

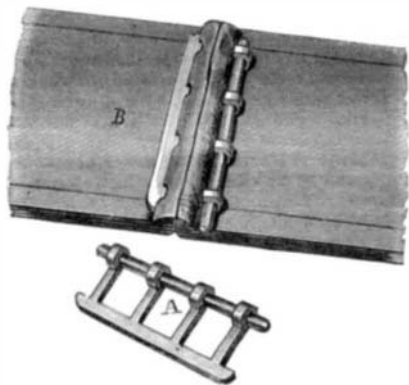
DEVICE FOR PERFORATING CIGAR ENDS.

The engravings represent a device for perforating that end of the cigar which is placed in the mouth, for the purpose of insuring a draft through the cigar, and for obviating the necessity of cutting off the end, which is apt to cause the wrapper to unroll much to the annoyance of the smoker. Fig. 1 shows the contrivance in perspective, and Fig. 2 in section. The base, A, is a block of wood or metal, or of any other suitable substance, in which are pivoted needles or spikes, on each of its sides, whether four or less. Sliding in a central, vertical recess is a movable block, B, which, after being depressed, is lifted back to place by the spiral spring, C. This movable block has a recess conforming to the shape of the uncut end of a cigar, as seen in Fig. 2. By placing the cigar in a vertical position in the sliding block, B, and pressing down upon it, the needles, D, in Fig. 2, are forced in and pierce the cigar, when they are withdrawn by the release of pressure. The recess in the movable block or piston holds the cigar end in shape and prevents splitting or breaking. This device was patented July 2, 1867, by Oliver Guinand, who may be addressed relative thereto at Vicksburg, Miss.

IMPROVED CLASP FOR MACHINE BELTS.

Sewing, cementing, and riveting belts have each their disadvantages: the stitches of sewing and the heads of riveting wear away, and oil and moisture are inimical to cement. The engraving, however, shows a simple clasp that appears to be open to none of these objections. It is so secured to the belt that no portion of it comes in contact with the pulley face, and therefore cannot wear. The clasp is seen at A, and is of two parts—a frame and coupling rod or bar. It may be made of brass, iron, or any tenacious metal, and can be punched from sheets by machinery, the ends of the arms being turned to form eyes either circular, square, or oblong, for the reception of the locking or coupling rod.

The manner of its application will show one of its advantages—that of durability. The ends of the belt are properly squared, the holes made for the reception of the arms or tongues; the two ends of the belt are then placed with their inside surfaces together, and the tongues passed through, and the coupling rod inserted through the loops. The belt is



then straightened, when the edges of the belt will rise and form a ridge turned nearly at right angles to the belt, as seen at B, by which means the clasp is, in a measure, imbedded in the belt, or rather kept from the face of the pulley by the tongues being passed through the projections of the belt. The locking rod may have on one end a spur to engage with the outside of the belt and prevent it from working loose.

Patented Nov. 20, 1866, by Kromer & Ohlemacher, Sandusky, Ohio, who will reply to all communications upon the subject.

Manufacture of Our Small Coins.

The following from the Philadelphia Ledger, in connection with the article in our issue of August 17th, on Nickel, will be read with interest:—

“The one and two cent coins now made at our mint, are of bronze, and do not contain nickel, as many persons suppose. The three and five cent coins are of an alloy composed of one-fourth nickel and three-fourths copper, and these latter coins are government promises to pay. The nickel works at Camden, N. J., have supplied to the mint nearly all the nickel hitherto used for those coins: though owing to the inequitably low import duty on nickel (fifteen per cent.), it was found necessary to stop refining at Camden, and to send to England the partially worked ore of Gap Mine, to be refined there and brought back to the mint as finished nickel. Having recommended a year ago to refine nickel at the Camden works with the aid of the best European skill, they have since then supplied the mint with a choice quality of nickel, American made throughout, at the current rates, considerably lower than the average price heretofore paid by the mint.

About a month ago, however, the officers of the Philadelphia Mint, by inviting proposals from England, entered into contract with an English firm for a supply of nickel a few cents under the American market price, so that considerable of our coin will hereafter be really made out of English metal.

The total value of the Gap Mine and Smelting Works, and Camden Nickel Works, is but about \$300,000, though those establishments employ 200 hands and a capital of \$300,000. That product is, however, capable of yielding German silver wares worth \$10,000,000, or coins to the amount of \$3,000,000,

Nickel is a white metal requiring a high temperature for fusion; it is magnetic, and has a specific gravity of 8.5. It is not an abundant metal, there being but three or four localities of it in the United States, and the only locality where it is profitably worked is in Lancaster county, Pennsylvania, about four miles southwest of the Gap station on the Pennsylvania Railroad. A remarkable fact in regard to this metal is that it forms an important ingredient in most aerolites and in the masses of native iron found in various parts of the world, and which are supposed to have had an aerial origin.

