

slots *e* and bolts *d*, for securing them in the bevelled slots *f* of said disks, substantially as shown and specified and for the purpose set forth. 2nd. In a grain scower, the above described scouring plates *D*, when constructed with bevelled edges *a*, said plates being secured to the disks *C*, by arms *F*, usually provided with slots *I* and bolts *e*, substantially as shown and specified and for the purpose set forth. 3rd. In combination with the steel scouring plates *J*, the T-shaped arms *H*, *I*, circular on top with bevelled edges, for the purpose of attaching the said steel scouring plates in the bevelled grooves in the disks *C*, substantially as shown and specified. 4th. The disks *C*, when constructed for the combined purpose of receiving the sides of arms *F* and *G*, *G*, *H*, *I*, to which the scouring plates *D* and carriers *E* are attached, said disks being secured to the shaft *B* by set-screws *k*, substantially as shown and specified.

### No. 28,632. Method of, and Apparatus for Generating Light and Heat from Mineral or other Oil. (*Méthode et appareil de production du gaz et de la chaleur avec de l'huile minérale ou autre.*)

Henry H. Doty, London, Eng., 6th March, 1888; 5 years.

**Claim.**—1st. An apparatus for the utilization of mineral and other oils, for heating or lighting purposes, whereby the oil passes through a coil of pipe in which it is converted into gas or vapour, and which is heated by the partial combustion of the said gas or vapour within the space or passage surrounded by the said coil, for the purpose above specified. 2nd. In apparatus for the combustion of mineral or other oils, a coil of pipe having the passage through the same open at both ends, the said pipe being connected to a tank or reservoir and having an orifice, nozzle or burner for directing the gas or vapour formed therein into the said passage, substantially as and for the purpose set forth. 3rd. The employment of a coil composed of two or more pipes and having the passage through the same open at both ends, and means for forcing oil into one or more of the said pipes, and water into the other pipe or pipes, the said pipes having orifices, nozzles or burners for directing the gas or vapour, and the steam formed therein into the said passage, substantially as and for the purposes above specified. 4th. The provision of means for supplying the saucer or receptacle beneath the coil or coils with oil from the feed-pipe, substantially as described.

### No. 28,633. Means and Apparatus for Obtaining a Supply of Pure Water on Board of Steamships, etc. (*Moyens et appareil pour produire de l'eau pure à bord des vaisseaux à vapeur, etc.*)

John Kirkaldy, London, Eng., 6th March, 1888; 15 years.

**Claim.**—1st. A surface condenser having a vaporizing chamber in connection with it, into which a portion of the circulating water can be drawn or allowed to pass and be vaporized therein, substantially as described. 2nd. In steam engines, the employment of apparatus for the evaporation of a portion of the circulating or cooling water in, or passing from, the surface condenser, the vapour obtained being led to the main condenser or to a separate condenser to give a supply of pure fresh water, thereby utilizing heat imparted to the circulating or cooling water in its passage through the condenser. 3rd. A surface condenser or distilling apparatus in which the upper portion of the body of the circulating or cooling water is maintained comparatively at rest, whilst a continuous flow is maintained through the lower portion, so that the upper portion may be raised to a high temperature and vapour caused to be given off from it, such vapour being conveyed away to condensing coils or chambers to furnish a supply of fresh water. 4th. In a combined surface condenser and distilling apparatus, the employment of a long tube of comparatively small diameter open at its end, or two valves, one an inlet and the other an outlet, for maintaining the pressure in the vapour chamber approximately at atmospheric pressure.

### No. 28,634. Nailing or Tacking Machine. (*Machine à chasser les clous et broquettes*)

The Plumbo and Atwood Manufacturing Company, Waterbury, Conn. (assigns of Elihu Wilder, Newton, Mass.), U. S., 6th March, 1888; 5 yrs.

**Claim.**—1st. In a nailing machine, the combination of driving mechanism, the wire feeding mechanism, the cutters *a*, *a*, formed to make an oblique side 2 on the wire, and the cutters *a*, *a*, formed to sever the wire at one end of said oblique side and shear off one side of the nail from its reduced end nearly to its head, the latter retaining the full diameter of the wire, as set forth. 2nd. In a nailing machine, the combination of driving mechanism, wire feeding mechanism, a fixed wire guide *a*, the fixed cutters *a* and *a*, the reciprocating cutters *a* and *a*, mechanism for reciprocating said cutters independently, whereby, first, the cutter *a* is caused to co-operate with the cutter *a* in pointing the wire, and, secondly, the cutter *a* is caused to co-operate with the cutter *a* in severing the wire and shearing off a part of one side of the severed nail, a driver and a fixed throat under the same, to which each nail is presented by the forward movement of the cutter *a*, as set forth. 3rd. In a nailing or tacking machine, the combination, with nail forming and driving mechanism, substantially such as herein described, of a laterally movable feed-block, a roll between which and the block the nail wire passes, mechanism, substantially as described, for reciprocating said block, means, substantially as described, for pressing the block toward the roll during its downward movement, and means, substantially as described, for separating the block and roll during the upward movement of the block, as set forth. 4th. In a nailing or tacking machine, the combination, with nail forming and driving mechanism, substantially such as herein described, of a laterally movable feed-block, a roll between which and the block the nail wire passes, mechanism, substantially as described, for reciprocating said block, means, substantially as described, for pressing the block toward the

