

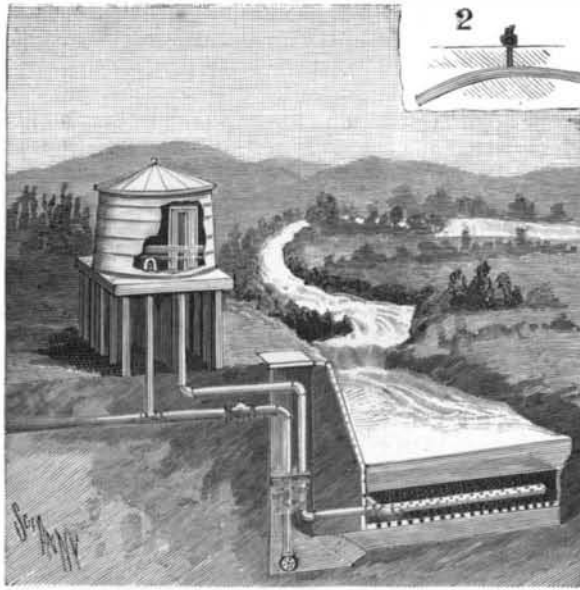
**AN INTAKE AND FILTER FOR WATER SYSTEMS.**

For conveniently filtering large quantities of water and readily cleansing the filtering bed the arrangement shown in the illustration has been devised by and forms the subject of a patent issued to H. L. Ricks, Eureka, Cal. In an open top casing arranged in the bottom of a stream is a longitudinal division formed by slats resting on cleats, and supporting the filtering material, through which the water passes to a settling basin below. The discharge pipe, connected with a reservoir or pump, and adapted to supply water mains in the usual way, leads from the lower end of the settling basin, where it is provided with a strainer, and in its course through the ground is provided with a check valve, beyond which is a branch pipe leading upward into a tank. The branch pipe has a ball valve where it enters the tank, to prevent any backward flow of water through this pipe, and the tank is sufficiently elevated to afford the necessary pressure for efficiently flushing the filtering bed. Arranged vertically in the tank is a casing in which is a pipe connected with parallel perforated pipes embedded in the filtering material, and through these pipes, when the tank is nearly filled, water will be discharged with sufficient force to wash the impurities from the filtering material. The tank may be filled by the back flow of water through the discharge pipe, such flow being interrupted and turned into the tank by means of the check valve, or, where the discharge pipe is connected directly with the pump, a tank near the pumping station may be connected with the flushing tank.

Where the discharge pipe is of considerable length, and is higher at certain points, rendering it likely that air will collect in such portions of the pipe, branch vertical pipes are here located, as shown in the small view, there being in each pipe a rubber ball valve designed to exclude the air when back flushing and clear the intake at high places.

**JAPANESE CLOCKS AND POCKET SUN DIALS.**

The Japanese iron clocks of the seventeenth century were cubical in shape, like the European ones of the sixteenth, and differed therefrom only in the engraving of their surfaces and in the disks of their dials, which were usually of metal lacquered in different colors, with the hours gilded. Later on, this form of



**RICKS' INTAKE AND FILTER.**

clock, with the case inclosing the movement, was made entirely of copper and of smaller size. Along with those engraved on the solid surface, there were some made in openwork, engraved and of delicate ornamentation.

Columns worked on the lathe, engraved and even enameled, ornamented their angles (Fig. 1). Toward the eighteenth century such clocks were placed in cases of various forms, as was done in Europe. The most beautiful were those mounted upon legs, so as to allow the weights to descend (Fig. 2). These were of porcelain, wood and lacquer work.

The most common form was a sort of truncated pyramid, the four sides of which were solid and of natural or lacquered wood, and upon which the clock was placed. Sometimes the latter was inclosed in a glass case surmounting the pyramid. An aperture at the base of the latter permitted of winding up the weights, which were of copper or lead, and hemispherical, lenticular or cylindrical in shape.

In the pieces mounted upon legs, the weights were often concealed in tassels of the same silk as the cord that sustained them.

