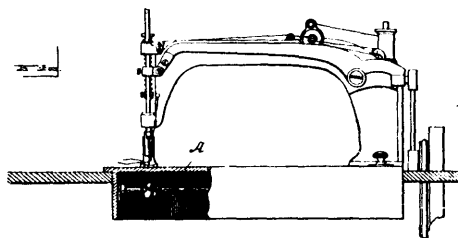


of combustion through said water space, a tubular oil chamber surrounding each of several of said flues, an inlet and an outlet to each of said oil chambers, pipes affording communication between the inlets and outlets of alternate pairs of said oil chambers, whereby a zigzag passage for the oil is formed through said boiler valves in said pipes, a pipe connecting the steam space of said boiler with the inlet of said oil chambers and a packing of refractory material in each of said oil chambers, substantially as described. 12th. In an apparatus for distilling oil the combination of a receptacle for the oil to be treated, a dome to said receptacle, a substantially U-shaped perforated pipe within said receptacle, a boiler, a pipe connecting said U-shaped pipe with the steam space of said boiler, an inlet for the oil to said U-shaped pipe, a filter, a pipe forming a communication between said dome and said filter, a series of flues within said boiler, a tubular oil chamber surrounding each of several of said flues, means for feeding the oil from the said receptacle to the said oil chambers, means for heating said oil chambers and means for conducting away the oleic vapors as they are generated, a filter and a pipe for conducting the oleic vapors from the respective oil chambers of the boiler, substantially as described. 13th. In an apparatus for distilling oil, a receptacle for the oil to be treated, a dome to the said receptacle, an inlet for said receptacle, a pipe connecting the inlet of the receptacle with the steam space of said boiler, a filter, a pipe communicating between said dome and said filter, said filter containing sand, salt, and slacked lime, and means for supplying heat to said filter, substantially as described. 14th. An apparatus for distilling oil, consisting of a vaporizer for the oil, having an inlet and an outlet, a shell or casing having partitions forming a central water space or boiler therein, and a combustion chamber at each end thereof, a series of flues passing through said water space and affording communication between said combustion chambers, partitions in said combustion chambers between the ends of alternate pairs of flues, whereby a zigzag passage is formed for the products of combustion through said boiler, oil chambers each provided with an inlet and an outlet, said chambers surrounding the respective flues of the series, pipes affording communication between the respective inlets and outlets of said oil chambers whereby a zigzag passage is formed through said boiler, valves in said pipes, a pipe affording communication between the steam space of the boiler, and the inlet of said vaporizer, a pipe affording communication between the outlet of said vaporizer, and one end of said zigzag oil passage in the boiler, a valve in said pipe, a condenser, and pipes affording communication between the outlet of each of the respective oil chambers in the boiler, and of said vaporizer and said condenser, substantially as set forth. 15th. An apparatus for distilling oil, consisting of a vaporizer having an inlet and an outlet, a shell or casing having partitions forming a central water space or boiler therein, combustion chambers at each end thereof, and a fire box or chamber at one end thereof, a series of flues passing through said boiler and affording communication between said combustion chambers, partitions in said combustion chambers between the ends of alternate pairs of flues whereby a zigzag passage is formed for the products of combustion through said boiler oil, chambers each provided with an inlet and an outlet, said chambers surrounding the respective flues of the series, pipes affording communication between the respective inlets and outlets of the said oil chambers whereby a zigzag oil passage is formed through said boiler, valves controlling said pipes, a pipe affording communication between the outlet of said vaporizer and one end of said zigzag oil passage in the boilers, a valve in said pipes, a condenser, and pipes affording communication between the outlet of each of the respective oil chambers in the boiler, and of said vaporizer and said condenser, substantially as set forth. 16th. An apparatus for distilling oil, consisting of a vaporizer having an inlet and an outlet, a shell or casing comprising a water chamber or boiler, and a superheater, a pipe affording communication between the steam space of the boiler and the inlet of said vaporizer, a pipe affording communication between said superheater and the inlet of said vaporizer, a condenser, and a pipe affording communication between said condenser, and the outlet of said vaporizer, substantially as set forth. 17th. An apparatus for distilling oil, consisting of a vaporizer having an inlet and an outlet, a shell or casing having partitions forming a water chamber or boiler, and a fire chamber therein, said partitions being arranged to form a close chamber surrounding said fire chamber, said close chamber serving as a superheater, a pipe affording communication between the steam space of the boiler and the said superheater and the inlet of the vaporizer, a pipe affording communication between the steam space of the boiler and the inlet of the said vaporizer, a condenser, and pipe affording communication between the outlet of said vaporizer and said condenser, substantially as set forth. 18th. An apparatus for distilling oil, consisting of a boiler having a flue formed therein, and a tubular oil chamber surrounding said flue, said chamber having an inlet and an outlet, a pipe affording communication between the steam space of the boiler and the inlet of said oil chamber, a condenser, and a pipe affording communication between the outlet of said oil chamber and said condenser, substantially as set forth. 19th. An apparatus for distilling oil, consisting of a vaporizer for the oil having an inlet and an outlet, a boiler having a flue and a tubular oil chamber surrounding said flue, said chamber having an inlet and an outlet, a pipe affording communication between the steam space of the boiler and the inlet of said vaporizer, a pipe affording communication between the inlet of said oil chamber and the outlet of said vaporizer, a pipe affording communication between the steam

