

(No Model.)

J. L. SULLIVAN.
CLOCK STRIKING MECHANISM.

No. 370,219.

Patented Sept. 20, 1887.

Fig. 3.

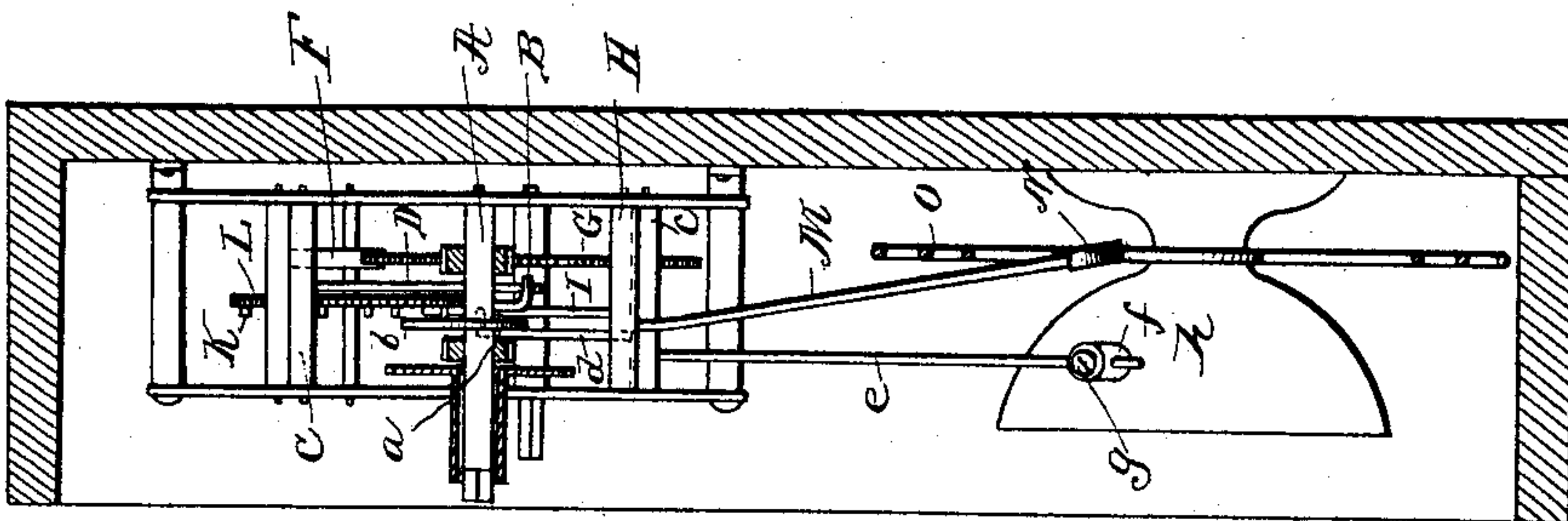


Fig. 2.
x

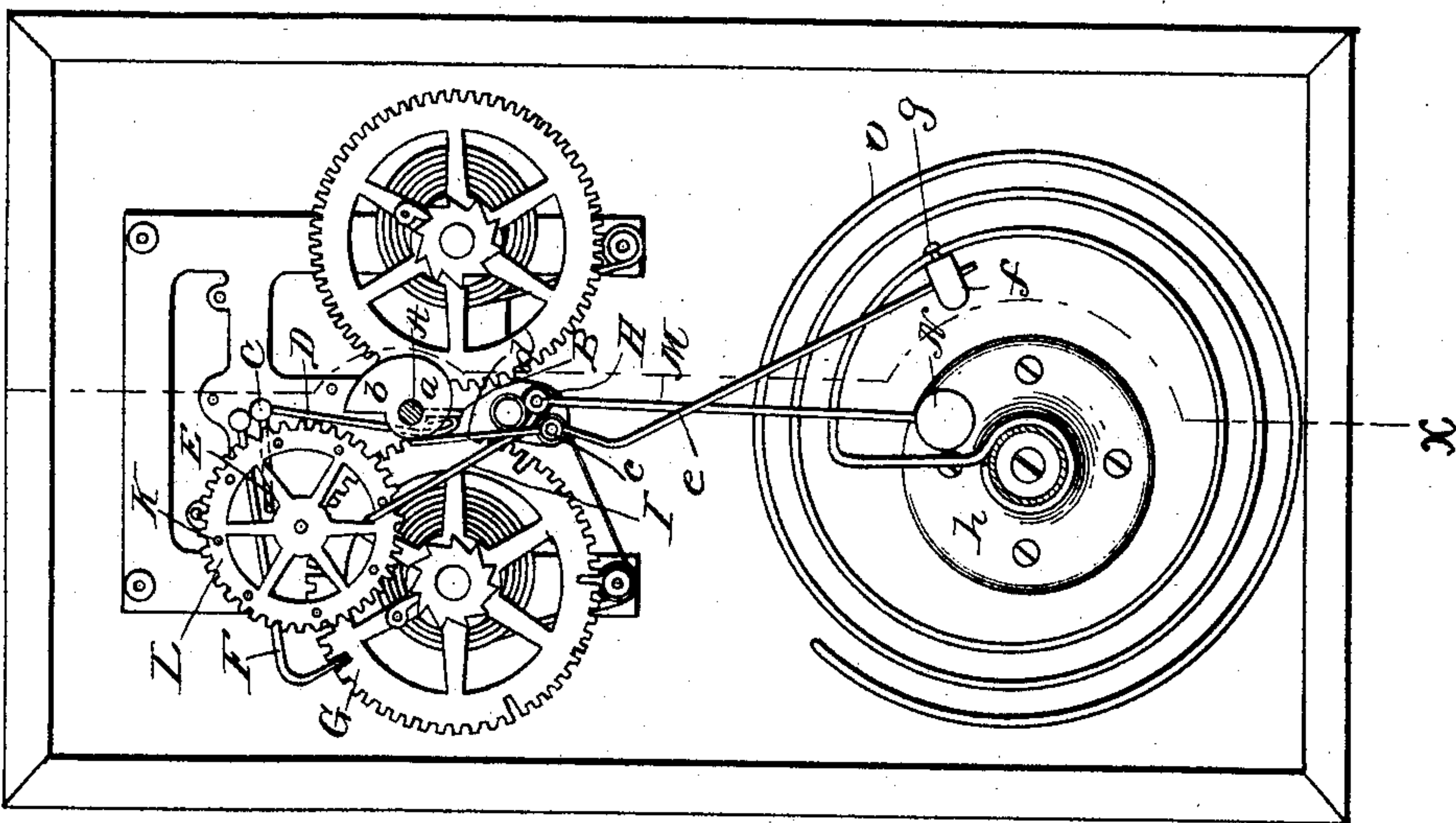
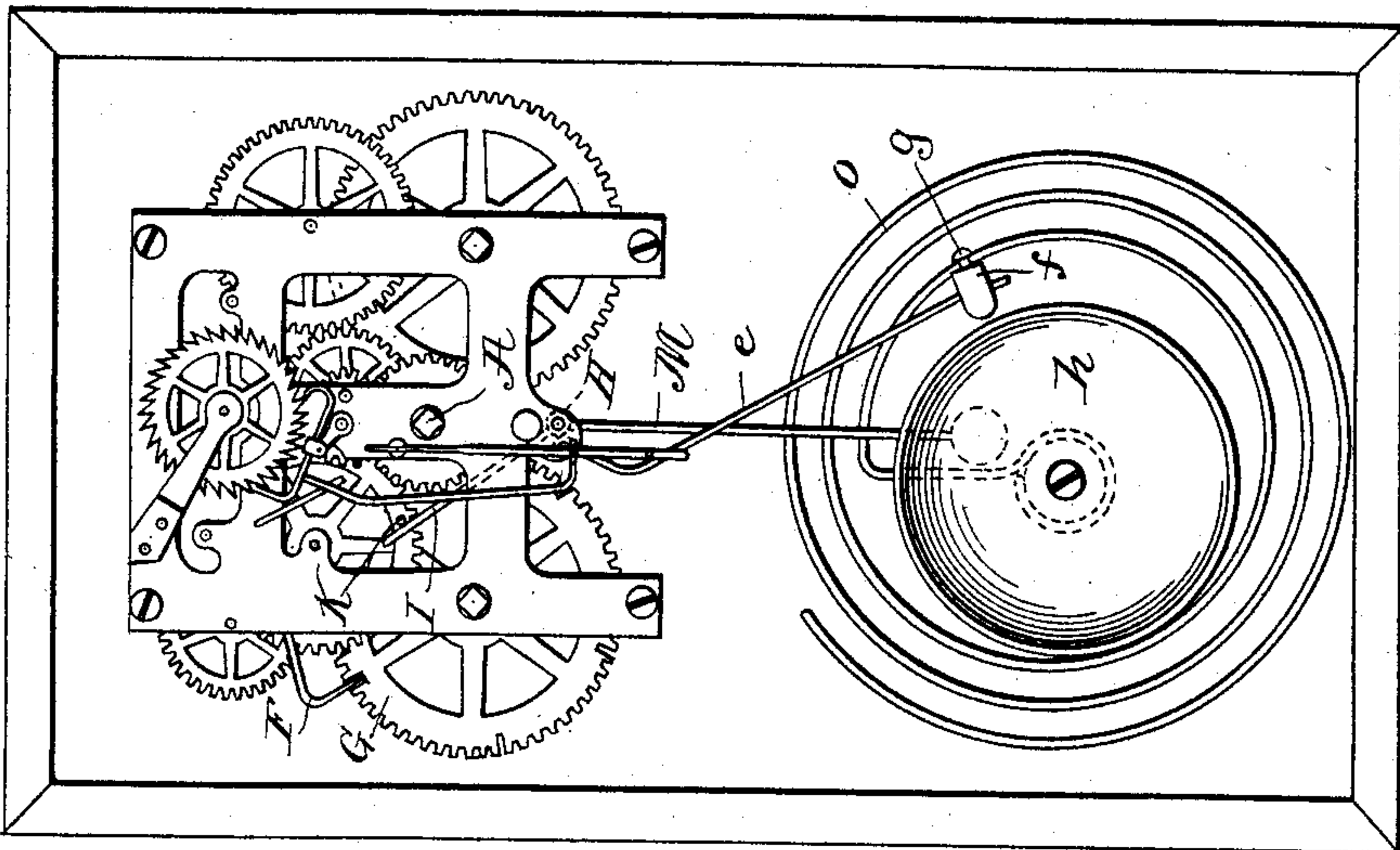


