

specified. 8th. The friction plate *f* and means for adjusting it, compressible washer *w*, and a pulley or driving wheel *P*, in combination with a punch wheel and mechanism for revolving the same, substantially as set forth. 9th. A series of key levers *K*, *t*, and their connections, in combination with the punch wheel *T*, *w*, with one or more flanges *f*, *f*, thereon, whereby the type key levers, after a partial movement, are detained until the punch wheel is stopped, substantially as herein described and shown. 10th. A punch wheel provided with detaining flanges *f*, *f*, having a releasing slot *s*, in combination with the key levers *K*, *t*, and connecting mechanism, as herein specified. 11th. A punch wheel provided with detaining flange *f*, *f*, in combination with its rotating mechanism and with the key levers and their connections, arranged, substantially as shown, so as to permit the simultaneous operation of two or more of the latter. 12th. A series of locking devices adjacent to, and arranged around, a punch carrier, the latter furnished with a slotted flange, into which the locking devices may engage singly to prevent motion in the punch carrier, substantially as shown. 13th. The punch wheel *T*, *w*, having a slotted detaining flange *f*, *f*, and spur *s*, in combination with the locking levers *L*, *L*, the latter arranged to perform the double function of stopping the punch wheel and locking it to prevent motion thereof in either direction, substantially as set forth. 14th. A punch wheel having a detaining flange *f*, *f*, furnished with a slot *s*, and spur *s*, in combination with checking devices, substantially as shown. 15th. The grooved locking-plate *p*, formed substantially as described, and a series of locking devices pivoted therein, in combination with a spur and slotted detaining flange on a punch carrier, substantially as shown. 16th. The key lever *K*, *t*, and suitable connections, substantially as described, in combination with each other and with a detaining flange *f* on a punch wheel or carrier, substantially as set forth. 17th. In a machine for impressing types successively, the combination of a friction wheel *x* and friction plate *z*, and means substantially as described, for engaging them at will with a spacing-carriage and letter-spacing mechanism, and devices connecting them to the friction wheel, and all substantially as described. 18th. A mold-plate and spacing-carriage, in combination with reversible spacing mechanism.

**No. 19,314. Combined Smoke-Stack and Feed-Water Heater.** (*Cheminee et Réchauffeur de l'Eau d'Alimentation Combinées.*)

James Armstrong, Bridgewater, N. Y., U.S., 12th May, 1884; 5 years.

*Claim.*—1st. In a feed water heater for locomotive and other steam boilers, the water chambers *A*, *A*, connected together by tubes *A*2 and provided with interior heating chambers, and pipes *C*, whereby the escaping products of combustion from the fire-box or furnace, or the exhaust steam from the engine driven thereby may pass into, through and about said water chambers *A*, *A*, and tubes *A*2 of the heater, substantially as described. 2nd. In a feed water heater for locomotive and other steam boilers, the combination of the water chambers *A*, *A*, having passages *D*, *D*, connected together by tubes *A*2 with pipes *C*, and enclosing jacket *B*, whereby the products of combustion or exhaust steam are passed through and about the water contained in said chambers *A*, *A*, and tubes *A*2, substantially as described. 3rd. In a feed water heater for locomotive and other steam boilers, the combination of the water chambers *A*, *A*, *A*4, connected together by tubes *A*2, and provided with inclosing jacket *B*, pipes *C* and passages *D*, *D*, with the induction pipe *K*, eduction pipe *K*2, waste pipes *L*, *K*2, and blow-off pipes *N* and *N*, substantially as described. 4th. In a feed water heater for locomotive and other steam boilers, provided with water chambers *A*, *A*, connected by tubes *A*2, the tubes *A*2, in combination with the eduction pipe *K*1, whereby heated water is passed from the upper chamber *A*, into the eduction pipe *K*1 at a point below said water chamber, substantially as described.

**No. 19,315. Sawing Machine.** (*Scierie.*)

Hakon K. Olsen, San Francisco, Cal., U.S., 12th May, 1884; 5 years.

*Claim.*—1st. The combination, with the sliding saw carrier *E*, of the sleeve *D*, the nut *B*1 attached thereto, and the slotted frame *A*, pivoted to a post *C* at *a*, and for the purpose specified. 2nd. The combination with the sliding saw carrier *E*, of the rod *G* connected thereto by a pivot joint *c*, the bar *n* connected with said rod by a box, the crank arms *H*, having holes *o*, the movable blocks *d*, and the slotted posts *I*, the gear wheel *e* on crank shaft, and the gear wheel *J* on a shaft *f*, connected with the screw *B*, whereby the saw may be reciprocated and fed as described.

**No. 19,316. Washing Machine.** (*Machine à Laver.*)

George L. Ferris and Jacob C. Huff (Assignees of George D. Ferris), Mexico, Mo., U.S., 12th May, 1884; 5 years.

*Claim.*—The washing-machine, consisting of the water-holder or receptacle *A* with the cover *B*, and of the fabric-cylinder *C* having peripheral rows of perforations *e*, and the several concentrically-arranged tubes or turners *D* disposed one in each quarter of, and near, the periphery of the cylinder, said perforations *e* being arranged opposite the tubes *D*, and the said tubes or turners *D* opening through the heads of the cylinders and having rows of apertures *f*, one row being arranged in each of four sides thereof, said cylinder being rotatable in said receptacle and having a crank or handle for its operation, substantially as shown and described and for the purpose set forth.

**No. 19,317. Trunk Tray.** (*Compartiments de Coffre.*)

Sigismund M. Michelson and George Sylvester, Milwaukee, Wis., U.S., 12th May, 1884; 5 years.

