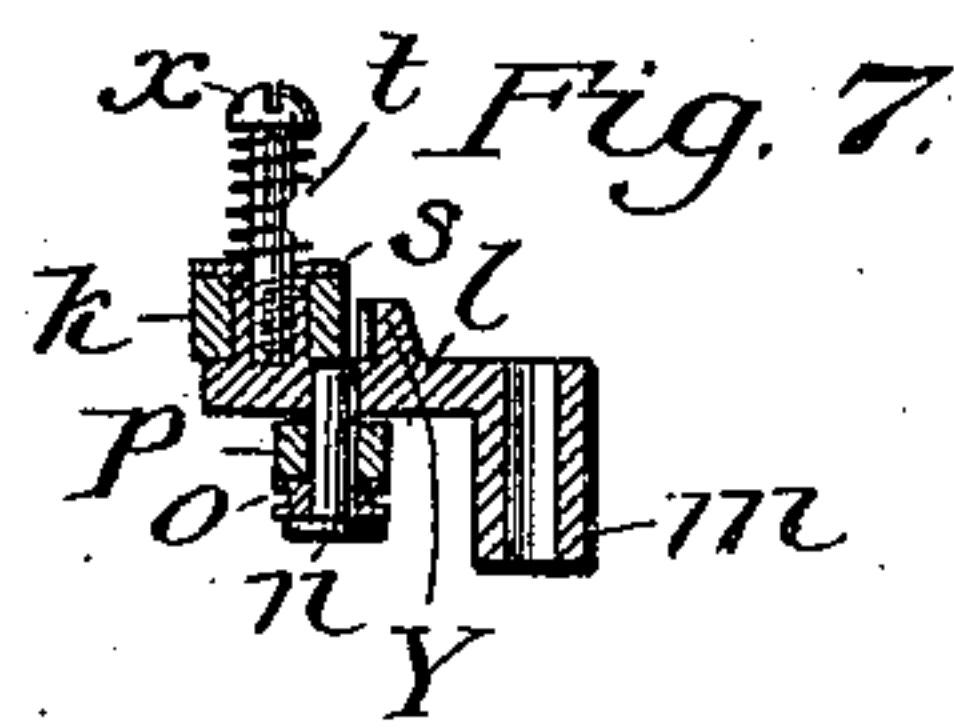
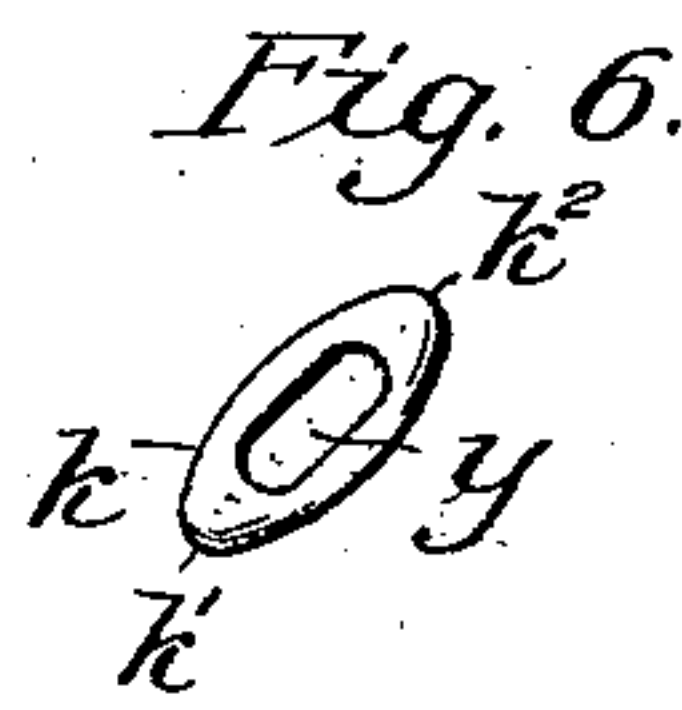
