

## \$1,000 REWARD FOR A WATCH!



The above reward will be given for any mechanical device (in watchwork) which shall possess all the advantages embraced in the arrangement and combination of parts patented by George P. Reed, of Roxbury, Mass., in 1857; these advantages are as follows:—

1st. The manufacturer is enabled to use a longer and wider main spring than can be employed in the usual way; the diameter and thickness of the watch being, of course, taken into consideration.

2d. The manufacturer is also enabled to apply a series of fine-toothed wheels and pinions, producing an easy and uniform action, and at the same time protecting them from damage by the violent recoil caused by the very common accident of the breakage of the main spring. The barrel being stationary, and the main wheel revolving with the winding arbor, the arbor and ratchet are left free to turn with the backward stroke of the spring, without exerting any force on the teeth of the main wheel.

3d. The barrel, being arranged within the pillar plate, is supported by that plate, thus preventing it from spreading or bursting by the breakage of the mainspring.

4th. As the winding arbor rotates in one direction while winding the watch, and in the opposite direction while running, the stop-works are so arranged on the bridge or plate to accommodate such thickness and strength in those parts as to prevent danger of breakage or derangement. With revolving barrels, the stop-works are necessarily so thin and light that they are extremely liable to break or become disarranged.

5th. The securing of the stop-works to the bridge or plate brings the force, when brought up by them, upon the plate of the watch, thus relieving the train from all extra strain; while in watches where the stop-works are placed on the barrel, the force of the winding is applied on the train, giving an increased and unnatural motion to the balance, and, at the same time, endangering the teeth of the wheels and pinions, particularly if the divisions are fine and the watch is carelessly wound.

6th. As the stop-works are exposed on the plate of the watch, they constitute a good indicator of the time elapsed since the watch was last wound-up.

It will be seen that this improvement is particularly designed to obviate faults the more prevalent in the Swiss movements, or those without the chain and fusee. Practical experience having demonstrated that the fusee is not a necessary attachment, and that isochronal vibrations of the balance can be obtained by other and more effectual means, a preference will of course be given to a watch without an addition so cumbersome and liable to breakage and derangement.

It should be particularly observed that any arrangement or device claiming the above reward must be beyond all question of infringement. **GEO. P. REED.**

The following is a letter just received from the ingenious inventor who offers the above reward:—

**MESSRS. EDITORS:**—I noticed in a recent number of the *SCIENTIFIC AMERICAN* a short article on the manufacture and importation of watches; and there were some very just and timely hints thrown out in regard to the importance of improving the quality of American-made watches. This is a subject in which I have long felt very deeply interested. In the year 1854, having invented and patented a novel device for a compensation balance, I exhibited it to the Boston Watch Company, whose factory was then located in Roxbury, and was the only watch manufactory in America; and who are now doing an extensive business under the firm of E. Howard & Co., the senior partner being one of the founders of the above trade in this country. My improvement made a favorable impression on the company, and I was induced to devote myself to the improvement and manufacture of watches. The ideas which I entertained in regard to the successful manufacture of American watches was that, in view of the cheapness of labor in

foreign countries (where the majority of watches are made), and of the great advantage which foreigners have over us in having been for hundreds of years established in the business and thus having passed through all the rudimental and experimental stages of the art, it was necessary for us to construct watches, if possible, on a novel plan which should be superior in its principles of construction and possess important advantages over those of foreign make, and that we should be protected from foreign competition by the security which the patent laws afford. To accomplish this object, I have most assiduously devoted the energies of my mind and body, much to the sacrifice of my physical health; and many have been the devices which I have periodically produced. You are doubtless aware that I have patented some of these novelties; others I preserve as curiosities. But as success has at last crowned my efforts, I feel that I am more than compensated for all my patient toil.

In the year 1857, I obtained Letters Patent for a novel arrangement in that part of a watch in which the motive power is applied, by means of which device I obtain several important advantages, in durability and strength, that have never been obtained in any other way. A detailed description of my improvement may be had by referring to the printed circular of E. Howard & Co., who are at present the sole manufacturers of my improved watches; the improvement lies in that part of the watch which constitutes the main feature of difference between the English and Swiss watches, and which gives to each its national characteristics, so far as the principle of their construction is concerned. In the English watches, the motive power is conveyed to the train or wheel-work by means of a chain and fusee; in the Swiss watches, the motive power is conveyed to the train directly by means of what is termed the "going barrel." But in my improved arrangement, I employ neither the fusee nor the going barrel. I use the stationary barrel, in combination with the maintaining power. I make no claim to the invention of the stationary barrel, as I am aware that such barrels are occasionally found in watches made a hundred years ago; but in all such watches the stationary barrel is very impractical, as they are minus the maintaining power, and are consequently liable to stop while being wound-up. But by the direct application of the maintaining power to the fixed barrel, I am enabled to obtain several very important advantages over the chain and fusee, and also over the going barrel arrangement. In view of these important facts, I hope my fellow-craftsmen will not consider me self-conceited when I claim that my improvement adds much to the character of American-made watches, and that in point of nationality it affords features of difference to distinguish them from foreign watches. It has been my earnest endeavor (in connection with Mr. Howard) to produce these watches—in all their parts—in a finished and perfected state; and we rely upon the opinion of all experienced and disinterested watchmakers to say how well we have succeeded. It is neither my intention nor desire to move heaven and earth for the sake of giving an impression to the public, that has no foundation in truth. Our watches will speak for themselves, and we are bound to make them in such a manner that they will do credit to the watch-manufacturing business in this country.

The foregoing portion of my letter may not be very interesting to you, but I trust that the remaining portion will be so, for the reason that I wish to employ your agency in procuring Letters Patent for me, for an improvement which I have recently made, and for the reason that the subject to which such improvement relates reaches far into the hidden principles of science. This improvement consists in the formation of the balance or hair spring, for watches, chronometers, &c., in such a manner that I am enabled to produce the *isochronal* condition or property in the spring with a greater degree of facility than by any process heretofore employed; that is to say, so far as I am able to ascertain by conversing with the most experienced and scientific watchmakers in this country, and by referring to the best-written works upon this subject. The isochronal adjustment of watches and chronometers is one of the most difficult and perplexing tasks ever undertaken by man, and the means by which it is accomplished are not understood except by the most experienced and scientific watch and chronometer-makers in the world. It is not my purpose to go into a detailed explanation of the invention at this time; in a few days I will send you the model with an explanation of it.

**GEORGE P. REED.**  
Roxbury, Mass., Aug. 25, 1860.