roll during its downward movement, and means, substantially as described, for giving the block an additional pressure at the end of its downward movement, and thereby rigidly holding the wire while the nail forming cutters are acting, as set forth. 5th. The combination of the vertically movable horn, mechanism, substantially as described, for controlling the height of the same according to the thickness of the material to be nailed, nail forming mechanism, a driver, a reciprocating wire feed and a stop which is moved vertically with the horn, and determines the initial or starting point of the feed and the length thereof, as set forth. 6th. In a nailing machine, the combination of the vertically movable horn, the screw-threaded standard supporting the same, a nut *g* engaged with said threaded standard, and means, substantially as described, for rotating said nut and thereby raising or lowering the horn, as set forth. 7th. In a nailing machine, the combination of the vertically movable horn, the screw-threaded standard supporting the same, the stud *h* having a thread of opposite pitch, the journalled nut tapped to engage both the standard and stud, and means, substantially as described, for rotating said nut, as set forth. 8th. In a nailing machine, the combination of the vertically movable horn, the screw-threaded standard, the nut engaged with said standard, a spring, as *h*, whereby the nut is normally turned to elevate the horn, and automatic means, substantially as described, for rotating said nut in the opposite direction, and thereby depressing the horn, as set forth. 9th. In a nailing machine, the combination of the vertically movable horn, the screw-threaded standard, the nut engaged with said standard, a spring, as *h*, whereby the nut is normally turned to elevate the horn, automatic means, substantially as described, whereby the nut is rotated in the direction required to depress the horn, and devices, substantially as described, controlled by the operator, whereby the nut may be independently rotated in the direction last mentioned, to additionally or independently depress the horn, as set forth. 10th. In a nailing machine, the combination of the vertically movable horn, the screw-threaded standard, the nut engaged with said standard, a spring whereby the nut is normally turned to elevate the horn, automatic means, substantially as described, for rotating the nut in the opposite direction, and automatic means, substantially as described, for releasing the nut and permitting the spring to rotate it, as set forth. 11th. The combination of the horn and the threaded standard, the spring impelled nut engaged with said standard, the lever *h* connected with said nut by means, substantially as described, and provided with the flange *h*, the lever *h*, having the dogs adapted to grip said flange, means, substantially as described, for automatically moving said levers while they are locked together to depress the horn, and means, substantially as described, for automatically disengaging the lever *h* from the lever *h*, as set forth. 12th. The combination of the lever *h*, having the flange *h*, the lever *h* having the dogs *h*, and arms *h*, *h*, and the adjustable piece *h* formed to displace the arms *h* and dogs *h*, as set forth. 13th. The combination of the screw-threaded horn supporting standard, the spring-impelled nut engaged, as described, with said standard, and adapted to normally raise the same, and means, substantially as described, for regulating the tension of the nut impelling spring, as set forth. 14th. The combination of the horn, the threaded standard supporting the horn, the nut for raising and lowering said standard, and the treadle *h*, and intermediate devices, substantially as described, whereby the operator is enabled to rotate the nut independently by foot power, as set forth.

### No. 28,635. Machine for Cutting Bricks or Tiles. (*Machine à couper les briques ou les tuiles.*)

J. W. Panfield and Son, Willoughby, Ohio (assignees of Ellis M. Burr and John W. Stipes, Champaign, Ill.), U. S., 6th March, 1888; 5 years.

**Claim.**—1st. In a brick and tile cutting machine, the combination, with the continuously moving horizontal carrier, of the vertically reciprocating cutter geared to, and operated from said moving carrier, and fixed ways for controlling the horizontal movements of said cutter, substantially as and for the purpose described. 2nd. The combination, with an endless carrying belt and drums for supporting the same, of a drive-chain connecting said drums operatively together, a crank-shaft operatively geared to one of said drums, a vertically reciprocating cutter-frame connected to said crank-shaft, and a guiding cam operatively connected to the cutter-frame, so as to deflect the movement of the cutter, to produce the desired cut without interrupting the movement of the carrier, substantially as set forth. 3rd. The combination, with the frame *A*, carrying the drums *C*, and standards *B*, of the sprocket-gearing between said drums, the crank-shaft upon said standards, the sprocket-gearing between said drums and shaft, the yoke frame connected to the crank-shaft and carrying the cutting-wire, and the guiding cams *N*, for deflecting the movements of the cutter, substantially as described.

### No. 28,636. Weighing Machine. (*Pont à bascule.*)

The Nachmaschinen Fabrik Vormals Frister and Rossmann Actien Gesellschaft (assignee of George Reimann), Berlin, Germany, 6th March, 1888; 5 years.

**Claim.**—1st. In automatic weighing machines, the connecting rod *a* attached to the rod *C* by means of the open link *B*, in combination with the levers *E* and *L*, the weight *M*, the toothed sector *P* and spindle *Q*, whereby when the connecting rod is depressed, the weight *M* will be operated and the toothed sector *P* will operate the spindle *Q*, and the dial *R* attached to the same, according to the weight of the person or object on the platform, substantially as described. 2nd. In automatic weighing machines, the flaps *L*, *L*, weighted levers *e*, *e*, and the glass covered opening *b*, with the lever *e*, located below the coin opening so that, when a coin is inserted in the coin opening, the lever *e* will be depressed, the flaps *L*, *L*, be drawn apart, and the dial partially disclosed, substantially as described. 3rd. In automatic weighing machines, the combination of the flaps *L*, *L*, the former of which is provided with a recess, with the lever *z*, bell-crank lever *pl*, rake-like arm *S*, weight *M*, levers *a* and *a*, so that, when the flaps are opened, the recess will glide over the lever *z* of