

No. 747,408.

PATENTED DEC. 22, 1903.

A. FUHRER.
CLOCK CHIMES.

APPLICATION FILED JULY 7, 1902.

NO MODEL.

Fig 1.

Fig 2.

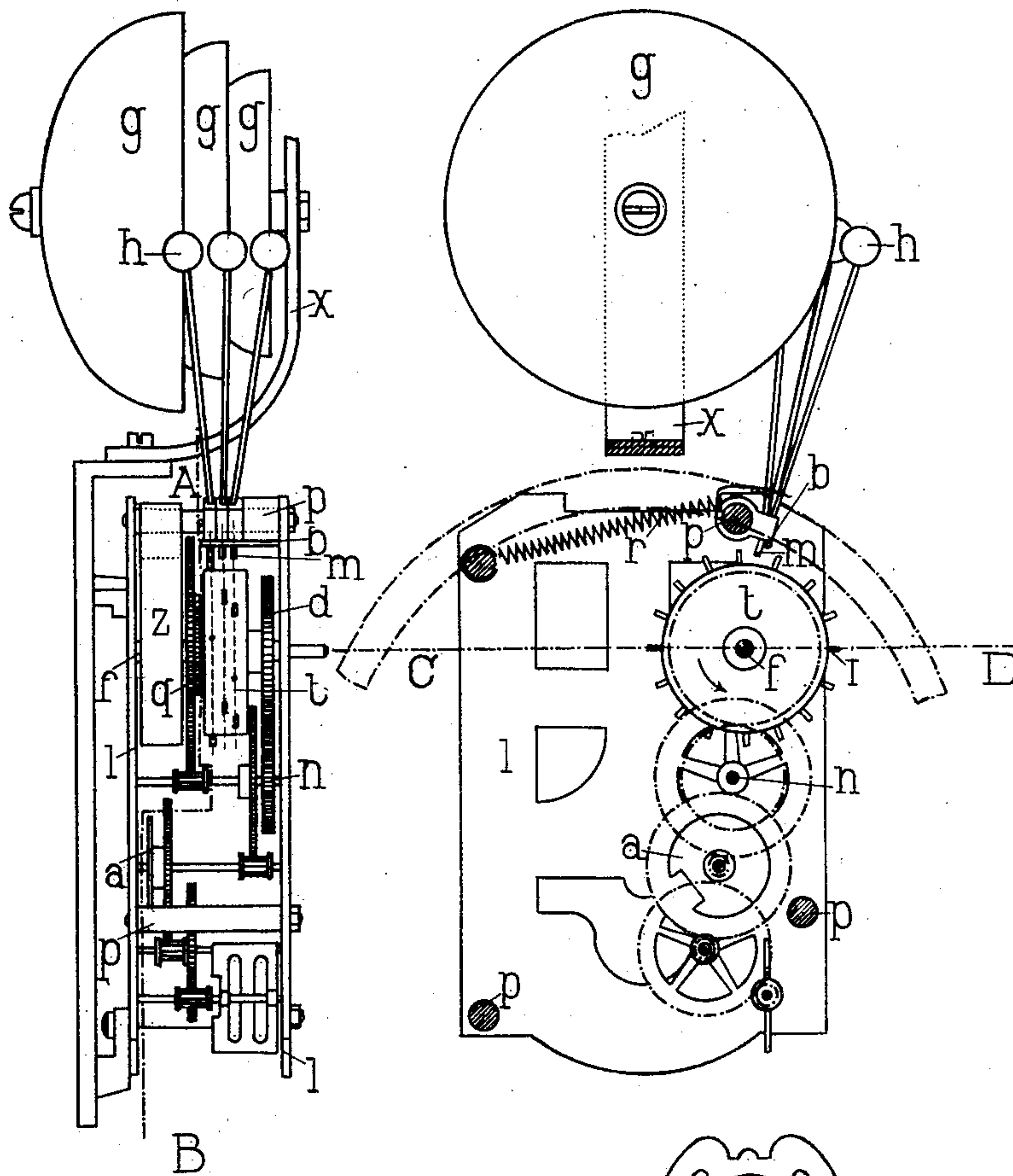