*Claim.*—In combination, with a trunk tray, a catch secured on the under side thereof, and adapted, when the tray is removed from the body of the trunk, to receive the balance of the trunk-top, so that the tray will be supported on the front edge of the top when the latter is open, substantially as set forth.

**No. 19,318. Sectional Boiler.**

(*Chaudière en Sections.*)

Warlen King (Assignee of Archibald Spence), Montreal, Que., 12th May, 1884; 5 years.

*Claim.*—In a sectional boiler, the upper and more remote sections from the fire provided with the water inlets, whereby the water is first brought into the said upper and remote sections, in combination with a pipe, connected and arranged as described, whereby the partly-heated water is brought down into the lower sections which are in immediate contact with the fire, and in combination with said lower sections, and, further, said sections being provided with the water outlets, the whole constructed and arranged, substantially as described and shown. 2nd. The combination of the section *A*, pipes *B*, section *C*, jacket *K*, having diaphragm *A*2, sections *L*, *L*2, pipe *B*2 and inlets and outlets, the whole constructed and arranged, substantially as described and shown.

**No. 19,319. Lamp.** (*Lampe.*)

Allen J. Stephens, Toronto, Ont., and William L. Bartholomew, Muskegon, Mich., U.S., (Assignee of William C. Thayer, Chicago, Ill., U.S.) 12th May, 1884; 5 years.

*Claim.*—1st. The combination, with a main air supply tube provided near its upper end with a suitable support, of a perforated ring resting on said support, and a deflector supported by said ring, or formed with it, as and for the purpose set forth. 2nd. The combination, with a stationary and revolving tube provided with male and female screws, of a notched collar secured to the revolving tube, and a burner cone provided with inwardly projecting arms resting in said collar, as and for the purposes set forth. 3rd. In combination, with the lamp described and shown, a drip cup removably mounted upon the interior of the base thereof, as and for the purpose set forth. 4th. The combination, with cone *I* provided with inwardly-projecting arms *d*, ring *I* surrounding said cone, and perforated disk *c*, of notched collar *H*, revolving tube *E*, stationary tube *B* and wick *G*, tubes *B* and *F* provided with male and female screws, as and for the purpose set forth. 5th. The font *A* provided with a screw-threaded opening, in combination with stem *i* provided with a screw-threaded section *j*, and float *M* secured to said stem, as and for the purpose set forth.

**No. 19,320. Waggon Jack.** (*Chèvre de Carrosserie.*)

Thomas Maxon and James W. Carpenter, Dayton, Ohio, U.S., 12th May, 1884; 5 years.

*Claim.*—The divided frame *A*, with its bracket *H*, in combination with the vertically playing-bar *C* having its bracket, with steps and guide openings *a*, and the operating lever *L*, with wheel *J*, the several parts being constructed and operating as and for the purpose set forth.

**No. 19,321. Composition for Cleaning and Renovating Fabrics.** (*Composition pour nettoyer et Rafraîchir les Tissus.*)

Charles F. Clarke and Gustavus M. Spencer, (Assignee of Thomas Ewing), Philadelphia, Pa., U.S., 12th May, 1884; 5 years.

*Claim.*—1st. The within-described compound for cleaning and renovating the colours of fabrics, the same consisting of aniline solution, alkali and ammonia compounded, substantially in the manner and proportion herein set forth. 2nd. The mode herein described, of cleaning and restoring the colours of fabrics, said mode consisting in applying to the fabric a composition of aniline solution, alkali and ammonia, and then sponging the fabric, substantially as specified.

**No. 19,322. Fruit and Vegetable Parer and Slicer.** (*Peleur et Tranche pour Fruits et Légumes.*)

Henry H. Molineux, London, Eng., (assignee of William E. Brock, Dunellen, N. J., U.S.) 12th May, 1884; 5 years.

*Claim.*—A parer and slicer having a blade *A* of sheet metal bent or creased longitudinally, as described, to form a cutting edge *d* and a guiding edge *e*, and having a longitudinal slot *a*, cut out along the crown or bend *b* of the blade forming a discharge opening, all substantially as hereinbefore shown and described.

**No. 19,323. Process and Apparatus for Manufacturing Paper Pulp.** (*Procédé et Appareil pour la Fabrication de la Pâte à Papier.*)

Goldsbury, H. Pond, Glens Falls, N. Y., and Edmund A. Morse, Rutland, Vt., U.S., 12th May, 1884; 5 years.

*Claim.*—1st. The cylinder *A* with cover *O*, shaft *H* provided with plates, and arms *I*, *I*, the rollers *K*, *K* and the steam pipe *T* to hold and work a charge of saw-dust chips, shavings or other pieces of wood or fibrous material producing a pulp of fine fibre, as herein set forth and described. 2nd. The cylinder *A* provided with a shaft having plates and arms *I*, *I*, between which are hung the rollers *K*, *K*, either singly or in a series one above the other, substantially as described. 3rd. The rollers *K*, *K*, hung between the plates and arms *I*, *I* with adjustable hangings, consisting of the set screws *N* and springs *J* to set them out against the inner side of the cylinder *A* with any pressure required, whereby the rollers are allowed to pass over any large pieces that may be in the charge and resume their regular pressure upon the sides of the cylinder, as fully described and set forth. 4th. The cylinder *A* provided with shaft *H* having secured thereto plates, and arms *I*, *I* and rollers *K*, *K* having an opening *D*, as described, revolving loosely on the pin *P*, whereby the rollers are automatically set out on to the inner side of the cylinder by the centrifugal force, substantially as set forth. 5th. In a machine for reducing saw-dust or other pieces of wood or fibrous material to pulp, the combination,