



### Everlasting Wick Wanted.

MESSRS. EDITORS:—I want assistance from some of your inventors to get me out of a difficulty. I am a Coal-oil Burner, and am perpetually in trouble with the nasty Cotton Wicks. When I complain to the wick that it is not throwing up an even flame, it always says that it has not been trimmed right; and when I hear the person who trims the lamp spoken to on the subject, it is generally "Oh, that old burner is about used up, it's not the trimming." Now I beg to assure you that I am not used up at all; give me a good wick and you shall never complain of a bad light. It was only the other day that the wick and I had quite a small row over the matter; the wick jerked the flame out in all directions. We got quite warm on the subject, so much so that snap went the glass; upon which the old gentleman, who was reading, turned down the light and ordered us out of the room; adding, as we were taken out: "Oh, what a smell that nasty lamp has made." This is all very unpleasant to me, and what I want is, some one to invent a perpetual everlasting wick, that shall want no trimming. I would suggest a wick of platinum wire. Cotton would do for the lower part, with half an inch of wire at the point. Or would not two pieces of steel, placed close together, draw up the oil? I hope something better than the nasty cotton thing may soon be invented. I would try and invent a wick myself, but, being a Canadian, I am an outlaw in the inventive world. I may rob everybody and everybody may rob me, unless I pay some \$500, and it's not every brass lamp-burner that has exactly that sum to spare.

A CANADIAN LAMP-BURNER.

Nov. 10, 1864.

### Lighting Gas by Electricity.

MESSRS. EDITORS:—Allow me to correct an erroneous statement on page 328, of the present volume, viz: "When the Cooper Institute was dedicated, it was intended to light every burner instantaneously by electricity at a certain point in Mr. Cooper's address. The time came, but the light did not; and the orator, after pausing for a light in vain, omitted that part of the ceremony." I was present upon the occasion referred to, in the fall of 1859, and recollect that the gas was burning when the proceedings commenced, the season requiring artificial light at that time of the day. At a point in Mr. Cooper's address the light was suddenly turned off entirely, and in a few seconds thereafter relighted instantaneously by galvanic electricity, acting through a "Ruhmkorff" coil, under the charge of Dr. P. F. Vanderweyde (now of Girard College, Philadelphia). This was done to illustrate a portion of Mr. Cooper's discourse, in which he referred to the mighty achievements of science in practical matters. Since then the apparatus has been abandoned, owing to a defect in the fastening of the platina wires, making its operation unreliable. I ask that the above correction be published, to prevent injustice being done to persons connected with the Cooper Union.

GUSTAVUS MILLER.

48 Beekman street, N. Y., Nov. 17, 1864.

[We also were present, and estimated the seconds at not a few. Can you tell us how many they were? Eds.]

### A Forty-foot Barometer.

MESSRS. EDITORS:—There is now in process of construction, at this Institute, a barometer, which for size and accuracy of register, is superior to anything ever attempted, and which, if successful, will be well worthy the attention of the scientific world. It is the invention of a gentleman already favorably known as an inventor, and the Temple Grove Institute, at Saratoga Springs, has been selected as the spot in which to make the experiment; because, in addition to the constant observations of the professors connected with the Institute, it can be under the daily observation of the inventor himself. The instrument will be forty feet high; will pass entirely through three stories of the building, and the observations will be

made in the large hall in the fourth story. I propose now merely to notice the fact of its contemplated construction, and at some future time will send you a description of the instrument, materials to be used, manner of filling the instrument, range of elevation and depression, and all matters of interest to your scientific readers.

H. F. BEECHER.

Temple Grove Institute, Saratoga Springs, N. Y., November, 1864.

### The Fiber of the Hop Vine.

MESSRS. EDITORS:—I discovered, some two years ago, that the common hop vine, the *Humulus Lupulus*, contains in the inner bark, like the hemp, very tough fibers, which in our days of high price of cotton and rags might be turned to useful purposes. No doubt it will answer as a good substitute for rags in the manufacture of paper. It is not so singular that this plant should possess this fiber, when we remember that it belongs to the hemp family, and I would not be surprised if, by looking among the species in the genera of the nettle family (*Urticaceæ*), of which the above is a sub-order, we should find some more fiber-bearing plants.

C. L. LOCHMAN.

Carlisle, Pa., Nov. 7, 1864.

### RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

*Felting Machine.*—This invention consists of important improvements in machines for felting yarn and cloth, and embraces several particulars, one of which is a rubbing surface, which may be extended upon a cylinder, through which steam or hot air can pass and act directly upon the material, the cylinder or frame, meanwhile, having a vibratory motion endwise as well as a continuous rotary motion of the surface, is to be used for felting yarn; it is further prepared by laying wires around the cylinder so that a series of slight grooves or depressions will be formed about it in which the yarns will be retained. The vibration of the cylinder is produced by means of a frictionless cam of peculiar and original construction. Great results are anticipated from this invention. John H. Bloodgood, of New York city, and Moses A. Johnson, of Lowell, Mass., are the inventors. Patents for this valuable invention have also been secured through the Scientific American Patent Agency in foreign countries.

