

NEW INVENTIONS.

Mr. George T. Manley, of Canton, N. Y., has patented a vessel for containing viscous substances, simply constructed and so arranged that any desired quantity can be drawn off conveniently without opening the lid of the can, and which also prevents the formation of a skin or crust on the top of the substance, and excludes dirt therefrom. The can has a delivery aperture at its lower part which is closed by a slide or gate. A follower or piston is placed in the upper part of the can, and a rod passing therefrom through the lid is provided with a knob. The slide being opened, pressure on the knob causes the viscous substance to flow out. The can is well adapted to holding printer's ink and analogous substances or mixtures.

Mr. Charles de Vauréal, of Paris, France, has patented a process for extracting gold and silver from their ores, more especially ores containing sulphur, arsenic, and antimony, by which the extraction can be performed at low cost, and the difficulties heretofore pertaining to the reduction of this class of ores are claimed to be so far overcome that the quantities of gold and silver extracted are equal to, or even greater than, those obtained by fire assay. The arsenic is first eliminated by treating the ore at a dull red heat with hydrogen. The ore is next roasted to oxidize the copper, which is removed by sulphuric acid. Lastly, the antimony is removed in the form of a chloride by the action of hydrochloric acid.

Mr. William W. Mallory, of Holland Patent, N. Y., has patented a hand force pump for sprinkling plants, washing windows and carriages, and other uses, and so constructed that it carries the overflow back to the reservoir. It is a very simple, ingenious, and convenient device.

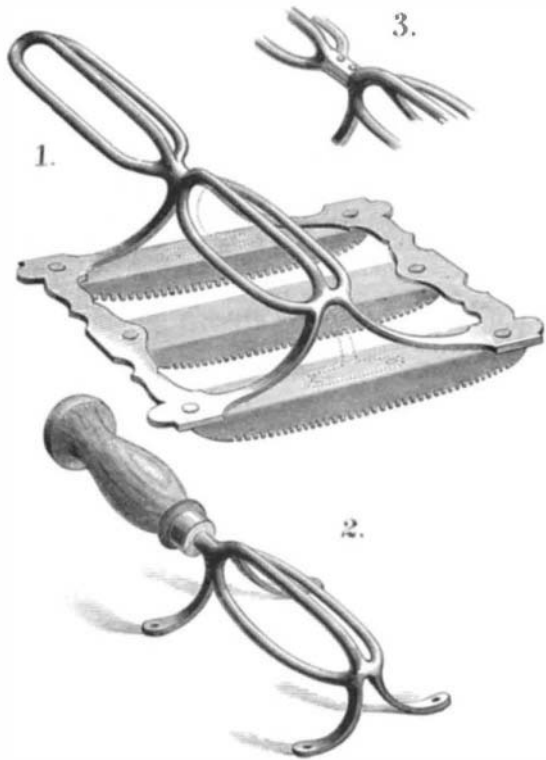
Mr. Dwight Burdge, of Battle Creek, Mich., has patented a folding writing desk which is simple in construction and can be folded very compactly. The invention consists in the novel construction and combination of parts whereby a hinged case or paper and envelope receptacle is held in an upright position on a folding table top when the latter is adjusted horizontally on the two pairs of crossed and pivoted legs, so that one pair of which the table-top is itself hinged so that it may fold between the legs when the desk is closed.

Messrs. Rafael Martinez and John Petry, of New York city, have patented an extension bath tub, which is simply constructed, occupies little space, and can be easily extended. It is contained in a box provided with an extensible part which can be drawn out to lengthen the tub when required, and pushed back when the tub is not in use. It is also provided with a pump which can be used for transferring the water to a bucket in emptying the tub.

IMPROVEMENT IN CURRYCOMBS.

The improvement shown in the engraving relates mainly to the handle, which is made wholly or in part of malleable iron, and is formed so as to afford two places for the hand, one immediately over the back of the brush, and the other projecting over the side of the brush.

The handle, although of a single casting, has the appear-



IMPROVED CURRYCOMB.

