

(No Model.)

R. ZECKWER.  
METRONOME.

No. 360,550.

Patented Apr. 5, 1887.

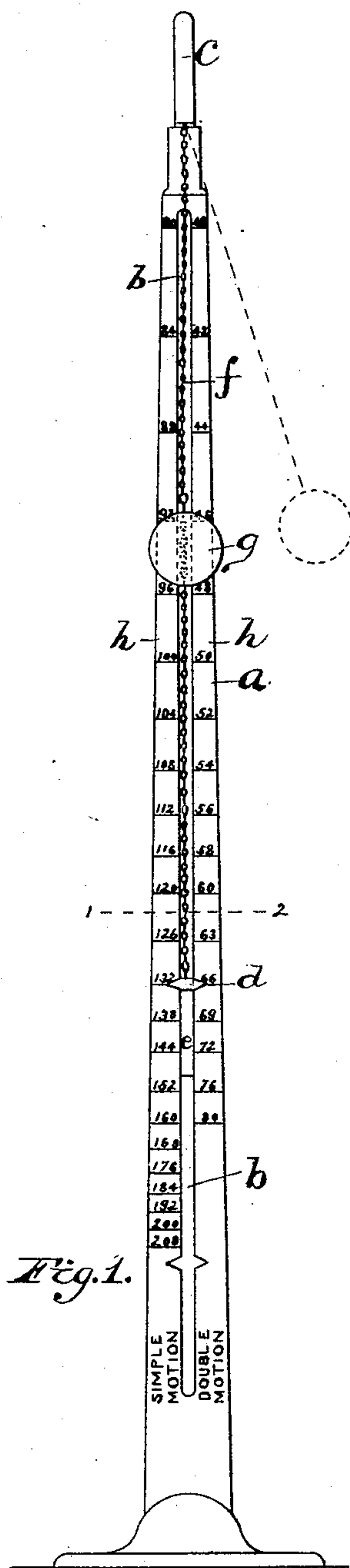


Fig. 1.

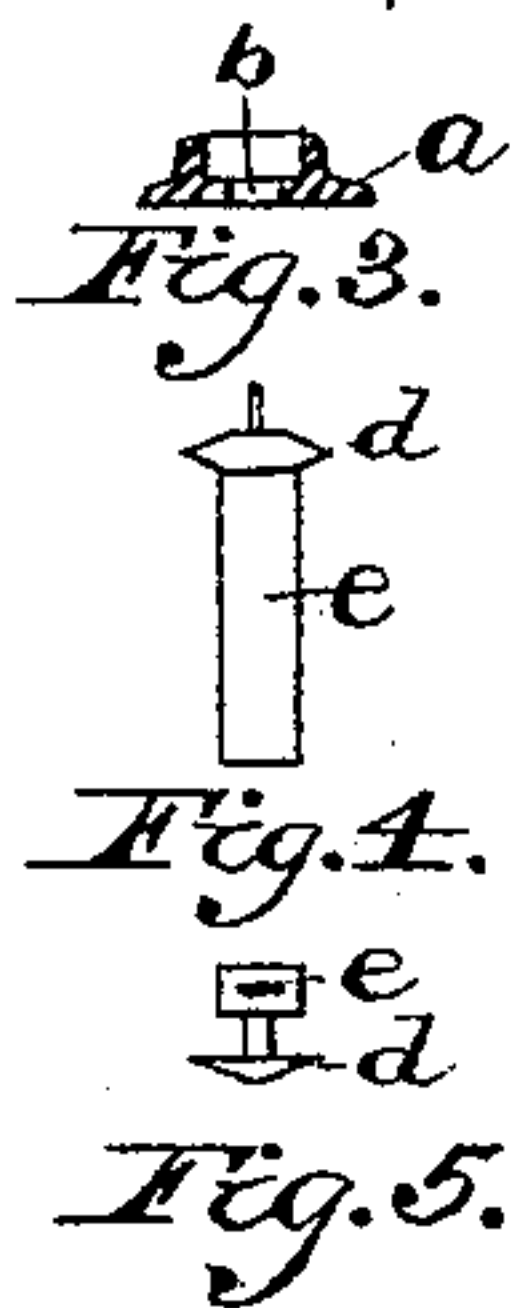


Fig. 3.

Fig. 4.

Fig. 5.

