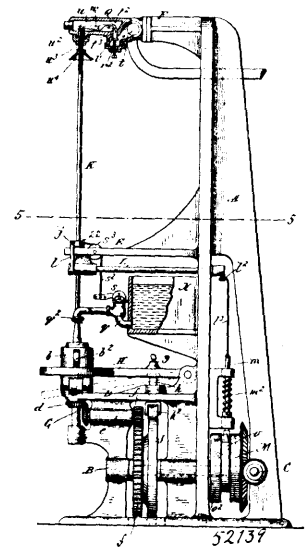
has its course continued in the basin, of the vertical shaft B, hinge-connected to, and radially extended from, the shaft and having a running bearing on said track, a mould mounted on the carrier and means for turning said shaft, substantially as described. 15th. In a glass-blowing machine, in combination, the rotary shaft, the carrier having a mould thereon, connected to and outwardly extended from a member of the shaft, and having a slide movably guided thereon which is provided with a projection or roller, a rib-like part along which the said projection runs for a portion of its course whereby the slide is outwardly maintained, and a cam in engagement with which the roller at another part of its course runs for forcing the slide inwardly and connections between the slide and mould sections whereby the outward and inward movements of the slide close and open the sectional mould, substantially as described. 16th. In a glass-blowing machine, in combination, the base A, the shaft B, the collar G, fixed on the shaft having the ear-lugs d, the mould-carriers H, H, with bifurcated inner ends hinged to the ear-lugs d, and having the slide-ways g, the slide-block L on each of the carriers having combined therewith the stud h, roller j, and the angularly arranged arms i, i, clamped on the upper end of the stud above the slide-block, by the nut, i^2, the mould sections c,c, hinged on the mould-carriers, each having the outwardly extending lug c^3, and the connecting-rods, c^4, all substantially as described and shown. 17th. In a glass-blowing machine, in combination, a mould-carrier and mould, and an air-conduit both revoluble, means for affording a support for a blow-pipe in connection with the conduit and in proximity to the mould, a valve for closing said conduit having a spring for forcing its stem outwardly, for closing, and the semi-circular rib T, into impingement with which the revolubly carried valve-stem is periodically moved, substantially as described. 18th. In a glass-blowing machine, in combination a mould and mould-carrier, means for imparting revoluble movements to the carrier, and an air-conduit that is movable in unison with the mould, a removable blow-pipe which may be placed in connection with the air-conduit and in co-operative proximity to the mould, a depending tubular part Q^3, rotatably mounted upon the revolubly, carried air-conduit to form a continuation thereof, and the part which receives the engagement therewith of the upper end of blow-pipe, a wheel or roller secured on said depending tubular the rotatable part, and the arc-shaped fixture S, on which the said wheel runs during a portion of the revoluble movement of the mould-carrier and air-conduit, substantially as described. 19th In a glass-blowing machine, the combination with the mould-carrier and the air-conduit Q horizontally thereabove, and means for revolubly moving both in unison, of the depending rotary tubular continuation of the conduit Q, having its lower end constructed for the engagement therewith of the upper end of a blow-pipe, substantially as and for the purposes set forth. 20th. In a glass-blowing machine, the combination with the base having the upstanding hub b, with the outstanding arc-formed flange b^3, and the eccentrically arranged cam-rib n, of the mould-carriers having the slide L, with the rollers j, the sectional moulds hinged together and mounted on the mould-carriers, and means intervening between the slides and mould sections actuated by the movements of the slide for opening and closing the mould sections, substantially as described. 21st. In a glass-blowing machine, the combination with the revolubly movable mould-carrier and air-conduit thereabove, having the valves u^2, and the valve-stem u, with the spring u^3, applied thereto for forcing it outwardly to close the valve, of the semi-circular fixture T, and the set-screw applied for holding the valve-stem open, substantially as described. 22nd. In a glass-blowing machine, the combination with the base, formed with the basin, of the revolubly-movable mould-carriers and hinged moulds thereon, the mould-car being jointed to the support which revolubly propels it, whereby it may descend into the basin, means for opening the moulds prior to such descent, springs for exerting a pressure to restrain the open moulds from closing while in their lowered positions, and means for closing the moulds after ascending from within the basin, substantially as described. 23rd. In a machine for blowing glass, one or more moulds each consisting of hinged sections, a base on which said moulds may move, having a depression in a portion of its surface in which said moulds fall in succession when moved as aforesaid, means for moving said moulds on said base, and for causing the same, severally, to open and close automatically while descending into and rising out of said depression, combined and operating substantially as set forth.

