

little from the outer lower edge of the chain for its entire length; this, as you can see, will incline to work it on, instead of off. Some workmen, when they have a bad case, and a common watch, change the standing of the fuzee so as to cause the winding end of its arbor to incline a little from the barrel. This, of course, cannot do otherwise than make the chain run to its place.

How to REGULATE A WATCH QUICKLY.—The following is a practical method for regulating a watch in a few minutes, also to put in a new balance spring, of the right size and regulated perfectly, in a watch without running it: First ascertain how many vibrations the watch beats in one minute, by counting every other vibration, and comparing that time with a well-known watch or regulator. In general, Swiss watches beat 18,000 in one hour, viz., 300 in one minute. American watches also, either 18,000 or 16,200, or 270 beats per minute, and the English lever 14,400, or 240 per minute. If there is any doubt, it is better to count up leaves and teeth and ascertain the right number, but cases that watches beat odd numbers are scarce. Having ascertained the right number, examine the balance carefully for one or two minutes, counting every vibration from right to left, and in the meantime examine the regulator or clock, to see when one minute is up. If the watch is well regulated, the number of vibrations must be exactly half of the regular first number, viz., 150, 185, or 120, as every other vibration has been recorded to facilitate the observation. If not so, move the regulator right or left until a perfect coincidence comes. To pick up a new balance spring after having recorded the right number of beats—either by the old spring or by the number of the train—lay first the spring with its centre well in the centre of the cock jewel, and having ascertained where the coil will enter between the curb pins of the regulator, note the place. Stick to the pivot of the balance a small round piece of beeswax; then stick to the centre of the spring, so as to establish a temporary but firm connection of the two pieces, and having pinched with the tweezers the balance spring indicated by the regulator pins, cause it to vibrate gently; then count the vibrations for one minute, and when you have a spring that will produce nearly the required number of beats, pin it to the collet and cause it again to vibrate moving the tweezers backward or forward until the right number of beats is produced; with another pair of tweezers pinch the balance spring about one-eighth of an inch back of the regulating point, so as to counterbalance the gain produced by the regulator pins, and bend the wire slightly, which is the place where the hair spring must be pinned to the stud. Having then tuned up the spring, proceed to put the regulator to the right place, by using the way indicated in the beginning of this article, and the work is done. Success is certain when the operation has been carefully performed. The balance must be made to vibrate on some hard and well polished substance, so as to keep up the vibration to about the standard of regular running. A little practice will soon enable the watchmaker to change a balance spring very quickly, and without any trouble whatever.

SCIENCE NOTES.

A TUNIS jeweler has made a tiny boat forming a single pearl, which shape it assumes in swell and concavity. Its sails is of beaten gold, studded with diamonds, and the binnacle light at its prow is a perfect ruby. An emerald serves as its rudder, and its stand is a slab of ivory. It weighs less than half an ounce; its price is \$5,000.

A PITTSBURGH firm has commenced the manufacture of glass shingles, which are to be cheaper, stronger, more durable, and more satisfactory in every way than slates or any other roofing substance now used. They will drive the lightning rod men to parts unknown, for glass is such a good conductor of electricity that a fancy rod will be unnecessary on a house roofed with the new shingles. A city full of houses roofed with highly coloured glass would present a beautiful sight.

CHEAP diamonds by colouring may be made to look like gems, and the unwary are easily deceived thereby. The process is now about a year old. The trick is performed by dipping the diamond in a preparation of aniline dyo. This can easily be detected by washing the stone with soap and water. Within a month, however, the sharpers have added a preparation of gum arabic, which successfully stands the soap and water test. The only way the latest deception can be detected is to wash the stone with ammonia. The colouring of diamonds is causing thousands of dollars of loss to innocent people.

THE Archdeacon of Melbourne relates that during the epoch of the great gold fever he had a curate whose duty it was to officiate at some of the gold diggings. On Sunday mornings he preached at one set of shanties, and then walked eleven miles to another village for evening service. Half way across the plain stood a solitary tree, where he used to rest and eat his frugal dinner. For two years he had done so, when one day three miners, following his example, sat down to picnic on the same spot, and one of them, on getting up, just tried the soil with his pick, where, at a depth of about two feet, lay a mass of ore which realized \$140,000. That curate pondered deeply on what might have been.

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