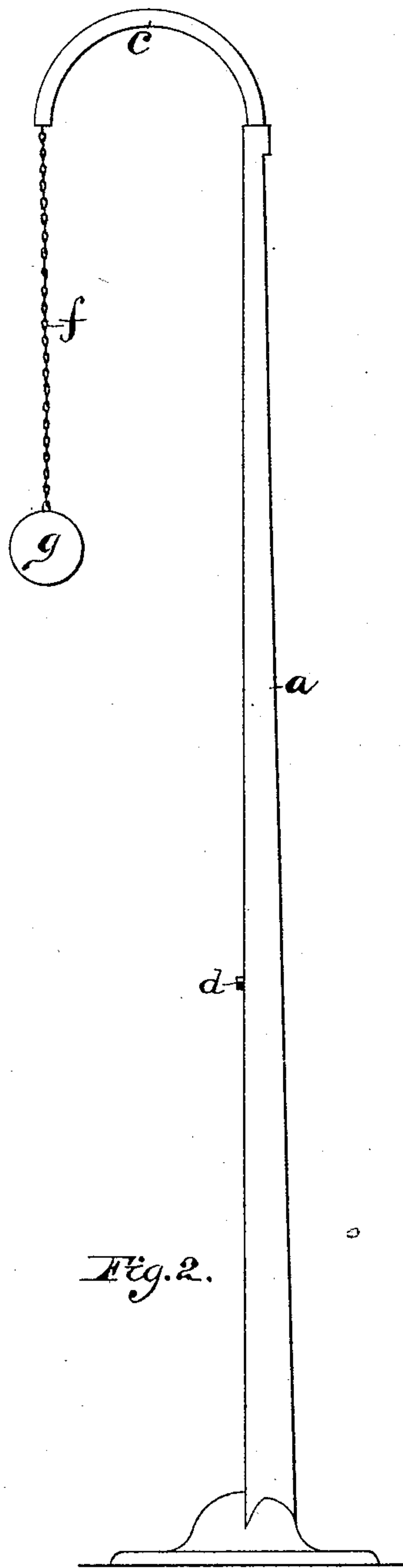


Fig. 2.

WITNESSES:

*Wm. A. Bell*  
*J. E. Shaw*

INVENTOR

*Rich. Zeckwer*

# UNITED STATES PATENT OFFICE.

RICHARD ZECKWER, OF PHILADELPHIA, PENNSYLVANIA.

## METRONOME.

SPECIFICATION forming part of Letters Patent No. 360,550, dated April 5, 1887.

Application filed December 22, 1886. Serial No. 222,257. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD ZECKWER, a subject of the Emperor of Germany, residing in the city of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Metronomes, of which invention the following is a specification.

The object of my invention is to simplify the form of the instrument in question and obtain more accuracy in its action.

My invention consists of the following constituents in combination, viz: First, a graduated column; second, a tube or trough projecting laterally from the top of the column; third, a vertical slot in the column; fourth, an index sliding in the slot; fifth, a swinging weight connected with the index by means of a chain, cord, or other like flexible attachment, which passes through said lateral projection, all as hereinafter set forth.

In the annexed drawings, Figure 1 is a front elevation of the metronome; Fig. 2, a side elevation of the same, and Fig. 3 a cross-section of the column on the line 1 2 in Fig. 1. Fig. 4 is a front elevation of the sliding index, and Fig. 5 a plan of the same.

*a* represents a column, preferably of cast-iron; *b*, a vertical slot in the same; *c*, a tube projecting laterally from the column; *d*, an index, the body *e* of which slides in slot *b*; *f*, a chain attached at one end to the index *d* and at the other end to a weight, *g*.

The chain *f* and weight *g* constitute a pendulum, measuring from the front end of tube *c*.

*h* represents a double scale, which shows the number of vibrations of the weight *g* in a min-

ute for different lengths of the pendulum, the figures on one side of the scale indicating the number of falls in one direction and those on the other side the number of falls in both directions, or the vibrations to and fro. Thus, when the index *d* points to the top numbers, 80 40, the pendulum is at full length and indicates eighty vibrations, counting the falls in one direction only, or forty vibrations, counting the falls in both directions as one. By increasing the length of the column sufficiently a single scale might be employed, but the column would become inconveniently high.

To make use of the instrument, the index is set to indicate the time required by any given musical composition, and the weight is drawn to one side and allowed to fall. Its vibrations guide the performer in executing the music.

Instead of the chain a cord or other like flexible means of attachment might be used; but I prefer the chain. Instead of making the projection *c* tubular, it might be an open trough, and instead of giving this projection an arching form it might be made to project laterally at any angle; but I prefer to use an arching tube, as shown.

I claim—

A metronome consisting of the column *a*, provided with the slot *b*, the lateral projection *c*, and graduated scale *h*, in combination with the index *d*, chain or other flexible attachment *f*, and weight *g*, substantially as set forth.

RICH. ZECKWER.

Witnesses:

J. E. SHAW,  
JNO. A. BELL.