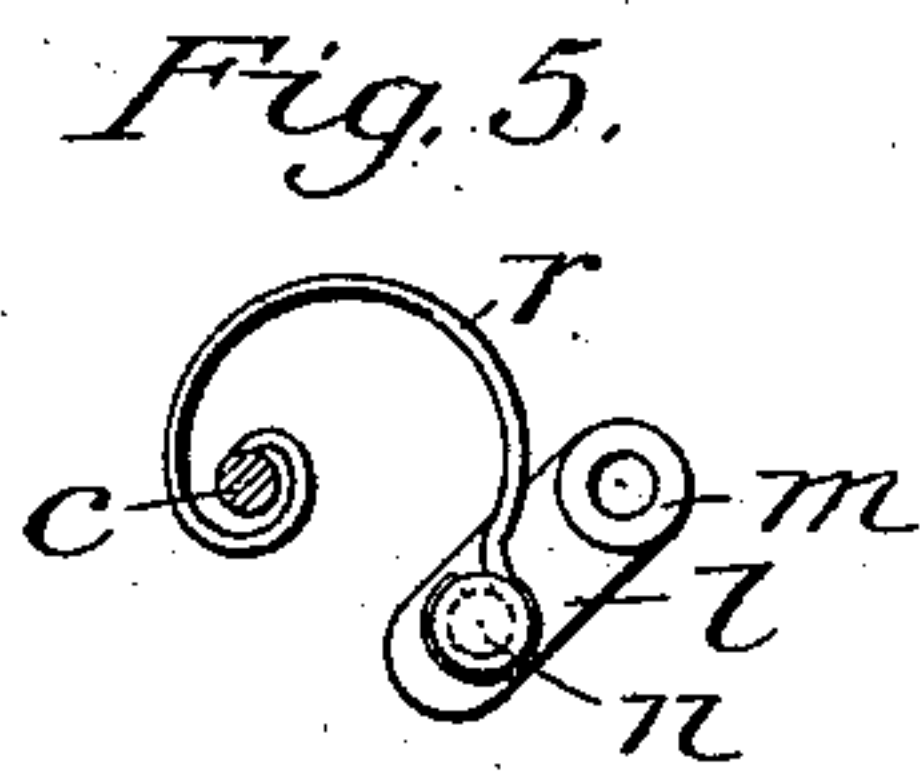
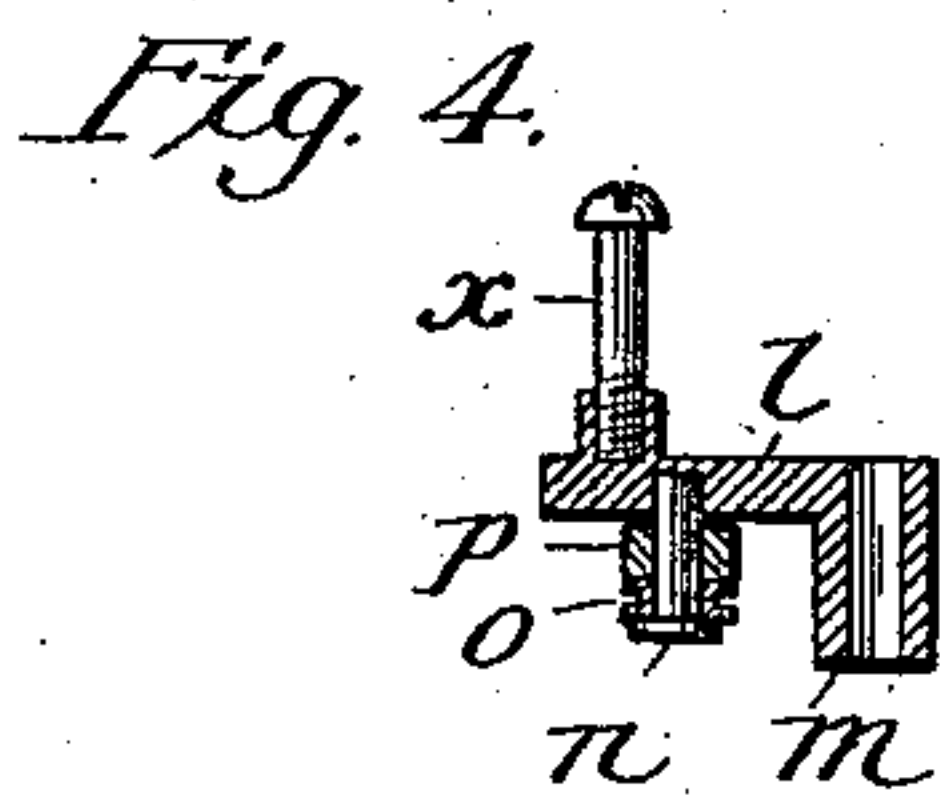
