

Improved Patent Valve for Canal Locks.

This invention, which the plans, sections, and projections accompanying fully explain, is intended for canal locks, admitting the water by which the boats are transferred from one level to another. It is hung in a rectangular wooden frame, which is represented as broken off in the cut for convenience, upon journals which pass through boxes provided for their reception, let into the frame before mentioned. The body of the valve is of wood, confined in a frame of iron, for such the various heads and seats composing the invention form; the distinguishing feature of the valve is the arrangement of the bearing edges or seats, which are struck from the center of the valve by bevelling, through which device the areas of the valve are rendered unequal, while the weight of it upon the journal is the same on both sides, the upper and lower edges of the seat remaining parallel; this method of construction gives a greater surface upon the pressure side, indicated by the arrows, and as a consequence it is opened more easily.

Fig. 1 is a plan of the valve in section; in it A represents the wooden portion, B the iron heads which traverse the ends, and C the iron edges or seat; upon the rectangular frame, *a*, are the bearings, *b*, which support the whole apparatus, and contain the journals, *c*. The heads, B, spoken of previously, are secured to the valve by the screw bolts, *d*, and also by the shaft, *e*, which passes entirely through from end to end of the journals; the T-shaped irons in the frame being merely fastenings. Fig. 2 is an end section of the frame and its fittings, and shows the rebated cleats, C, which form the valve seat; the relations of the cleats and edges of the valve being so analogous that they have similar letter of reference. Fig. 3 shows the valve in place and the direction of pressure by the arrows; the projecting elbow being the part to which the operating rod is attached for opening and closing. Fig. 4 represents a perspective view of the valve and all its attachments, except the rod spoken of, the same letters referring to like parts; A being the wooden body, B the iron heads which confine the same, *e* the screw bolts which hold the heads in their places, and C the iron edges or seats of the valve which make the water-tight bearing against the rebated cleats, C, bolted on to the rectangular frame in which the valve is suspended, the small mortise holes in the body being made for the insertion of the nuts which screw on the bolts, *e*. In the end of the journal will also be seen the end of the shaft which was mentioned as running through and through. By means of the device of the beveled edges, therefore, and the greater area obtained through them, the inventor claims greater convenience and ease of operation, and by the employment of the wooden body with the iron attachments, strength and lightness are secured. Mr. George Heath, of Little Falls, Herkimer county, N. Y., is the inventor, to whom the right was secured, through the Agency of the Scientific American, on July 1, 1862.

SEVEN thousand men are now busy in completing the iron-clads in and around New York city. In addition to these, ten first-class foundries have all their men engaged upon the machinery and turrets, while the ordnance shops in the country are preparing the armaments.

VALUE OF LITTLE PATENTS.

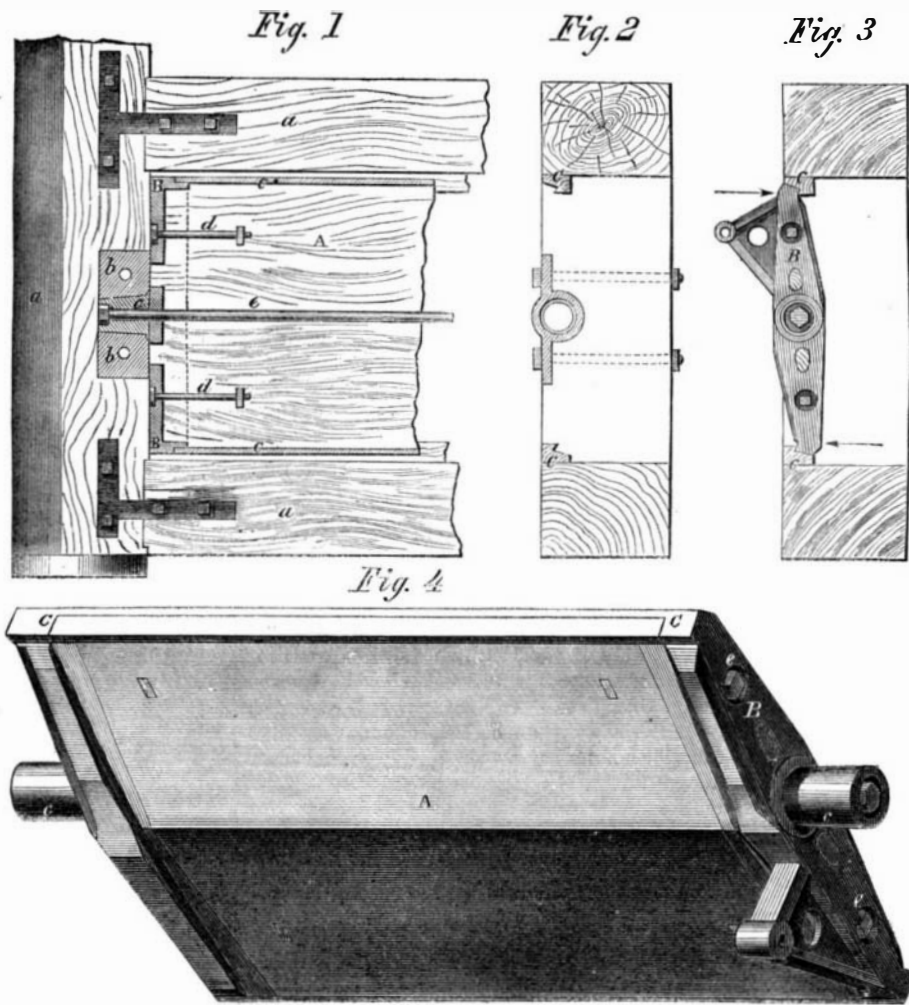
Our readers will remember the engraving of Harvey Brown's patent lamp chimney, which was published on page 240, present volume, SCIENTIFIC AMERICAN. Immediately after its publication the inventor was beset by applicants for the purchase of the patent, and a day or two ago he called upon us with a roll of bills for quite a sum which he had just received from the lucky purchaser of his patent, and besides he informs us he is to receive a handsome tariff on every article made. Who can say that little patents do

