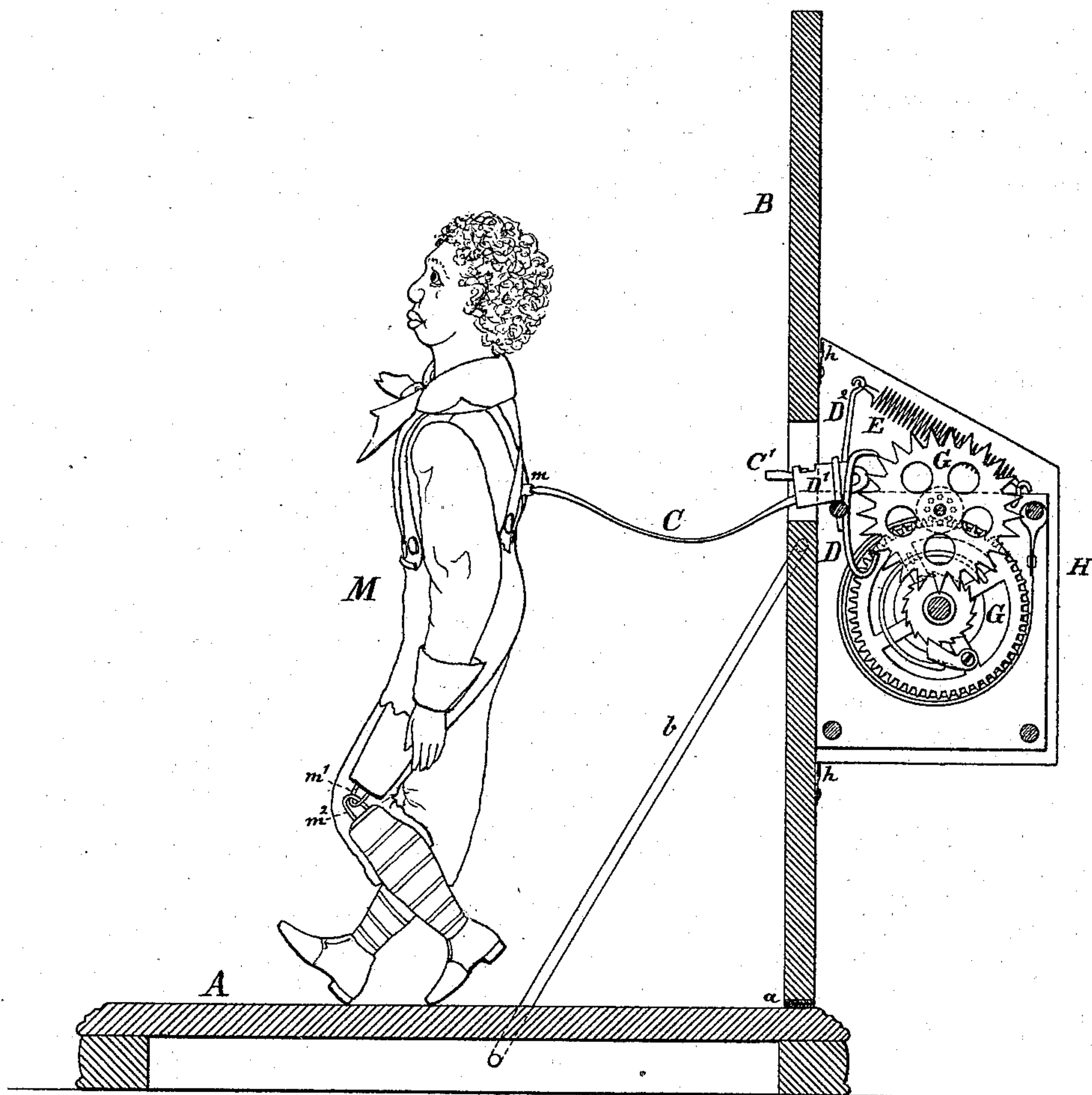


H. L. BROWER.

Automatic Toy Dancers.

No. 143,121.

Patented September 23, 1873.



Witnesses:

Inventor:

Arnold Hornum.

H. L. Brower,

Wm C. Day by his attorney *J. L. Nelson,*

UNITED STATES PATENT OFFICE.