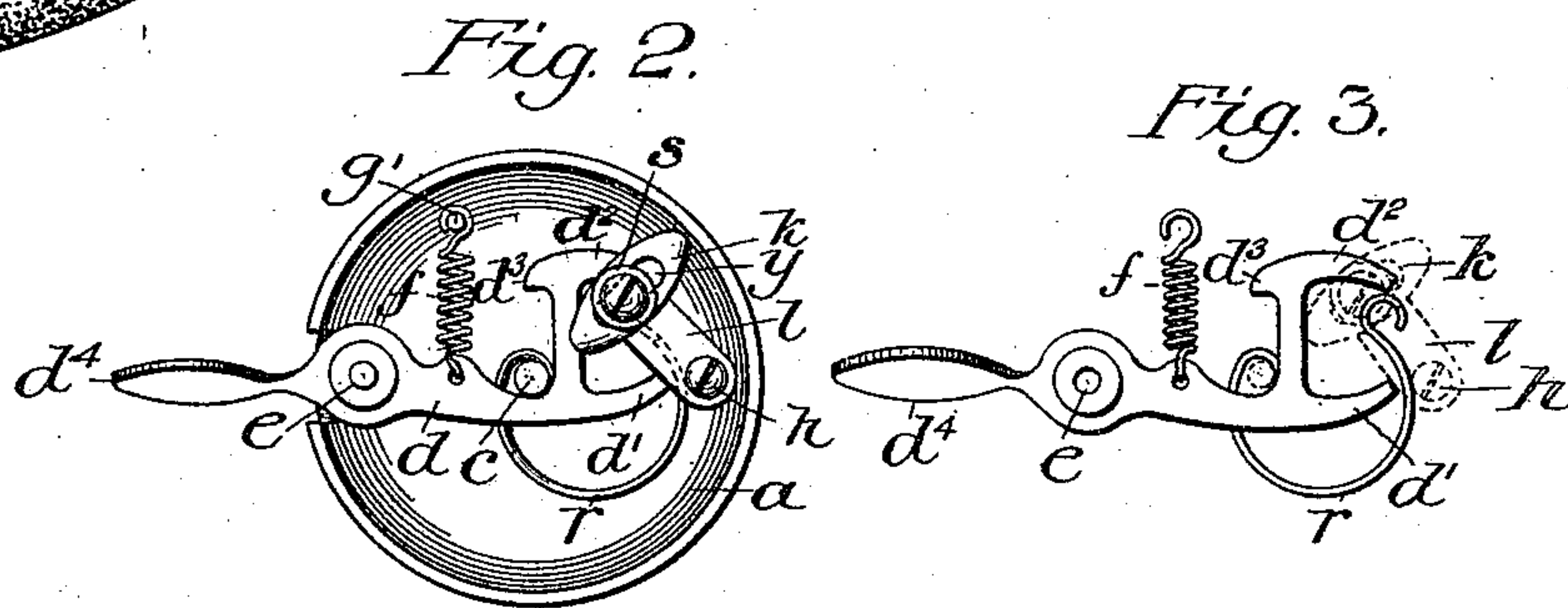
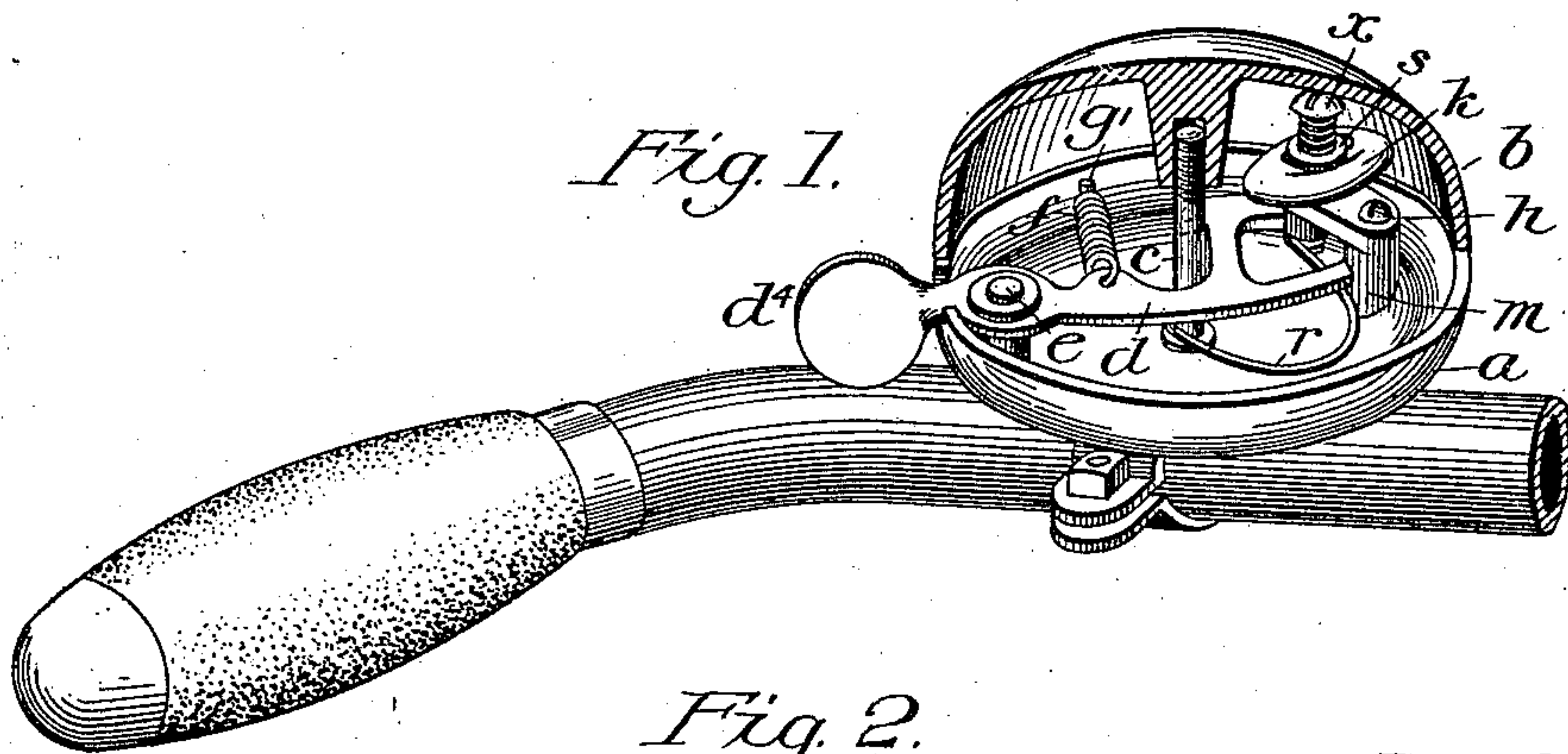


