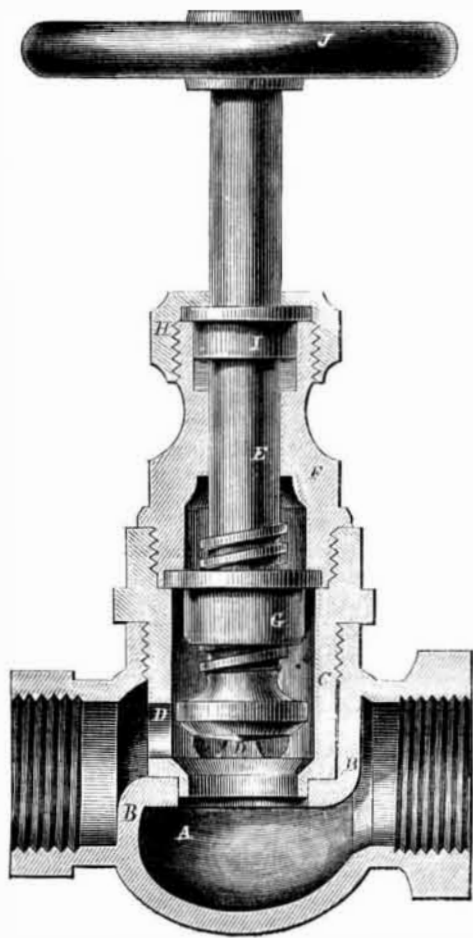


STIERLE'S IMPROVED GLOBE VALVE.

It is difficult with the ordinary globe valve to re-seat the valve when worn, as any revolution of the hand wheel—and consequently the valve—forces the latter to its seat. If the valve is to be ground to place, the globe or case must be removed, a work sometimes of difficulty, or, at least, of inconvenience. The valve shown in the engraving has an independent seat and an adjustable nut, by which the grinding of the valve to its seat may be effected without disconnecting the globe coupling from the ends of the pipe.



In the engraving, A represents the connecting shell or globe, threaded at each end to receive the pipes, and having a diaphragm or partition, B, as usual. Seated in this shell by a thread, is the valve seat, C, which has a number of openings around its lower end, as seen at D. The valve stem, E, threaded as usual, passes through the hub, F, which screws into the valve seat, C, at its top. The nut, G, rests by its collar on the shoulder of the valve seat, C, and is prevented from turning with the valve stem by projections on the bottom of the hub, F, fitting into corresponding slots in the flange of the nut, G. The valve stem is packed in the usual manner by a cap nut, H, and a gland or follower, I. The valve is turned, as usual, by a hand wheel, J.

From the foregoing description of the parts the operation and the advantages of this valve can be readily understood. When in use its action is precisely like that of the ordinary globe valve, but its main advantages are more perceptible when the valve is to be re-seated or ground. As will be seen, the valve seat, with all its connections, may be removed, and by unscrewing the hub, F, sufficiently to disengage the snugs on its lower end from the slots in the flange of the nuts, the valve stem may be revolved to seat the valve, the globe or shell remaining as a connection between the pipes. A new valve seat, or new valve can be put in place of an old one without sacrificing the other portions. This style of valve is peculiarly applicable to those of cast iron with brass mountings.

It was patented through the Scientific American Patent Agency, Oct. 2, 1866. For further particulars and for rights to manufacture, address Charles Stierle, 520 Vine street, near 15th, Cincinnati, Ohio.

A New Process for Preparing Anatomical Specimens.

Dr. Brunetti, of Padua, who received a gold medal at the Paris Exhibition, has generously communicated to the international Medical Congress the following particulars of his valuable invention. The process comprises four several operations, viz: 1, the washing of the piece to be preserved; 2, the *dégraissage*, or eating away of the fatty matter; 3, the tanning, and 4, the desiccation.

1. To wash the piece M. Brunetti passes a current of pure water through the blood vessels and the various excretory canals, and then he washes the water out by a current of alcohol.

2. For destroying the fat he follows the alcohol with ether, which he pushes, of course, through the same blood vessels and excretory ducts; this part of the operation lasts some hours. The ether penetrates the interstices of the flesh, and dissolves all the fat. The piece, at this point of the process, may be preserved any length of time desired, plunged in ether, before proceeding to the final operations.