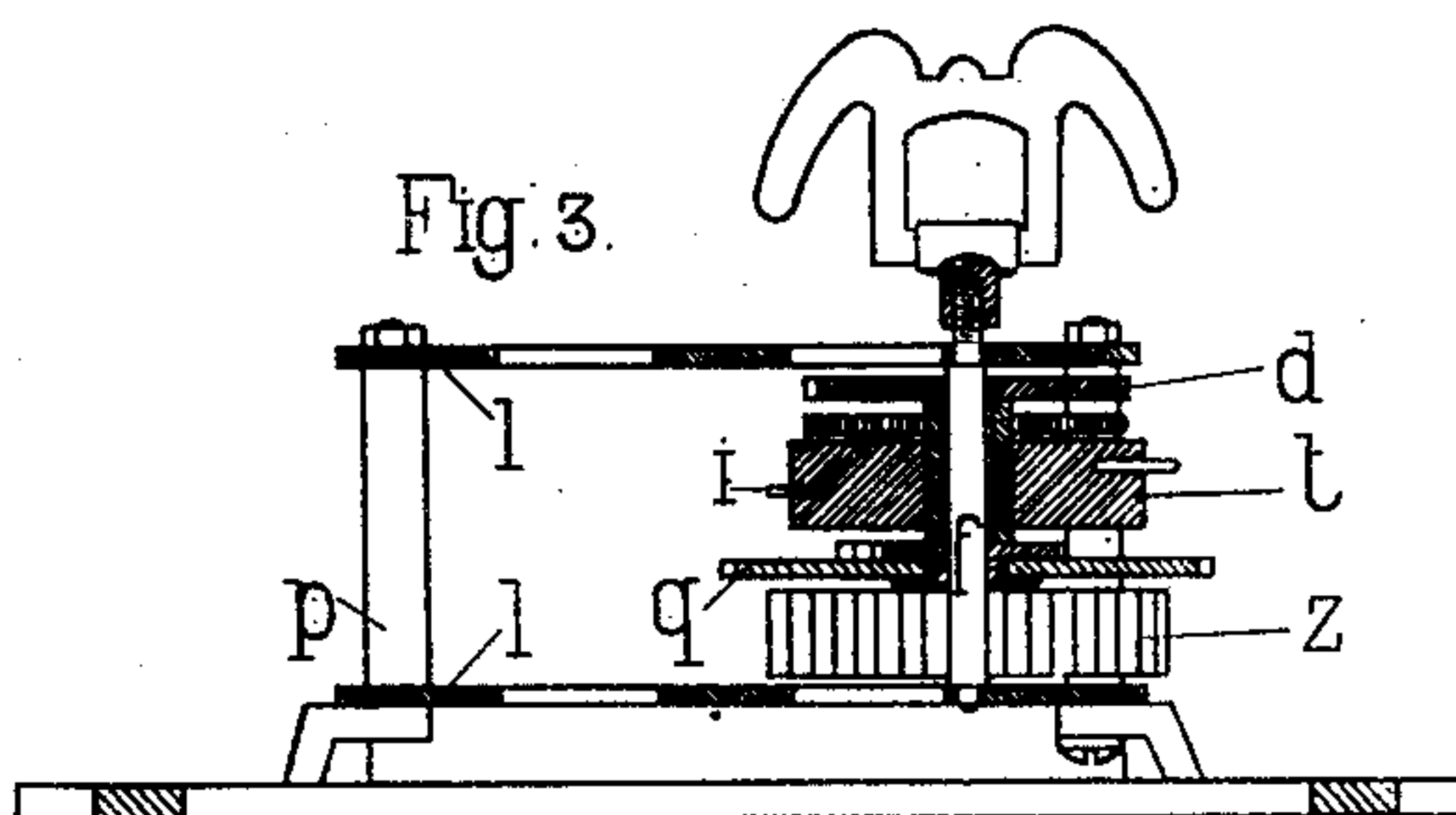


Fig 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ADOLPH FUHRER, OF TREORCHY, ENGLAND.