(No Model.)

A. B. HUNN.
BICYCLE BELL.

No. 575,114.

Patented Jan. 12, 1897.



Witnesses
Helen D. Thorpe
Helen J. Miller.

Inventor:
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UNITED STATES PATENT OFFICE.

ALBERT BOYD HUNN, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE
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BICYCLE-BELL.

SPECIFICATION forming part of Letters Patent No. 575,114, dated January 12, 1897.

Application filed August 24, 1896. Serial No. 603,811. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BOYD HUNN, of Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of my invention is to provide a gong-bell which comes under the head of what has come to be known as a "double-stroke" bell. The desirability of such a bell, especially for bicycles, the essentials requisite to successful use, and the necessities in its construction have been fully appreciated by manufacturers, dealers, and users, but bells which have heretofore been constructed for this purpose have failed in some important particulars, either of cost, perfection in working, simplicity of construction, ease in adjustment, freedom from rattling, or convenience in use. My invention is designed to avoid these defects and meet the necessities which present themselves for bells of this class. In the construction of double-stroke bells the following necessities present themselves: first, the maintenance of the striker normally out of contact with the gong, so as not to check the vibrations thereof except when a blow is struck; second, the impingement of the striker sharply against the gong at one side to sound the same and its immediate recoil; third, the sharp impingement, reciprocally, of the striker against the gong on the other side and its immediate recoil.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features wherever they occur.

