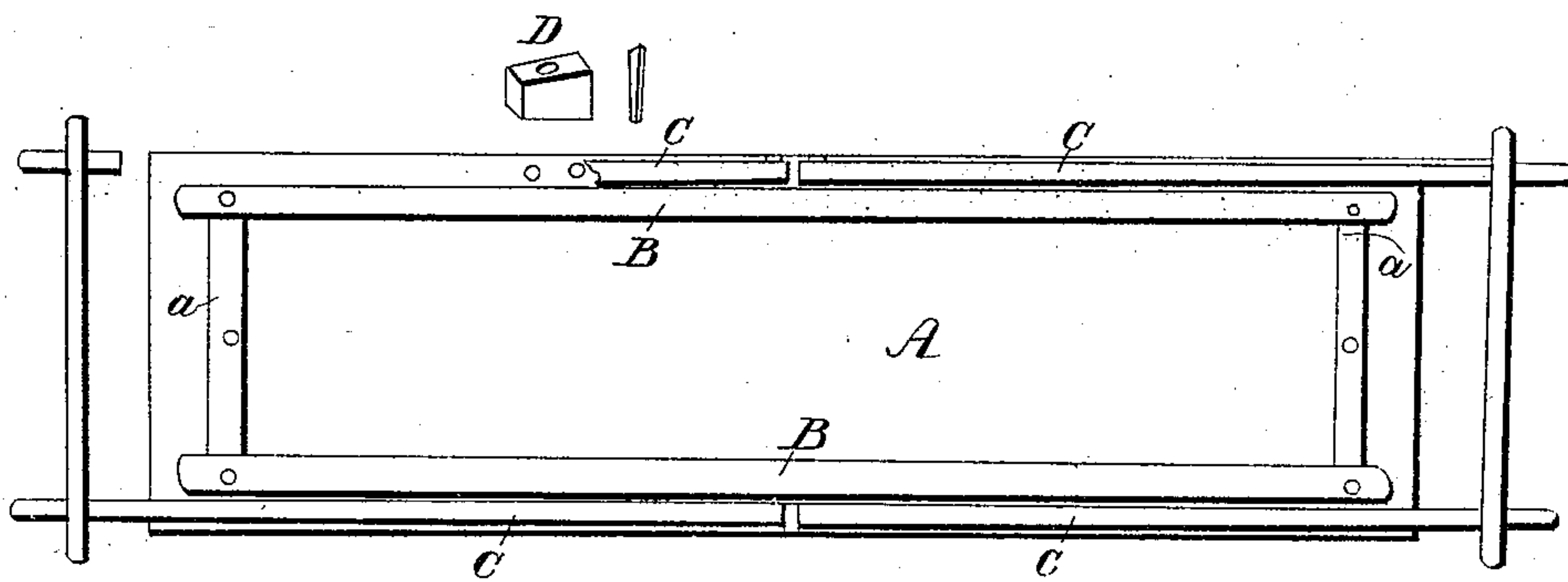
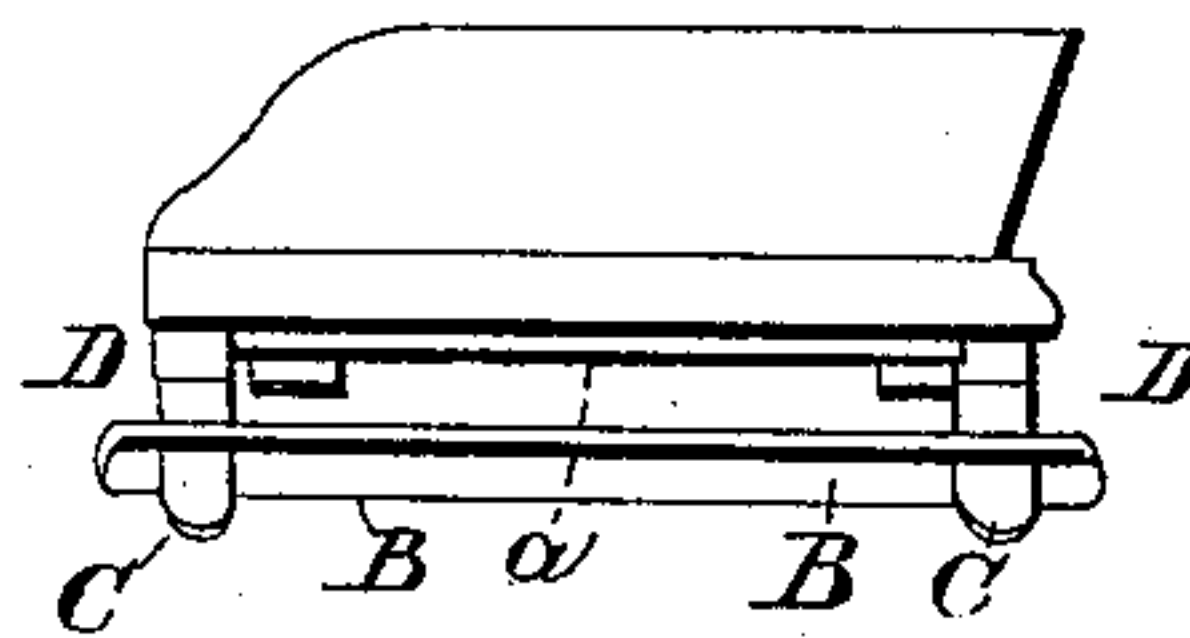
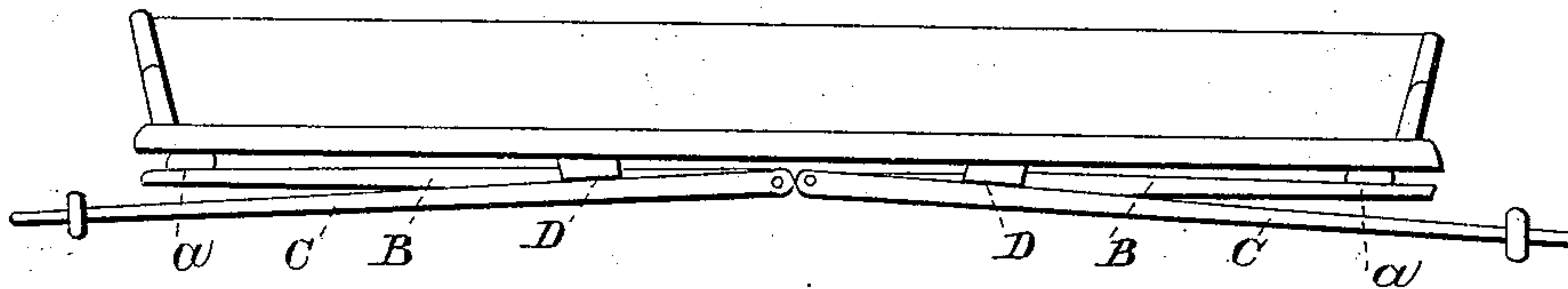