No. 52,139. Machine for Blowing Glass.

(*Machine pour souffler le verre.*)

Michael Joseph Owens and Edward Drummond Libbey, both of Toledo, Ohio, U.S.A., 1st May, 1896; 6 years. (Filed 14th March, 1896.)

Claim.—1st. In a glass-blowing machine, the combination with the rotatable mould-support and means for rotating it, of the mould sections pivotally mounted on the mould-support to turn in unison therewith, the movable yoke H, loosely embracing the mould sections and independently of which said mould sections revolve without obstruction by the yoke, and means for imparting the reciprocatory movements to said yoke, substantially as described. 2nd. In a glass-blowing machine, the combination with a mould-support which is rotatable in a fixed plane, and having pivoted thereto, the mould sections b, b, which are provided with the outwardly extending weight wings b^2, b^2, and which turn in unison with said support, of the yoke H, pivoted to the frame of the machine and having its extremity loosely embracing said sections and independently of which said mould-sections revolve without obstruction



by the yoke, and a mechanism for imparting the reciprocatory movements to said yoke, for operating, by its impingement thereupon, the mould-sections, substantially as described. 3rd. In a glass-blowing machine, the combination, with the mould-support, having the mould-sections pivoted thereon, a removable blow-pipe and a blow-pipe support, of the yoke for closing said sections, the liquid reservoir and a conduit, having one or more sprinklers connected with said reservoir, which are directed towards the positions of the opened mould-sections, a valve in said conduit, mechanism for operating the yoke to close the mould-sections, and a mechanism for operating the sprinkler valves having a part thereof adjacent the blow-support, and adapted on the removal of the blow-pipe support, and adapted on the removal of the blow-pipe to have, by said pipe, valve-operating movements imparted thereto, substantially as described. 4th. In a glass-blowing machine, the combination, with the rotary mould-support and the mould sections pivotally mounted thereon, of the yoke H, the shaft B, having the cam J thereon, and having driving connections with the rotary mould-support, the bar h, having an engagement with the cam and engaging the yoke, and means for intermittently rotating said shaft B, substantially as and for the purposes set forth. 5th. In a glass-blowing machine, the combination, with the support and the mould-sections pivoted thereon, of the yoke co-acting with the said sections to close them and to permit them to open, the rotary cam J, and the movable bar h, actuated by said cam, and in turn imparting a movement to the yoke, substantially as described. 6th. In a glass-blowing machine, the combination, with the support and the mould-sections pivoted thereon, of the yoke co-acting with said sections to close them, and having the screw abutment g, adjustably mounted thereon, the cam J, and the bar h, having the roller h^2, adapted to co-act with said abutment, substantially as described. 7th. In a glass-blowing machine, the combination, with the mould-support, mould sections pivoted thereon, the movable yoke H, co-acting therewith, the blow-pipe support and an air-conduit, of the removable blow-pipe adapted to be placed in connection with the air-conduit, and to be sustained by such support with its end in proximity to the mould mechanism for intermittently operating said yoke, and controlling devices therefor having connections which are adapted to be operated by the blow-pipe as the same is brought to its operative position in the machine, substantially as described. 8th. In a glass-blowing machine, the combination with the bracket or support E, having the recess i, the necked or shouldered blow-pipe adapted for engagement in said recess and the rotatable mould support having the sectional separable mould mounted thereon, of a power transmitting shaft B, which mediately imparts the rotation to the said support for the sectional mould, a driving wheel for, and loose upon, said shaft B, and a clutch whereby the driving wheel may be thrown into connection with a wheel which is fast on said shaft, the movable clutch-restraining member, a dog mounted adjacent said recess and actuated by the blow-pipe when placed in the said recess, and connections between said dog and said clutch-restraining member, substantially as and for the purpose set forth. 9th. In a glass-blowing machine, the combination with the recessed support E, and the clutch-restraining bar m, having the spring m^2, of the dog j, having the pin and slot connection on the said support, the rock-shaft L, having the arms l, l^2, one of which is engaged by said dog and the other connected to said bar m, substantially as