

A PATENT SAD-IRON HEATER.

The invention illustrated by the accompanying figures consists of a novel appliance to be attached to an ordinary fire-grate for the purpose of holding sad-irons while heating those impressing agents which afford mankind the enjoyment of unwrinkled linen.

Fig. 1

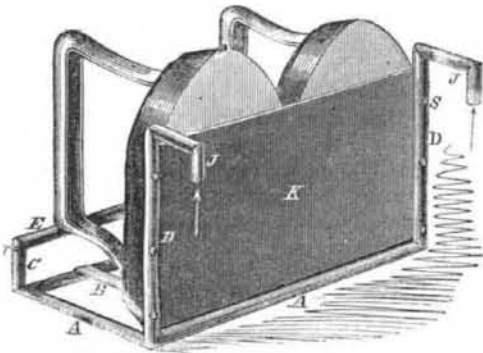
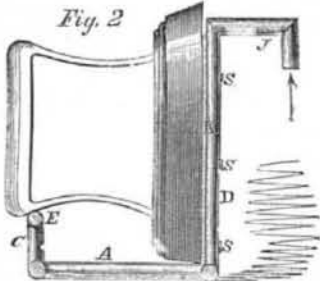


Fig. 2



A rack is constructed of hollow metal tubes of suitable strength and capacity, which are arranged in such a manner as to be hung to the top bar of an ordinary grate. Hot air is conducted through them from the fire, and heat is thus given out to the irons on the rack independently of the direct heat which they receive from the fire. A guard-plate is also provided for the rack to protect the irons from being burned or smoked. The metal tubes, A, forming the heating rack, are joined by metal slats, B, as shown in Fig. 1, which is supposed to be hung on the fire-grate, with two irons in it. C C and D D are the perpendicular tubes. E is a back longitudinal tube, on which the handles of the irons rest. All these tubes are connected together and with the catch tubes, J J, which hang upon the grate-bar. The mouths of tubes, J J, project down into the fire. K is a sheet of iron which passes crosswise from the two tubes, D D. It protects the bottoms of the irons from the flame and smoke, so that they are always maintained in a clean state, ready for use.

By the common method of heating sad-irons they frequently get dirty and smoky, and they thus require constant scouring; if this is forgotten to be performed, the clean linen is soiled and must be washed over again. This guard-plate is therefore a very useful contrivance. The hot air is conducted through the tubes, as shown by arrows, the sheet metal guard being attached by pins, S, passing through tubes, D D. No further description is necessary; the merits of this sad-iron heater will be at once appreciated by all good housewives and laundresses.

This contrivance is the subject of a patent, dated June 5, 1860, issued to W. J. Andrews, of Columbia, Tenn., whom persons desiring further information may address.

"THE AMERICAN PUMP."

This famous hydraulic engine (the invention of an ingenious mechanic, John Powers, of this city) was patented on April 5, 1859, and illustrated and described on page 296, Vol. XIV (old series), SCIENTIFIC AMERICAN. Since that period, however, the popularity of this water elevator has continued to increase, and the testimonials in its favor can now be counted by thousands; the latest of these is that of the reporter of the New York Express, who recently witnessed a practical exhibition of the powers of this pump, and who states as follows:—

"About a year since, after an examination of the above invention, we gave a favorable notice of it, since which ample time has been afforded to test its real merits, which we learn has been successfully done in almost every section of the Union. At the residence erected immediately upon the site of old Fort Independence, in South Yonkers (owned and occupied by W. O.

Giles, Esq., of the house of Andrews, Giles, Sanford & Co., 100 Chambers-street), one of these pumps has lately been put in operation. It is set in a reservoir. We visited the above locality for the purpose of witnessing the operation of this pump. While present, Mr. Edney and Mr. Giles measured the distance from the spring to the house, which was found to be 862 feet, and the perpendicular elevation was 158 feet. They then put the pump in operation, and through a 3/4-inch pipe (which was very much against the pump, being too small) they forced over 5 gallons of water per minute to the above distance and height. We have no hesitation in pronouncing it one of the most ingenious inventions in the way of hydraulics ever constructed. Those who have experienced a difficulty in getting water up into high buildings or to great elevations, at a trifling expense, will find in the 'American Pump' all they need combined, for it discharges at any number of given points, and throws water by hose from 30 to 60 feet by hand, with great ease and regularity."

