

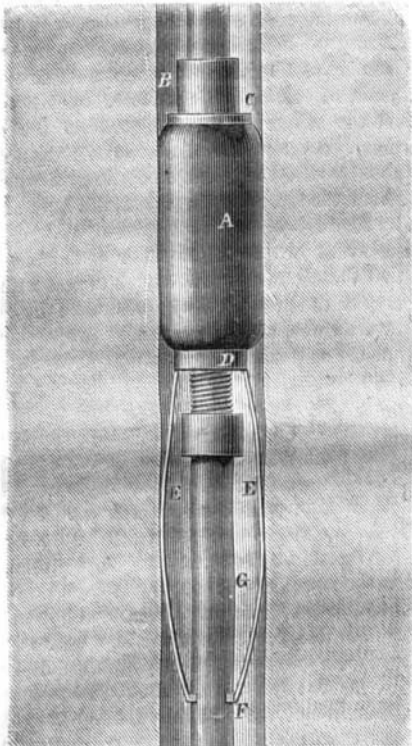
FOWLER'S PACKING FOR OIL WELLS.

The accompanying cut represents what is claimed to be a decided improvement, over the old fashioned "seed bag," for packing oil well tubes. More wells says the inventor, have been totally ruined, that would have yielded a handsome supply of oil with an effective packing, than have proved productive and paying wells by the use of leather and flax seed. With this contrivance, when tubing is to be moved, there is no long delay, no "spearing the bag," no getting leathers fast, nor the thousand and one other vexations and costly hindrances. A simple turn or so of the tubing, and all is free to be taken out or moved up or down at pleasure.

This packing supports the tubing at any point desired, and involves no necessity for perforating or resting it upon the bottom of the well. To loosen or tighten this packing, is but the work of a moment, and may be done with the hands.

The inventor claims that he has overcome the objections which attach the other modes of packing; and has, in fact, a reliable, labor-saving and money-saving well packing. By the following description its working will readily be understood.

A is an elastic substance surrounding the main tubing, B is the ordinary coupling, resting upon the washer C, their surfaces ground together and made water-tight, D is a loose nut, running upon a screw



thread cut on the main tubing. E E, are elliptic springs, dove-tailed or otherwise fastened to the sides of the loose nut D, and partially clasping the tubing at F, also pressing the walls of the well at G, thereby holding the loose nut firmly and preventing its rotation.

By rotating the tubing, from the top of the well, while suspended in the tackle, the loose nut D, is drawn up, expanding the packing and effectually filling the bore of the well.

This improvement is the invention of Dr. A. H. Fowler, of Ithaca, N. Y. for which patent issued Nov. 28, 1865.

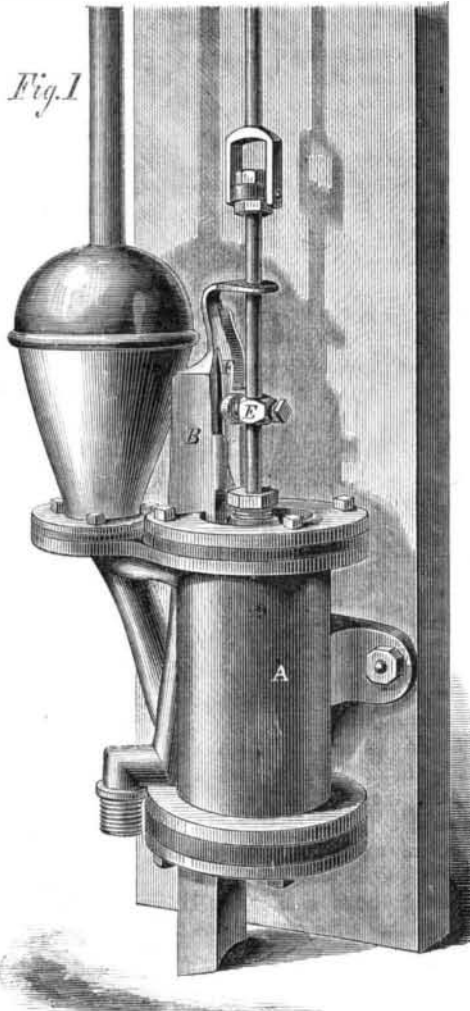
For further particulars, address Fowler and Mack, Ithaca, N. Y.

Clark on the Currency.