face of the instrument, after which the blank piece is folded together so that the edges are brought directly opposite each other. Fig. 1, represents the view of the sharpener at work; the pencil is inserted at the hole *a* and then pushed down until it comes in contact with the edges, *b*, Fig. 2, before spoken of, these constitute cutters, which, as the pencil is revolved, wear away its surface. Fig. 3, shows most clearly the operation of the cutting edges, *b b*, and otherwise explains itself. The whole affair is quite tasty and adapted to the end desired; good tools are always in demand, and the moral effect of a well-sharpened pencil must have its weight in the work to be performed.

Patented by A. C. Funston, Kensington, Philadelphia, to whom all letters should be addressed.

A Flying Peace-maker.

William Fields, of Wilmington, Delaware, informs us that he has invented a "Flying Peace-maker" for the destruction of iron-clad ships of war, which he declares no iron-clad vessel can withstand, so powerful will be the shock. He can operate it directly from the deck of the *Monitor* or any other iron-clad ship. The best part of it is, he can rig, as he asserts, two or three vessels in less than a week with but trifling additional expense. It can also be used against forts or an army on land with good effect. Mr. Fields writes us that he will soon be in New York to show us his wonderful discovery. We shall be happy to see him, and doubly so if the discovery is anything like as important as he announces it to be. We want something that will do the work in a short, sharp and decisive manner, and we trust it may not prove to be another Crimean panatechner.

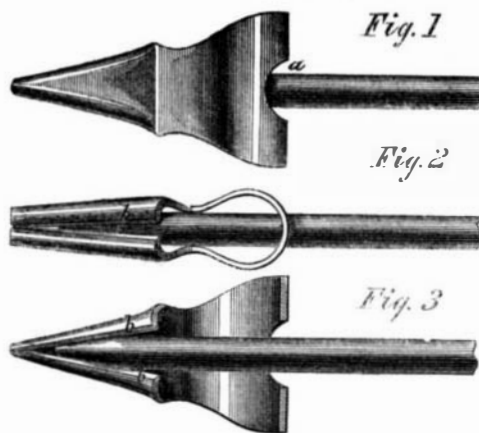


HEATH'S PATENT VALVE FOR CANAL LOCKS.

not pay? Patents on small articles for which there is a great public demand always prove remunerative to the owner.

FUNSTON'S PENCIL SHARPENER.

We here illustrate one of those neat and convenient little inventions for which our countrymen are already famous—a device for sharpening slate pencils. Children's teeth are set on edge by the repeated



gritting, and grinding, which attends the important operation of getting a nice point on the instrument in question; to prevent this, and the spoiling of penknives, this invention was made. It consists of a single piece of sheet steel cut out blank from the material; the two sides of each end are then doubled over so that the edges form an oblique angle with the

THE POLYTECHNIC ASSOCIATION.

On another page will be found a report of the proceedings of the Polytechnic Association, on the evening of October 23d, and it will be seen that the report is unusually long. This is owing to the fact that the discussion was of more than usual interest. It so happened that the inventions presented to the notice of the Society either had been recently illustrated in our paper, or were so simple that they could be made intelligible without engravings, and they were all of public interest. Mr. Knight's experiment with his improved process of electrotyping particularly attracted the attention of the meeting.

India-Rubber Pen Rack.

An improved article of a pen rack has been laid upon our table by Mr. O. P. Smith, of No. 519 West Twenty-third street, which seems to us the best article for the purpose we have ever seen. It consists of a disc of india rubber confined between two brass plates, and has niches cut in its edge of various widths, into which the pen handle or pencil is inserted, the elastic nature and peculiar surface produced on the cleanly-cut rubber, retains the pens in their positions. The disc is not fastened rigidly to the standard, but revolves upon it, so that all parts are easy of access. The base is of marble and the whole affair presents quite an ornamental appearance.

A STEEL suspension bridge of one hundred yards span is now undergoing the scientific test at Birkenhead, England. The steel used in its construction stood the handsome test of seventy tons per square inch of tensile strain.