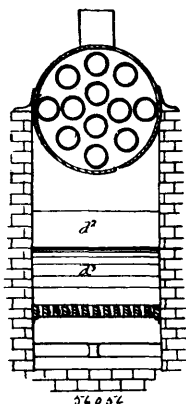


tions being each composed of two oblong frames having a platform extending between and connected to the bottom sides thereof, means for extending said structure, a shaft extending longitudinally from end to end of said carrier frame, a disc mounted upon each end of said shaft, four locking pins or bolts, adapted to take through perforations in said sections at each end of each frame thereof, link connections between said pins or bolts and said discs, one of said discs having its periphery gear-teethed, a second shaft mounted at right angles to said first mentioned shaft, a worm mounted upon one end of said second shaft and adapted to be engaged by said gear-toothed disc, and a crank handle mounted upon the opposite end of said second shaft, for the purpose of rotating the discs, substantially as set forth.

No. 56,056. Smoke Consumer. (*Appareil fumivore.*)



Charles Moisan, Montreal, Quebec, Canada, 1st June, 1897; 6 years. (Filed 6th April, 1897.)

Claim.—1st. In combination with the fire of a smoke consumer, an air supply adapted to be forced across one side of said fire and around one end to the other side thereof, to be drawn through said fire by the said passage of the air across the first mentioned side of same, means for forcing the air in said circuit, and a communication between the space at the side of the fire across which said air supply is forced and the chimney connection, for the purpose set forth. 2nd. In combination with the fire of a smoke consumer, an air supply adapted to be forced across one side of said fire and around one end to the other side thereof, to be drawn through said fire by the said passage of the air across the first mentioned side of same, means for forcing the air in said circuit consisting of live steam and means for injecting same, and a communication between the space at the side of the fire across which said air supply is forced and the chimney connection, for the purpose set forth. 3rd. A furnace comprising a fire chamber, a heat retaining chamber and communicating passage or passages between said heat retaining chamber and the chimney connection, for the purpose set forth. 4th. A furnace comprising a fire chamber, a heat retaining chamber and communicating passages between said heat retaining chamber and the chimney connection, the ends of said passages adjacent to said chimney connection being inclined towards one another, for the purpose set forth. 5th. In a smoke consuming furnace, the combination of an inclosing chamber the front wall whereof is adapted to support the forward end of a fire grate, a bridge adapted to extend transversally from side to side of said chamber and from the floor to within a short distance of the top thereof, said bridge being adapted to support the rear end of said grate, a flue formed in said bridge and extending from a point above said grate to a point below same; an air supply directed towards the upper end of said flue, means for forcing said air supply into said flue, and a communicating passage or passages between the space above said bridge and the open air, for the purpose set forth. 6th. In a smoke consuming furnace, the combination of an inclosing chamber the front wall whereof is adapted to support the forward end of a fire grate, a bridge adapted to extend transversely from side to side of said chamber and from the floor to within a short distance of the top thereof, said bridge being adapted to support the rear end of said grate, a flue formed in said bridge and extending from a point above said grate to a point below same, an air supply directed towards the upper end of said flue, means for forcing said air supply into said flue consisting of a live steam supply and means for injecting same, and a communicating passage or passages between the space above said bridge and the open air, for the purpose set forth. 7th. A smoke consuming furnace, the combination of an inclosing chamber, a bridge located transversely thereof and extending from side to side and from the bottom to within a short distance of the top thereof, a vertical transverse partition located intermediate of

