

L. A. KLING & G. B. KOHLER.
GONG.

APPLICATION FILED FEB. 24, 1912.

1,148,327.

Patented July 27, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

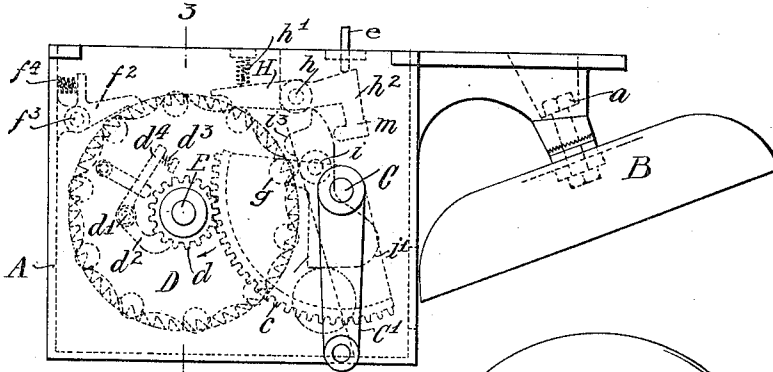


Fig. 2.

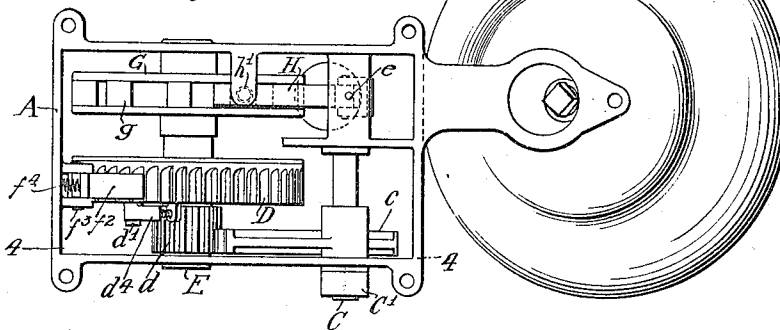


Fig. 6.

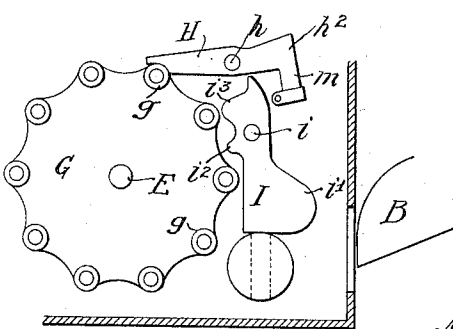


Fig. 7.

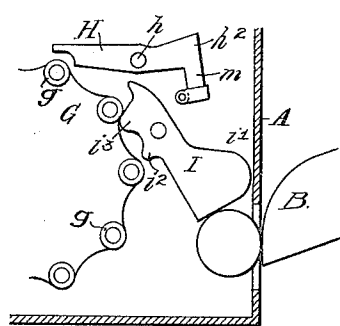
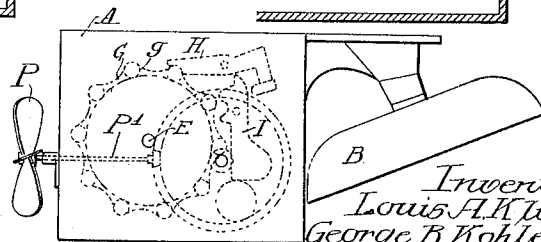


Fig. 10.



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2 SHEETS—SHEET 2.

Fig. 3.

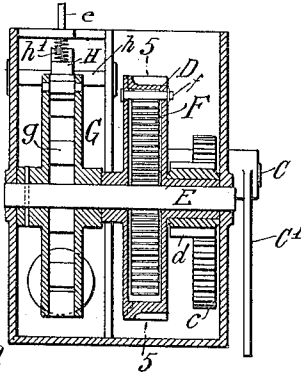


Fig. 5.

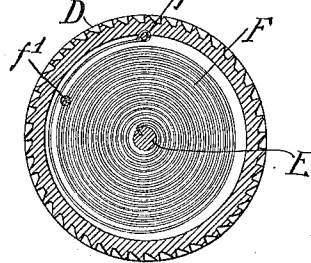


Fig. 4.