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES L. SULLIVAN, OF XENIA, INDIANA.

CLOCK STRIKING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 370,219, dated September 20, 1887.

Application filed April 20, 1887. Serial No. 235,524. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. SULLIVAN, a citizen of the United States, residing at Xenia, in the county of Miami and State of Indiana, have invented a new and useful Improvement in Striking Mechanisms for Clocks, of which the following is a specification.

My invention relates to an improvement in striking mechanisms for clocks; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a front elevation of a clock mechanism provided with my improvements. Fig. 2 is a detailed elevation of the same, partly in section. Fig. 3 is a vertical sectional view of the same, taken on the line *xx* of Fig. 2.

A represents the center or hour shaft of the usual clock-work mechanism, and is provided with the usual arm, B.

C represents the spring-actuated rock-shaft, having the depending arm D in the path of the arm B, and the trip-arm E, adapted to raise the latch or detent F, that controls the rotation of the main wheel G of the hour-striking mechanism.

H represents the spring-actuated rock-shaft, having the arm I, bearing against one of the tappet-pins K of the gear-wheel L, and the arm M, having the hammer N, to strike the volute-wire gong O every hour.

All of the above is of the usual well-known construction, and need not be more fully described here.

The object of my invention is to provide devices for striking the half-hours and producing a different sound from that produced by the hour-striking mechanism, so that it can be readily distinguished therefrom. This object I accomplish by the mechanism hereinafter described.

a represents a volute cam-wheel, which is fixed to the shaft A, and has a projecting offset or arm, *b*, which projects from the shaft in the opposite direction from the said arm B.

c represents a spring-actuated rock-shaft, which is similar to the rock-shaft H, and is journaled in the sides of the clock-work frame

in the usual manner. This rock-shaft *c* has an arm, *d*, that bears against the periphery of the cam-wheel *a*, and a spring-arm, *e*, having a hammer, *f*, secured thereto by a set-screw, *g*.

h represents a gong secured in the clock-case alongside the gong O.

The operation of my invention is as follows: When the shaft A has made a complete revolution, which it does in an hour, its arm B starts the usual hour-striking mechanism, before described, in motion. While the shaft A is turning, the cam-wheel *a* is turning with it, and the hammer *f* is being gradually moved from the gong *h* by reason of the arm *d* bearing on the periphery of the cam. Once every hour—at each half-hour—the arm *d* slips from the offset on the cam, and thereby causes the hammer *f* to strike the gong *h* once, as will be readily understood, and thereby produce a sound which has a different tone and is very readily distinguished from the sound produced by the hour-striking apparatus.

An objection to ordinary striking-clock mechanisms which strike the hours and half-hours, but produce the same sounds each time, is that it is difficult to distinguish the hour from the half-hours during the period between twelve and two, as only one stroke is made at each half-hour during the said period—one at 12.30, one at 1, and one at 1.30; hence this is very confusing. I obviate this defect by providing two differently-pitched gongs—one for the hour-striking mechanism and one for the half-hour-striking mechanism—thereby rendering the half-hour strokes easily distinguishable from the hour-strokes.

I do not desire to limit myself to the precise construction and combination of devices hereinbefore described, as it is evident that modifications may be made therein without departing from the spirit of my invention.

Having thus described my invention, I claim—

The combination, with the striking mechanism of a clock having the hammer N and the gong O, adapted to be struck by the said hammer, of the hour-shaft A, having the arm B, to trip the striking mechanism every hour, and the volute cam *a*, having the arm *b* extending in the opposite direction from arm B, the gong

h, differing in tone from the gong *O*, the rock-shaft *c*, the arm *e*, extending therefrom and having the hammer *f* to strike gong *h*, and the arm *d*, extending from the upper side of the
5 rock-shaft and bearing against the periphery of the volute cam, substantially as described.
In testimony that I claim the foregoing as my

own I have hereto affixed my signature in presence of two witnesses.

JAMES L. SULLIVAN.

Witnesses:

OLIVER H. P. MACY,
JOHN O. FRAME.