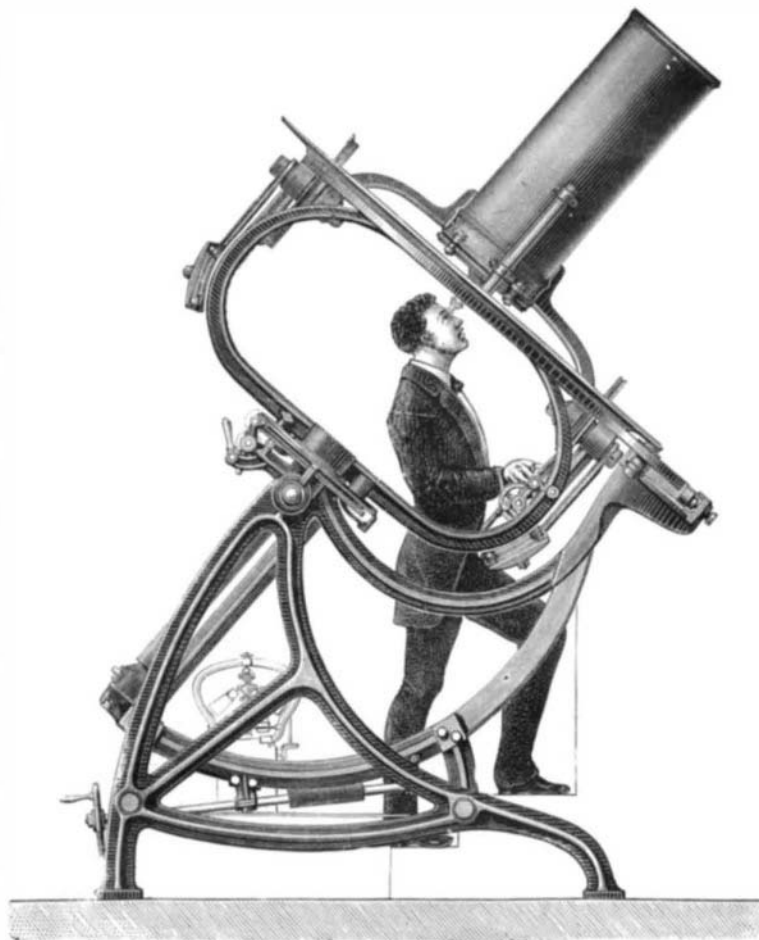
ance of being made of wires curved so as to form a light yet very strong handle. The handle shown in Fig. 1 is made of a single piece, that shown in Fig. 2 is made partly of wood, and Fig. 3 shows the iron handle made in two parts, fastened together with rivets.

This device is the invention of Mr. W. P. Kellogg, of Troy, N. Y.

NEW TELESCOPE OF SHORT FOCUS.

We represent herewith a new telescope devised by M. Leon Jobert, the able director of the Popular Observatory at the Trocadero, Paris.

This instrument is like the Cassegrainian telescope in form, and is of short focus, its parabolic reflector being only half the focal length of those of Foucault. It is of variable latitude, or, in other words, may serve for all points of the globe. In order that the observer may, without changing his position, be able to sweep the whole heavens above the horizon, the ocular is located at the intersection of the polar



M. JOBERT'S NEW TELESCOPE OF SHORT FOCUS.

axis with the axis of declination. The sides of the tube are furnished with two supports, which are jointed around the horary axis, and pass through two other large supports that form a part of the last-named axis, and that are connected with each other by a turned circle moving over two large rollers. This circle is made very solid by a wide open-work backing, and both the latter and the circle are open in such a way as to allow the body of the telescope to pass when the instrument is directed toward stars which are at the celestial equator or near the southern horizon. The body of the telescope is balanced by two weights whose supports are fastened to the axis of declination. The polar axis passes through a journal box, whose two extremities are held in the upper ends of the two large cast iron sides forming the main frame. The cast iron cross-stays which connect the two sides of the frame are provided with a couple of projections which carry an arc, against which the large arc may slide with slight friction. The latter is firmly united at one of its extremities with an arm which descends from the journal box and supports the bed plate, on which rests the lower end of the polar axis; and its other extremity is connected with another arm which likewise starts from the journal box and forms, by branching laterally, the bearings which carry the two rollers on which the turned circle revolves through the action of the clock which causes the diurnal motion. The clock is regulated by a regulator which is plainly visible in the annexed figure.

By means of a hand wheel the instrument may be fixed at the latitude of the locality where it happens to be placed, in such a way that the prolonged polar axis is parallel with the axis of the earth and points to the celestial pole. The instrument is furnished with a polar circle and a circle of declination with verniers that are moved by endless screws. In the figure the observer is represented with his hand on the hand wheel, which actuates at the operator's will, either rapidly or very slowly, the axis of declination. The clockwork movement is transmitted by bevel wheels and an axle, to a wheel which revolves loosely on the axis of latitude formed by the bearings of the large arc; and from this point motion is transmitted to the axis of the endless screw, and from thence to the endless screw which actuates the polar axis. With this instrument the observer can sweep every point in the heavens without changing his position, the only change he makes in the latter being that of moving with the instrument, which makes one complete revolution every twenty-four hours.—*La Nature*.

