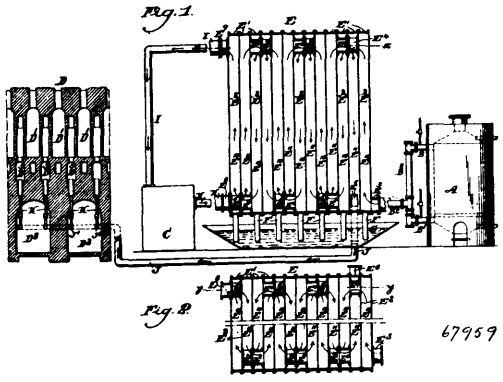
substantially as described. 3rd. Glass rolling plates or rolls, the surfaces of which are covered with fibrous material, said plates or rolls being provided with hollow spaces for the purpose of cooling the fibrous layers, substantially as described. 4th. Hollow glass rolling plates or rolls, the surfaces of which are covered with fibrous material, the arrangement of perforations or passages in the plates and rolls for admitting water or steam for moistening the fibrous material, substantially as described. 5th. The combination of solid or hollow perforated plates, covered with fibrous material with a series of rolls supported one behind another in a frame, substantially as described. 6th. The combination of perforated solid or hollow plates covered with fibrous material with a series of rolls of different diameters supported one behind another in a frame, substantially as described. 7th. The combination of perforated solid or hollow plates covered with fibrous material with a series of rolls supported one behind the other in an oblique direction in a frame, the surface of said rolls being covered with fibrous material, substantially as described. 8th. The combination of one or more pairs of solid or hollow rolls arranged side by side, and covered with fibrous material, with a solid or hollow plate the surface of which is covered with fibrous material for the purpose of producing a glass plate between the pairs of rolls and depositing it on the plate, substantially as described. 9th. The combination of plates and rolls, the surfaces of which are covered by a moistened layer of fibrous material, for the purpose of producing glass plates by pressure or rolling, substantially as described.

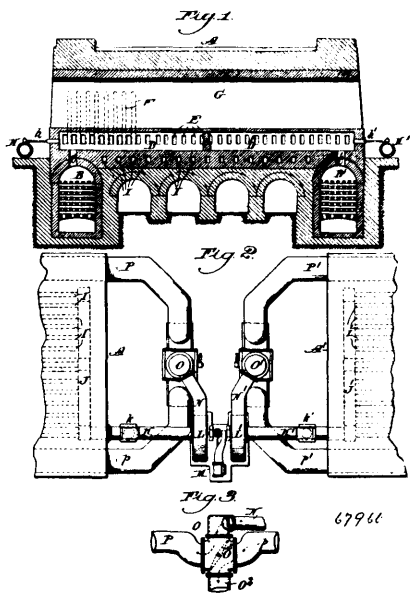
No. 67,959. Apparatus for Transferring Heat from One Fluid to Another. *(Appareil à transferer la chaleur d'un fluide à un autre.)*



The United Coke and Gas Company, Charleston, West Virginia, assignee of Frederic W. C. Schniewind, Everett, Massachusetts, both in the U.S.A., 3rd July, 1900; 6 years. (Filed 19th March, 1900.)

