

IRA KINMAN'S MEASURING-FAUCET.

We call the attention of all grocers who wish to avoid the use of sticky pots—gallons, half-gallons, quarts and pints—for measuring molasses, tar and varnish, to the simple and compact measuring-faucet represented in the annexed cut.

Fig. 1 is a perspective view of the whole, and Fig. 2 a transverse vertical section representing the interior arrangement. The cylinder, *c*, (Fig. 2) is connected with the screw, *S*, so that it may be rotated by turning the crank. The slide, *s*, (Fig. 2) is of sufficient width to fill the large cylinder, *A*, (Fig. 1) and slides through a slot in the small cylinder, *c*. It will be seen that as the cylinder, *c*, is made to rotate, the slide, *s*, forces a determinate quantity of the liquid down into the discharge pipe, *P*. The slide, *G*, (Fig. 1) fitting by a thread upon the screw *S*, is carried along by each revolution a certain distance which is measured on the scale, *B*. This slide is of course to be set back to zero before the drawing of the liquid is commenced. By means of the regulating spring, *a*, adjusted by the set-screw *g*, the slide *s*, may be pressed firmly against the inside of the cylinder, *C*, or may be allowed to revolve loosely within it, and thus the quantity delivered at each revolution may be somewhat varied. From the end of the screw, *S*, and fastened to it, a spiral screw extends through the main pipe of the faucet, and by its rotations draws along the thick liquid so as to keep the large cylinder, *A*, constantly supplied. When the desired quantity of liquid is drawn, the pipe *P* is tightly closed by means of the slide, *H*. The end of the main pipe is guarded against the admission of sticks by a strainer.

The patent for this improvement was granted May 3, 1859, to Ira Kinman, of Freeport, Illinois, but is now the joint property of the inventor and B. H. Wiley, and further information may be obtained by addressing either of those gentlemen as above.

CHEESE-CUTTER

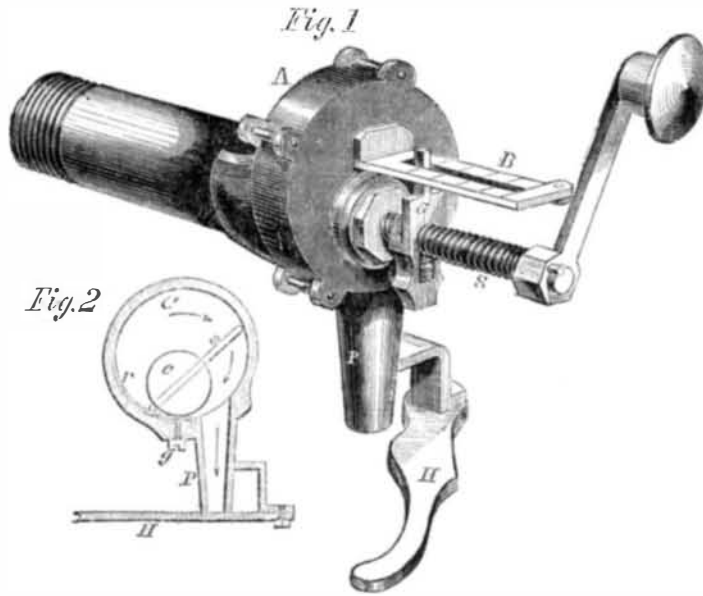
The improvement in the familiar operation of cutting cheese, which this apparatus is intended to secure, are ease and rapidity of movement, neatness of convenience, saving of waste, and accuracy of weight—advantages which grocers will appreciate.

The machine consists of a knife operated by a lever descending upon a revolving platform upon which the cheese is placed.

Fig. 1 gives a perspective view of the apparatus, and Fig. 2 exhibits the mode of operating the platform, *A*, is the common counter in a store, on which the revolving platform turns round a pivot at its center. The measuring scale, *D* is secured first on the counter, *A*. The flat rod, *e*, turns upon the pivot at the center of the platform, and has its outer end turned up at right angles to serve as an index which sweeps along the scale, *D*. Into the handle *C*, is firmly fastened the pin, *e*, which passes loosely through a hole in the bent part of the flat rod, *e*, and is held by an enlarged head this head is

formed into a screw, which, turning into the shoe, *E*, forces said shoe against the edge of the platform, *B*, thus enabling the platform to be rotated by means of the handle, *C*.

