

nection, substantially as described. 4th. The combination, with the enveloping sleeve and the driving shaft thereof, of a hand-piece casing and its chuck or tool-holder carried thereby by means of detachable telescoping or slip-joint connections, substantially as described. 5th. A flexible shaft or coupling, consisting of a series of substantially parallel spring plates, rigidly connected together, substantially as described. 6th. A flexible shaft consisting of stiff sections connected together by a coupling consisting of substantially parallel spring plates, rigidly connected together at opposite points, and these points alternating so as to be at right angles, or substantially at right angles, to each other throughout the series of plates, substantially as described. 7th. In combination with a flexible shaft, a flexible sheath or cover consisting of a tube of spirally wound wire, the spirals members of which are separated so that the tube may be bent without affecting its length, and of a covering of elastic material crimped between the coils of the wire, substantially as described.

No. 22,636. Journal Bearing.

(*Coussinet de Tourillon.*)

George T. Smith, Jackson, Mich., U.S., 15th October, 1885; 5 years.

Claim.—1st. In a journal bearing, the combination, with the shaft and the sleeve provided with an expanded bearing, of a boxing having an adjustable two-part bearing divided upon a vertical plane, substantially as set forth. 2nd. In a journal bearing, the combination, with the shaft and the sleeve having an expanded external bearing, of a boxing or casing provided with a shoulder bearing, and the follower adapted to support the sleeve, substantially as set forth. 3rd. In a journal bearing, the combination of the shaft, the sleeve provided with an expanded bearing, the trunnion and the casing having a shell adapted to support the trunnion and also the divided bearing for the sleeve, substantially as set forth. 4th. In a journal bearing, the combination of the shaft, the sleeve, the boxing or casing adapted to receive the trunnion and support the end of the trunnion against thrust, and a two-part bearing for the sleeve divided upon a vertical plane, substantially as set forth. 5th. In a journal bearing, the combination of the shaft, the sleeve, the boxing or casing adapted to receive the trunnion and support the end of the trunnion against thrust, and provided also with the externally-threaded shell and the follower adapted to engage with the threaded shell, and also with the bearing of the sleeve, substantially as set forth. 6th. The combination, with the shaft, of the sleeves, the two boxings, the trunnions supported in the boxings and connected with each other, whereby the boxings are adapted to prevent longitudinal movement of the trunnions relative to the shaft, substantially as set forth. 7th. The combination of the shaft, the sleeves, the boxings, the trunnions and means, substantially as described, for adjusting the trunnions longitudinally upon the shaft, substantially as set forth.

No. 22,637. Lever Power. (*Levier Puissance.*)

David W. Seeley and William W. Seeley, Albany, N.Y., U.S., 15th October, 1885; 5 years.

Claim.—1st. A sweep for a lever power consisting of two sections fastened together by a pin, and around which the two sections may be turned, one of which sections shall have a semi-circular recessed head, and the other a semi-circular head to fit into the semi-circular recess in the other, and one of which sections shall be slotted as described. 2nd. A sweep for a lever power consisting of two sections fastened together by a pin, and around which the two sections may be turned, one of which sections shall have a semi-circular recessed head and the other a semi-circular head to fit into the semi-circular recess in the other, and one of which sections shall be slotted, and in one of which sections there shall be a slide or rod to be inserted in a hole or recess in the other section, for the purpose set forth and described. 3rd. The combination, in a lever power, of one or more springs placed on the sides of one section of a double section slotted sweep, and a sweep consisting of two sections joined together, one of which sections shall be slotted, as described. 4th. The combination, in a lever power, of a sweep made in two sections joined together, in one of which sections there shall be a slot, the two arms of a knuckle jointed lever and a pin, which is inserted in one of the arms forming said knuckle joint and passes through and is operated upon by the slotted portion of said sweep, as described. 5th. The process of increasing the purchase power of a sweep of a lever power as the resistance of the material pressed is increased.

No. 22,638. Manufacture of Metal Covered Electrical Conductors and Apparatus therefor. (*Fabrication des Conducteurs d'Electricité couverts en Métal et appareil pour cet objet.*)

James Tatham, Philadelphia, Pa., U.S., 15th October, 1885; 5 years.