The furnace for reducing the nickel ore is about one-half mile north of the mines. The ore is brought here and roasted in large ovens to expel the sulphur with which it is charged. It is then smelted in a small furnace, somewhat similar to an iron furnace, with a flux of limestone and quartz, the fuel being coke. It is run into “pigs” which are generally porous and friable, and contains a number of impurities, iron, copper, cobalt, etc.

Fig. 1

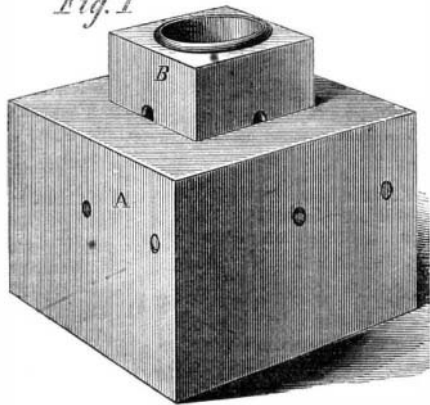
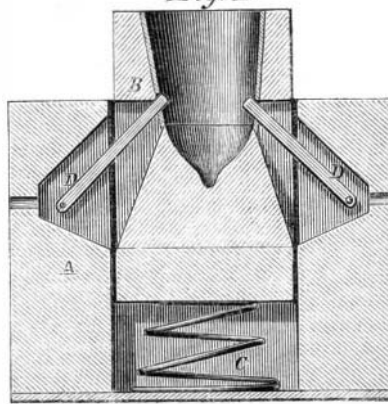


Fig. 2



GUINAND'S PATENT CIGAR PIERCER.

These mines were opened with a view of obtaining copper, but the ore was soon discovered to be richer in nickel, a more valuable mineral, and since then they have been worked for that metal exclusively. The introduction of nickel cents by the government, and the war, which rendered small change so scarce, gave great impetus to these works.

The coinage of pennies at the mint, during the month of July, was as follows:—

	No. of Pieces,	Value.
One-cent pieces.....	1,252,500	\$12,525 00
Two-cent pieces.....	285,000	5,700 00
Three-cent pieces.....	382,000	11,460 00
Five-cent pieces.....	3,188,000	159,400 00
Total.....	5,107,500	\$189,085 00

FULTON'S ALARM GAGE COCK.

The instrument illustrated in the engravings is a combination of the common gage cock, the alarm gage and the safety valve, to which may be added the alarm whistle. In this invention a blow-off valve is operated by a cup, ordinarily

Fig. 1

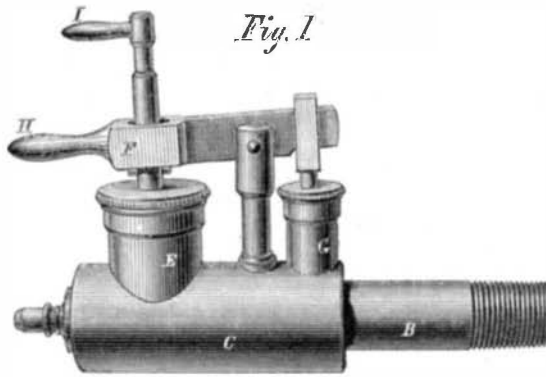
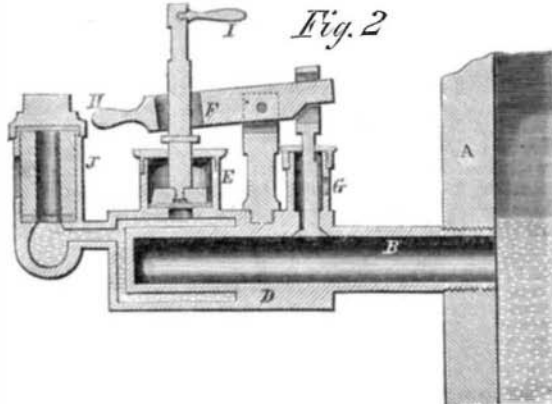


