

(No Model.)

H. J. DAVIES.  
Alarm Clock.

No. 230,246.

Patented July 20, 1880.

Fig. 1.

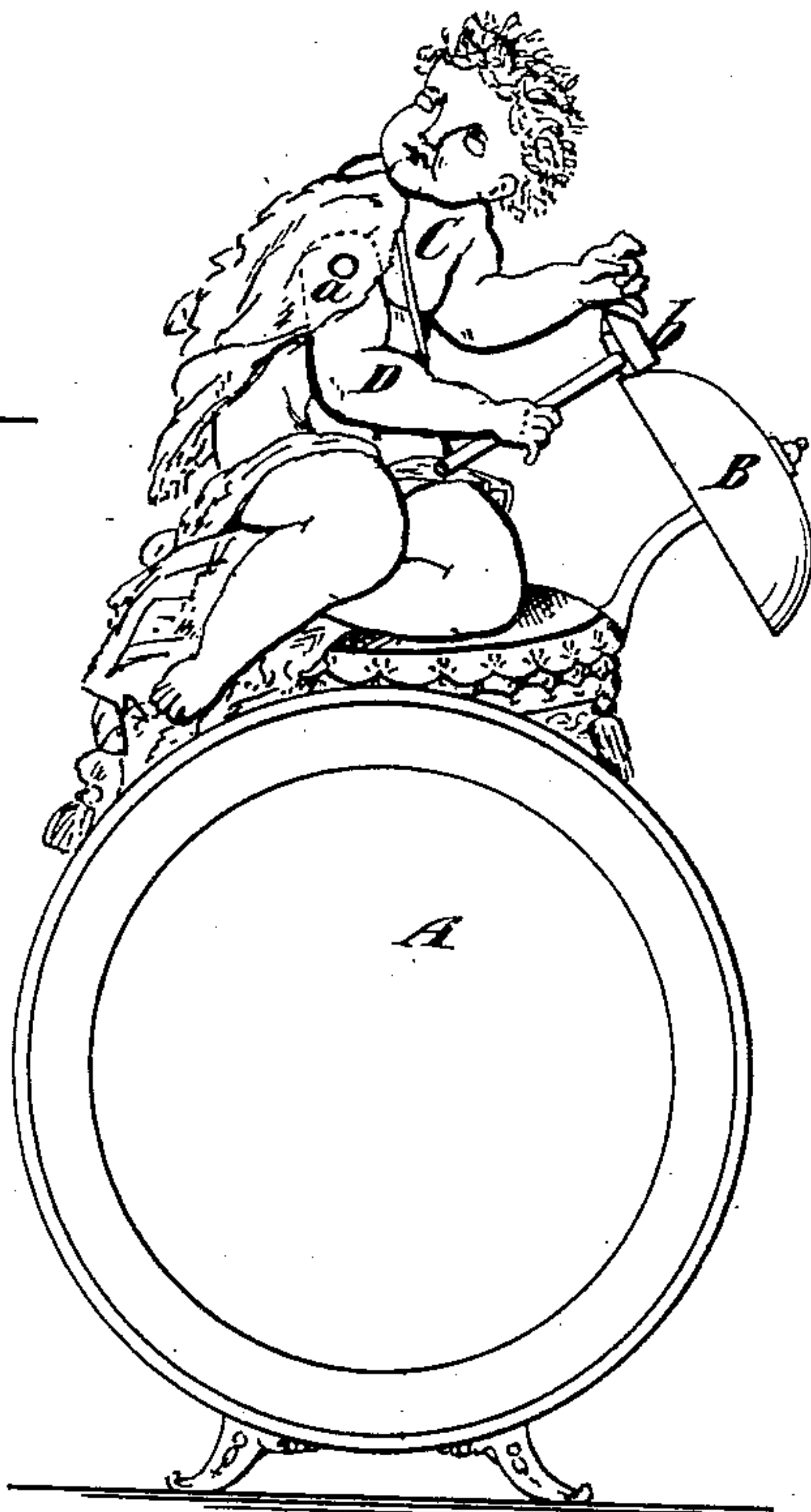


Fig. 3.