By adding phosphorescent material to printer's ink, it is said that books and papers can be made legible in the dark. A luminous newspaper is proposed at Turin.

A Project for the Year 2000.

Lake Mackenzie is one of those "possibilities of North America" recently suggested. The lake would result from a proposed closing of the northerly outlet of the valley of the Mackenzie River, at the line 68° north, and storing up the water of 1,260,000 square miles. And to this could be added the water of other large areas. It would be a lake of about 2,000 miles in length by about 200 of average width. Its surface would have an altitude of about 650 feet above sea level. It would cover with one continuous surface the labyrinth of streams and lakes which now occupy the Mackenzie Valley.

It would be a never failing feeder for the Mississippi. It would connect with Hudson Bay and with the "great lakes," and also with the interior of Alaska by connecting with the Yukon and its affluents. By concurrent results and other "possibilities" it would become, during some months of each year, a navigable water, adding not less than 12,000 miles of communication to the Mississippi. It would complete the interior lines of river courses by connecting them. Cutting the "divide" which now exists between the Mississippi and Mackenzie would do this. This work is small when measured by its results, and it becomes easy of accomplishment under the methods proposed. The connecting of the Upper Mississippi with the proposed Lake Mackenzie would be easily made if that lake had a surface at the proposed altitude of 650 feet above the sea. The outflow from such a lake, having a length of more than 2,000 miles from south to north, and draining a very wide range of altitudes and latitudes, would be a timely and enduring one. This lake would make possible and easy the straightening of the Lower Mississippi. It would also contribute to the proposed ship channel from Cairo, Ill., to the Gulf of St. Lawrence, by the almost straight line which cuts the Wabash Valley, the Lakes Erie and Ontario, and the Lower St. Lawrence. This commercial channel, receiving all the waters converging at Cairo, would complete the demand for a constantly open ship channel from the St. Lawrence to the sea by way of the Strait of Belle Isle. That demand can be complied with, and the shortest and best line of communication can be thus opened between the interior and the seaboard.—*St. Louis Republican*.

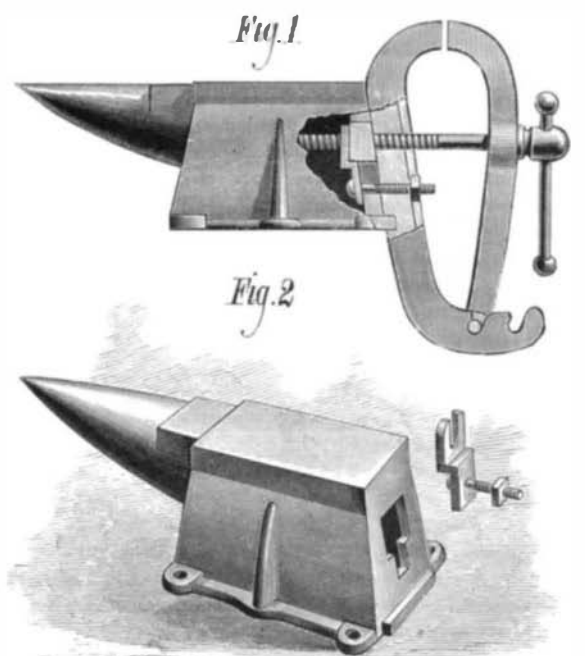
Opium in San Francisco.

There are said to be 400 places in San Francisco where opium is sold, and many of them are said to average \$75 a day. If such is the fact the sale of this fatal drug in the United States must be enormous, and with the influx of Chinese to this country, it would seem that before long some national legislation will be necessary to control the sale of this delusive drug.

COMBINED ANVIL AND VISE.

A handy tool for the use of blacksmiths and other mechanics, as well as for farmers and others who occasionally require conveniences for working in iron, is shown in the annexed engraving. It consists of a combined anvil and vise, the former forming a very solid foundation for the latter.

Fig. 1 shows the combined tool complete, and Figs. 2 and 3 represent the anvil and the clamp which retains the vise. The anvil is recessed to receive the nut of the vise and the clamp which retains it. The nut is allowed to remain in the anvil when the vise is removed.



COMBINED ANVIL AND VISE.

The vise is of improved construction, which permits of quickly adjusting the movable jaw so that the two jaws are parallel. This is accomplished by means of notches opening outwardly and upwardly in the forked lower end of the fixed jaw, the movable jaw having a pivot adapted to the notches.

This invention was recently patented by Mr. A. L. Adams, of Cedar Rapids, Iowa.