in the hollow cylinder, in combination with dogs, adjustably fitted to the spindle and actuated by mechanism so that they can be thrown out beyond the periphery of the collar for the purpose of gripping the particular disc which may at the time be over the said collar in order that the said disc will revolve when the spindle is turned on its axis. 4th. A series of discs, fitted loosely on a fixed cylinder and separated from each other by fixed washers so that each disc may be independently revolved without imparting motion to the others. 5th. A series of discs journalled on a cylinder and contained within a casing so fixed to the cylinder that it will not revolve thereon and having a longitudinally opening made in it so as to expose one letter on each disc, the said discs being arranged so that they can be revolved within the casing independent of each other in order that the letters on the discs may be brought separately before the opening for the purpose of building up a word, substantially as and for the purpose specified. 6th. A series of discs independently journalled in a cylinder within a casing having a longitudinal opening made in it as specified, the said cylinder having mechanism arranged within it as described, so that by longitudinally adjusting the casing or cylinder the said mechanism can be caused to grip any disc desired, in combination with a fixed pointer situated to indicate the location of the gripping mechanism, substantially as and for the purpose specified. 7th. A series of discs pivoted on a common centre and having letters or others signs marked on their periphery, each disc being provided with a handle so that they can be turned on their common pivot independent of each other, in combination with a casing designed to enclose, or partially enclose the discs, but having circular grooves formed in it to permit the handles of the discs to pass around or partially around it. 8th. A series of discs pivoted on a common centre and having letters or other signs marked on their periphery, in combination with handles fixed one to each disc so that they can be moved independently. 9th. A series of discs pivoted on a common centre and having letters or other signs marked on their periphery and means for independently revolving each in combination with two bars extending across the disc parallel with their centre and at a distance apart about equal to the size of the letter on the disc, so as to separate the letters arranged into a word between the bars from the other letters on the disc. 10th. A series of discs pivoted on a common centre and having letters or other signs marked on their periphery and means for independently revolving each disc so as to bring a single letter on one disc in conjunction with single letters on the other discs, the said letters so arranged being between two parallel lines extending across the disc, in combination with a slate, or other marking surface, located above the letter so arranged for the purpose of taking diacritical marks. 11th. A series of discs pivoted on a common centre and having letters or other signs marked on their periphery and means for independently revolving each disc so as to bring a single letter on one disc in conjunction with single letters on the other discs, the said letter so arranged being between two parallel lines extending across the disc, in combination with a slide or blind so arranged that the letters between the lines may be independently or collectively covered, substantially as and for the purpose specified. 12th. A series of discs pivoted on a common centre and having letters printed on their peripheries for the purpose of building up words as specified, in combination with a blank space left on each disc between two of the letters, for the purpose specified.

No. 17,614. Electric Bell Pull.

(*Cordon de sonnette électrique.*)

Frank J. Wall, Lawrence, Mass., U. S., 10th September, 1883; 5 years.

Claim.—1st. The improved electric bell-pull described, the same consisting in the plates A K, stud L, knob M, spring N, springs G P, spindle E, knob B, insulator Q, stop R and wires *g h* constructed, combined and arranged to operate, substantially as set forth. 2nd. In an electric bell-pull, the spring N provided with the bend X, in combination with the spindle E, stop R, insulator Q and conducting wires, substantially as set forth. 3rd. In an electric signal-bell, the sliding plate K provided with the arm *i*, in combination with the plate A, the spring P, fastening device J, the spring N, the auxiliary spring *b*, the stop R, the spindle E, spring G and wires *g* and *h*, substantially as described. 4th. In an electric bell-pull, the plate A, provided with the slot *m*, in combination with the sliding plate R provided with the knob M, spring P and means for permanently closing the circuit to produce a continuous ringing of the bell, substantially as described. 5th. In an electric bell-pull, the elongated spindle E its inner end shaped to adapt it to ride over the bend X, in combination with the knob B, electric wire and spring G, substantially as set forth.

No. 17,615. Air Circulator for Cars, Cabins and Vehicles. (*Circulateur à air pour chars, cabines et voitures.*)

Charles McIntosh, New York, N. Y., U. S., 10th September, 1883; 5 years.

Claim.—1st. In an air circulator for cars, cabins and vehicles, the adjustable blades H and shaft F, in combination with the bracket G and cowl or ventilator E, substantially as and for the purpose set forth. 2nd. In an air circulator for cars, cabins and other vehicles, the adjustable blades H and shaft F, in combination with the bracket G, rods I and J, friction wheel *k* and car wheel L, substantially as and for the purpose set forth. 3rd. The ice receiver P, consisting of the outer holder *p*, inner holder *p*^{1} with spring clamping arms Q, faucet R, in combination with the bracket G, substantially as and for the purpose set forth. 4th. In an air circulating device for cars, cabins and vehicles, the adjustable blades H, shaft F, bracket G, cowl E and ice receiver P, all combined and arranged, substantially as and for the purpose set forth. 5th. In an air circulator for cars, cabins and vehicles, the adjustable blades H, shaft F, bracket G, ice receiver P, rods I and J, and friction wheel *k*, substantially as and for the purpose set forth. 6th. In an air circulator for cars, cabins and vehicles, the shaft S_4 with blades H attached to the cowl T or to the car roof, in combination with rod *s*^{2} with wheel *s*7, the register *s* which can be open or closed by arm *s*^{1} and the bracket *s*3, substantially as and for the purpose set forth.