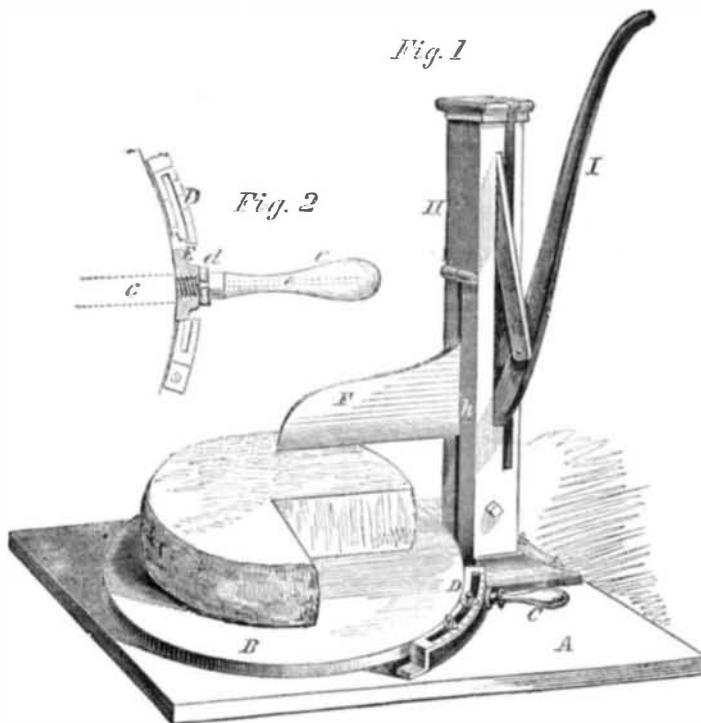
The knife, *F*, is fastened to a slide in the middle of the standard, *H*, said slide being connected with the lever, *I*, by means of the rod, *J*, so that the knife may



KINMAN'S IMPROVED MEASURING-FAUCET.

be brought down through the cheese by depressing the lever, *I*. The scale, *D*, is divided into 500ths of circumference of the platform, and has a slot with sliding indexes which can be set to any number of parts.

The plan of operation is as follows: Divide 500 by the total weight of the cheese, this will show the number of parts to be set off upon the scale with the sliding indexes to indicate one pound, two pounds, three pounds, and so on. Then by means of the platform-handle bring the cheese under the knife at the required point, and depress



STEVENS' CHEESE-CUTTER.

ing the lever, it will force the knife easily and smoothly through the cheese. The patent for this combination was issued on June 7, 1859, to DeWitt Stevens, of Newark, N. J., to whom application for further information in relation to it, or for machines, may be addressed.

One of these machines is on exhibition at the Fair of the American Institute.

It is only by labor that thought can be made healthy, and only by thought that labor can be made happy; and the two cannot be separated with impunity.

DEATH OF PROFESSOR NICHOL.

Another eminent man of science "has gone the way of all the earth." Professor John Pringle Nichol, of Glasgow College, died on the 19th of last month, in the 55th year of his age; and in his death the world has lost the most brilliant lecturer on astronomy that perhaps ever lived. He visited this country about 12 years ago, and delivered a course of lectures in this and other cities, and they were deemed the most captivating displays of science in the shape of popular lectures ever given in our country. His eloquence was of a very lofty order, as if he had been a traveler who had journeyed among the rolling spheres, had witnessed their stately marches through the boundless regions of space, and returned to tell us of the grandeur of the scenery and the majesty of the subject. He was a native of Brechin, in the north of Scotland, and when young, it is stated, worked for several years as a mechanic. Having a taste for science and literature, he educated himself, early became a fine scholar, and was for some time a school-master. Astronomy was his favorite study, and he soon acquired eminence as a popular lecturer and writer on this science. His "Architecture of the Heavens," the "Planetary System," and several other works, which have been re-published in our country, have rendered his name and acquirements familiar to our people. He did much to popularize astronomy, and he was ever active as a speaker and writer. As a man, he was highly esteemed for the kindly qualities of his heart and a cheerfulness of disposition which rendered him a most acceptable guest in every company. His arduous duties as a professor in Glasgow College, and the many labors which he was called upon to perform as a public lecturer and writer for scientific periodicals, operated too severely upon his constitution. He was overworked; his nervous system became deranged, and we find him cut off at 55 years of age, with no special disease but that resulting from an excess of mental labor.

MODE OF CASE-HARDENING WROUGHT AND CAST IRON.

Case-hardening is that process by which wrought-iron is first converted exteriorly into steel, and is subsequently hardened to that particular depth; leaving the central parts in their original condition of soft, fibrous iron. The process is of great importance in the mechanical arts, as the pieces combine the economy, strength, and internal flexibility of iron, with a thin coating of steel, which, although admirable as an armor of defense from wear or deterioration as regards the surface, is unfit for the formation of cutting-edges or tools, owing to the entire absence of hammering, subsequent to the cementation with carbon. Cast-iron obtains in like manner a coating of steel, which surrounds the peculiar shape the metal may have assumed in the iron-foundry and workshop.

The old agents used for case-hardening are animal matters, as the hoofs, horns, bones, and skins of animals; these being nearly alike in chemical constitution, and they are mostly charred and coarsely pounded. Some persons also mix a little common salt with the preceding.

The new method is to coat the article with a paste of prussiate of potash and flour, allow this to dry, then keep the metal in a clear fire until it becomes red-hot, after which it is plunged in cold water.

CURING FELONS.

MESSRS. EDITORS:—A recipe found in your valuable paper (sometime since and cut out for future use) was tried, viz., to cure felons on the finger by applying the spinal marrow of the ox on a piece of cotton rag, changing it every four hours; it quite successfully cured a felon on a lady's finger in this city. The writer feels quite grateful for the information. B.

Boston, Oct. 11, 1859.

THE AMERICAN INSTITUTE.—Although the Institute is known to the public principally through its annual fairs, it has a library of nearly 10,000 volumes for practical men. A list of works recently added to it will be found in another column.

The most valuable part of a man's education is that which he receives from himself, especially when the active energy of his character makes ample amends for the want of a more finished course of study.