Referring to the drawings, Figure 1 is a perspective view of the bell attached to the handle-bar of a bicycle (in outline) with the gong broken away, so as to show the arrangement of parts. Fig. 2 is a plan view of the bell with gong removed as viewed from above. Fig. 3 is a detailed plan view of the lever and springs, the striker-mount being shown by dotted lines. Fig. 4 is a vertical sectional view of the striker-mount without the striker.

Fig. 5 is a view from below of the striker-mount, showing the attachment of the spring to the striker-mount and central stud. Fig. 6 is a view from above of the striker. Fig. 7 is a sectional view of the striker mounted on the striker-arm.

In the accompanying drawings the letter *a* designates the base-piece, which may be provided with any one of the usual means of attachment to the handle-bar of the bicycle or other support.

b is the gong, also of any usual desired form, size, material, and construction. A post *c*, fixed preferably in the center of the base, supports the gong, which may be secured thereto by a screw-thread thereon or by any other suitable means.

d is a lever pivoted to the base-piece, as at *e*. This point is preferably located as near as possible to the circumference of the gong both for convenience of manufacture and for obvious advantages in use. A spiral spring *f* holds the lever in position, being attached to the lever inside the pivot *e* at *g* at one end and at the other to a stud fixed to the base-piece at *g'*. The drawings show the spring *f* attached to the lever by passing its bent end through an aperture therein. Often the attachment is made by passing the bent end over a pin or stud fixed to the lever at the same point. The particular method of attachment is immaterial. The end of the lever is forked into two prongs *d'* *d''*.

As herein shown, the lever is limited in motion by its side striking the central post *c* in one direction and in the other by the projection *d''*, which strikes also against the central post *c* when pressure is exerted upon the lever. The lever may, however, be constructed with two prongs beginning back of the central post, when the prongs will limit the motion of the lever. So, also, if a curved standard or any other means be employed to support the gong, a pin placed in the same or any other suitable place may be used to limit the motion of the lever. At its outer end in the construction which I here show the lever is formed into the familiar finger-piece of a bicycle-bell at *d'*. Means, (not shown,) however, for attaching the end of a rope or wire connecting with a bell-pull or push-but-

ton may take the place of this finger-piece, or any means may be used to oscillate the lever so as to cause it to perform its function—that is, to propel the striker-mount from one side to the other and limit its motion.

At a point a little to one side of a line drawn through the pivot *e* and post *c* and near the edge of the base-plate is fixed a post *h*, provided at its upper extremity with a head. This post *h* serves as a support and a pivot for the striker-mount, which is preferably but not necessarily cast in one piece and consists of the hub *m*, from the upper end of which extends the crank or arm *l*. At the inner end of the arm *l* a pin *x* is fixed to the crank which supports the striker *k*. The striker is a lengthened oval, as shown, although it may be diamond-shaped or any other form to permit its construction with two ends or striking-points *k'* *k''* and a longitudinal slot *y*, which fits loosely over the pin *x*.

The crank *l* may be constructed with a shoulder adjacent to the striker or any similar means may be employed to hold the striker in a position substantially at right angles to the crank as it moves back and forth like a shuttle, as shown at *y* in Fig. 7.

A small pin *n* is attached to the striker-arm just back of the striker and projects from its under side. Carried by this pin are two rolls *o* and *p*. The smaller roll *o* is the lower in position on the pin and is grooved around its circumference or so constructed that the end of a small wire spring may be conveniently coiled around it and engage it securely.

r is a small wire spring bent into a substantially semicircular form and coiled loosely around the central post at one end and attached securely to the small roll *o* at the other. The prongs *d'* *d''* bear against the roll *p* in operating the bell.

A small vulcanized-fiber washer *s* and small spring coiled around the pin *x* may be used in a familiar manner to hold the striker in place and prevent noise and rattling in operation.

The operation is as follows: The spiral spring *f* holds the lever to the side of the gong to which the spring is attached. By pressure upon the finger-piece the prong *d'*, acting upon the roll *p* moves the striker-mount against the force of the spring *r* away from that side. It will be observed that the construction and arrangement are such that the spring *r* acts to throw the striker-mount in both directions and that there is a "center of equilibrium," as I call it, where the striker-mount is at rest. The prong bearing against the roll *p* moves the striker-mount up to this center, where it is at rest, and the spring acts in neither direction. The merest touch moving the mount in either direction brings it under the influence of the spring *r*, which drives the striker-mount sharply toward the opposite side of the gong. The roll *p* impinges against the opposite prong *d''* and the motion

of the mount is checked suddenly. The momentum carries the striker sharply against the gong. The longitudinal slot permits this motion and after impingement the striker will instantly recoil or rebound. The slight friction caused by the washer *s* and spring *t* will hold the striker away from the gong. Upon release of pressure upon the finger-piece the striker-mount will be driven in the opposite direction by the prong *d''*, which is actuated by the spring *f*, when an impingement of the striker will cause a second stroke or sounding of the bell in the manner just described.

