

**Improved Piston-rod Packing.**

It is very annoying to an engineer to have the piston and valve rods leaking steam, and where the pressure is high and the motion rapid, as on the locomotive, it causes a great deal of trouble to keep the details adverted to in good working order. There is also a continual waste of steam occurring where stuffing boxes leak, which entails a needless expense. On low-pressure engines the leakage of the piston rod vitiates the vacuum, and is therefore to be guarded against. All these things are well known to engineers, and any thing which promises to obviate the trouble will be welcomed by them as well as by the proprietors.

In the engraving we have shown a new kind of self-acting packing, which is claimed to be the thing long sought. It is, in construction, two sets of rings—the outer one, A, of brass, and the two inner ones, B, of Babbitt metal; these rings break joint with each other as usual. They are fitted to the rod they are intended to work on, and have pins set in them so that they cannot change position.

These rings are contained in a shell, C (see perspective view), which is pierced with holes, D. The whole affair fits in any common stuffing box. The bottom of the shell, C, has recesses which allow the steam to blow through to the stuffing box. When this occurs it also enters the holes, D, and presses the outside ring together, thus causing it to clasp the Babbitt metal packing closely about the rings, and maintain a tight but easily-worked joint.

This invention was patented through the Scientific American Patent Agency on Sept. 5, 1865, by W. C. Conwell, of Scranton, Pa.; for further information address him at that place.

**Can Poison Occur and Poison Disappear?**

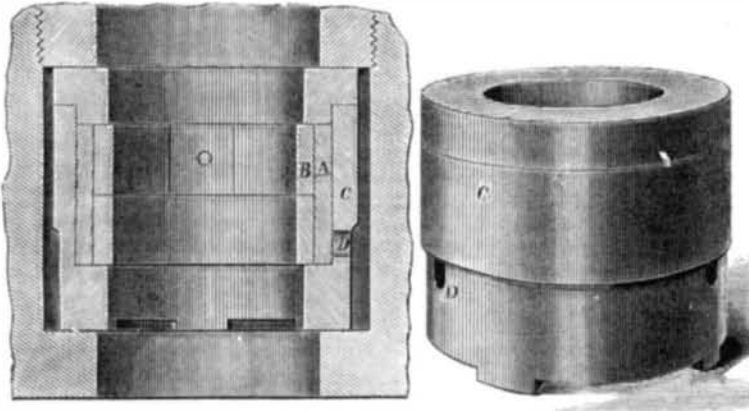
M. Tardieu is of opinion that a poison, almost in its totality, may be vomited and expelled the organism; but it is very rare, and nearly impossible, if the patient live, for a certain portion of the poison not to be absorbed and excreted so as to be detected by analysis in the excretions; it is also rare, if the patient die, for no portion of the poison to be detected in the various organs into which it would be carried by the circulation. The true question consists in asking: do traces of poison remain in the living body for a determinate period, or does the poison remain indefinitely in the dead body? On this last point the author states that mineral substances resist indefinitely, but they do not escape transformation; some are fixed in such stable combination that chemistry will always detect their presence. Others, on the contrary, by being rendered soluble, are exposed to the possibility of being carried away from the debris of the body in the process of decomposition. Ammonia, which is produced in putrefaction, is the basis of these combinations; but the slowness with which the combinations form, and the still longer time they require for their complete dissolution, under the ordinary conditions of burial, leave room to say that even after several years, and so long as any part of the body remains, chemistry can find the traces of mineral poisons in exhumed remains. Organic substances, or at least the greater part of those used as poisonous agents, notably the vegetable alkaloids, resist with remarkable fixity and for a very long period. At the same time science cannot say that the organic series are as fixed as the inorganic.—*Brit. and For. Med. Chir. Review.*

A new toy has been lately invented in France which bids fair to supplant the roseate balloons so eagerly acquired by children. It consists of a serpent composed of quicksilver, sulphur, etc., which, lighted by means of a common lucifer match and projected into the air, performs a series of marvelous evolutions. But against the glittering fascinations of this tempting

toy, the children of France are warned by an article in the *Courrier de la Moselle*, in which they are informed that while this flaming serpent whirls and meanders in the air it emits mercurial vapor of the most pernicious nature.

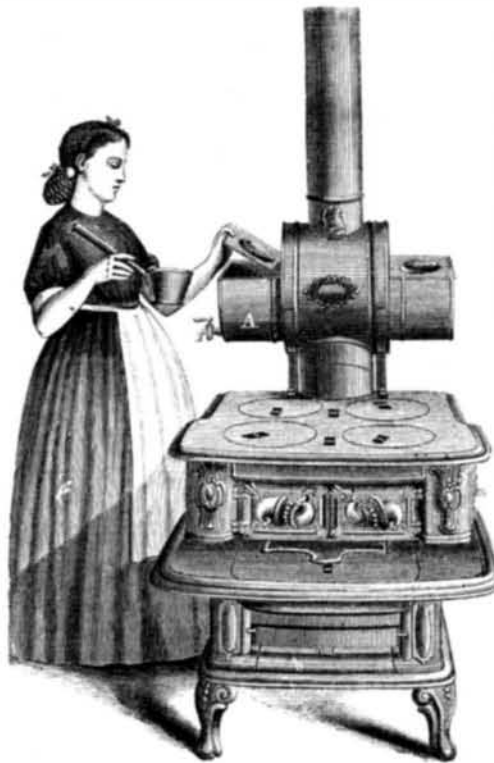
**BAUMEISTER'S WATER HEATER.**

Housekeepers know full well the convenience of having an ample supply of hot water at all times. They know also that the range or stove is sometimes needed for other purposes—such as cooking or ironing—and that there is no room to spare for heating water. In such emergencies the heater here shown

**CONWELL'S PISTON-ROD PACKING.**

will form a valuable auxiliary. By it hot water can be had at all times when there is any fire in the stove.

The arrangement consists in applying a vessel, A, to the stovepipe in such a way that the smoke and hot gases pass around it, thereby heating the water rapidly and without any waste of fuel; for the heat that is here utilized would otherwise escape without any benefit being derived from it. The stove is therefore available for any purpose whatever, as may



readily be seen. A faucet is provided at the lower side to draw off water in pails or other things too heavy to lift high.

This improvement can be applied to stoves now in use by sending dimensions to the inventor, John Baumeister, No. 278 Gratiot street, Detroit, Mich., by whom it was patented through the Scientific American Patent Agency on June 20, 1865.

In the engraving of Bett's branch-beam hilling plow, illustrated on page 246 of the current volume of the *SCIENTIFIC AMERICAN*, a round should have been shown between the two handles; the plows are not made without this round, and the omission of it was an oversight.

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