

An improved pianoforte attachment, by which the performer is enabled to sustain or permit the continuance of the sound of one or more strings after the fingers have been taken from the keys, has been patented by Mr. Carl Mahling, of New York city.

An improved safety whiffletree has been patented by Mr. Bolivar J. Quattlebaum, of Ridge, S. C. The object of this invention is to provide means for releasing horses from vehicles that may be instantly and conveniently operated in case of imminent danger, when it is desired to arrest at once the movement of the vehicle and the speed of the horse cannot be checked in time to avert the danger; and it may be used at any time for conveniently unhitching the horse from the vehicle by timid and unskilled persons, and at the same time provide against the accidental displacement of the trace from the end of the whiffletree.

Mr. William R. Parks, of Palmer, Mass., has patented a boiler which will heat water and make steam rapidly with a small amount of fuel.

An improved signal conveyer for hotels and other buildings has been patented by Mr. Joseph C. Beard, of Pine Bluff, Ark. The apparatus consists of a system of tubes leading from the different rooms to a common tube terminating at the office, and balls numbered to correspond with the numbers of the rooms, the messages being on the inside and being impelled by gravity. The pipe which conveys the balls descends continuously through the various rooms of the building to the office, and has an opening in each room. The box in which the balls are received contains a signal bell.

A self-closing faucet, that will close without spring or screw, has been patented by Mr. Thomas H. Walker, of Kansas City, Mo. The invention consists in a combination of devices that cannot be clearly described without engravings.

Mr. Elijah S. Caswell, of Taunton, Mass., has patented an improved shoe or boot nail, having the oblong head and a point beveled equally on both sides, and provided with lateral projections a short distance from the head.

A diagram for the use of draughtsmen in making perspective sketches or drawings, whereby such drawings may be made in true perspective and to scale in every part, has been patented by Mr. Emery M. Hamilton, of New York city. The invention consists in a diagram sheet having printed upon it guide lines in perspective and vertical and horizontal lines, the result of these combined lines being that the sheet is laid out in perspective scales, which can be utilized as guide lines for making a drawing at any angle to the horizon and vertical.

Mr. Charles F. Linscott, of Boston, Mass., has patented an improved glass plate cleaner, which consists of a head or holder and one or more rubber strips made thicker at one edge, with one side flat and the other side concaved from the thicker edge to, or nearly to, the thinner edge.

Mr. Edward Weissenborn, of Jersey City Heights, N. J., has patented an improved package for pencils, crayons, and similar articles, so constructed as to prevent the pencils or other articles contained in the packages from rubbing against each other.

An apparatus by means of which, with the aid of water and certain chemicals, the dry air of high altitudes may be made to resemble the moist air of low altitudes, has been patented by Mr. Henry R. Fowler, of Leadville, Col.

Mr. William F. Phillips, of Watford, Ontario, Canada, has patented a swing, having two pairs of crossed posts, strengthened by cross bars, a cap box, and branched swinging bars, from which is suspended a basket.

Mr. Edward J. McClellan, of Brooklyn, N. Y., has patented a device that may readily be attached to a pan for use in mixing and kneading dough for bread and cake. The invention consists in an adjustable bar or plate fitted with a clamping screw and carrying the mixer and gearing. The mixer consists of an arbor or staff provided with radial arms and fitted with eccentric gearing, whereby both a revolving motion and up-and-down movement may be given to the staff.

Mr. Alfred N. Gabel, Sr., of Ridgeville, Ill., has patented a fertilizer distributing attachment for planters for distributing fertilizers in hills or drills and in any desired quantity.

Mr. Benjamin J. Howe, of Sing Sing, N. Y., has patented an improved dish washer, by which, the inventor claims, as many dishes can be washed and thoroughly cleansed in five minutes as can be done by hand by one operator in an hour.

