J. V. D. ELDREDGE.

Mode of Supporting the Journal of Balance Wheels.

No. 242,519. Patented June 7, 1881.

FIG. 2.

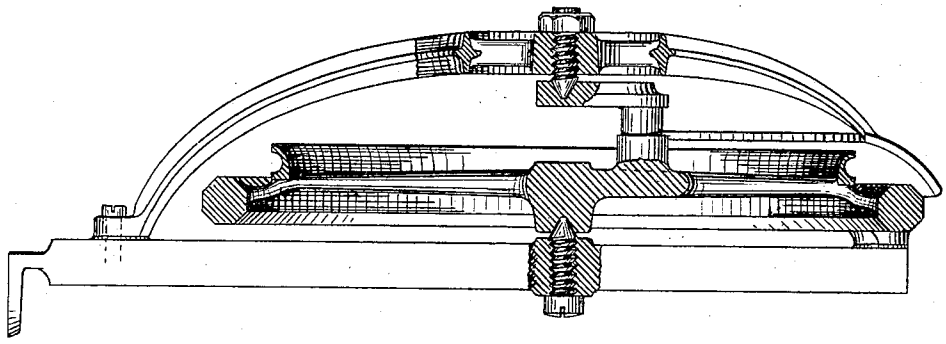
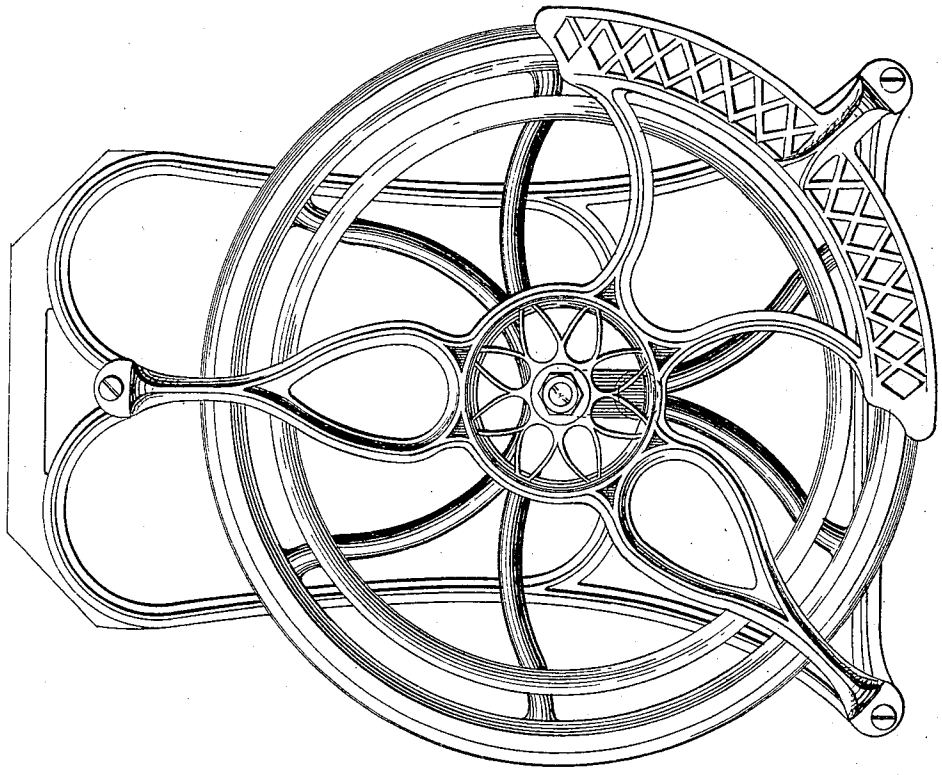


FIG. 1.



WITNESSES.

Samuel Adams

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# UNITED STATES PATENT OFFICE.

JOHN V. D. ELDREDGE, OF DETROIT, MICHIGAN, ASSIGNOR TO THE ELDREDGE SEWING MACHINE COMPANY, OF SAME PLACE.