J. H. NALE.

Wagon Seat.

No. 90,680.

Patented June 1, 1869.



WITNESSES:

William J. Keep
Eugene W. Hart

INVENTOR:

Jno. H. Nale
by Charles W. Dyer
Atty

United States Patent Office.

JOHN H. NALE, OF DECATUR, ILLINOIS, ASSIGNOR TO HIMSELF
AND JOHN O. SLOAN, OF SAME PLACE.

Letters Patent No. 90,680, dated June 1, 1869.

IMPROVED WAGON-SEAT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN H. NALE, of Decatur, in the county of Macon, and State of Illinois, have invented certain new and useful Improvements in the Construction and Arrangement of Springs for Wagon-Seats; and do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a front elevation,

Figure 2 is an end elevation, and

Figure 3, a plan view of the bottom of the seat and springs.

Letters of like name and kind refer to like parts in each of the figures.

The nature of my invention consists in the combination and arrangement of wooden springs beneath the seat, by means of which great elasticity and durability are combined with cheapness, and also in the employment of adjustable supports between the seat and springs, by which the strength of said springs, with reference to the seat, can be so adjusted as to correspond with the weight which said seat is designed to support.

In the annexed drawing—

A represents a wagon-seat, of usual construction, having secured laterally upon its under side, near the ends, two cross-pieces, of hard wood, *a a*, one inch in thickness.

Secured to the under side of the cross-pieces, near their ends, are two spring-slats, of hard, tough wood, *B B*, which extend lengthwise beneath the seat, and furnish a bearing for other spring-slats, *C C*, which are pivoted, at their inner ends, to the outer side, near the centre, lengthwise of the slats *C C*, and extending outward beyond the ends of the seat, are joined together in pairs, by means of a cross-piece, *E*.

Between the bottom of the seat *A* and each spring-slat *C C*, is a block, *D*, which furnishes a direct bearing for said seat upon said slats, and serves as a fulcrum, by means of which they act as levers upon the slats *C C*.

It will be seen that by this arrangement the depression of the seat operates upon the springs in a three-fold manner: first, the spring-slats *B B*, being secured to said seat at their ends, any change in the position,

vertically, of said ends, if their centre is supported, will cause them to act as springs; second, the outer ends of the slats *C C* being supported upon the wagon-box, and their inner ends being secured to the slats *B B*, the weight of the seat resting upon said slats *D D*, between their points of support, will convert said slats into springs; third, while the tendency of the slats *B B* will be to spring upward at their centre, and of the slats *C C* to spring downward at their inner ends, the result will be that neither will operate independent of the other, but one or the other will yield, according as the blocks *D* are placed further from or nearer to the centre of the seat.

It will also be evident that the stiffness or elasticity of the springs will vary with the position of said supports or blocks, so that, if they are made adjustable lengthwise of the seat and springs, a heavy or light load for said seat can be provided for.

The latter result is accomplished by means of a series of holes in the bottom of the seat, into which a pin, passing through the blocks, is caused to fit, rendering it only necessary to remove said block and pin, and insert the latter in another hole, when it is desired to change the tension of the spring.

This construction and arrangement of springs possesses many advantages, among which are durability, elasticity, adjustability, and cheapness, which will undoubtedly make it very popular.

Having thus fully set forth the nature and merits of my invention,

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

The combination and arrangement of the spring-slats *B B* and *C C*, and the supports *D D*, &c., with the seat *A*, substantially as and for the purpose shown and described.

Also, the employment of the adjustable blocks *D D*, &c., in combination with the seat *A* and spring-slats *C C*, &c., for the purpose of increasing or lessening the tension of said springs, substantially as herein described.

JOHN H. NALE.

Witnesses:

GEO. O. MARCY,

JOHN B. HARRISON.