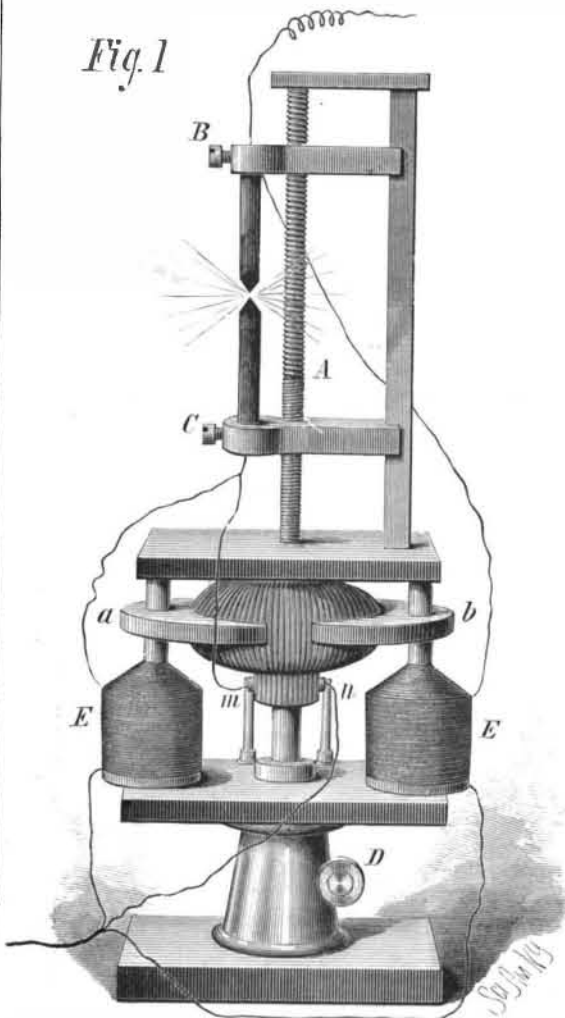
Mr. Thomas F. Longaker, of West Philadelphia, Pa., has patented an adjustable gauge for liquid measures, which consists in providing the measuring attachment with a device for adjusting the attachment for measuring liquids of different specific gravities, and also in so constructing the discharge valve that the packing may be renewed by unscrewing the valve seat.

The combination of a bench hook or screw, fitted in the table, with a swinging frame and clamping jaw or vise, has been patented by Mr. Nathan E. Lovejoy, of Columbus, O.

Mr. William N. Crabtree, of Porterville, Cal., has patented an improvement in hair trigger gun-locks, which consists in devices that will prevent accidental discharge of the gun without requiring additional manipulation or interfering with the rapid handling of the piece. A blocking piece is interposed between the hammer and breech, to prevent contact of the hammer with the cap tube, and a thumb lever fitted upon the hammer holds the blocking piece out of action when the hammer is set for firing. These devices work automatically by the usual manipulations of the hammer.

#### THE ELECTRIC LAMPS OF W. TCHIKOLEFF.

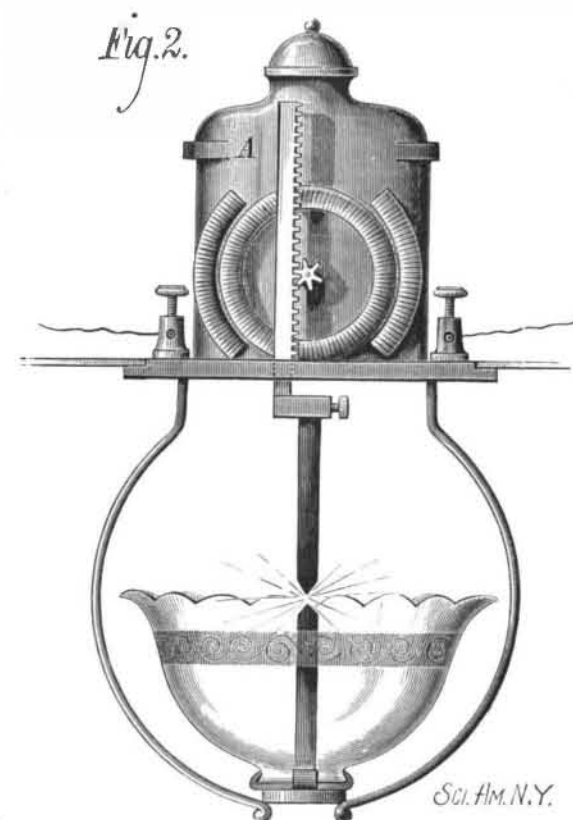
W. Tchikoleff, the head of the electric lighting department of the Russian artillery, has described, in *La Lumière Electrique*, a new lamp, the design of which was lately brought before the physical section of the Moscow Society of Naturalists, and which is represented by Fig. 1.



TCHIKOLEFF'S ELECTRIC LAMP.

E E' are electro-magnets disposed like those on the other systems, and having poles, *a b*, spread out in circular form as in the Gramme machine. K is a Gramme or Siemens ring, the rotary motion of which causes the carbons to move through the intermediary of a double thread screw, A, and two nuts, B C, which carry the carbons. Lastly, D is a regulating screw, for the purpose of raising or lowering the luminous focus.