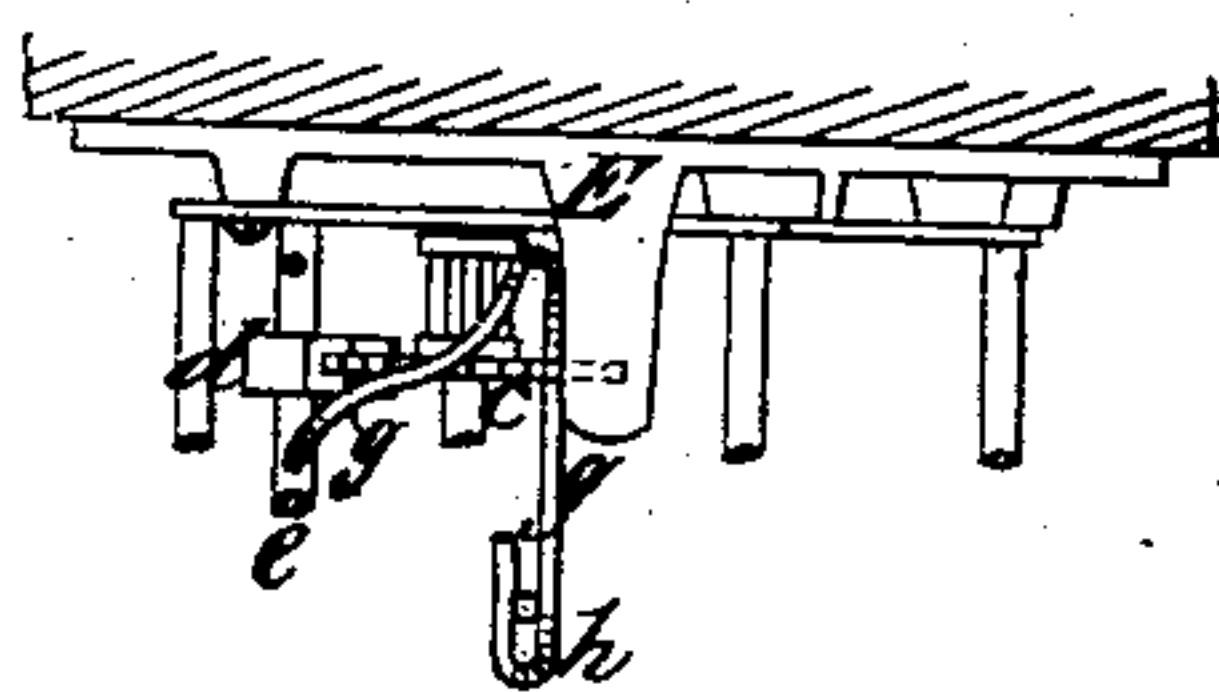
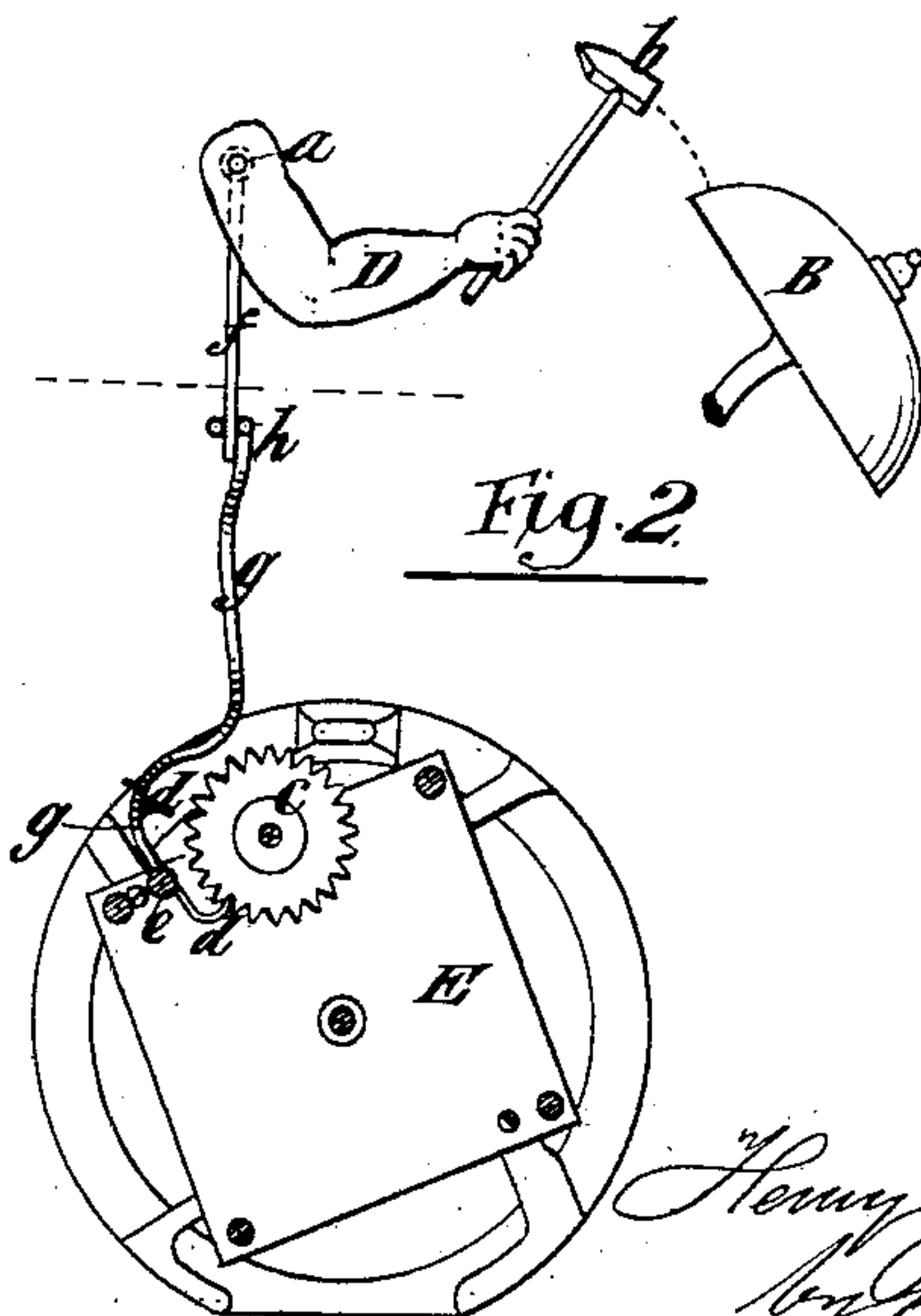


