C. BARLOW.

AUTOMATIC CRADLE.

No. 192,406. Patented June 26, 1877.

Fig. 1.

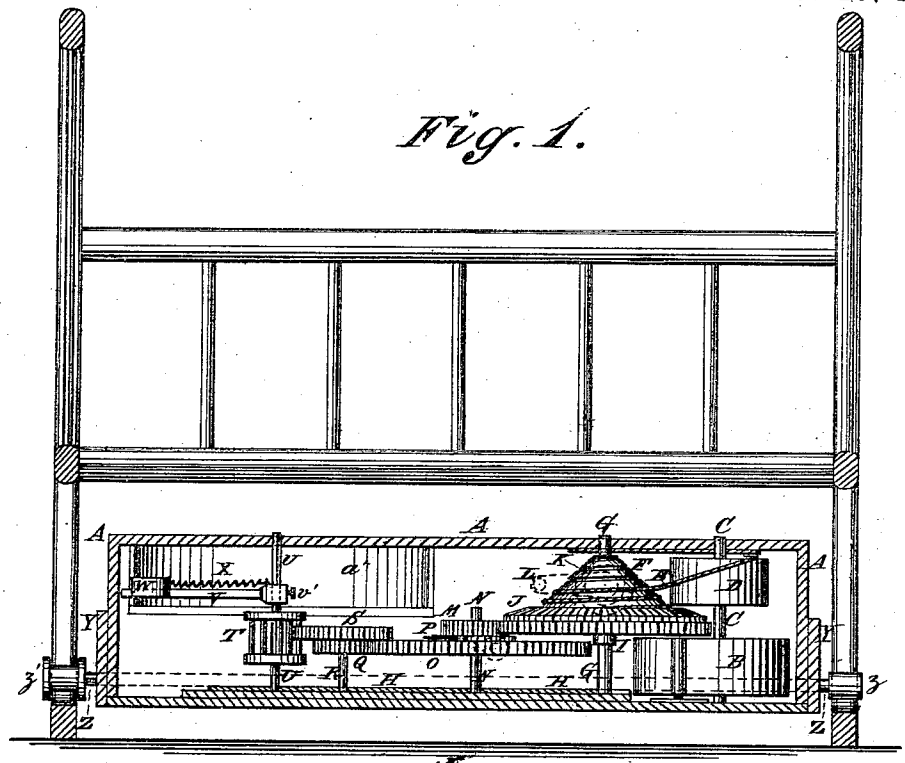


Fig. 2.

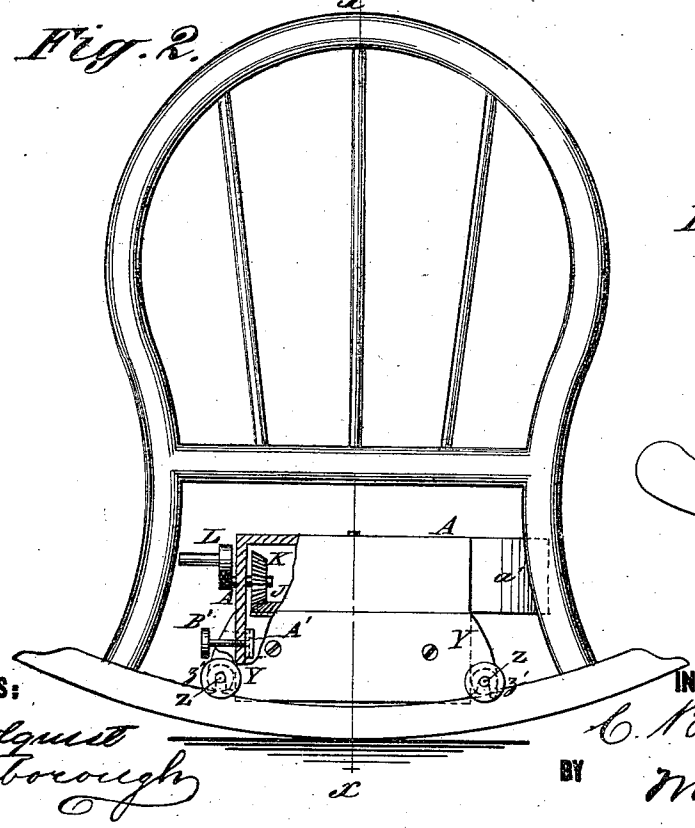
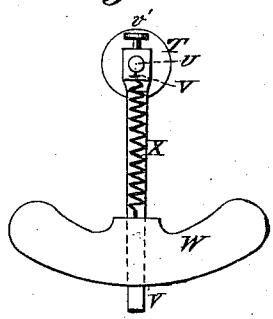


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES BARLOW, OF COOKSHIRE, QUEBEC, CANADA, ASSIGNOR TO MILLER, BARLOW & CO., OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC CRADLES.