The current passes from the positive pole of the generator to the negative pole by three derivations, one of which includes the arc and traverses the ring by means of the contact pieces, *m n*; while a second, also including the arc, ex-



TCHIKOLEFF'S NEW LAMP.

cites the electro-magnet, E (or both electro-magnets in a given direction); and a third which, without passing by the arc, influences the high resistance magnet, E' (or both magnets in contrary directions), so that the action of this magnet upon the ring shall be in a reverse direction to that of E.

In consequence of this arrangement the action of the electro-magnets upon the ring, K, is almost nil when the arc possesses its normal resistance; but when the resistance of

the arc augments, the action of the electro-magnet, E, becomes weakened, allowing E' to preponderate, and the ring, K, will rotate so as to bring the carbons into closer proximity. The contrary effect will, of course, be produced if the resistance of the arc should diminish.

Experience has shown that with such a lamp it is possible to obtain, with regularity and safety, a good electric light with twenty-four Bunsen cells, and at first with even twenty cells. Some of these lamps have been in use in the Russian artillery since 1877. This lamp may also be constructed on the principle of the Wheatstone balance.

The form of this lamp intended for public lighting is represented by Fig. 2. The rod, A, with the upper carbon holder, works by the effect of its own weight. When the current traverses the lamp the distance between the two carbons is maintained by the aid of helical coils, but these coils and the toothed wheel which controls the movements are worked, as in the former case, on the principle of derivations. When the current is interrupted, the carbons come into contact by the effect of the weight of the rod, A.

Certain details of construction have been omitted in this description, but enough has been given to make the principle clear.

To sum up, the advantages of this lamp may be enumerated as follows:

1. Its construction is extremely simple; it is free from clockwork mechanism, springs, and electrical contacts.

2. It does not require preliminary regulation nor any manipulation before or during its working.

3. Several of these lamps may be arranged in series in a circuit, and they are always in due relation with the intensity and the tension of the current which is to act upon them.

4. The lamp can work with comparatively weak currents, and also produce a very powerful light when the power of the current is augmented.

The inventor is convinced that the problem of the divisibility of the electric light by means of lamps having a voltaic arc can be solved only with the lamps based on the principle of the derivation of the current, which he discovered prior to Messrs. Lontin and Siemens.

Lamps with movable carbons, offering a certain resistance between their polar extremities, are, moreover, far preferable, from the point of view of divisibility, to lamps with fixed carbons, which may offer great variations in the resistance of the arc, in consequence of impurities, the action of the wind, etc. These variations may, in fact, be greatly reduced in the former description of lamp, and it is not necessary with them to employ currents of such high tension, or, if such currents be employed, additional lamps may be inserted in the circuit.

#### DECISIONS RELATING TO PATENTS.

##### U. S. Circuit Court—Southern District of New York.

COLLENDER vs. GRIFFITH *et al.*—BILLIARD TABLE PATENT Blatchford, J.

1. The fact that a mechanical patent was issued more than two years after the date of a design patent showing, but not claiming, a like invention, will not invalidate the former.

2. A billiard table having the broad side rails made of beveled or inclined planes shows sufficient utility and advantage in the way of cheapness of construction, as compared with a table having sides of curved or ogee form, to support a patent.

3. Reissued letters patent No. 6,469, granted to H. W. Collender, June 1, 1875, for an improvement in billiard tables, declared invalid in view of evidence showing the existence in this country of similar tables many years prior to the date of the patent.

##### United States Circuit Court—Western District of Pennsylvania.

KNEELAND *et al.* vs. SHERIFF *et al.*—PISTONS FOR DEEP WELL PUMPS.

McKenna, J.

1. Patent No. 53,630, granted April 3, 1865, to E. Y. Kneeland, for improvements in pistons for deep well pumps, sustained.

2. "A patentee whose patent is assailed upon the ground of want of novelty may show by sketches and drawings the date of his inventive invention, and if he has exercised reasonable diligence in perfecting and adapting it and in applying for a patent, its protection will be carried back to such date." (*Reeves vs. Keystone Bridge Company*, 1 O. G., 466.)

##### U. S. Circuit Court—Southern District of New York.

WILLIAMS vs. BARKER *et al.*—WILLIAMS' PATENT RUBBER FLOCK MACHINE, PATENTED NOVEMBER 26, 1861.

Wheeler, J.

When the several elements of a patented machine differ from a prior machine only as to the form of certain parts common to both, the patent, in order to be sustained, must be restricted in scope to the improvements in the form of such parts.

Bill dismissed.

##### U. S. Circuit Court—Northern District of New York.

MAYNARD vs. PAWLING *et al.*—PATENT RADIATING CONDENSER, ISSUED JANUARY 30, 1877.

Blatchford, J.

Where the device sold by the defendants is capable of use independently of a feature necessary to the plaintiff's apparatus, and it does not appear that the defendants intended