No. 18,803. Construction of Butter or other similar Dishes. (*Fabrication des Beurriers ou autres Ustensiles semblables.*)

Joseph D. Lucas, Toronto, Ont., 6th March, 1884; 5 years.

Claim.—1st. In combination with a dish of any suitable design, a divided ring B designed to fit the edge of the dish and provided with claws *b*, arranged to grasp the edge of the dish when the ends of the divided ring are clamped together, as specified. 2nd. A divided ring B having the knife-holder E, handle C and claws *b* attached to it, in combination with lugs *c* formed on the ends of the ring and clamped together, substantially as and for the purpose specified.

No. 18,804. Air Compressing Machinery.

(*Appareil pour Comprimer l'Air.*)

George R. Cullingworth, New York, N. Y., U. S., 6th March, 1884; 5 years.

Claim.—1st. The combination, with the cylinder of a double-acting air compressor, of pipes or conduits connecting the ends thereof, and a pressure regulator capable of operation by an excess of air pressure and serving to control communication between the ends of said cylinders through said pipes or conduits, substantially as described and for the purpose set forth. 2nd. The combination, with the cylinder of a double-acting air compressor provided with pipes or conduits for connecting its ends, and a pressure regulator capable of operation by an excess of air pressure for controlling communication between the ends of the cylinder through said pipes or conduits, of an operating engine provided with a throttle valve and connection through which the said regulator effects the closing or partial closing of said throttle valve, when it places the ends of the cylinder in communication, substantially as described and for the purpose set forth. 3rd. The combination, with the cylinder of a double-acting air compressor provided with pipes or conduits connecting its ends, and a pump for supplying cooling water to the cylinder, of a pressure regulator capable of operation by an excess of air pressure to place the ends of the cylinder in communication through said pipes or conduits, and a valve which is capable of operation by the regulator at the same time, and which serves to admit air to the suction of the pump, substantially as described and for the purpose set forth. 4th. The combination, with the cylinder of a double-acting air compressor provided with conduits connecting its ends, and a pressure regulator capable of operation by an excess of air pressure to place the ends of the cylinder in communication through said pipes or conduits, of an operating engine for the compression provided with a throttle valve, a pump for supplying cooling water to the compressor cylinder provided with an air inlet valve in its suction, and connections through which the said regulator closes, or partly closes the throttle valve and opens the said air valve, when acting to place the ends of said cylinder in communication with each other, substantially as described and for the purpose set forth. 5th. The inlet valve, herein shown and described, for an air compressor, consisting of hollow cylinder or sleeve and a head connected therewith by a skeleton bridge, and having an annular opening between said cylinder or sleeve and said head, substantially as described and for the purpose set forth. 6th. The combination, with the air chest or chamber for containing the discharge or outlet valves of a compressor, of a valve casing consisting of a hollow cylinder and a seat-ring connecting with the cylinder by wings or ribs, so as to leave an annular space between them and a cap for the casing, all being supported in openings in the inner and outer walls of the air chest or chamber, a bonnet for closing the opening in said outer wall, and a screw passing through the bonnet and bearing against the cap of the valve casing, substantially as shown and described. 7th. The combination, with a hollow cylindric discharge or outlet valve for an air compressor, of a closing spring arranged within the valve and guided externally by the interior of a guide or bushing placed in the valve, substantially as shown and described. 8th. The combination, with a hollow cylindric discharge or outlet valve for an air compressor, and a casing containing a seat for the valve and provided with a cap or cover, of a spiral spring arranged within the valve and having its ends fitted to bearings in the valve and in the cap or cover of the casing, and a bushing inserted in said valve and serving as a guide to the exterior of the spring, substantially as shown and described. 9th. The combination, in a journal box, of brasses or linings made up of top, bottom and side sections, hollow or tubular bolts for holding down and adjusting the cap wedges, for adjusting the said side sections, and screws working through said hollow or tubular bolts for adjusting the wedges to tighten the said side sections, substantially as described and for the purpose set forth. 10th. The combination, in a journal box for air compressor engines and other purposes, of brasses or linings made up of top, bottom and side sections, hollow or tubular bolts for holding down and adjusting the cap wedges, for tightening said side sections, screws working through said hollow or tubular bolts, for adjusting said wedges to tighten said side sections, and springs acting upon the wedges to loosen them, when the said screws are relaxed, substantially as described and for the purpose set forth.

No. 18,805. Combined Butter Dish and Package. (*Beurrier et Boîte à Beurre Combinés.*)

Alfred Edwards, New Haven, Ct., U.S., 6th March, 1884; 5 years.

Claim.—1st. As an article of manufacture, a butter-package consisting of two parts or halves adapted to be fitted together with their open ends, and having a circular groove or channel adapted to receive a strip of paper or equivalent material, for connecting or uniting the parts into one body or package, substantially as and for the purpose shown and set forth. 2nd. A package for butter comprising the two ornamental parts or sections A and A1, each adapted to contain a given quantity of butter, having a central groove or channel formed by the flanges *c*, *c*1, and united by a strip or band C cemented into the said channel flush with the body of the package, as set forth. 3rd. A package for butter comprising the two ornamental parts or sections A and A1, each adapted to contain a given quantity of butter, having a central groove or channel formed by the flanges *c*,*c*1, and united by a strip or band C cemented into the said channel flush with the body of the package, said sections A and A1 of the complete package having one or more openings *b* provided with removable stoppers B, substantially as and for the purpose shown and described.