Claim.—1st. The within-described mode of preventing the destruction or impairment of the insulating covering of an electrical conductor, while the latter is being coated or sheathed by forcing hot lead or other ductile metal around the same, said mode consisting in enveloping the insulated wire in oil or other liquid insulating material, as it passes through the core round which the metal flows, as set forth. 2nd. The combination of the lead reservoir, hollow ram and hollow column of a lead pipe press, with the hollow core core-holder and die, said core-holder resting upon the top of the hollow column and being contained within the lead chamber of the reservoir but unconfined vertically by said reservoir, as set forth. 3rd. The combination of the lead reservoir, hollow ram and hollow column of a lead pipe press, with a structure comprising the hollow core, core-holder and die, said core-holder being contained in the lower portion of the lead reservoir and being of tapered or conical form, as set forth. 4th. The combination of the lead reservoir, hollow ram and hollow column of a lead pipe press, with the die, a core-holder resting upon the hollow column and supporting the core close to the delivery end of the same, and a hollow core N projecting above the lead reservoir adjustable in the core-holder, and having a tapering

end projecting into the die, as set forth. 5th. The combination of the die, the threaded core N having a tapering end P, and the core-holder J having a threaded opening for the core N, and a tubular projection bearing on said core above the thread, as set forth. 6th. The mode herein-described of manufacturing compound electrical conductor, said mode consisting in, first, applying a covering of lead or other ductile metal to each of a series of insulated conductors, and then applying lead or other ductile metal to the series of covered conductors so as to fill the interstices and produce a solid rod of metal in which the insulated conductors are embedded, as set forth. 7th. There mode herein described, of making a compound electrical conductor, said mode consisting in applying a metallic covering simultaneously to each of a series of electrical conductors and then applying a general covering to a series of independently covered conductors, as specified. 8th. The combination of the two presses with a yielding support for the wires between the presses, as set forth.

No. 22,639. Vehicle Spring.

(*Ressort de Voiture.*)

Theodore Greather, Detroit, Mich., U.S., 15th October, 1885; 5 years.

Claim.—1st. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journaled therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 2nd. The combination, with a vehicle spring constructed with a straight end, of a coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journaled therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 3rd. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journaled therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with the said spindle and provided with an oil-pocket, substantially as described. 4th. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journaled therein, said spindle slotted to receive the end of the spring and said case constructed with an orifice to permit the engagement of the spring with said spindle, the construction being such that the spring may have room to lengthen in the socket of the spindle when compressed, substantially as described. 5th. The combination, with a vehicle spring constructed of two semi-elliptical springs, bound together in reverse position with a thin piece of rubber between them, and having a long bearing intermediate of their extremities and constructed straight at their ends, of a coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journaled therein, said spindle slotted to receive the end of the spring and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 5th. The combination, with a spring provided with a spindle at its end of a case sleeved upon said spindle, said case constructed to be secured in place, substantially as described.

No. 22,640. Automatic Gas Regulator.

(*Régulateur à Gaz Automatique.*)

James M. Palmer and Charles A. Shaw, Boston, Mass., U.S., 15th October, 1885; 5 years.

Claim.—1st. In a gas regulator of the character described, and having an induction pipe, an eduction pipe, a suitable valve casing and a valve seat, the combination of the following instrumentalities, to wit: a body, a float, and a valve connected with said float, and adapted to be operated by the pressure of the gas, to regulate or equalize the supply of the gas to the burners, said regulators being provided with an opening for the introduction of alcohol, naphtha or other solvent of coal tar to cleanse the valve, and with a stop-cock or means for closing said opening, substantially as described. 2nd. A gas regulator of the character described having an induction, an eduction pipe, a valve casing, a valve seat, a body, a float, a valve connected with said float and adapted to be operated automatically by the pressure of the gas, an opening or pipe for the introduction of a solvent of coal tar to the valve, and a stop-cock or means for closing said opening or pipe, in combination with a tank or reservoir for containing alcohol, naphtha, or other solvent of coal tar, and with a pipe for conducting the solvent from said tank into the regulator, substantially as set forth. 3rd. In a gas regulator of the character described, a valve float provided with a closed air-chamber and an open gas chamber, substantially as and for the purpose set forth. 4th. In a gas regulator of the character described, the tank P and stop-cock Q, in combination with the pipe G, valve D and a pipe connecting said tank with the pipe G, substantially as and for the purpose specified. 5th. In a gas regulator of the character described, the pipe G provided with the opening 5 and eduction pipe N, in combination with the valve D and means for closing said opening, substantially as described. 6th. In a gas regulator, the pipe M provided with the guard 30 and enlarged portion 32, substantially as and for the purpose set forth. 7th. A gas regulator having a valve adapted to be operated automatically by the pressure of the gas, and provided with means for introducing a solvent for coal tar into the valve casing to cleanse the valve, substantially as described. 8th. In a gas regulator of the character described, the float B provided with the air-chamber 40, gas chamber H and tube J, substantially as set forth. 9th. In a gas regulator of the character described, the thimble L, in combination with the float B, stem K and valve D, substantially as described. 10th. In a gas regulator of the character described, the body A provided with the cover C and tube E, and the valve D provided with the stem K, in combination with the pipe G provided with the tube K, and float B provided with the tube J, an air-chamber, a gas chamber and the thimble L, or means for adjusting said valve, substantially as set forth. 11th. In a gas regulator of the character described, the receiver N, in combination with the pipe M, substan-