Fig. 2.



Witnesses:-

Louis M. F. Whitehead.  
Thomas E. Birch.

Inventor:-

Henry J. Davies  
By His Attorney  
Brown & Brown

# UNITED STATES PATENT OFFICE.

HENRY J. DAVIES, OF BROOKLYN, NEW YORK.

## ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 230,246, dated July 20, 1880.

Application filed May 18, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY J. DAVIES, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Alarm-Clocks, of which the following is a specification.

My invention consists in the combination, in an alarm-clock, with the alarm escape-wheel, pallets, and pallet-shaft, of a bell attached to a fixed support, a lever, a hammer carried by one arm of the said lever, and a crutch-wire projecting from said pallet-shaft and engaging with the other arm of said lever to oscillate the latter and cause the hammer to strike the bell, whereby I provide in a simple and effective manner for transmitting motion from the said pallet-shaft to striking mechanism outside the clock-case.

The accompanying drawings only represent the parts of a clock necessary to illustrate the construction and operation of my invention.

Figure 1 represents a front view of a clock-case, bell, and figure. Fig. 2 represents a diagram view, showing a portion of a clock-movement in which a crutch-wire connection is employed for actuating the alarm-striking mechanism; and Fig. 3 represents an edge view of certain parts of the movement.

Similar letters of reference designate corresponding parts in all the figures.

A designates a clock-case, of which the outlines only are shown, and B designates a bell attached to a fixed support outside the case and supported immovably relatively to the case.

C designates an automaton figure, here represented as in a kneeling posture upon the top of the case, and having an arm, D, pivoted at *a*, so as to permit it to swing or vibrate when actuated by suitable mechanism within the case A.

The arm D carries a hammer, *b*, which, by the swinging or vibration of the arm, is caused to strike the bell B and sound an alarm.

The mechanism for actuating the arm D is shown clearly in Fig. 2.

E designates a diagram of a clock-movement, which is like any ordinary alarm-clock movement, and therefore needs little description.

The alarm escape-wheel *c* actuates the pallets *d* in the usual way, thereby imparting an oscillating movement to the pallet-shaft *e*.

In the present example of my invention the arm D, which carries the hammer *b*, constitutes one arm of a bell-crank lever, the other arm, *f*, of which projects downwardly from the pivot *a*, as shown in Fig. 2. It is obvious, therefore, that if the arm *f* be oscillated the arm D will be correspondingly oscillated and the hammer *b* caused to strike the bell B.

The means here employed for oscillating the bell-crank lever D *f* consists of a crutch-wire, *g*, similar to those usually employed in clock-movements, projecting from the pallet-shaft *e* upward and engaging with the arm *f* at *h*. Thus it will be seen that the oscillation of the pallet-shaft *e*, acting through the crutch-wire *g*, causes the bell-crank lever D *f* to oscillate and sounds the bell, whereby I effect the sounding of the alarm in a very simple manner.

Heretofore a clock has been constructed in which the hour-striking mechanism has been composed of an automaton figure having a pivotal arm carrying a hammer for striking a bell outside the clock-case, said arm being actuated in one direction by a spring and in the other direction by levers, a cord, and a pawl, as in Patent No. 218,945, dated August 26, 1879; and such construction is hereby disclaimed.

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

In an alarm-clock, the combination, with a bell attached to a fixed support outside the clock-case, and with an automaton figure supported upon the case and provided with a bell-crank pivoted lever, the upper arm of which carries a hammer, of the crutch-wire connected with the lower end of the bell-crank lever and rigidly attached to the oscillating pallet-shaft of the escape-wheel of an alarm mechanism, all substantially as described, whereby the hammer-lever is positively oscillated in both directions, as set forth.

HENRY J. DAVIES.

Witnesses:

FREDK. HAYNES,  
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