3. For the tanning process M. Brunetti dissolves tannin in boiling distilled water, and then, after washing the ether out of the vessels with distilled water, he throws this solution in.

4. For the drying process Dr. Brunetti places the pieces in a vase with a double bottom filled with boiling water, and

he fills the places of the preceding liquids with warm, dry air. By the aid of a reservoir, in which air is compressed to about two atmospheres, and which communicates by a stop-cock and a system of tubes, first to a vase containing chloride of calcium, then with another heated, then with the vessels and excretory ducts of the anatomical piece in course of preparation, he establishes a gaseous current which expels in a very little time all the fluids. The operation is now finished.

The piece remains supple, light, preserves its size, its normal relations, its solid elements, for there are no longer any fluids in it. It may be handled without fear, and will last indefinitely. The discovery is a magnificent one, and the sooner medical schools are provided with full cabinets of natural and pathological pieces the better.

Can a Name be Signed Twice Alike!

A very interesting will case is now going on in Massachusetts. Miss Robinson claims, under a bequest, the property of her aunt, Miss Howland, valued at several hundred thousand dollars, and produces a will, and a subsequent declaration confirming and explaining the will. This declaration bears signatures exactly similar to the will, and the defence claim that they were traced from the undoubted signature to the will, and that they are too exactly like that signature to be genuine. This is the sworn opinion of several experts. Some of them testify to having discovered signs that the doubtful signatures were first written with a lead pencil and afterwards with pen and ink. Professor Agassiz swears that he is unable to detect such signs with a microscope; other experts testify that such close resemblances between signatures of the same person written at different times are not impossible or novel, and that it is precisely in such a cramped handwriting as Miss Howland's that they are to be looked for. Professor Pierce was called in as authority upon the doctrine of chances. He said:

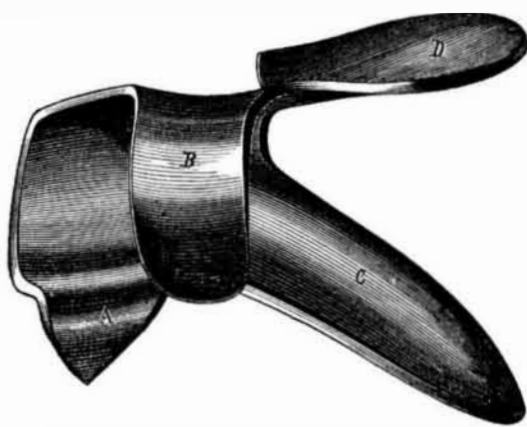
"In the case of Sylvia Ann Howland, this phenomenon—the exact coincidence of signatures—could only occur once in the number of times expressed by the thirtieth power of five or more—exactly, it is once in two thousand six hundred and sixty-six millions of millions of millions of times or 2,666,000,000,000,000,000,000,000. This number far transcends human experience. So vast an improbability is practically an impossibility. Such evanescent shadows of probability cannot belong to the actual life. They are unimaginably less than the least things which the law cares not for. The coincidence which is presented to us in this case cannot therefore be regarded as having occurred in the ordinary course of signing a name. Under a solemn sense of the responsibility involved in the assertion, I declare that the coincidence which has here occurred must have had its origin in an intention to produce it."

This view is strengthened by the fact that the signatures to the will and to the declaration were not written on ruled lines, which makes an exact coincidence still more improbable.

A minor, but important question related to the comparative excellence of the Globe and Voigtlander lenses. The principal expert on one side used one, the principal expert on the other side used the other.

ROBINSON'S CORN HUSKING SHIELD.

Although envious machines have attempted to annihilate the joyous scenes of the corn husking frolics, yet most of the maize grown in the country is still, probably, husked by hand.



It is hard work and trying to the toughest hands. The engraving represents a shield to be worn on the thumb for facilitating the operation of husking. It is made of a piece of sheet brass or steel, cut to shape and bent to form. The point, A, is intended to split the husk; the strap, B, envelops the thumb just back of the first joint; C is a curved brace fitting the base of the thumb on the inside of the hand, and D, is the portion covering the opposite upper portion of the thumb. Its manner of use can be readily understood from this description. It was patented April 16, 1867. For further particulars address A. C. Robinson & Co., Louisiana, Pike county, Mo.

