the crank shaft at a varying speed to thus hasten the descent of the driver bar, and enable the driver bar carried by it to strike a nail, the driver bar being actuated positively both in its ascent and descent, substantially as described.

No. 39,285. Nailing Machine. (Machine à clouer.)

Stillman Williams Robinson, Columbus, and Sern Perley Watt. Cincinnati, Ohio, both in the U.S.A., 13th July, 1892; 6 years.

Claim .- 1st. In a nailing machine, a cutting box having a notch where the end of the wire rests, combined with an inclined pointing tool to enter said notch, and a carrier to actuate said tool, whereby the inclined tool cuts into one end of the wire, a notch which is the inclined tool cuts into one end of the wire, leaving a two pronged point, substantially as described. 2nd. The leaver C_7 , the feeding gripper g^3x , the cutting box, and means to support it, combined with the pivoted carrier G^2 , the pointing tool attached thereto, and means to reciprocate the said carrier diagonally with relation to the axis of the wire, substantially as described. 3rd. The cutting box notched at 48 and having a generative at one side of the wire pasaxis of the wire, substantially as described. Brd. The cutting box notched at 48, and having a concavity at one side of the wire pas-sage, combined with the carrier G^2 , the pointing tool therein, shaped substantially as shown, to co-operate with the notch 48, and cut a slanting notch in the end of the wire, substantially as described. 4th. The cutting box having the pointing notch 48, the inclined pointing tool, its diagonally movable carrier, the main slide B⁴, and the nose plate D¹, supported thereby and having a nail passage 19, combined plate D^1 , supported thereby and having a nail passage 19, combined with a pivoted nail carrier interposed between the said cutting box and nose plate, substantially as described. 5th. The nose plate having a nail passage 19, and a nail carrier pivoted thereon, having at its inner side and at the opposite sides of its centre concaved cam surfaces 22 and 23, combined with the cam slide F^2 , to vibrate and lock the said nail carrier accurately in its two extreme positions at the proper time, substantially as described. 6th. The cutting block having the point forming notch 48, and the wire passage, an inclined pointing tool and its reciprocating carrier, and the nose plate having a nail passage, combined with the nail carrier, having concaved cam surfaces 22 and 23, and the cam slide to vibrate the same, to cut off the wire between it and the cutting box, and to lock the said nail carrier in its extreme positions, substantially as described. 7th. The cutting box having the point forming notch 48 and wire passage, the carrier and its connected inclined pointing tool, to form a point for the out of the substantial point of the point of the point for the end of the wire, the nail carrier, the nose plate D1, having a nail passage, a wire feeding device, substantially as described, to feed the pointed end of the wire into the nail carrier for a greater or less length, according to the thickness of the stock on the horn, and a can slide to vibrate the nail carrier to cut off the pointed end of the wire and form a nail of the desired length and place the said the wire and form a nail of the desired length and place the said nail over the nail passage in the nose plate, substantially as described. nan over the nall passage in the nose plate, substantially as described. 8th. The lever 36, its attached plate g^{θ} , and the gripper actuating cam rods g^{s} and g^{13} , jointed thereto, combined with two grippers, the gripping plates, the lever C⁷ to actuate them, and the cutting box to operate, substantially as described. 9th. In a nailing machine, a wire feeding device consisting essentially of a sliding pin, as g^{3} , a cam rod to actuate it, a block having a wire passage en-tered by the gaid bin and an adjusting serve to adjust the said cam pm, as g^* , a can rou to actuate it, a block naving a wire passing en-tered by the said pin, and an adjusting screw to adjust the said can rod, substantially as described. 10th. The main shaft, the frame a, pivoted thereon and having the bearing A^{θ} , the main slide B^{θ} , en-tered by the said bearing, the driver bar guide pivoted on the said main slide, the driver bar, its attached driver and link, combined with the shaft A^{θ} bearing a comb and means to actuate the said with the shaft A^* , having a crank, and means to actuate the said shaft, substantially as described. 11th. The main shaft, the frame a, pivoted theron and having a bearing A^0 , the crank shaft A^* in said hearing the substantial the substantial statement of the same statement. said bearing, the connected driver bar, the driver, a dog attached to said bearing, the connected driver bar, the driver, a dog attached to the said shaft A^* , a non-circular gear loose on the said shaft, a pin or projection between the said dog and gear, a non-circular gear fast to the main shaft, and a spring to actuate the driver and through it rotate the shaft A^* during a part of each rotation, for the purpose set forth. 12th. The awl bar, the lever to move it, the slotted cam plate B², and the pivoted driver bar guide having a slotted cam A¹⁷ and the driver bar, combined with the pin A^{19} to enter the cam slots of both the said bars to move the awl bar and driver bar laterally, as desired, to enable them to move alterdriver bar laterally, as desired, to enable them to move alter-nately in the same path, substantially as described. 13th. In a nailing machine, the following instrumentalities, viz., —A nose plate to bear on the stock, the movable slide B^6 , with which the nose is con-nected, a wire holding gripper carried by and adapted to rise and fall with the said slide and nose plate, a wire feeding gripper, a carrier for the said feeding gripper, means to raise and lower the said carrier with relation to the nose plate, and means to automatically vary the nail length to compensate for upset, substantially as described. 14th. The wire feeding gripper, a carrier for the said gripper, and two pins b^n , and means to move it, combined with an eccentric b^* interposed between the said carrier and the said pin, and means to operate the said eccentric, substantially as and for the and means to operate the said eccentric, substantianly as a first order purpose described. 15th. The vertically movable foot lift, the lever D° , the stops 13 and 16, rising and falling with the said foot lift, a spring to raise the foot lift, and a locking device for the said lever, substantially as described. 16th. The vertically movable foot lift, the lever D° , the stops 13 and 16, rising and falling with the said four lift, a queries the stops 13 and 16, rising and falling with the said foot lift, a spring to raise the foot lift, and a locking device for the said lever, and means to actuate the said locking device, substantially as described, to lock and release the said lever D^{a} at the proper times, as and for the purposes set forth.