said bridge and the rear of said chamber, a communication between the space or sub-chamber thus formed at the rear of said partition and the open air, a pair of horizontal flues extending through said partition and inclined towards one another at their rear ends, said flues affecting a communication between the said sub-chamber and the sub-chamber between said partition and the bridge, a grate located between said bridge and the front wall of the inclosing chamber and supported by said wall and bridge, a curved flue formed in said bridge and extended from a point above said grate to a point below same, a combined air and live steam supply directed towards the upper end of said flue, and means for forcing said combined air and live steam into said upper end of the flue, for the purpose set forth. 8th. A smoke consuming furnace, the combination of an inclosing chamber, a bridge located transversely thereof and extending from side to side and from the bottom to within a short distance of the top thereof, a vertical transverse partition located intermediate of said bridge and the rear of said chamber, a communication between the space or sub-chamber thus formed at the rear of said partition and the open air, a pair of horizontal flues extending through said partition and inclined towards one another at their rear ends, said flues affecting a communication between the said sub-chamber and the sub-chamber between said partition and the bridge, a grate located between said bridge and the front wall of the inclosing chamber and supported by said wall and bridge, a curved flue formed in said bridge and extended from a point along said grate to a point below same, a combined air and live steam supply directed towards the upper end of said flue, and means for forcing said combined air and live steam into said upper end of the flue, said means consisting of an injector having the nozzle thereof projecting inwardly through said front wall of the inclosing chamber and directed towards the upper end of said flue, the rear end of said nozzle having a damper controlled opening to the open air, and a live steam supply to said nozzle, for the purpose set forth. 9th. A smoke consuming furnace, the combination of an inclosing chamber, a bridge located transversely thereof and extending from side to side and from the bottom to within a short distance of the top thereof, a vertical transverse partition located intermediate of said bridge and the rear of said chamber, a communication between the space or sub-chamber thus formed at the rear of said partition, and the open air, a pair of horizontal flues extending through said partition and inclined towards one another at their ends, said flues effecting a communication between the said sub-chamber and the sub-chamber between said partition and the bridge, a grate located between said bridge and the front wall of the inclosing chamber and supported by said wall and bridge, a curved flue formed in said bridge and extended from a point along said grate to a point below same, a combined air and live steam supply directed towards the upper end of said flue, and means for forcing said combined air and live steam into said upper end of the flue, said means consisting of an injector having the nozzle thereof projecting inwardly through said front wall of the inclosing chamber and directed towards the upper end of said flue, the inner end of said nozzle being horizontally flared or extended in width to present an oval or oblong opening, the rear end of said nozzle having a damper controlled opening to the open air, and a live steam supply to said nozzle, for the purpose set forth. 10th. A smoke consuming furnace, the combination of an inclosing chamber, a bridge located transversely thereof and extending from side to side and from the bottom to within a short distance of the top thereof, a vertical transverse partition located intermediate of said bridge and the rear of said chamber, a communication between the space or sub-chamber thus formed at the rear of said partition, and the open air, a pair of horizontal flues extending through said partition and inclined towards one another at their rear ends, said flues effecting a communication between the said sub-chamber and the sub-chamber between said partition and the bridge, a grate located between said bridge and the front wall of the inclosing chamber and supported by said wall and bridge, a curved flue formed in said bridge and extended from a point along said grate to a point below same, a combined air and live steam supply directed towards the upper end of said flue, and means for forcing said combined air and live steam into said upper end of the flue, said means consisting of an injector having the nozzle thereof projecting inwardly through said front wall of the inclosing chamber and directed towards the upper end of said flue, the rear end of said nozzle being connected to the apex of a conical section having two openings therein and a smaller opening intermediate of said openings, a steam injector located in said intermediate opening and in line with the centre of said nozzle, a valve controlled steam supply to said steam injector, the opening below said intermediate opening being provided with a damper and the opening above said intermediate opening being provided with a rotary device, for the purpose set forth. 11th. A combined air and live steam injector comprising a nozzle of tubular form, the rear end of said nozzle having a damper controlled opening to the open air, and a live steam supply to said nozzle, for the purpose set forth. 12th. A combined air and live steam injector comprising a nozzle of tubular form, the rear end of said nozzle being connected to the apex of a conical section having two openings therein and a smaller opening intermediate of said openings, a steam injector located in said intermediate opening and in line with the centre of said nozzle, a valve controlled steam supply to said steam injector, the opening below said intermediate opening being provided with a damper and the opening above said intermediate opening being provided with a rotary device, for the purpose set forth.