Specification forming part of Letters Patent No. **192,406**, dated June 26, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that I, CHARLES BARLOW, of the village of Cookshire, in the township of Eton, county of Compton, Province of Quebec, and Dominion of Canada, have invented a new and useful Improvement in Cradle-Propeller, of which the following is a specification:

Figure 1 is a vertical longitudinal section of a cradle to which my improvement has been applied, taken through the line *x x*, Fig. 2. Fig. 2 is an end view of the same, partly in section to show the construction. Fig. 3 is a detail top view of the weighted arm.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved attachment for cradles, to enable them to be rocked by spring-power and without the continuous presence of an attendant.

The construction is as hereinafter described.

A is a case of such a size that it may be placed beneath the bed-bottom of a cradle and above its rockers. B is a coiled spring, the outer end of which is attached to a support attached to the case A. The spring B is coiled around, and its inner end is attached to, a shaft, C, the ends of which revolve in bearings formed in or attached to the case A. To the spring-shaft C is attached a drum, D, to which is secured one end of the cord or chain E. The other end of the cord or chain E is attached to the fusee F, attached to the shaft G, the lower end of which revolves in bearings in a block, H, attached to the bottom of the case A, and its upper end revolves in bearings in the top of said case A. To the shaft G, or to the base of the fusee F, is attached a gear-wheel, I, to which is attached, or upon it is formed, a bevel-gear wheel, J, into the teeth of which mesh the teeth of the small bevel-gear wheel K. The gear-wheel K is attached to the end of the shaft of the crank L, which passes through and revolves in the side of the case A, so that by turning the crank L the cord or chain E may be wound upon the fusee F, winding up the spring B. The teeth of the gear-wheel I mesh into the teeth of the small gear-wheel M, placed upon the shaft N, attached to the block H. The gear-wheel M is connected with the large gear-wheel O, also placed upon the shaft N, by a pawl and ratchet, P, so that the gear-wheel M may be turned back in winding up the spring B without turning the gear-wheel O, but may carry the said gear-wheel O with it when turned forward by the action of the said spring B. The teeth of the large gear-wheel O mesh into the teeth of the small gear-wheel Q, placed upon the shaft R, and rigidly connected with the larger gear-wheel, S, also placed upon the said shaft R. The shaft R is attached to the block H. The teeth of the gear-wheel S mesh into the teeth of the post-wheel T, attached to the shaft U, the lower end of which revolves in bearings in the block H, and its upper end revolves in bearings in the top of the case A. The shaft U passes through a hole in the end of the arm V, which arm V is secured in place upon the said shaft U by a set screw, *v'*. Upon the arm V is placed a heavy weight, W, which slides out and in upon the said arm V. The weight W is thrown outward by centrifugal force as the speed increases, and is drawn inward as the speed decreases by the spiral spring X, one end of which is attached to the middle part of the weight W, and its other end is attached to the inner part of the arm V. The weight and spring thus act as a governor to regulate the speed. If the case A is not wide enough for the arm V and weight W to revolve, enlargements *a'* may be formed upon its sides, as shown in Figs. 1 and 2. To the ends of the case A are attached two boards or plates, Y, the ends of which project, and are notched upon their lower edges to receive the rods Z, upon which the case A and its attachments rest. Upon the ends of the rods Z are formed, or to them are attached, rollers *z'*, to rest and roll upon the upper side of the rockers of the cradle. The rollers *z'*, at one end of the rod Z, are made with flanges around their ends, to keep them in place upon the said rockers. The rollers *z'*, at the other ends of the rod Z, are made without flanges, and long, so that the apparatus may be applied to cradles varying in length.

With this construction, as the cradle is rocked by the revolution of the weight W the case A and its attachments move upon the

rockers, so as to be kept nearly horizontal. In case the tops of the rockers are in such a shape that they cannot receive the rollers z', the said rollers may be placed upon the concaved edges of the boards or bars attached to said rockers. The movement of the apparatus may be prevented at any time by pressing a spring-bar, A′, against the edge of the gear-wheel O by means of a hand-screw, B′. The spring-bar A′ is attached to the inner surface of the side of the case A, and the screw B′ passes in through said side.

By this construction the weight of the cradle and child acts as a pendulum, while the revolving weight W imparts the impulse necessary to make the rocking continuous.

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

1. The combination of the arm V, the sliding weight W, and the spiral spring X with the chain of gear-wheels driven by the spring B, drum D, cord or chain E, and fusee F, and with the case A, substantially as herein shown and described.

2. The combination of the notched boards Y and the rods Z, provided with the rollers z', with the case A of the apparatus, to adapt it to be applied to the rockers of a cradle, substantially as herein shown and described.

3. The combination of the spring-bar A′ and hand-screw B′ with the case A and the wheel O of the chain of gear-wheels, substantially as herein shown and described.

CHARLES BARLOW.

Witnesses:

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J. I. MACKIE.