## MODE OF SUPPORTING THE JOURNALS OF BALANCE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 242,519, dated June 7, 1881.

Application filed September 20, 1879.

*To all whom it may concern:*

Be it known that I, JOHN V. D. ELDREDGE, of the city of Detroit, in the county of Wayne and the State of Michigan, have invented new and useful improvements in means for securing fly-wheels to the stands of foot-power machines; and I do hereby declare that the following specification, taken in connection with the drawings forming a part thereof, is sufficient to enable others skilled in the art to which my invention appertains to make and use the same.

My invention consists in the combination, with the leg or stand of a machine, of a crab or bridge adapted to span the diameter of a fly-wheel, with an adjusting-screw arranged in such a manner as to form one of the bearings for the said fly-wheel, the parts being so formed, combined, and arranged as to insure a greater degree of rigidity and uniformity of bearing (when the wheel is rapidly revolving) than when otherwise or independently arranged. The bridge, also, when in position serves as a guard or protector to the clothing of the operator.

The object of my improvement is to combine both bearings to one part of the frame or leg of the machine, that the loosening and the twisting of the journals in the bearing may be avoided, as it is obvious in practice that when space is to be utilized and the journal-bearings are near each other, as shown, a pendent bracket-support (owing to its length) is apt to yield outward when weight or power is applied to the treadle to give it motion, which is exhibited more fully and largely as the speed of the fly-wheel is increased or its velocity suddenly changed, while by my invention the two journal-supports being, as it were, connected to each other, and the bridge spanning over, with the wheel between, insures perfectly rigid bearing-supports without a possible chance for yielding or spreading apart.

Referring to the drawings, Figure 1 represents a top view of my improved bridge or support, in connection with a section of a leg of a machine, with the fly-wheel arranged in position. Fig. 2 represents a wheel with a crank cast thereon in one piece.

The fly-wheel is provided with a crank-shaft cast thereon in such a manner that the two parts named form a unit. The opposite points, which form the bearing-supports, are represented as countersunk, into which the tapered ends of the adjusting-screws enter as a counterpart, and upon which the wheel revolves. I would remark, however, that the projections might be reversed with the same results—that is to say, the ends of the screws may be countersunk, and the wheel and crank be provided with the projections or male centers. The bridge part, for convenience, is cast in one piece with two or more feet, arranged in such a manner as to span the wheel and fit upon corresponding seats upon the legs, with which the same is to be connected. When the bridge is secured in position, as shown in the drawings, and the wheel in place, the two set-screws, which are placed at opposite ends, are adjusted in such a manner toward or into their counterparts that the wheel may run with very little or no friction, and the bridge, which spans the whole, serves, in connection with the leg which forms the other part of the support for the wheel, as means for securing a positive and a fixed unyielding bearing for the journals.

It has been found in practice that such wheels, when hung upon centers not absolutely rigid, or other bearings where there is a tendency to yield in their relations to each other, are liable (in revolving rapidly) to loosen and shake, and not unfrequently escape from their bearings, to the great injury to the operator. To that end, and for the purpose of insuring greater safety in the suspension and operations of such wheels, and for the further purpose of securing unyielding journal-bearings, where space is to be economized, and the greatest ease of motion obtained, is my object.

Having thus set forth my invention, I do not wish to be understood as claiming pivoted centers, broadly, or a balance-wheel constructed in the manner shown and described; but

What I do claim as new, and desire to secure by Letters Patent of the United States of America, is—

1. The combination, with the leg or frame of a sewing or other machine, of a bridge se-

cured thereto in such a manner as to serve as a guard and a journal-support for a balance-wheel, with means for the adjustment of said journals, substantially as set forth.

2. The combination, with the leg of a sewing-machine, of a bridge-piece so formed and secured thereon as to form a space between said leg and bridge, within which the balance-wheel is adjustably supported at its center of bearing by one or more screws, substantially as herein set forth.

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Witnesses:
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