There were still other kinds of cases in which the clocks were placed, which in form resembled the Dutch clocks of the seventeenth century, and which, like them, were suspended from the wall. They were of wood, and were provided at the sides with pretty little glass doors, and the whole was supported by two brackets (Fig. 3).

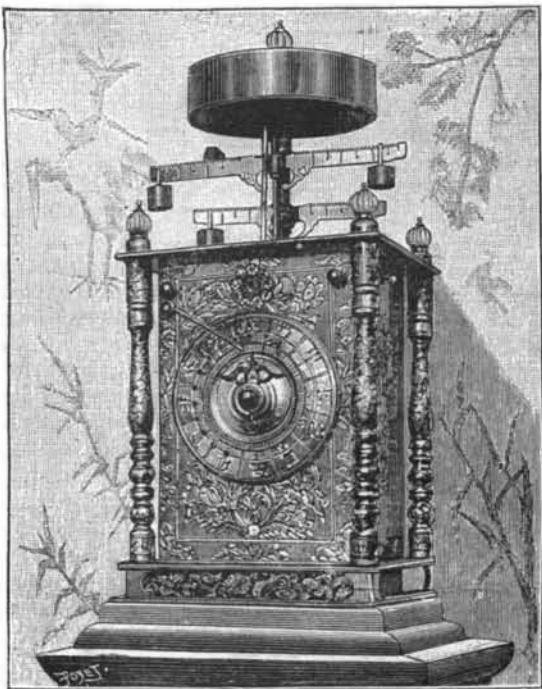
In the two kinds of cases that we have just mentioned, apertures were formed at the top, upon three faces, in order that the sound of the bell placed at the upper part of the clock might be distinctly heard. They were lined internally with some sort of fabric to prevent the entrance of dust.

Other forms of clocks, which may be called vertical (Fig. 4, No. 1), were absolutely Japanese in the arrangement of the case and movement. They consisted of a glass case surmounting a very long rectangular body. The material was wood. The movement, placed in the case, was entirely open. The decoration consisted in an engraving or chasing of the front pillar plate and in small columns of metal placed at the angles. Some of these copper pillar plates were beautiful in design, being in lace-like openwork and finely engraved. Others were chased with the greatest care, and certain of them, even, by masters who were not afraid to sign their names. We own one bearing the name of Kouniyouki (Fig. 4, No. 5).

The vertical cases all bore much resemblance to one another. At the base there was a small drawer for the reception of the key. These pieces were suspended from the wall.

The movable cartouches, twelve in number, upon which the hours were engraved, and which constituted the dial, were likewise nearly all of the same form. The dial therefore consisted of these twelve cartouches placed upon the long strip of wood forming the cover of the case that contained the weight, to which latter was fixed a style whose form varied to infinity. This style, mounted upon a rod fixed to the weight, descended in a slot formed near one of the sides of the case, in proportion to the running of the clock work. The twelve metallic cartouches above mentioned were mounted in such a way that they could be regulated by hand conformably to the hour that they were to indicate. The most scientific of the vertical dials were those with lines engraved upon the piece serving as a dial, which, in this case, was of copper.

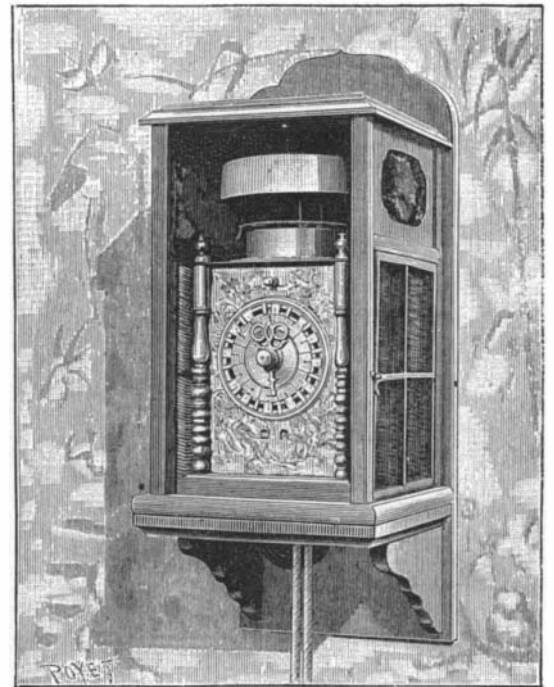
Upon this plate were engraved twelve vertical lines that corresponded to the twelve fortnights of half a year. Twenty-four curved lines arranged horizontally