The Way to Health.

The only true way to health is that which common sense dictates to man. Live within the bounds of reason. Eat moderately, drink temperately, sleep regularly, avoid excess in anything, and preserve a conscience "void of offence." Some men eat themselves to death, some drink themselves to death, some wear out their lives by indolence, and some by over exertion, others are killed by the doctors, while not a few sink into the grave under the effects of vicious and beastly practices. All the medicines in creation are not worth

a farthing to a man who is constantly and habitually violating the laws of his own nature. All the medical science in the world cannot save him from a premature grave. With a suicidal course of conduct, he is planting the seeds of decay in his own constitution, and accelerating the destruction of his own life.

JARECKI'S LUBRICATING CUP.

The engraving presents a sectional view of one of the best and most effective cups for introducing oil to the steam chest or cylinder of the engine we have yet seen. It is perfectly simple in construction and exact in operation. It is adapted either to oil or tallow, and is constructed to prevent all back pressure from the engine. The cup, A, has a perforated bottom through the holes of which the oil or tallow reaches the reservoir, B. Rising in the center of this reservoir is a hollow cylinder, with perforations seen at C.

The stem, D, passes through this cylinder having a stop-collar, E, on it and a piston, F. This piston fits, airtight, a bore through the stem of the reservoir, B, which at its lower end receives a valve or plug, G, having a spiral spring which bears at one end on the shoulder of the stem, H, and at the other end on the shoulder or flange of the valve plug, G.

The handle, I, is of wood and by raising it the lubricating material which has percolated into the reservoir, B, is allowed to pass down through the passage in which the piston, F, works,

which is raised so that its lower edge is above the apertures, C. The act of raising the knob, I, and piston, F, creates a vacuum in the passage and the valve, G, closes the aperture between the steam chest and oiler, so that no steam can pass into the latter from the former. By pressing the valve stem down, the oil is forced into the steam chest in the same manner as the action of the air pump, the head of the valve, G, which rests on the projection, H, having cross scores on its under side for the passage of the oil or lubricant. The end stem, J, screws into the steam chest.

The valve is made of hardened steel, and the lower end of the stem is also faced with hardened steel, which prevents wear. This lubricator was patented through the Scientific American Patent Agency, Aug. 6, 1867.

For further information address H. Jarecki & Co., 89 East Ninth street, Erie, Pa., who are the sole manufacturers.

PRODUCING A VACUUM IN GUNS BEFORE FIRING.

A correspondent, Owen Redmond, of Rochester, N. Y., says that he constructed a smooth bore musket in which he produced a partial vacuum the amount of which was indicated by an index attached to the barrel for that purpose. It varied from one to two pounds per square inch and required, to produce it, at least half a minute, a sufficient objection to its practicability in action. The result was highly satisfactory in regard to the increased power of penetration. Mr. Redmond thinks it might be applied to the firing of heavy guns, he having a plan by which fifty can be exhausted of air at once.

D. G. Smith, of Carbondale, Pa., says he produced vacuums in guns six or seven years ago, by pasting a piece of paper over the muzzle and exhausting the air from the barrel by an air pump through a small cock near the muzzle. He also speaks of the increased penetration of the missile and the lessening of the recoil.

Advantages of Advertising.

The following paragraphs of letters ordering a continuance of advertisements in the SCIENTIFIC AMERICAN, were received one day last week:

J. H. Bodine & Co., Mount Morris, N. Y., say, "We have found by experience that every dollar spent in advertising in the SCIENTIFIC AMERICAN is worth more to us than \$10 spent in advertising in any other journal in the United States."

C. J. FAX, Camden, N. J., says, "I intend to keep my advertisement going in this wide-world paper. I am quite sure that 70 per cent of inquiry letters to me say: 'I see your advertisement in the SCIENTIFIC AMERICAN,' and I presume 10 to 20 per cent more, see the same but do not mention it. Fair wind and plenty of it for the SCIENTIFIC AMERICAN."