No. 39,286. Method of and Apparatus for Carburetting Gas. (Méthode et appareil pour la carburation du gaz.)

Hiram Stevens Maxim, Crayford, Kent, England, 13th July, 1892; 6 years.

Claim. — 1st. The improved method of carburetting or enriching gas by volatilizing liquid hydro carbon, and introducing the vapour thereof into the gas main or gasometer, in the manner substantially as described. 2nd. The method of carburetting or enriching the gas flowing through a gas main, by drawing a suitable proportion of such gas from the main, carburetting or enriching the same and returning it to the main, substantially in the manner hereinbefore described. 3rd. The combination, with an evaporator or retort for volatilizing liquid hydro carbon, of an injector which is operated by the hydro carbon vapour from the said evaporator or retort, and which draws gas from a gas main, enriches such gas and returns it to the main, substantially as hereinbefore described. 4th. The combination, with the gas main, of an evaporator or retort for volatilizing liquid hydro carbon, a steam or hot water heater connected with the said evaporator or retort, and a pipe provided with a controlling valve for conducting the hydro carbon vapour from the evaporator or retort into the gas main, substantially as and for the purposes above specified. 5th. The combination, with a gas main, if an evaporator or retort for volatilizing liquid hydro carbon, a steam or hot water heater connected with the said evaporator or retort and operated by the hydro carbon vapour threefrom, and suitable pipes connecting the said injector with the gas main, substantially as and for the purposes above specified.

No. 39,287. Filler for Blast Furnaces.

(Appareil pour charger les fourneaux à fusion.) Alexander E. Brown, Cleveland, Ohio, U. S. A., 13th July, 1892; 6 years.

Claim.-1st. The combination, with the top opening, or openings, of a furnace and suitable means or mechanism by which the succe sive charges of stock are conveyed from the stockroom to the furnace top, of mechanism operating, as specified, to insure the depositing of said charges in succession at several different and predetermined points, and that is actuated in its successive operations in unison with the operations or movements of the said mechanism, by which the charges of stock are carried up to the furnace top, the said combination being substantially such as, and operating in the manner, hereinbefore more fully described. 2nd. In combination with the top opening of the furnace and suitable means for conveying to the vicinity thereof from the stockroom, the successive charges of material to be fed to the furnace, a turn table formed or provided with a suitable aperture for the ingress to the furnace of said charges of stock, and mechanism for rotating said turn table automatically, and in accordance with the action or operation of the mechanism by which the charges of stock are conveyed from the stockroom to the vicinity of the top opening of the furnace, all in substantially the manner and for the purposes hereinbefore set forth. 3rd. In combination with the furnace top and a rotatory device for insuring or enforcing the entrance into the furnace of successive charges of stock at different points, as specified, a circular track arranged at the under side of said rotatory device, and traveling on top of a series of wheels by which it is supported, and axes of which are mounted in fixed bearings, all substantially in the manner and for the purposes hereinbefore set forth.

No. 39,288. Clutch. (Embrayage.)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 13th July, 1892; 6 years.

Claim.-1st. The combination, with a suitable shaft, and a wheel or part mounted loosely thereon, and adapted to be acted upon by a frictional clutching band, of a clutch band which is movable circumferentially throughout its entire length, means by which said clutch face of said wheel or part with a combined radial and circumferentail movement throughout its entire length, and means by which said clutch band and its attachments are caused to rotate with the said shaft, substantially as and for the purposes set forth. 2nd. The combination, with a suitable shaft, and a wheel or part mounted loosely thereon, and adapted to be acted upon by a frictional clutching band, of a clutch band which is movable circumferentially throughout its entire length, means by which said clutch band is positively expanded or distended against the contacting surface of said wheel or part, with a combined radial and circumferential movement throughout its entire length, and by which said clutch band is also positively contacted with a similar combined movement, and means by which said clutch band and its attachments are caused to rotate with the said shaft, substantially as and for the purposes set forth. 3rd. In a friction clutch mechanism, the combination, with the wheel or part to be clutched to the drive shaft and the part hav-ing a circular surface which is concentric to the surface of the said wheel or part to be clutched, and that rotates with the said drive shaft, of a clutch band which is positively expanded and contracted with a combined radial and circumferential movement throughout its entire length, and means operating to thus expand and contract said clutch band respectively against the contacting surface of the