No. 17,616. Casting Hollow Wares.

(*Coulage des objets creux.*)

John B. Harker, Columbus, Ohio, U.S., 10th September, 1883; 5 years.

Claim.—The method of casting tea-kettles and other cast-iron hollow ware consisting in molding them with their bottoms uppermost and gating the molds between their top and bottom portions, substantially as set forth.

No. 17,617. Lumber Trimming Machine.

(*Machine à dégrossir le bois.*)

Willard B. Swartwout, Three Rivers, Mich., U. S., 10th September, 1883; 5 years.

Claim.—1st. In a machine for sawing lumber into different lengths, the means for automatically depressing preceeding saws below the bed or table of the machine, consisting of the cord M attached to a swinging saw frame at or near its heavier end and passing through suitable guide ways, in combination with a block sliding on a rail adjacent to the next succeeding saw frame whereby the preceeding saws will be depressed, as set forth. 2nd. The combination with a swinging saw frame, a sliding block and a cord or chain connecting the said frame and block, of a trap adapted to support the said block and permit the latter to be forced beneath the upper surface of the rail when desired, substantially as shown and described. 3rd. In lumber trimming machines, the combination with the slide blocks O, that are connected to the swinging saw frames of the trap P and latch R arranged for allowing the blocks to be forced below the bed of the machine when the latch is moved from beneath the trap, substantially as shown and described. 4th. The combination with the swinging saw frame I, sliding block O and cord or chain M connecting said frame and block of the hinged trap O, pivoted latch R, springs Q S, the former spring Q bearing against the trap P, and the latter spring S connecting the lower end of the latch with the main frame and the cord or chain T, substantially as shown and described. 5th. The combination with the swing saw frames I and the rails B of the horizontal bar U supported at its ends, the squared irons W passing through holes in the said bar U and provided with nuts on their upper ends, and the shoes V secured to the lower ends of the said irons W and the spiral springs X forcing the irons and the shoes down on the lumber, substantially as shown and described.

No. 17,618. Tilling Machine. (*Machine à labourer.*)

Charles E. Sackett, Morristown, N.J., U. S., 10th September, 1883; 5 years.

Claim.—1st. The combination, substantially as set forth, of the plow-beam carrying the plows, the straight axle of the implement and the mechanism for preventing lateral movement of the beam and mechanism for vertically adjusting either of its ends. 2nd. The combination, substantially as set forth, of the axle, a segment casting carried at the land end thereof, an angled lever articulating and registering with said segment, a spindle carried by said angle-lever, and the land-wheel revolving upon said spindle. 3rd The combination, substantially as set forth, of a main plow provided with a plow-share determining the width of furrow and a front plow provided with a plow-share narrower than the furrow for the purpose of leaving an uncut or hinge edge on the furrow side. 4th. The combination, substantially as set forth, of a main plow-share determining the width of furrow, a forward plow-share made narrower than the furrow for the purpose of leaving an uncut edge and a mould-board shaped to revolve the cut upon said uncut edge. 5th. The combination, substantially as set forth, of the forward plow turning its furrow slice into the previously made furrow and a skeleton pulverizing wheel having a grooved or recessed tread in order that it may pass over the deposits of said forward plow without being materially elevated. 6th. In a skeleton pulverizing wheel, the combination, substantially as set forth, of the long hub, the end boxes thereof, a series of spokes radiating from each box, the circular rims and curved transverse braces. 7th. The combination, substantially as set forth, of a main plow and pulverizing wheel with a screen or extension of the mould-board of said main plow for the purpose of confining the earth within said wheel during the process of pulverization.

No. 17,619. Apparatus for Drying and Seasoning Timber. (*Appareil à sécher le bois.*)

Alexander McNeile, London, Eng., 10th September, 1883; 5 years.

Claim.—1st. The construction, arrangement and combination of parts shown and described, constituting an apparatus for drying and seasoning timber and consisting of a close chamber constructed of timber provided with an inner lining of same material easily renewable round the walls and roof for the preservation of the structure, the chamber being also provided with fire place and open flue and fitted with open shallow vessels containing water, all arranged to operate as set forth. 2nd. The combination of the three drying and seasoning chambers A A* A*, arranged side by side, the outer ones being extended forward beyond the front of the central one with their fire-places D* D* facing each other at the sides and in front of the fire-place D of the central one, substantially as described.

No. 17,620. Dynamo Electric Machines.

(*Machines dynamo-électriques.*)

James E. H. Gordon, Kensington, Eng., 10th September, 1883; 15 years.

Claim.—1st. My improved dynamo-electric machine for electric lighting, composed of stationary armature, bobbins and electro magnet bobbins mounted upon an iron or steel wheel, the axes of the said bobbins being straight and parallel to the axis of the wheel and so arranged that as the wheel revolves the electro-magnets are carried past the induction bobbins end to end, substantially as described. 2nd. In dynamo machines in which the cores of the electro-magnets and of the armature bobbins are straight and parallel with the re-