

tion, with a telegraph line circuit, of two receivers each consisting of two arms forming part of a local circuit, and carrying magnets at their extremities controlled by said line circuit, one of the receivers being arranged to respond to currents of one polarity, and the other to currents of strength, substantially as described. 11th. The combination, with an ordinary Morse or other galvanic telegraph line circuit, of an induced current circuit containing receivers, each consisting of two arms carrying magnets controlled by the induced current circuit, and separators connecting said galvanic and induced current circuit, substantially as described. 12th. A receiver consisting of two magnets supported on, and carried by flexible supports, and controlling a local circuit, whereby the said local circuit may be controlled by the attraction or repulsion of the said magnets, substantially as described.

No. 29,429. Automatic and Autographic Telegraphy. (*Télégraphie automatique et autographique.*)

Charles Selden, Baltimore, Md., U.S., 3rd July, 1888; 5 years.

Claim.—1st. As an improvement in the art of autographic telegraphy, the method substantially as hereinbefore described, which consists in causing superimposed series of electric impulses controlled by the original to be transmitted to pass over a line, then causing each series separately to generate acoustical vibrations at the receiving station, and utilizing said vibrations to produce the fac-simile. 2nd. As an improvement in the art of autographic telegraphy, the method substantially as hereinbefore described, which consists in causing superimposed series of electrical impulses controlled by an original to be transmitted to pass over a line, then translating each series separately into acoustical vibrations, then retranslating the latter into magnetical vibrations and utilizing these to produce the fac-simile. 3rd. The combination, with a series of differently tuned circuit controlling vibrators, sending impulses to the line, of an original controlling said impulses, acoustical apparatus responsive to said impulses, and indicating device controlled by the acoustical apparatus, substantially as described. 4th. The combination, with a series of differently tuned circuit controlling vibrators sending impulses to line, said impulses being controlled by an original, of acoustical receiver tuned to correspond with the vibrators, electromagnets controlled by said receivers, and indicating levers operated by said magnets, substantially as described. 5th. In an autographic telegraph the combination of a series of differently tuned circuit controlling vibrators, all connected in the same circuit, a moving original formed of conducting and non-conducting parts, and contacts bearing upon the same, each connected to one of the circuit controllers, and acoustical receivers tuned to correspond with the vibrator, substantially as described. 6th. In an autographic telegraph, a cylinder carrying the original to be transmitted divided into sections insulated from each other, in combination with a series of contact fingers bearing upon each of the insulated sections, and a tuned circuit controlling vibrator for each finger, substantially as described. 7th. The combination, with a tuned reed or tuning fork, of a similarly tuned resonator provided with a diaphragm, said circuit controlling devices operated by said diaphragm, substantially as described. 8th. The combination, with a tuned reed or tuning fork, of a similarly tuned resonator provided with a diaphragm, a circuit controller operated by said diaphragm, and an electromagnet in said circuit, substantially as described. 9th. The combination, with a series of tuned reeds or tuning forks, of a series of similarly tuned resonators, each provided with a diaphragm circuit controllers arranged for joint operation, a series of electromagnets arranged for joint operation, substantially as described.

No. 29,430. Trough for Water Closets.

(*Cuvette de siège d'aisance.*)

William B. Parsons, New York, N.Y., U.S., 3rd July, 1888; 5 years.

Claim.—1st. In a water closet, a trough formed with a series of basins located at different levels, each having curved sides and being curved upon the bottom, substantially in the manner described, so connected with each other by curved surfaces that a ridge or elevation is formed between the same. 2nd. In a water closet, the combination, substantially as hereinbefore set forth, with the trough provided with a series of basins located on different levels, of a seat board composed of a series of independent boards covering each basin, placed at different levels and so constructed and arranged that the openings therein shall be in each case the same distance above the level of the corresponding basin in the trough. 3rd. In a water closet, a trough composed of detachable sections so constructed and arranged that any number of said sections may be joined together, each section being formed into a series of basins located at different levels, and curved upon the bottom, substantially in the manner described, said basins being each so connected with each other by curved surfaces that a ridge or elevation is formed between the same.

No. 29,431. Machine for Barbing and Winding Wire. (*Machine à barbler et enrouler le fil de fer.*)

Ferdinand Philips, Philadelphia, Penn., U.S., 3rd July, 1888; 5 years.

Claim.—1st. In a machine for barbing wire, the combination of parallel driving shafts with barbing-rolls corresponding in number to the rows of indentations to be produced on the wire, and having their teeth formed in surfaces corresponding in angular position to that of the rows of indentations to be formed. 2nd. Barbing rolls constructed and adapted for use substantially as specified, having their teeth formed with faces *m*, substantially in a plane passing through the axis of the roll, and their faces *n* tapering gradually upward. 3rd. Barbing-rolls constructed and adapted for use substantially as specified, having their teeth formed with faces *m*, substantially in a plane passing through the axis of the roll, their faces *n*, tapering gradually upward, and crowns *g, h*, consisting of a portion of the originally roll surfaces. 4th. In a machine for barbing wire, the combination, with parallel driving shafts, of barbing rolls or

dies having teeth formed in their peripheral edges and adapted to be secured in pairs or sets upon the driving shafts so as to form dies for barbing the wire, substantially as shown and described. 5th. In combination with barbing mechanism, the winding roll having driving mechanism adapted to give the reel surface a normal speed slightly greater than the speed of the barbing roll surface, said driving mechanism having a yielding frictional connection with said reel, substantially as specified. 6th. A wire-winding reel having in combination, the rim *O*, and flange *O*, rigidly attached to the hub *N*, the removable flange *P, P*, and wedges *R* extending through the flange *P* across the face of the reel. 7th. A wire-winding reel having in combination, the rim *O*, and flange *O*, rigidly attached to the hub *N*, and having the tapering projections *O*, formed on the reel-face, the removable flange *P, P*, and wedges *R* extending through the flange *P* across the face of the reel.

