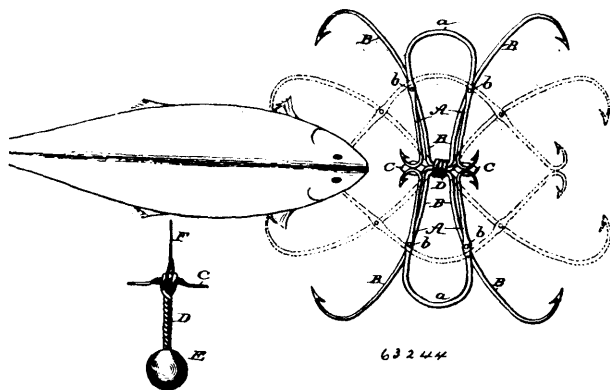


respectively arranged at opposite sides of the short arm of the hook and disposed one above the other, or in different planes, substantially as set forth. 3rd. A fish hook, having its short arm provided at the side with a lateral barb or barbs, pointing in a direction away and from the outside of the space between the short arm and shank of the hook, substantially as set forth.

**No. 63,244. Fish Hook. (Hameçon.)**



James Yelverton Payton and Hubert J. Hall, both of Waldron, Arkansas, U.S.A., 13th June, 1899; 6 years. (Filed 6th March, 1899.)

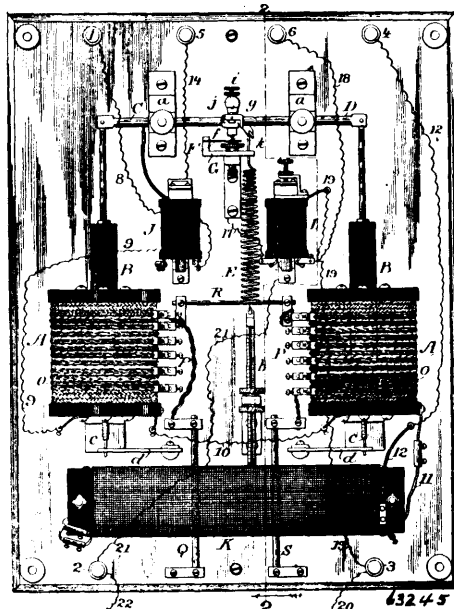
**Claim.**—1st. An automatic spring fish hook consisting of a pair of hooked and pointed ends restrained in unstable equilibrium in close juxtaposition to each other, and having a range of movement when disturbed by the fish directly outward and down the throat of the fish, substantially as shown and described. 2nd. An automatic spring fish hook consisting of two pairs of hooked and pointed ends connected by bow springs, each pair restrained in unstable equilibrium on opposite sides, and with an opposite thrust, and the two points of each pair having a range of movement when disturbed by the fish directly outward in opposite directions, one of the pairs thrusting directly into the mouth of the fish, and the other holding by its recoil the first pair up to its work and thus neutralizing reactionary movement, substantially as and for the purpose described. 3rd. An automatic fish hook, comprising spring bait hooks and spring grab hooks whose shanks are pivoted together, substantially as described, whereby the grab hooks are held open or distended by abutment of the curved free ends of the bait hooks, as specified. 4th. An automatic fish hook, comprising spring grab hooks and bait hooks whose shanks are pivoted together, one set lying flat upon the other and a weight or sinker attached at the central point, substantially as specified. 6th. An automatic fish hook, comprising spring bait and grab hooks, the latter being rigidly connected at their central bends, and their shanks loosely pivoted to the bait hooks and both sets of hooks being symmetrically arranged as shown and described, whereby, when set, the bait hooks abut and hold the grab hooks distended, and a cross bar arranged to support the bait hooks, substantially as specified. 6th. An automatic fish hook, comprising two spring grab hooks which are connected at their central heads, and two spring bait hooks, symmetrically arranged with relation to each other and the grab hooks, whereby, when set, the hooks all lie in practically the same horizontal plane, the bait hooks holding the grab hooks distended, and their points projecting outward or in opposite direction, and the opposite points of the grab hooks projecting inward toward each other, substantially as shown and described.