No. 18,806. Gas Engine. (*Machine à Gaz.*)

Cyrus W. Baldwin, Chicago, Ill., U. S., 6th March, 1884; 5 years.

Claim.—1st. In a gas engine, the combination of a working cylinder, two pistons and appliances, substantially as described, for operating them independently, and air and gas ports and channels, substantially as set forth, whereby the charge of explosive gases is compressed in front of the working piston and then transferred to the rear thereof and exploded, substantially as specified. 2nd. The combination of the cylinder, its pistons B, B2, air and gas ports and channels and appliances, substantially as described, whereby the piston B is moved from the rear of the cylinder to the piston B2, and the gases thereby forced from the front to the rear of the piston B, and the pistons then separated while both travelling forward to receive between them a second charge of gases, substantially as set forth. 3rd. The combination of the cylinder pistons B, B2 and ports, passages and valves and operating devices, substantially as described, whereby the two pistons are separated while travelling forward to receive a charge of gases between them, and are then brought toward each other while travelling back to compress said charge until the piston B reaches the limit of its motion, and said piston is then brought against the piston B2 to force the charge to the opposite side of the piston B, substantially as set forth. 4th. The combination, with the cylinder A and its ports and passages, and with the piston B, rod *a*, connecting-rod *b* and shaft C and crank *c*, of the piston B2, rods *d*, connecting-rod *d*1 and supplemental crank D2, substantially as set forth. 5th. The combination of the cylinder, its ports and valves, and pistons B, B1 connected together, and intermediate and independently operating piston B2, substantially as set forth. 6th. The combination of the cylinder piston B, piston B1 connected thereto and provided with a trunk, and piston B2 connected to rods extending through the piston B1 and attached to a cross-head sliding in guides of the trunk, substantially as set forth. 7th. The combination, with a gas engine, of ports arranged at opposite portions of the working cylinder, and air passages and valves, substantially as set forth, whereby a charge of air is carried through the cylinder away from the piston, when the latter is at the limit of its forward motion, after the explosion of the gases and prior to the admission of a new charge, substantially as set forth. 8th. The combination, with the working cylinder and piston of a gas engine, of exhaust and air ports and passages arranged to admit a charge of air after the explosion, and then to permit the same to be expelled by the backward movement of the piston, as set forth. 9th. The combination of the cylinder, connected pistons B, B1, intermediate piston B2 and ports and passages arranged to carry the air from between the pistons B2, B1 to the rear of the piston B, substantially as set forth. 10th. The combination of the cylinder A having the exhaust port *e*, communicating air ports *f*, *i*, igniting-opening *q* and gas port *s* arranged and provided with valves, substantially as set forth, and working piston B, piston B1 provided with air-openings and valves, and intermediate piston B2, substantially as set forth. 11th. The combination of the gas inlet valve and operating appliances, a reciprocating rod G1 constituting part of said operating appliances, and a governor and connections, whereby said rod is thrown out of connection with the other parts, when the speed of the engine becomes excessive, substantially as set forth.

No. 18,807. Horse Shoe. (*Fer à Cheval.*)

John W. Fierheller, Newmarket, Ont., 6th March, 1884; 5 years.

Claim.—An improved horse-shoe in which the ends forming the heel are bifurcated, so as to make that portion of the shoe elastic, substantially as and for the purpose specified.

No. 18,808. Manufacture of Buttons.

(*Fabrication des Boutons.*)

Charles E. Bailey and William R. Talbot, Providence, R.I., U.S., 6th March, 1884; 5 years.

Claim.—The herein described method of constructing buttons, consisting in forcing the prongs of the shank B up through the material which is to compose the button-head, and then forming said head and clinching the prongs of the shank into the top surface thereof at one and the same operation, substantially as and for the purpose specified.

No. 18,809. Edger. (*Machine à Scier les Flaches.*)

James A. Robb, San Frannisco, Cal., U. S., 6th March, 1884; 5 years.

Claim.—1st. In a gang edger having a series of saws mounted upon a driving shaft or arbor, a means for adjusting the same to any desired distance apart consisting of a series of setting levers fitted to transverse guides and connected with the grooved collars of the saws, in combination with a notched scale bar or rack into which spring catches upon the lever arms may fall, substantially as herein described. 2nd. In a gang edger, means for raising or lowering the upper feed rolls consisting of vertically sliding journal boxes at each end of the rolls, eccentric or cranked disks mounted upon shafts and having their cranks connected with the sliding by rods or an equivalent rack and pinion, and a means for rotating the disk or pinion shafts, substantially as herein described. 3rd. In a gang edger, means for raising and depressing the upper feed rolls consisting of eccentric or cranked disks connected with the vertically sliding boxes, of the feed rolls, the disk shafts having gears upon one end, which are both engaged by a pinion upon a centrally placed actuating shaft, substantially as herein described. 4th. In a gang edger and in combination with the means for raising and depressing the upper feed rolls, as shown, a flanged belt pulley V upon the pinion shaft U, the flanged pulley X upon the driving shaft Y and the belt Z, together with the tightening pulley *h* mounted upon the lever arm *d* of the shaft *c*, and the handle bar or rod *k*, substantially as herein described. 5th. In a