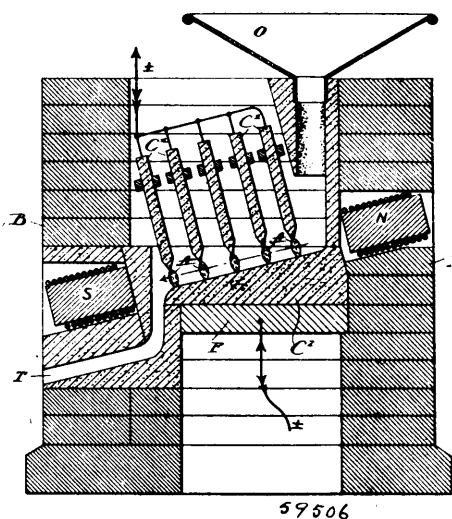


magnetic field, whereby the arc is reciprocated transversely to the path of the material, substantially as described. 2nd. The method



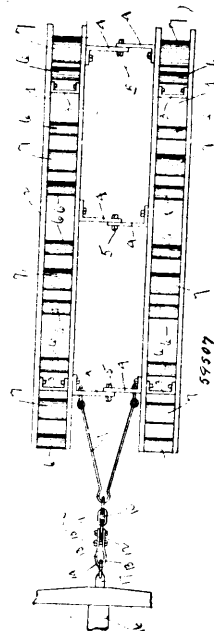
of operating an electrical furnace which consists in passing the material to be operated on between electrodes, subjecting the arc to the influence of a magnetic field whose lines of force are substantially transverse to the direction of the arc, passing a direct current through the electrodes, and reciprocating the arc by reversing or alternating the magnetic field, substantially as described. 3rd. In an electric furnace, a lower electrode, and an upper electrode consisting of a plate, an electro-magnet having its poles so arranged that the lines of force pass through the arc and are normal to the upper electrode, and means for reversing or alternating either the arc producing current or the magnet exciting current, whereby the arc reciprocates along the lower edge of the plate, substantially as described. 4th. In an electric furnace, electrodes consisting of a block and a plate above said block having its edge at arcing distance therefrom, an electro-magnet having its poles so arranged that the lines of force pass through the arc and are normal to the upper electrode, means for passing a direct current through the electrodes, and means for reversing or alternating the magnet current, substantially as described. 5th. In an electric furnace, the combination with a lower electrode, a plate electrode having its lower edge at arcing distance above said lower electrode, means for feeding material between the electrodes, means for creating a magnetic field having its lines of force passing through the arcing space, and means for alternating or reversing said field, whereby the arc is reciprocated transversely to the path of the material, substantially as described. 6th. In an electric furnace having for a lower electrode an inclined block or slab over which the material is fed and for its upper electrode a series of plates having their lower edges transverse to the movement of said material, means for passing a direct current through said electrodes, said means for creating a reversing magnetic field having its lines of force transverse to the upper electrode, whereby the arcs produced are caused to reciprocate across the material being operated on, substantially as described. 7th. The method of imparting a reciprocating movement to an arc between electrodes which consists in causing the arc to transverse a magnet field in which the lines of force are substantially transverse to the direction of the arc, and reversing or alternating either the arc producing current or the magnetic field, substantially as described. 9th. The combination with means for producing a magnetic field, of electrodes arranged to produce an arc across said field, and means for reversing or alternating either the arc-producing current or the magnetic field, whereby the arc between the electrodes will be reciprocated, substantially as described.

#### No. 59,507. Truck for Sleighs. (*Châssis de traîneau.*)

Joseph J. Forcier, Bay City, Michigan, U.S.A., 4th April, 1898; 6 years. (Filed 22nd January, 1898.)

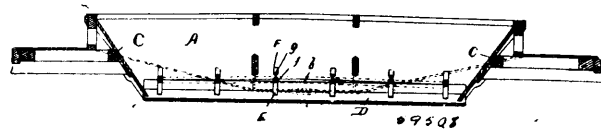
*Claim.*—1st. In a truck for sleighs, the combination of the frames each provided with a lower series of rolls for carrying the trucks, and with an upper series of rolls for carrying the sleighs, and means, as a grip, for connecting the front end of said trucks with the sleigh, and for releasing the same at a fixed point, substantially as set forth. 2nd. In a truck for sleighs, the combination of two truck frames each provided with a lower series of rolls for carrying the frames, and with an upper series of rolls for carrying the sleigh, the link rods secured by their rear ends to the front ends of the truck frames, and by their forward ends to a grip device, and means,

as a hook, for connecting said grip device with the sleigh tongue, substantially as set forth. 3rd. In a truck for sleighs, the combin-



ation of two frames standing parallel to each other and provided with transverse bars for holding the frames in position in relation to each other, a series of lower rolls for supporting said frames above the floor, and a series of upper rolls journaled upon the frames for supporting the sleigh, the draft rods connected to the front ends of the frames, the grip provided with forwardly extending spring arms terminating with opposing jaws, and with its rear end secured to the front end of the draft rods, a rearwardly extending hook secured to the sleigh tongue and adapted for passing between said opposing jaws and a stop secured to the floor for stopping the trucks and releasing the grip, substantially as set forth. 4th. In a truck for sleighs, the combination of the frames provided with lower rolls for supporting the frames, and with an upper series of rolls for supporting the sleighs, with a grip device composed of two parallel arms having their rear ends connected with the front end of the trucks by draft rods, and provided on their front ends with opposing jaws, a hook secured to the front end of the sleigh tongue and engaged with said jaws, and a stop secured to the floor for receiving the ends of said trucks to stop the trucks and release the jaws from the hook without stopping the forward movement of the sleigh or team, substantially as set forth.

#### No. 59,508. Dumping Car. (*Char à bascule.*)



Eli S. Hart, Chicago, Illinois, U.S.A., 4th April, 1898; 6 years. (Filed 16th March, 1896.)

*Claim.*—1st. The combination with a dumping car and a discharge door arranged longitudinally of the car and at an angle to the body, of a series of hinges constructed to move apart without disengagement essentially as set forth, whereby the deflection of the center of the car body is accommodated by the hinges and binding is obviated, substantially as specified. 2nd. The combination with a dumping car and a discharge door arranged longitudinally of the car at an angle to the body, of a series of hinges, one leaf of each of which has an elongated eye for the pintle, whereby the deflection of the center of the car body is accommodated by the hinges and binding is obviated, substantially as specified.

#### No. 59,509. Vehicle Spring. (*Ressort de voiture.*)

John C. Shepherd, Tilsonburg, Ontario, Canada, 4th April, 1898; 6 years. (Filed 7th March, 1898.)

*Claim.*—1st. A vehicle spring constructed of a single piece of steel and formed into a perfect circle comprising a single coil, the ends of which are formed with attaching means, the portions of the spring adjoining the attaching means being brought approximately together equidistant from the centre of the circle, the attaching means on one end of the spring extending outside of the circum-