*Improved Skate.*—This invention relates to a skate with an adjustable toe clamp. The heel clamp consists of a slide provided with a slot to fit over a suitable guide which extends from the heel post, and with a projecting flange on its inner end to catch over the breast of the heel, and with a forked lug applied in combination with a screw provided with a double collar or neck, and screwing into the heel post of the skate in such a manner that the slide can be dropped easily over the guide and screw, and by the action of the screw a positive motion is imparted to it in either direction. The toe clamp consists of two slides moving in a lateral direction, and provided with ratchet teeth to operate in combination with a spring catch, in such a manner that said slides are allowed to close up and to take a firm hold of the edges of the sole, but are prevented from releasing the sole by the spring catch engaging with the ratchet teeth in their under side. R. Tillmann, of 229 William street, New York, is the inventor.

*Axle-box for Car Trucks.*—The object of this invention is to prevent the heating of the boxes, the delay of trains, to economize in the consumption of oil for lubricating, and to greatly diminish the amount of friction which is produced by the lateral motion of the cars and in turning curves. The invention consists, first, in reducing the end of the axle journal to a pivot or to a size much less than the portion of the journal on which the bearing rests, and thereby reduce the tendency to heat at the point where the axle comes in contact with the spring or check. It consists, second, in the use of a spring placed in the front part of the axle box and at right angles with the journal, and so arranged as to receive the end thrust of the axle and soften or ease the intensity of the blow of the axle arising from a quick lateral mo-

tion or side-surfing of the cars, thereby reducing the tendency of the journal to heat at its end, and relieving the axle from much strain. It consists, third, in a peculiar stuffing box, constructed and arranged to prevent the admission of dust within the box and the escape of oil therefrom. And, fourthly, it consists in a novel and improved manner of lubricating the journal, whereby the latter may always be properly supplied with oil even when the cars are in motion. William Loughridge, of Weverton, Md., is the inventor.

*Machine for forming Articles of Sheet Metal.*—This invention relates to an improvement in that class of machines in which the operation of raising sheet-metal is effected by the action of a punch or plunger connected to a piston to which motion is imparted by hydraulic pressure or by steam. The metal blank is placed in the female die and held there by a flanged plate, which, in machines of the ordinary construction, is depressed by lever or screw power. In order to operate this plate one or two extra men are required, and the operation of the whole machine is thereby rendered expensive; and, furthermore, the lever or screw acting on said plate bears on the same at or near one of its edges, and the power required to hold the same down is much larger than it is when applied uniformly to all its corners. To obviate these defects is the object of this present invention, which consists in connecting the plate which holds the blank in the die to a piston which works in a suitable hydraulic or steam cylinder, the conversion between said plate and the piston being effected by means of four rods rising from the four corners of the plate, and secured in the four wings of a cross-head attached to the upper end of the piston rod in such a manner, that by the simple change of the induction valve the plate is depressed or raised with a uniform force on all sides, and that one man can attend to the plunger and to the plate with the greatest ease and convenience. M. Wells, of Williamsburgh, N. Y., is the inventor.

*Life-Raft.*—This invention consists in a novel construction of life-raft, combining buoyancy, strength, great capacity and portability, and which shall ride securely over surf and breakers. The body or case of the raft is made of the best duck, the same being formed in the shape of cylinders, of which there should be three or more. These cylinders receive within them gutta-percha or rubber cylinders, whose capacity for expansion without straining them is to be greater than the diameter of the duck cylinders. It follows, therefore, that the latter will receive all the strain of the inflation when the rubber cylinders are blown up, and the rubber cylinders will neither be likely to become frayed nor to be burst or worn by the pressure of the air within them. The raft is in other respects very ingeniously constructed, and when the air is withdrawn can be stowed in a small space. E. L. Perry, of New York City, is the inventor.

*Ginning Cotton.*—This invention is chiefly applicable to the machines for ginning cotton known as the Macarthy gins, but it may be applied to other machines for ginning cotton, in which a grooved roller is employed. It has hitherto been customary to make these rollers of wood or iron covered with leather, in which spiral grooves, of three-fourths an inch or more asunder, are cut. This invention consists in making the rollers of cast-iron or other suitable metal, in which fine spiral grooves are cast or cut, the edges and sides of the spiral grooves being more or less serrated, or corrugated, or wrinkled. By this means a greater quantity of cotton may be cleaned in a given time, and the roller is made more durable. William Wanklyn, of Lancaster, England, is the inventor.

*OIL OR GAS WELLS IN CHINA.*—In the districts of Young Hian and of Meisonug Hian, in China, there exists a large number of salt-water wells extending over a space of about six leagues, which are actively explored by the neighboring population. From the mouth of these wells arise columns of inflammable air, so that if a torch be applied to the opening, globes of fire of from twenty to thirty feet high are seen to arise, shining with a brilliant light. The Chinese arch over these sources of gas with long bamboo tubes, and the gas communicated through these tubes serves to illuminate the machines by which the salt wells, and the places where they are situated, are explored.