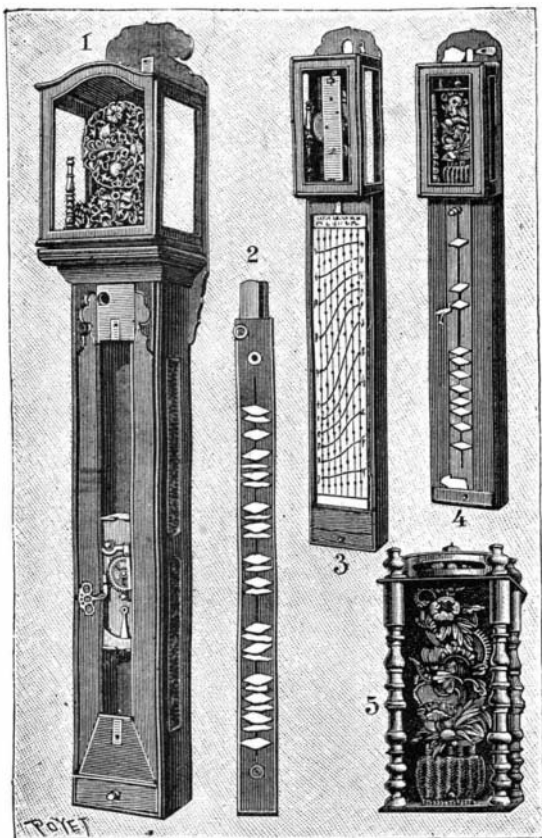
**Fig. 1.—JAPANESE CLOCK OF THE EIGHTEENTH CENTURY.**



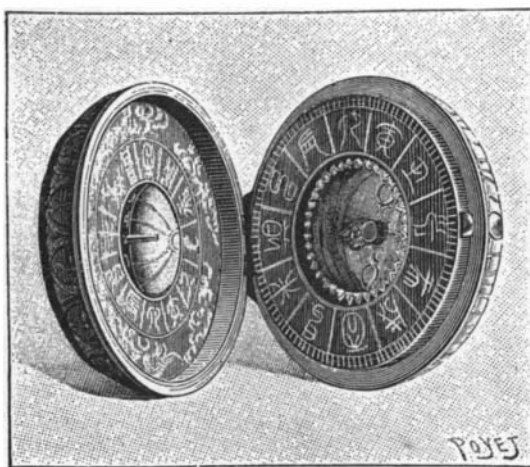
**Fig. 2.—CLOCKS MOUNTED UPON LEGS.**  
No. 1. Porcelain. No. 2. Lacquer work.



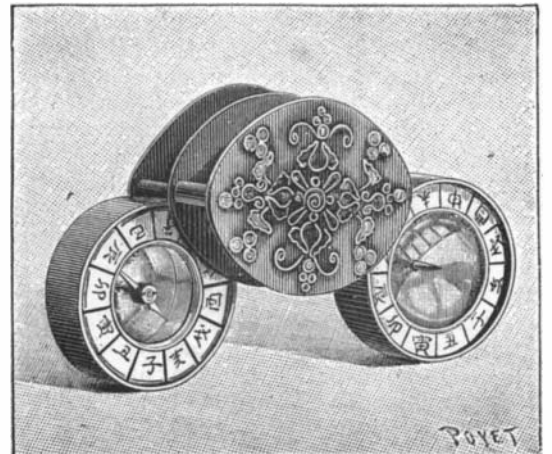
**Fig. 3.—JAPANESE WALL CLOCK.**



**Fig. 4.—JAPANESE CLOCKS OF THE EIGHTEENTH AND NINETEENTH CENTURIES.**



**Fig. 5.—JAPANESE POCKET SUN DIAL.**



**Fig. 6.—JAPANESE POCKET SUN DIAL OF THE EIGHTEENTH CENTURY.**