CLOCK-CHIMES.

SPECIFICATION forming part of Letters Patent No. 747,408, dated December 22, 1903.

Application filed July 7, 1902. Serial No. 114,637. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH FUHRER, a subject of the Emperor of Germany, residing at Treorchy, county of Glamorgan, Wales, England, have invented new and useful Improvements in Alarm-Clocks, of which the following is a specification.

The present invention has reference to improvements in alarm-clocks, and relates more especially to means for actuating a series of clappers or hammers for the purpose of striking a like number of gongs, thereby producing a melodious alarm-signal.

With this object in view the invention consists of the construction and arrangement of the various parts hereinafter described, and embodied in the appended claim.

Alarm-clocks constructed on the American system generally have a single bell-gong with a vibrating clapper or hammer, which upon the mechanism being started causes a loud signal to be given.

According to the present invention I use a set or chime of bell-gongs, which are struck by a corresponding number of hammers for a comparatively long time after the mechanism has once been started.

In order to make the invention more readily understood, I have illustrated it on the accompanying sheet of drawings, Figure 1 of which shows a side elevation of a clock embodying my invention, unnecessary parts being broken away. Fig. 2 is a vertical section on line A B of Fig. 1 and Fig. 3 is a transverse sectional elevation on line C D of Fig. 1.

The ordinary starting device used in connection with the setting-dial acts on the disk *c*, and as soon as this is freed the spring *z* comes into play, actuating the wheelwork of the alarm journaled between the plates *l*. The arbor *f*, which is connected with the toothed wheel *q*, Fig. 3, by means of a pawl, serves a double purpose. It is the winding and driving spindle for the wheelwork and also carries the drum *t*, upon the circumference of which a number of fingers *i* are provided. These latter upon rotation of the drum actuate successively the tail ends of

the hammers *h* for sounding the bell-gongs *g*. The drum *t* is keyed to a sleeve on the arbor *f*, which turns independently of the axle and also carries a toothed wheel *d*. An intermediate toothed wheel keyed on the arbor *n* meshes with the toothed wheel *d* and turns the drum as long as the alarm mechanism is in operation. As the number of revolutions of the drum *t* differs from that of the arbor *f* and the former moves only in the direction of the arrow, Fig. 2, the parts *d* and *t* are rigidly connected by the sleeve and turned freely on the arbor *f*.

The hammers *h* are pivoted on a shaft *p*, which preferably is one of the rods connecting the plates *l*. The springs *r* are secured to the hammers a little above the pivot, as clearly shown in Fig. 2. The fingers *i* on the drum *t* are arranged in three different vertical planes, so that the tail ends *m* of the hammers are engaged successively by the pins, so as to sound a chime on the tuned gongs. A stop *b* prevents the hammers from swinging too far and serves to lift the hammers off the gongs as soon as the latter have been struck, so as not to interfere with the vibrations of the gongs. The three gongs are fixed on a horizontal pin extending from the bent bar or support *x*. This support may be extended and provided with a ring for hanging up the clock or for more easily carrying it.

Although I have shown in the drawings but three gongs, it is obvious that I may employ a greater number, tuning them so as to form a chime.

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

In a chiming-clock, the combination with the time-movement thereof, of a plurality of gongs arranged partly within one another, a corresponding plurality of hammers freely oscillating upon a pillar connecting the two movement-plates, helical springs ordinarily keeping the said hammers in touch with the said gongs, a mainspring, an arbor connected thereto, an independently-movable sleeve on said arbor, a toothed drum keyed to said

sleeve and freely rotatable upon the main-spring, arbor between the movement-plates and adapted to successively actuate the said hammers, and means for temporarily actuating the said drum, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as

my invention I have signed my name in presence of two subscribing witnesses.

ADOLPH FUHRER.

Witnesses:

J. M. JOHNS,

E. L. PHILLIPS.