HENRY L. BROWER, OF NEW YORK, ASSIGNOR TO JOSEPHINE DEF. BROWER,
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IMPROVEMENT IN AUTOMATIC TOY DANCERS.

Specification forming part of Letters Patent No. 143,121, dated September 23, 1873; application filed
July 22, 1873.

To all whom it may concern:

Be it known that I, H. L. BROWER, of New York city, in the State of New York, have invented certain Improvements relating to Automatic Toys, of which the following is a specification:

I provide a figure, representing a negro or other dancer, with flexible joints, and mount it on a lever operated by clock-work, and I provide a spring which balances, or partly balances, the weight on such lever. In the preferable form, the figure is adjustable at various inclinations on the lever, and the lever is detachable, and the whole apparatus adapted to fold into a small compass.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawing forms a part of this specification, and is a side elevation, partly in section. The clothing of one leg of the dancer is broken away to show the construction of the joint.

In the drawing, A is a flooring, and B an upright board, connected to A by the hinges *a*, and supported in the upright position by the removable braces *b*. M is a toy figure. The joints of the knees and the thighs, as also, preferably, of the arms, are formed by driving two interlocked staples into the respective pieces of wood, as indicated by *m*¹ *m*². This gives not only great freedom of bending, but also liberty in the several parts to twist to the extent of about a quarter of a circle. The operating-lever C is of spring-brass or other highly elastic material, and is flattened, so that it can swing in the vertical plane. It is formed with a head, which is received in a socket, *m*, in the back of the figure M, and is held therein by the metal at the mouth of the socket being compressed together. The figure should be capable of turning on the lever C, care being taken to fix the socket *m* considerably above the center of gravity, so that it will always maintain an approximately vertical position. I provide a strong mainspring, with gearing and an escapement-wheel, denoted, collectively, by the single letter G, with means for winding up the spring. The escapement-wheel acts on a pallet or verge, D, hung in the framing of the clock-work,

which carries a socket, D¹, in which the lever C is received and held. It also has an arm, D², which is acted on by a long and highly elastic coiled spring, E. The clock-work and the casing which incloses it are fixed on the back face of the board B, the lever C playing through a narrow slot in said board. The clock-work is inclosed within a removable casing, H, which engages and disengages by means of hooks *h*, which match into spaces provided on the back of the board B.

To pack the toy for transportation, the braces *b* are detached from the board B, preferably leaving them attached to the flooring A, and on removing the lever C from the socket D¹, the board B and the braces *b* are readily folded down upon the floor, when the figure M and the lever C, still remaining detached, may be laid thereupon, and the whole inclosed in paper or a shallow box.

To adjust the toy for use, the board B is turned upright and braced, the lever C inserted in the socket, where it holds itself by a spring-catch, and the clock-work wound up by an ordinary key. This done, the dancer will commence to operate, employing the weight of the figure M as a sort of vertical pendulum, acting, by its inertia, to preserve a proper speed in the motion, while the tension of the spring E counteracts the gravity of the figure, and allows the escapement D G to vibrate the figure up and down.

The spring-catch on the lever C is formed by folding a portion of the material back upon itself, as indicated by C', and shaping it, by machinery or otherwise, with a small projection, to engage in a hole in the upper side of the socket D¹. To remove the lever C and its connections, the end C' must be pinched down or pressed toward the lever C.

Several conditions are important to the highest success. The head of the figure should be jointed to the trunk with a slight rubber or other spring, to hold it up. The lever C should be elastic, and the force of the mainspring should be sufficient to give the figure an active jumping motion, with a descent a little more rapid than is due to gravity alone.

I claim as my improvement in automatic dancing toys—

1. The horizontal spring-lever C, connected

to the figure M, in combination with clock-work G, substantially as herein specified.

2. The balance-spring E, in combination with the dancing figure, connecting spring-lever, and operative mechanism, as herein specified.

3. The dancing figure M, having staple or loose-locking joints $m^1 m^2$, and operated by clock-work escapement, a spring-lever, C, and a balance-spring, substantially as herein specified.

4. The folding frame A *a* B *b* and detachable lever C, in combination with each other and with a dancing figure, M, and clock-work G, as herein specified.

In testimony whereof I have hereunto set my hand this 21st day of July, 1873, in the presence of two subscribing witnesses.

HENRY L. BROWER.

Witnesses:

ALFD. WESTBROOK,
W. C. DEY.