**No. 63,245. Dynamo Regulator. (Régulateur de dynamo.)**

The Tirrill Automatic Potential Regulator Co., Laconia, assignee of Allen A. Tirrill, Whitefield, both in New Hampshire, U.S.A., 13th June, 1899; 6 years. (Filed 23rd February, 1899.)

**Claim.**—1st. In a potential regulator for a dynamo, the combination with the main supply wires, and a normally closed primary branch circuit connected to the supply wires and provided with one or more operating helices, of a pair of contact terminals arranged to be opened or closed upon each other by the action of said helices, a supplementary branch circuit connected also to the supply wires and terminating in the pair of contacts aforementioned, a relay arranged in this supplementary circuit, a shunt circuit connecting with the dynamo and provided with a rheostat, said shunt circuit having two terminals extended to the armature of the relay and being opened or closed by the same, substantially as and for the purpose described. 2nd. In a potential regulator for a dynamo, the combination with the main supply wires, of a solenoid regulator circuit connected to the supply, a shunt circuit from the dynamo field magnets with rheostat, a supplementary circuit and relay, the relay being worked by this supplementary circuit and controlling the terminals of the shunt circuit and the supplementary circuit having terminals operated by the solenoid circuit, and also an electro-magnet placed in the solenoid circuit and having an armature arranged when

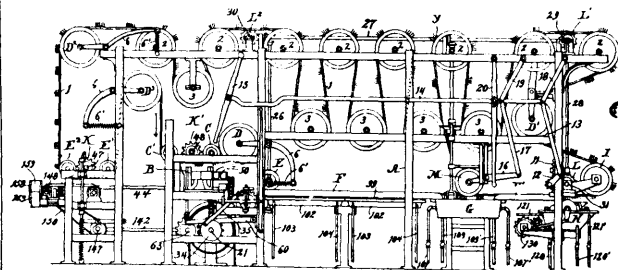
attracted to close the supplementary circuit and to open the same and render it inoperative whenever the solenoid circuit is accident-



ally broken, substantially as and for the purpose described. 3rd. In a potential regulator for dynamos, the combination of the solenoid coils, their cores, and the lever C, D, bearing contact point as described, a spring for drawing the inner ends down, and a superposed adjustable spring arranged above the inner ends of the levers to be impacted against by the rise of the inner ends of the levers whereby the latter are made to quickly return, substantially as described. 4th. In a potential regulator for dynamos, the combination with the solenoid coils, their cores, and the levers C, D, having contact points as described the inner ends of said levers being lapped and the upper one having a spring to draw it down and a rotary disc or roller resting upon the lower lever, said disc being arranged in the plane of the levers to form a sensitive articulation, substantially as described. 5th. In a potential regulator for dynamos, the combination with the solenoid coils, their cores, and the levers C, D, having contact point as described, a subjacent spring bearing a contact point, and a clamping support for said spring made adjustable to grasp said spring at different positions along its length to vary its range of vibration, substantially as and for the purpose described.

**No. 63,246. Match Making Machine.**

(Machine à faire les allumettes.)



William Herman Wussow, Oskosh, Wisconsin, Robert Emmet Jennings and Joseph Flesheim, both of Menominee, Michigan, all in the U.S.A., 13th June, 1899; 6 years. (Filed 27th March, 1899.)

**Claim.**—1st. In a match machine, an endless match carrier comprising a series of perforated match carrying transverse bars, and links securing said bars together flexibly each bar having a set of links secured rigidly to it, an adjacent bar being revoluble in the same set of links. 2nd. In a match machine, an endless match carrier comprising a series of independent perforated match carrying transverse bars, said bars being alternately long and short, the extremities of the longer bars projecting laterally beyond the ends of the short bars and serving as teeth to be engaged by toothed driving wheels, and the links securing said bars together flexibly. 3rd. In a match machine, an endless match carrier comprising a series of long and short transverse bars, said bars severally having a single series of diametrically disposed apertures for taking and