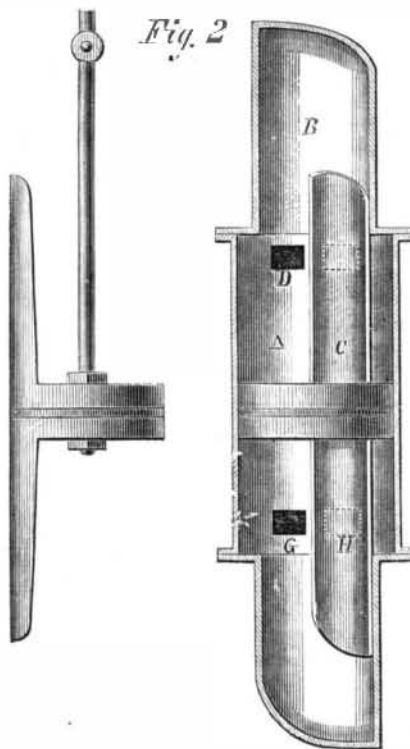
A very peculiar action on the part of the Treasury Department has lately been made public. The five-cent notes that were formerly adorned with the head of Washington are now disfigured with that of another person, said to be "Clark," of the Treasury Department, he who runs the presses and tends to things generally. What is the reason of this. If any one is chosen to supplant the father of his country, why not select a head with some historic value. Quite a number of persons have heard of Washington, but no one ever heard of Clark, or that he did anything to be entitled to public recognition. What is he on the currency for? Take him off!

BELLINGRATH'S PUMP.

This pump is peculiar in construction, having no valves, but in lieu thereof a piston with projecting flanges, which open and close the water passages alternately by working it up and down as usual.



In the perspective view, Fig. 1, one form of this pump is shown, and also the means used to operate the piston; the latter, be it understood, turns slightly in the coupling, but is fast on its rod, so that the flanges can open or close the water ports. It may be



so constructed, however, that the rod remains stationary while the piston turns slightly on it to accommodate itself to the work required.

The details are as follows:—The barrel, A, of the pump has two chambers, B, which extend above it and receive the flanges, C. These latter are formed solid on the piston, as shown in Fig. 2, and cover

the ports, D, through which the water enters. These ports are double, one set being clearly shown, while the others are in dotted lines. As the piston rises, the roller on the arm, E, projecting from the piston rod, follows the curved path, F, and causes the piston to move slightly on one side. This covers one set of ports and opens the other set, giving free entrance and exit to the water. Thus, in Fig. 2, the water that would be drawn in through the port, G, open at the bottom, would be discharged through the port, H—shown in dotted lines—when the piston changed its place by moving on one side. In Fig. 2 this movement is given by making the flanges themselves of such a shape at the ends that on striking the head of the chamber they move the piston in the manner previously explained.

This pump has been well and fully tested, and satisfies the expectations of the inventors. Having no valves it can be made to work in any position, and is claimed to be less liable to become inoperative than pumps with valves. Fig. 1 is a deep well pump, but it can be used for all purposes either above or below the water.

A patent was granted on Jan. 22, 1861, by Albert Bellingrath. Application is pending for improvements. Address, for further information, A. & L. Bellingrath, Cuthbert, Ga.

Agates.

The Reese River (California) *Reveille* says that about three miles north of Lone there is an isolated mountain, some five hundred feet high, which is called Agate Mountain. Its entire surface upon all sides, from summit to base, is covered with agates and concretions, and on digging into the soil they are found like potatoes in a hill. The agates are usually oval and sometimes globular in form, and varying from one to four inches in diameter, and are generally beautifully banded and striped. In the hands of a skilful lapidary they could be fashioned into pleasing ornaments. The various concretions are found in great abundance, and many of them are particularly beautiful. In their sphericity they are sometimes found as perfect as a ball, though generally the spherical shape is quite distorted. They are hollow and usually filled with crystals. On breaking them open their interior is often found to be irregularly hollow and lined around with a layer of quartz crystals, forming what is termed a geode—a "little crystal grotto." Some of these hollow concretions contain a smaller concretion inside, which rattles when shaken in the hand.

Segar Vessels not Perfect Yet.

Some time back, experiments were made at Havre with a little steam vessel constructed on the segar principle, but they were only partially successful. Since then various improvements have been made in the engines, and new experiments have also been instituted in one of the basins of that town. With two propellers a speed equal to 8.15 knots per hour was obtained, and the vessel was maneuvered with great facility. Screws are about to be fixed to the extremities, and experiments made with them in the Bassin Vauban, and afterward the vessel will take a trip to sea. On the whole, so far as can at present be judged, hopes are entertained that the new model will prove a success.

TOOL STEEL.—The great secret of working tool steel is strong hammering, and, in hardening, placing it under a powerful jet of water. Krupp's, or Naylor, Vickers & Co.'s steel tyres, after many thousands of miles run, requires a very strong and hard steel for turning. On the North London and other lines of railway, Mushet's "cyanogen steel" is found to possess these properties in a high degree, being, in fact, weldable, and yet capable of taking an edge of intense hardness and strength. Messrs. Naylor, Vickers & Co. themselves make a quality of tool steel, which, although the price is high, is held in great favor by locomotive engineers who have steel tyres to turn.—*Engineering.*

It is stated that the British Government has dismissed Captain Cowper Coles from his office of superintendent of the equipment of turret ships. It will be remembered that Captain Coles claims to have invented this kind of naval battery.