space of the boiler and the inlet of said oil chamber therein, a condenser, and a pipe affording communication between the respective outlets of said vaporizer and oil chamber and said condenser, substantially as set forth.

No. 42,813. Sewing Machine. (*Machine à coudre.*)



Harriet R. Tracy, New Brighton, New York, U.S.A., 3rd May, 1893; 6 years.

Claim.—1st. A sewing machine of the class in which the loop takers are so arranged as to permit the passage of the needle thread entirely around them, comprising a loop taker provided with a hook or projection for engaging the needle thread, and with a curved elongated projection arising from a point approximately opposite the engaging hook or projection, and arranged in a plane which is substantially at right angles to the axis of revolution of the loop taker, for receiving a loop formed by engaging the needle thread by the engaging hook or projection and carrying it around the shuttle, and for retaining the same until taken up by the short hook to form the succeeding stitch, substantially as described. 2nd. A sewing machine of the class in which the loop takers are so arranged as to permit the passage of the needle thread entirely around the loop taker, comprising a loop taker provided with a short hook or projection for engaging the needle thread, and with a curved elongated projection, arising from a point opposite the said engaging hook, and arranged substantially in a vertical plane which is at right angles to the axis of revolution of the loop taker for receiving a loop formed by engaging the needle thread by the short hook or projection, and carrying it around the loop taker, and for retaining the same until taken up by the short hook to form the succeeding stitch, the said elongated projection extending beyond the point diametrically opposite its place of beginning on the loop taker. 3rd. A sewing machine of the class in which the loop takers are so arranged as to permit the passage of the needle thread entirely around them, comprising a loop taker provided with a hook or projection for engaging the needle thread, and with a curved elongated projection arranged in a plane substantially at right angles to the axis of revolution of the loop taker, for receiving the loops formed by engaging the needle thread by the hook or projection, and for retaining the same until taken up by the short hook to form the succeeding loop, the elongated hook or projection being so arranged with relation to the body of the loop taker as to have an increasing distance between it and the body of the loop taker from its fixed to its free end, substantially as described. 4th. A sewing machine of the class in which the loop takers are so arranged as to permit the passage of the needle thread entirely around the loop taker, comprising a loop taker provided with a short hook or projection for engaging the needle thread, and with a curved elongated projection arranged substantially in a vertical plane which is at a right angle to the axis of revolution of the loop taker for receiving loops formed by engaging the needle thread by the short hook or projection, and for retaining the same until taken up by the short hook to form the succeeding loop, the elongated hook or projection, extending beyond the point diametrically opposite its place of beginning on the loop taker and being so arranged with relation to the body of the loop taker as to have an increasing distance between it and the body of the loop taker from its fixed to its free end. 5th. A sewing machine of the class in which the loop takers are so arranged as to permit the passage of the needle thread entirely around it, comprising a loop taker provided with a hook or projection for engaging the needle thread, with an elongated projection arranged in a plane substantially at right angles to the axis of motion of the loop taker, for receiving a loop formed by passing the needle thread around the loop taker, and with a guard or fender whereby the thread is directed away from the hook, by which the needle thread is engaged substantially as described.

No. 42,814. Method of Tempering Steel Discs.

(*Méthode de tremper les disques d'acier.*)

Jay S. Corbin, Prescott, Ontario, Canada, 3rd May, 1893; 6 years.

Claim.—1st. The herein described method of tempering the peripheral cutting edge of a steel disc, consisting in placing the disc in a forge having an annular fire so arranged the central portion of the disc is kept cool while the outer edge is subjected to the heat of the fire until it has reached a low, red heat, and then cooling the disc by submerging it in water, as and for the purpose specified. 2nd. An improved means or apparatus for tempering the peripheral edges of discs, consisting in an annular fire pot, comprised of the