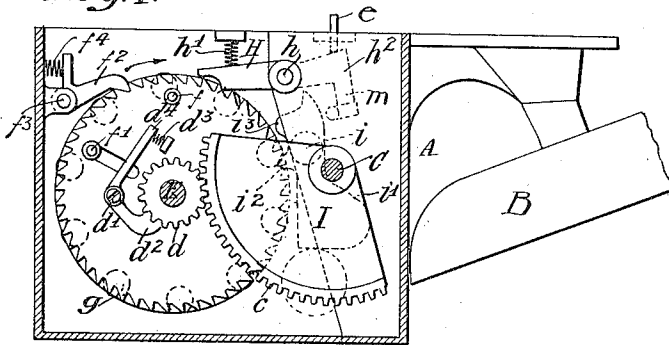


Fig. 9.

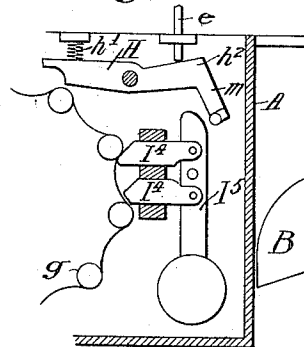
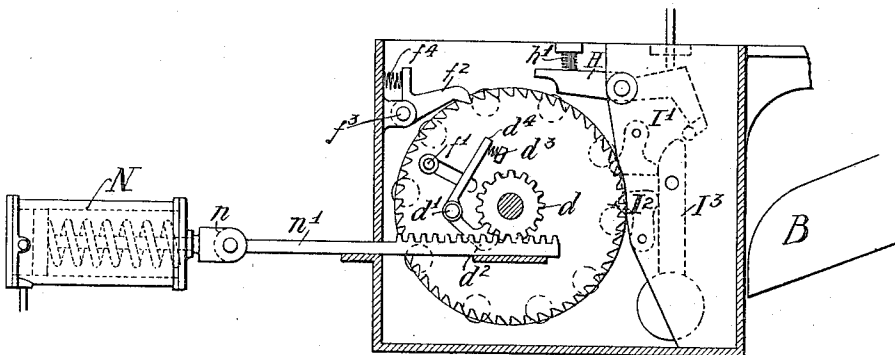


Fig. 8.



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UNITED STATES PATENT OFFICE.

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GONG.

1,148,327.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, LOUIS A. KLING and GEORGE B. KOHLER, citizens of the United States, residing in Elizabeth, county of Union, State of New Jersey, and Philadelphia, county of Philadelphia, State of Pennsylvania, respectively, have invented certain Improvements in Gongs, of which the following is a specification.

10 This invention relates to certain improvements in automatic gongs for use in street cars and other vehicles, in order to give an alarm of the approach of the car.

15 The main object of the invention is to so construct the gong that it will automatically ring for a given length of time.

20 A further object of the invention is to simplify the construction of the gong of this type and to provide means whereby it can be wound either automatically or by hand, as desired.

25 In the accompanying drawings:—Figure 1, is a side view of our improved gong; Fig. 2, is a plan view; Fig. 3, is a sectional view on the line 3—3, Fig. 1; Fig. 4, is a longitudinal sectional view on the line 4—4, Fig. 2; Fig. 5, is a sectional view on the line 5—5, Fig. 3; Figs. 6 and 7, are diagram views; and Figs. 8, 9 and 10, are views illustrating 30 modifications of the invention.

35 A is the frame of the gong which may be located under the platform or at any other convenient point, and on the post *a* is the bell B which, in the present instance, is detachably mounted so as to be moved toward and from the striking mechanism, as the bells vary slightly in size. The end of the post has a series of notches and on the bell 40 is a collar with a series of projections adapted to the notches. The bell is attached to the post by a bolt or screw, as shown by dotted lines in Fig. 1.

45 C is the operating shaft and on this shaft is an arm *C'* on the outside of the casing A. This arm may be connected to the brake mechanism of the car or to a hand lever, or to any device by which the arm can be reciprocated. Secured to the shaft within the casing A is a segmental gear *c*, the teeth of 50 which mesh with a pinion *d* loose on the hub of the ratchet wheel D mounted loosely on the shaft E. Within the ratchet wheel D is a spiral spring F having one end *f*