We will only add that this excellent pump can be rigged so as to be driven, with great regularity and economy in many localities, by the improved windmill illustrated and described in another column of the present number, and that both these machines are manufactured and sold by James M. Edney, 147 Chambers-street, this city.

PATENT VALVE COCK.

Every improvement, however slight, in cocks for admitting and cutting off the flow of steam, gases or fluids through passages in pipes, is of great consequence, so great is the number used and so universally are they employed. A valve cock is useless unless it fits perfectly in its seat, so as to prevent leakage, and if not ground as to fit snugly, it is very troublesome. The accompanying illustration represents an improved construction of valve cock, which affords superior facility for grinding, which is often necessary to keep them in proper order, especially in the use of steam. The annexed description will explain the invention.



Fig. 1

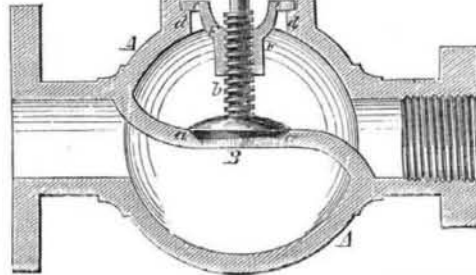


Fig. 2

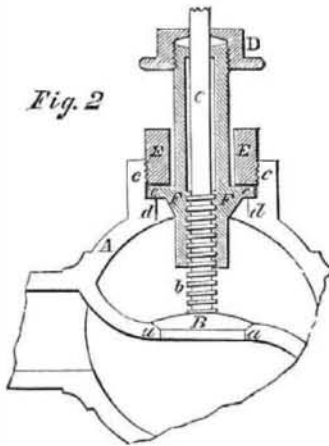


Fig. 1 is a full vertical section of the cock, and Fig. 2 is also a section similar in most all respects to Fig. 1, but the nut, F, is extended through cap, E, with the stuffing gland, D, fitted to it, which is a preferable arrangement in some cases. A represents the shell of the cock, having the valve seat, a a, constructed and arranged in the usual manner. B is the valve, having the

screw thread, b, on the lower part of its stem, C, and having its upper part fitted to a stuffing box, D, in the movable cap, E, which screws into a socket, c c, in the upper part of the shell, A. F is the nut in which the screw thread, b, on the valve stem works to open and close the valve. This nut is made with a flanch, e e, which rests upon a shoulder, d d, formed round the lower part of the socket, c c, and which is held down upon the said shoulder by the cap, E, being screwed down closely upon it. The lower face of the said flanch is ground to the shoulder, d d, so that it constitutes a packing to the cap, E, and protects its screw from the steam and water, and the exterior periphery of the said flanch fits snugly but easily into the portion of the socket, c c, below its female screw thread into which the male screw of the cap, E, is fitted. The external portion of the nut below the flanch, e e, may also be fitted snugly but easily into the lower part of the socket below the shoulder, d d. When the cap, E is screwed down tightly upon the flanch, e e, of the nut, F, and the said nut thereby prevented from turning, the turning of the valve stem by the hand wheel, G, opens or closes the valve by the movement of the screw thread, b, in the nut; but by increasing the cap, E, to the extent of a mere fractional portion of a revolution to liberate the flange, e e, from its pressure, the nut is left free to turn along with the valve stem, and the valve free to revolve in its seat for the purpose of grinding, and in the grinding operation the flanch, e e, of the nut, E, keeps the valve stem perpendicular to the seat or parallel with the axis thereof, and causes the valve to be ground perfectly true; and by unscrewing the cap, E, entirely out of the socket, c c, the valve and nut are permitted to be withdrawn together from the shell. The facility thus afforded for grinding the valve, it will be at once seen, is very great; as no wrench or screw-driver is required to be applied, unless it be to the cap, E, and thus, if the flanch, e e, be properly fitted to its seat on the shoulder, d d, it may be turned by hand. Besides this advantage, the cock consists of few parts and is of very simple construction.

A patent was granted for this improvement on the 12th of June last, to Messrs. R. Nickerson and A. B. Colton, of Athens, Ga., from whom more information may be obtained by letter.

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