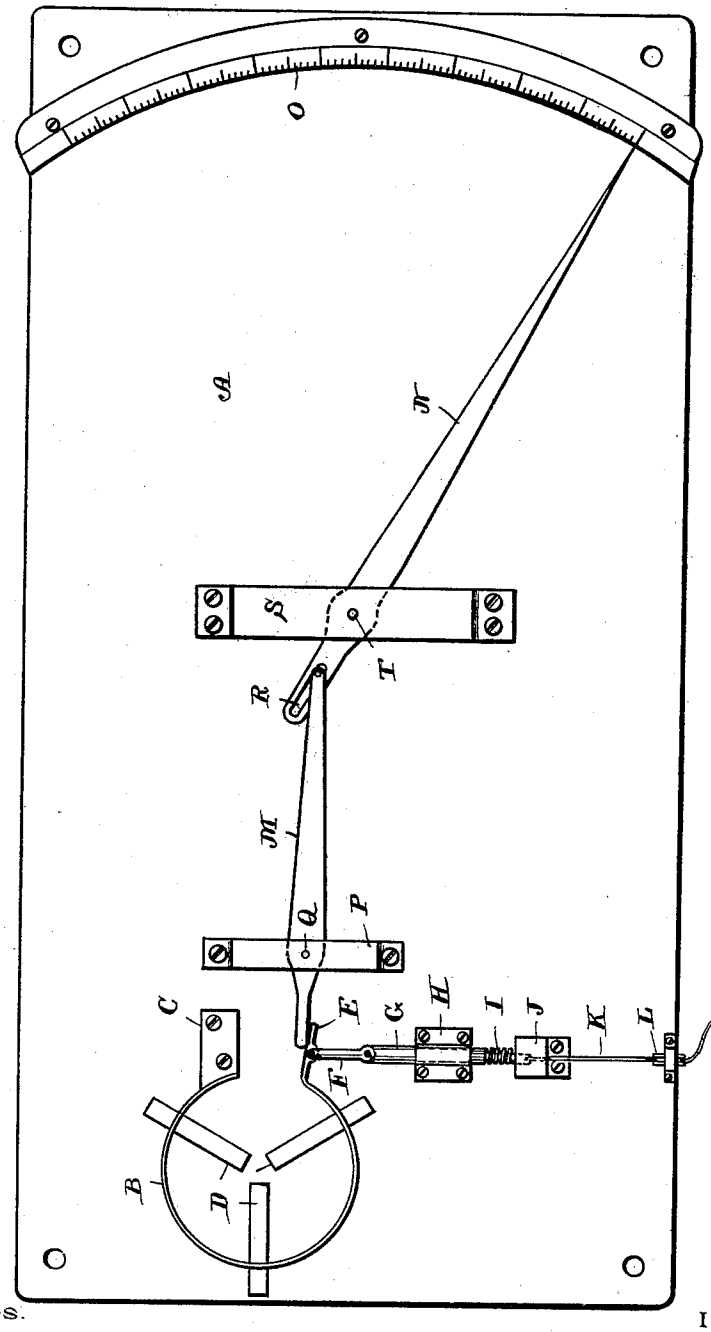
No. 609,580. Patented Aug. 23, 1898.

M. GORDON.

GAGE FOR WATCH CRYSTALS.

(Application filed Jan. 11, 1898.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

MAX GORDON, OF WATERBURY, CONNECTICUT.

GAGE FOR WATCH-CRYSTALS.

SPECIFICATION forming part of Letters Patent No. 609,580, dated August 23, 1898.

Application filed January 11, 1898. Serial No. 666,293. (No model.)

To all whom it may concern:

Be it known that I, MAX GORDON, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Gages for Watch-Crystals, of which the following is a specification.

This invention relates to new and useful improvements in gages for determining the accurate sizes of round watch-crystals or like objects where it is desirable to ascertain their circumference.

It is the object of my invention to provide a gage which is easily manipulated and which will multiply and automatically ascertain and indicate in figures the respective sizes of varying watch-crystals which are placed therein.