No. 29,432. Device for Making Ice Roads.

(*Appareil pour faire les chemins de glace.*)

Daniel J. Arpin, Grand Rapids, Wis., U.S., 3rd July, 1888; 5 years.

Claim.—1st. A device for making ice roads that comprises a sled having hollow runners, interiorly provided with deflecting plates, and means substantially as described for heating said runners, whereby snow may be melted by contact therewith, as set forth. 2nd. A device for making ice roads that comprises a sled having hollow runners, interiorly provided with deflecting plates, a heater arranged on the sled, pipes connecting the runners and heater, and a smoke stack also connected to the runners, whereby the products of combustion are drawn through said runners to heat the same, substantially as set forth. 3rd. A device for making ice roads that comprises a sled having hollow runners, a heater arranged on the sled, pipes connecting the runners and heater, a smoke-stack also connected to the runners, and a blower for increasing the draft, substantially as set forth. 4th. A device for making ice roads that comprises a sled having hollow runners, a heater arranged on the sled, pipes connecting the runners and heater, a smoke-stack also connected to the runners, a blower arranged in the smoke-stack, and a shaft having a bolt connection with the blower, and provided with spokes that come in contact with the surface over which the sled passes to impart motion to said shaft, substantially as set forth. 5th. A device for making ice roads that comprises a sled having hollow runners, a heater arranged on the sled, pipes connecting the runners and heater, a smoke-stack also connected to the runners, a blower arranged in the smoke-stack, a shaft arranged to have vertical play in its bearings, and belt geared to the blower, spokes arranged on the shaft to come into contact with the surface over which the sled passes to impart motion to said shaft, and a suitably arranged bolt-tightener, substantially as set forth. 6th. A device for making ice roads that comprises a sled having hollow runners open at their rear ends, and provided at their front ends with draft openings, a smoke-stack connected to the runners, and cut-off plates for the rear ends, and draft openings of said runners, substantially as set forth. 7th. A device for making ice roads that comprises a sled having hollow runners open at their rear ends, and each runner provided with a top opening, front draft openings, and cut-off plate for its open rear end, substantially as set forth.

No. 29,433. Live-Poultry Car.

(*Char à volailles vivantes.*)

William P. Jenkins, Chicago, Ill., U.S., 3rd July, 1888; 5 years.

Claim.—1st. A live poultry car, comprising in combination a car divided internally into tiers of compartments opening laterally of the car, and a longitudinal aisle within the car separating the tiers of compartments into two sets, normally closed to and controllably accessible from the aisle, substantially as described. 2nd. A live-poultry car comprising in combination a car *A*, divided internally into tiers of compartments opening laterally of the car, and provided with doors *E*, a longitudinal aisle *C* within the car separating the tiers of compartments into two sets *B* and *B*, and doors *F* for the said compartments opening into the aisle *C*, substantially as described. 3rd. A live-poultry car comprising in combination a car *A* divided internally into tiers of compartments having their sides formed with open work, substantially as described, and opening laterally of the car doors *E*, for compartment in the open work at opposite sides of the car, a longitudinal aisle *C* within the car, separating the tiers of compartments into two sets *B* and *B*, an open work door *F* for each tier opening into the aisle *C*, and doors *F* in the doors *E*, substantially as described. 4th. A live-poultry car comprising in combination a car *A* divided internally into tiers of compartments opening laterally of the car, and provided with doors *E*, a longitudinal aisle *C* within the car separating the tiers of compartments into two sets *B* and *B*, doors *F* for the said compartments opening into the aisle *C*, and troughs *H* supported in the compartments and removable from, and adjustable into the said compartments from the aisle through the doors *F* when closed, substantially as described. 5th. A live-poultry car comprising in combination a car *A*, divided internally into tiers of compartments opening laterally of the car, a longitudinal aisle *C* within the car separating the tiers of compartments into two sets *B* and *B*, normally closed to, and controllably accessible from the aisle troughs *H* in the compartments, and a stationary water-supply tank *L* provided with means for leading water from it to the compartments, substantially as described. 6th. A live-poultry car comprising in combination a car *A*, divided internally into tiers of compartments opening laterally of the car, a longitudinal aisle *C* within the car separating the tiers of compartments into two sets *B* and *B*, normally closed to, and controllably accessible from the aisle troughs *H* in the compartments, a transverse aisle *C'* crossing the aisle *C*, and a stationary water-supply *L* above the aisle *C* and provided with means for leading water from it to the compartments, substantially as described. 7th. A live-poultry car comprising in combination a car *A*, divided internally into tiers of compartments opening laterally of the car, and provided with doors *E* having staples *m*, a longitudinal aisle *C* within the car, separating the compartments into two sets *B* and *B*, doors for the said compartments opening into the aisle *C*, a vertically reciprocating rod *I* for each tier having hooks *m'* to engage with the staples *m*, and a crank-rod *K* for each rod *I*, con-