I wish to point out that, although designed primarily as a double-stroke bell, this construction supplies with small variations a bell adapted to any use required of a bell. By removing the spring *f* it becomes a single-stroke bell. By rapid manipulation of the lever it becomes an electric-stroke bell. By varying the form of attachment it may be used as a door-bell or a call-bell and may be located near to or far from the place of manipulation.

I have attempted to describe minutely one form of embodiment of my invention, but I wish it to be understood that I do not limit myself to the exact form of construction set forth, which, it is plain, may be varied in many of its details without departing from the spirit of my invention.

In my invention the need of adjustment is done away with and the same striker-mount can be used in bells of any ordinary size. The lever need not be of resilient metal and the parts are made and assembled cheaply, without trial or adjustment and with certainty of result assured.

The essence of my invention rests in the adaptation of the peculiar striker to the striker-mount, making possible the use of a non-resilient lever. I do not, however, confine myself to the exact form of striker or slot. It is apparent that, while the form shown may be the most effective, the form of striker and slot may be varied and yet produce substantially the same result. For example, the striker and slot, either or both, might be round; or a solid striker might be arranged with a shank which would move in a slot. I consider that any construction of a striker so arranged on a striker-mount of substantially the character described as to permit longitudinal motion to be within the spirit of my invention.

I claim as my invention the following-described novel features, substantially as hereinbefore specified, namely:

1. A gong-bell consisting of a base-piece and gong, an elongated striker with an elongated slot loosely carried on a pin on a striker-mount, said striker-mount being actuated by a spring in either direction, and a lever provided with prongs for propelling and controlling the movement of the striker-mount, so that when the striker-mount is driven against a prong of the lever by force of the spring

the striker will be carried forward by its momentum against the gong to sound the same and immediately recoil in the line of its motion.

5 2. A gong-bell consisting of a base-piece and gong, an elongated striker with an elongated slot loosely carried on a pin on the striker-mount, and limited to a forward-and-back motion so that the elongated slot will
10 be at right angles substantially to the length of the striker-mount, said striker-mount being actuated by a spring in either direction, and a lever provided with prongs for propelling and controlling the movement of the
15 striker-mount so that when the striker-mount is driven against a prong of the lever by the force of the spring the striker will be carried forward by its momentum against the gong to sound the same, and immediately recoil in
20 the line of its motion.

3. In a gong-bell of the character described, an elongated striker having an elongated slot loosely carried on a pin on the striker-mount, said striker-mount being actuated by a spring
25 in either direction, a lever actuated by a spring in one direction and provided with prongs for propelling and controlling the movements of the striker-mount.

30 4. A gong-bell comprising in its construction a base-piece and gong, a striker-mount pivoted to the base-piece consisting of a hub and arm, a pin upon the arm carrying a striker

with an elongated slot with means to prevent the striker from turning upon its pin, a spring for actuating the striker-mount in either direction, and a lever for propelling and controlling the movement of the striker-mount. 35

5. A gong-bell comprising in its construction a base-piece and gong; a striker-mount pivoted to one side of the base-piece and consisting of a hub and arm, said arm being provided with a shaft for carrying a striker and a pin carrying two rolls; a striker with a longitudinal slot loosely carried on said striker-shaft and held by a washer and spring coiled
40 round the shaft; a spring for actuating the striker-mount fixed at one end to the lower roll, the other being coiled loosely round the central post; and a lever, spring-actuated in one direction, having prongs bearing against
45 the upper roll to propel and control the movement of the striker-mount, all so constructed and arranged that by pressure upon the lever the striker-mount is moved past the center and by force of the spring said striker moving
50 on its shaft is impinged against the gong to sound the same. 55

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT BOYD HUNN.

Witnesses:

ALBERT F. ROCKWELL,
JOHN J. JENNINGS.