In practice I find that watch-crystals of regular sizes will vary quite materially in circumferential measurement, which irregularity has to be determined in order to provide a rim for the same. Therefore manufacturers of watches find it necessary to assort crystals of certain sizes into subsizes in order to secure accurate fitments in assembling. While this difference in actual practice is slight, it is yet sufficient to prevent the securement of tight fits, which is absolutely necessary.

With the above objects in view my invention resides and consists in the novel construction and combination of parts set forth in the accompanying drawing, forming a part of this specification, and upon which similar letters of reference denote like parts throughout the figure, which shows a complete plan view of my invention.

Referring to the characters of reference marked upon the drawing, A indicates a body which is preferably inclined to the front; B, a sheet-metal spring secured thereto which is somewhat in the form of an ordinary clock-spring, except that it is not so long and is provided at each end with angular enlargements. Said spring is secured to the body by screws C and is designed to rest upon three or more cleats D, which are arranged radially from the center of the circle described by the spring. To the free end E of the spring is secured one end of a link F, the opposite end being hinged to a slide G, secured in a way H and guided by a small spiral spring I, abutting against the shoulder thereof and against a bracket J, also secured to the body. The action of the spiral spring I tends to throw the slide inward in a manner to close the spring B, as will be obvious. To the reduced end of the slide G, I attach a cord or similar connection K, which lies in a grooved pulley L and may be carried down to a suitable foot-treadle, (not shown in the drawing,) by means of which construction said slide is operated against the action of the spiral spring I in a manner to open the spring B.

As a means of registering the exact position of the spring B, I provide compound levers M and N and a graduated semicircular dial, all of which I will next describe.

To the inclined body A is secured a yoke P, bearing pivot Q, upon which the primary lever M is hung. The short end of this lever, as will be seen, acts upon the free end of the encircling spring, while the long end contains a pin to engage a slot R in the short end of the secondary lever N. This secondary lever is pivoted in a yoke S similar to that of the preceding lever and is operated by the lever aforesaid. The lever N consists in part of a long pointer which swings around within the radius of the dial and registers thereon the position of the encircling spring, it being obvious that the weight of this pointer is sufficient to throw up the long end of the primary lever and retain its short end at all times upon the free end E of the encircling spring.

The operation of determining the size of a crystal with my improved mechanism would consist as follows: The operator would place his foot upon the treadle in a manner to open the encircling spring against the action of the spiral spring I, as shown in the drawings, whereupon the crystal would be placed within the encircling spring and the treadle released by the operator in a manner to permit said encircling spring to inclose upon the periphery of the crystal and operate the levers in a manner to throw the pointer around upon the dial and designate the size thereof, after which by further operation upon the foot-treadle the encircling spring

would be opened and the crystal could be removed and placed into a compartment in accordance with its special subsize.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a gage for determining the size of watch-crystals, the combination of an encircling spring comprising a fixed and movable end, means for normally closing said end, mechanism for opening said spring, a pivoted lever, operated in one direction by the movement of the free end of said spring, a pointer operated by said lever and adapted to indicate in numerals the circumference of the crystal, substantially as shown and described.

2. In a gage for determining the size of watch-crystals, the combination of an encircling spring, one end of which has fixed means for opening and closing the free end of said spring, a lever connected with said free end, a pointer connected with said lever and adapted to be operated upon a pivot, a graduated dial in line of movement of said pointer and upon which the same indicates the size of the crystals within the spring.

3. The combination in a gage for determining the size of watch-crystals, the combination of the body, an encircling spring, one end of which has fixed thereto cleats secured to said body and radiating from the center of the spring, a spring-guided slide connecting the free end of said encircling spring and adapted to close the same, a secondary lever connected to said lever and carrying a pointer, a semicircular indicator in line of movement of said pointer and upon which the same registers the position of the encircling spring.

Signed at Waterbury, in the county of New Haven and State of Connecticut, this 4th day of January, A. D. 1898.

MAX GORDON.

Witnesses:
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