attached to a pin on the ratchet wheel D and the other end attached to the shaft E, 55 as clearly shown in Fig. 5. Pivottally mounted at *d'* on the wheel D is a pawl *d*² which engages the teeth of the pinion *d*. This pawl is moved toward the pinion by a spring *d*³ which rests against an arm *d*⁴ of 60 the pawl. On the spring F is a pin *f'* which projects through a slot in the side of the wheel D, so that as the spring is coiled the pin *f'* moves toward the center and, in order to limit the coiling of the spring, the 65 pin *f'* strikes the arm *d*⁴ of the pawl *d*² and forces the pawl out of engagement with the teeth on the pinion *d*, so that continued movement of the shaft C will simply rotate 70 the pinion as it is loosely mounted on the hub of the wheel D. This construction is fully set forth and claimed in the companion application of Louis A. Kling filed even date herewith. The teeth of the ratchet wheel D 75 are engaged by a pawl *f*² pivoted to the casing at *f*³ and forced against the ratchet wheel by a spring *f*⁴, so that the wheel can only move in the direction of the arrow, Fig. 5, and is held against the pressure of the spring. Secured to the shaft E is an 80 operating wheel G having roller teeth *g* mounted on pins and located between the two disks *g'*.

H is a detent pawl pivoted at *h* to the frame and pressed against the wheel by a 85 spring *h'*. The end of this detent pawl is shaped to conform to the shape of the roller teeth *g* and when in engagement prevents the rotation of the said operating wheel G.

85 *h*² is an arm on this detent pawl and extending through the frame is a foot pin *e* which contacts with the arm and is in easy reach to be operated by the foot of the motorman or driver of the car. When the foot pin is forced down the pawl is raised 95 against the pressure of its spring and releases the operating wheel G.

90 Pivoted at *i* to the frame is a clapper I and this clapper has a weight *i'*, in the present instance, to aid in bringing it back 100 to its normal position illustrated in Fig. 4. Projecting from the clapper below the pivot is a projection *i*² and above the pivot is a projection *i*³. As soon as the operating wheel is released one of the roller teeth 105 strikes the projection *i*², forces the clapper

to swing outward and to strike the gong B, and when the clapper swings outward, as shown in Fig. 7, the projection i^3 acts as a detent for the wheel and stops its rotation as it comes in contact with the next roller tooth. The weight of the clapper brings it back to its normal position and this movement releases the operating wheel and the roller tooth held by the projection i^3 strikes the projection i^2 , turning the clapper again on its pivot, causing it to strike the gong. This is repeated as long as the operator holds his foot on the foot pin and also as long as there is power in the spring F. Thus the clapper is vibrated quickly, giving the desired sound.

In some instances we may use the construction illustrated in Fig. 8, in which two pivoted arms I^1 , I^2 are substituted for the two projections i^2 , i^3 , and these arms in turn strike the clapper I^3 on each side of its pivot. While in Fig. 9, we have shown two slides I^4 connected to the clapper I^5 , one on each side of the pivot, so that when the operating wheel is released by the upper slide it forces the under slide out, causing the clapper to strike the gong. This forces the upper slide in the path of the wheel and momentarily stops the wheel, causing the intermittent movement of the clapper.

We have shown in the drawings, an extension m on the arm h^2 of the pawl H which contacts with the projecting portion of the clapper, as in Fig. 4, when it is desired to strike a single blow on the gong by pressing down the foot pin without using the automatic means. Thus the gong can be used when the automatic means is out of order.

In Fig. 8, we have shown means for winding the spring, consisting of an air cylinder N in which is a piston. The rod n attached to the piston is connected to a rack n' which meshes with a gear d loose on the hub of the ratchet wheel F. Other means may be used for winding the spring without depart-

ing from the essential features of the invention.

In Fig. 10, we have shown a propeller P mounted on a shaft P' and geared to the ratchet wheel D for winding the spring as the car is in motion.

By the above construction, it will be seen that we provide a device in which the spring can be automatically wound and which will automatically strike the gong one or a number of quick blows in succession as long as the foot pin is depressed. The moment the foot pin is released the mechanism is stopped and during the interval, or while the gong is being struck the spring can be re-wound and the spring cannot be over-wound due to the pin on the spring contacting with the pawl.

We claim:—

The combination in an automatic gong for use in street cars and other vehicles, of a platform; a casing located under the platform; an extension on the casing; a bell secured to the extension; a clapper located within the casing and arranged to strike the bell; a shaft; an operating wheel engaging the clapper; a spring for driving the operating wheel; automatic means for winding the spring; a spring actuated detent pawl engaging the operating wheel and holding it against rotation and having an extension engaging the clapper; a pin for depressing the pawl to release the operating wheel, the extension being so arranged that when it is desired to strike a single blow on the gong, the pin is pressed down so as to cause the clapper to strike without the use of the automatic means.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

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GEORGE B. KOHLER.

Witnesses:

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H. F. MCKILLIP.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."