Fig. 2



holding water, which forms a part of the device. Fig. 1 is a perspective view of the apparatus, and Fig. 2 a sectional view having a chamber added at the end for a purpose to be presently explained. A, Fig. 1, is the head of a boiler, and B the pipe of the gage, C. The cock is tapped into the boiler at the low water line. A cup, D, either surrounds the bore of the cock or is placed immediately over it and is filled with water. So long as the water of the boiler fills the pipe, B, and is at the ordinary temperature the water in the cup, D, remains unchanged, but if the water in the boiler gets low so that steam fills the pipe, or if the boiler foams, the water

contained in the cup is caused to boil and generate steam. The steam thus generated acts upon a piston in the chamber E, which communicates with the cup, D, and raises it, and that in turn raises the lever, F, which at its other end depresses a downward opening valve in the chamber, G, which communicates with the pipe, B, and consequently with the boiler. The result is an escape or blowing off of steam from G, thus relieving the boiler and giving an alarm. If some more far-reaching alarm is desired a steam whistle can be attached to be operated by the steam from the boiler. The state of the steam and water in the boiler may be tested at any time, as with the ordinary gage cock, by simply raising either of the handles, H or I. If it is thought best to combine with this gage the ordinary glass gage it can be done by the addition of a chamber, J, Fig. 2, communicating with the cup, D, and furnished with glass windows. Instead of water any other liquid may be introduced into the cup, D, so that the point at which steam will be generated in it may be accurately determined. This combination gage was patented through the Scientific American Patent Agency, April 23, 1867, by Lorenzo Fulton. For information pertaining to this invention, address John S. Beach, Terre Haute, Ind.

Success the Measure of Ability.

Prof. Silliman, of Yale College, says:—“Success is accepted as at once the test and the measure of ability, whether we speak of the triumphs of the forum, the cabinet, the sacred desk, the pursuits of commerce and industry, or whatever department of intellectual labor is taken as the standard of comparison. We cannot object to the judgment which is rendered upon this issue, provided the success is a genuine fruit of labor and talent, combined with the training of experience, and is not the offspring of a lucky accident. Mankind never fail to appreciate him who has at once the power and the disposition to serve them, in whatever sphere of usefulness or honor he may elect. Just in proportion to his power and willingness to serve will he be used. It matters not whether he makes bad poetry or bad bargains, society has no use for such, and the unfortunate author of either is left in merited obscurity.”

COMBINED CRAYON SHARPENER AND WEIGHT FOR TAILORS.

The cakes of so-called “French chalk” used by tailors in outlining patterns on cloths are usually sharpened by the penknife, which is not handy, soils the fingers and wastes the chalk. The little implement herewith shown serves the double purposes of a sharpener and also a weight to keep the cloth in place while it is receiving the pattern. The body is of cast iron, having at the top a cup-shaped receptacle for the shavings of the crayon as it is edged by the knives set in the projecting supports. As will be seen, the cutters or scrapers have V-shaped slots, edged, and of the right form for sharpening the crayons.



It was patented in July 9, 1867. Orders for New York, Pennsylvania and Ohio should be addressed to John H. Woodward, 6 Howard street, New York city, and for the territorial rights for the Eastern States to Minor & Colburn, 7 and 9 Spring Lane, Boston, Mass.

Learn a Trade.

The Mobile Advertiser says that at no time in the history of the South was the absence of the mechanic arts more severely felt than within the last seven years. People are beginning, however, to have their eyes opened to the dignity and importance of labor, and the great value of the mechanic to the body politic.

The Richmond Examiner also offers sound advice on this subject, and says:—

The skilled man, with tools at his command, is in most respects, master of the situation. But the clerk, the bookkeeper, the office attendant are helpless. They must wait many and many a weary day, until the season or the years of depression are over, before they can find that employment for their pens which they have unfortunately made their sole means of livelihood. All this is another of the lamentable results of having learned no trade in boyhood. The subject is, indeed, one so wide in its ramifications, and so profoundly important in its consequences that it is time that it had engaged more thorough and systematic attention on the part of the people who are so deeply interested.

WE refer our readers to an advertisement in another column, relating to Mr. Volkmann's patent self-guiding plow of which we gave a description in our issue of Dec. 22, 1866.

NEARLY all photographic varnishes reduce the intensity of the negative. Mr. F. A. Wenderoth, of Philadelphia states that if a thin solution of gum arabic is applied to the negative after fixing and before drying, the varnish will not affect the intensity. This is a very simple and useful remedy. Mr. Wenderoth also states that he has long practised the covering of photographic paper prints upon both sides with collodion varnish, and finds it a complete preservative of the picture. Nearly all photographs will fade away in a few years unless thus protected. This method has been claimed by Mr. Blanchard, of England, but we believe that Mr. Wenderoth is entitled to the priority.