Claim.—1st. An apparatus for transferring heat from one fluid to another, having in combination a series of frames E^1, thin plates or diaphragms E^2 separate from and secured between each pair of frames to form chambers E^{10}, E^{11}, conduits E^4 connecting each alternate pair of chambers E^{10}, conduits E^5 connecting each alternate pair of chambers E^{11} and inlet and outlet conduits leading to and from each set of connected chambers E^{10} and E^{11}. 2nd. An apparatus for transferring heat from one fluid to another, having in combination a series of frames E^1 having securing flanges around the edge thereof, thin plates or diaphragms E^2 separate from and secured between each pair of frames to form chambers E^{10}, E^{11}, conduits E^4 connecting each alternate pair of chambers E^{10}, conduits E^5 connecting each alternate pair of chambers E^{11}, said conduits being situated between the plates E^2 as specified and inlet and outlet conduits leading to and from each set of connected chambers E^{10} and E^{11}. 3rd. An apparatus for cooling gas by transferring its sensible heat to another fluid, having in combination a series of frames E^1, thin plates or diaphragms E^2 secured between each adjacent pair of frames to form chambers E^{10}, E^{11}, conduits E^4 connecting each alternate pair of chambers E^{10} into a conduit for the hot gas conduits E^5 connecting each alternate pair of chambers E^{11} into a conduit for the cooling fluid, inlet and outlet conduits to and from each series of connected chambers, a water receptacle G and dust conduits F leading from the bottom of chambers E^{10} into the water receptacle. 4th. In combination with a gas generator A, a gas cleaner C, and a bank of coke ovens D, and apparatus E made up of a series of frames E^1, having thin plates E^2 separate from and secured between them to form chambers E^{10}, E^{11}, means for connecting the alternate chambers E^{11} into another conduit, the conduit comprising the chamber E^{10} connecting with the producer and the cleaner and the conduit comprising the chambers E^{10} connecting with the cleaner and the coke oven bank, as and for the purpose specified. 5th. In an apparatus for transferring heat from one fluid to another, the combination of a series of flanged plates E^1, thin plates or diaphragms co-extensive with said frames, and secured between the flanges of each pair of frames to form chambers, conduits connecting the chambers in alternate pairs, inlet and outlet conduits leading to and from each set of connected chambers, and dust conduits leading from alternate chambers.

No. 67,960. Coke Oven. *(Fourneau à coke.)*



The United Coke and Gas Company, Charleston, West Virginia, U.S.A., assignee of Frederic F. C. Schniewind, Everett, Massachusetts, U.S.A., 3rd July, 1900; 6 years. (Filed 19th March, 1900.)

Claim.—1st. In combination with a bank of coke ovens having regenerators for preheating the air and to support combustion by the waste heat of the furnaces used for heating the ovens, air supply conduits, as P and *p*, leading to each regenerator, a system of cooling flues situated in the masonry beneath the ovens and furnaces, a conduit, as K, connecting said flues with conduit P and *p* a valve, as O, whereby the connection to either conduit can be closed at will, and means, as specified, whereby the air is drawn through the cooling flues into the supply conduit connected thereto and into the appropriate regenerator. 2nd. In combination with a bank of coke ovens having regenerators for preheating the air and to support combustion by the waste heat of the furnaces and for heating the ovens, air supply conduits, as P and *p*, leading to each regenerator, a system of cooling flues situated in the masonry beneath the ovens and furnaces, a conduit, as K, connecting said flues with conduits P and *p*, a valve as O, whereby the connection to either conduit can be closed at will, a regulable air passage independent of the cooling flues opening into the pipes or conduits connecting said flues with the regenerators, and means, as specified, whereby the air is drawn through the cooling flues and air passage into the supply conduit connected thereto and into the appropriate regenerator. 3rd. In combination with a bank of coke ovens having regenerators for preheating the air and to support combustion by the waste heat of the furnaces used for heating the ovens, a system of cooling flues situated in the masonry beneath the ovens and furnaces, a collecting fan for drawing air through said flues, and a discharge conduit from said fan connecting with the air supply pipes leading to the regenerators. 4th. In combination with a bank of coke ovens having regenerators for preheating the air and to support combustion by the waste heat of the furnaces and for heating the ovens, a system of cooling fluid situated in the masonry beneath the ovens and furnaces, a collecting fan for drawing air through said flues, a supplemental air inlet to the fan independent of the cooling flues, and a discharge conduit from said fan connecting with the air supply pipes leading to the regenerators.

No. 67,961. Gas Engine. *(Machine à gaz.)*

The Duryea Motor Wagon Company, assignee of James Frank Duryea, all of Springfield, Massachusetts, U.S.A., 3rd July, 1900; 6 years. (Filed 9th April, 1898.)

Claim.—1st. In a hydro-carbon engine, means for supplying volatilized hydro-carbon to said engine, consisting of a supply tank, a reservoir placed below the level of the bottom of said tank, a pipe connection from said tank to said reservoir, a float actuated valve for automatically maintaining a quantity of liquid hydro-carbon in said reservoir, a pipe connection from said reservoir to the cylinders of said engine, an atomizer tube in said pipe communicating with