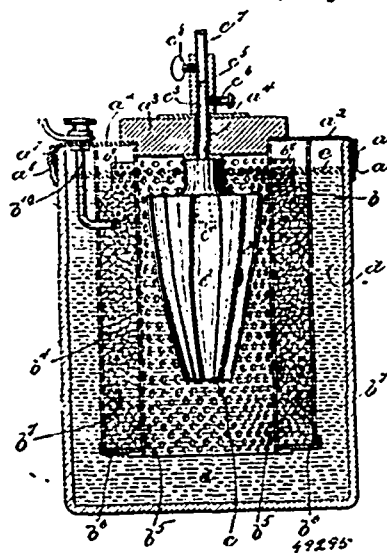


to the path of each cleat, alternating in its action with said feed mechanism, to fasten the sheet, by successive operations, to the cleat at intervals in the direction longitudinally of the cleat, and means adjustable with the staple drivers for guiding strengthening wires with the sheet across the staple drivers, substantially as and for the purpose set forth. 6th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforcing cleats, the combination of guides for the cleats, intermittent feed mechanism for advancing the cleats longitudinally in their guides and with a sheet through the machine, an intermittently actuated staple driver and a guide for a strengthening wire adjacent to the path of each cleat, the staple drivers alternating in their action with the said feed mechanism to fasten the strengthening wires and sheet, by successive operations, to the cleat at intervals in the direction longitudinally of the cleat, substantially as described. 7th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforce cleats, the combination with intermittently actuated staple drivers, of guides for the lateral edges of the sheet, guides for cleats intermediate of the said sheet guides, guides for strengthening wires at the staple drivers and intermittent feed mechanism alternating in its action with the said staple drivers for advancing the cleats and sheets in their guides with the strengthening wires across the staple drivers, substantially as and for the purpose set forth. 8th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforcing cleats, the combination of intermittent feed mechanism for advancing the cleats longitudinally with a sheet through the machine, an intermittently actuated staple driver adjacent to the path of each cleat, alternating in its action with said feed mechanism, to the cleat at intervals in the direction longitudinally of the cleat, a strengthening wire guide at each staple driver, guides for the lateral edges of the sheet and guides according to the width of the cleats and thickness of the sheet, substantially as and for the purpose set forth. 9th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforcing cleats, the combination of an adjustable bed frame mounted in guides with means for raising and lowering it therein, guides for the cleats on the said bed frame, intermittent feed mechanism for advancing the cleats longitudinally with the sheet through said guides, an intermittently actuated staple driver adjacent to the path of each cleat alternating in its action with said feed mechanism, to fasten the strengthening wires and sheets, by successive operations, to the cleat at intervals in the direction longitudinally of the cleat, and a strengthening wire guide at each staple driver, substantially as and for the purpose set forth. 10th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforcing cleats, the combination with intermittently actuated staple drivers, of guides for the cleats, guides for the strengthening wires and intermittently actuated feed rollers for advancing the sheet strengthening wires and cleats in their guides longitudinally across the said staple drivers, the said feed rollers alternating in their action with the said staple drivers, substantially as described. 11th. In a machine for forming box blanks by fastening sheets to reinforcing cleats, the combination with intermittently actuated staple drivers, of guides for the sheet and cleats, intermittent feed rolls, alternating in their action with the said staple drivers to advance the sheet and cleats in their guides longitudinally across the staple drivers, and a sliding frame, provided with means for gripping the cleats through the sheets, and operative to engage the same, when initially fed to the machine, slide them to the said feed rolls, hold them together until the first staples are driven and then release them, substantially as described. 12th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforce cleats, the combination of guides for the cleats, intermittent feed mechanism for advancing the cleats longitudinally with a sheet through the machine, a series of intermittently actuated staple forming and driving machines, alternating in their action with the said feed mechanism, disposed above the path of the sheet and cleats and in a horizontal line at right-angles to said path, and means for guiding strengthening wires across the staple drivers, whereby the strengthening wires and sheet, by successive operations of the staple drivers, are fastened to the cleats at intervals in the direction longitudinally of the cleats, substantially as described. 13th. In a machine for forming box blanks by fastening sheets and strengthening wires to reinforcing cleats, the combination of guides for the cleats, intermittent feed mechanism for advancing the cleats longitudinally with a sheet through the machine, an intermittently actuated staple driver adjacent to the path of each cleat, alternating in its action with said feed mechanism, and means for severing and initially advancing a strengthening wire across each staple driver before the first staple is driven into a cleat, substantially as and for the purpose set forth. 14th. The combination with the main-frame, of a driver and drive-shaft mounted thereon, clutch mechanism between the said driver and shaft, shipping mechanism on the frame for engaging and releasing the clutch members to start and stop the machine, staple forming and driving machines mounted on the frame and actuated from the said drive shaft, guides at said staple machines for strengthening wires *y*, strengthening wire engaging and advancing means, and strengthening wire severing means at the said guides normally inactive and brought into action by movement of said shipping mechanism, to disengage the said clutch members, and a feed for the material to be stapled actuated from

the said drive-shaft to advance the material intermittently across the said staple machines, substantially as described. 15th. In a machine of the character described, the combination with the main-frame, drive shaft, staple forming and driving machines mounted on the frame and actuated from the drive shaft, strengthening wire guides, and intermittent feed for the material to be stapled, of rotary spools on the main frame for the strengthening wires *y*, and staple wires *x*, and brakes for the said spools engaged by said wires and operating when the wires are at rest normally to engage the spools, and under pressure against them exerted by the wires when drawn upon, to release the spools, substantially as and for the purpose set forth.

No. 49,295. Galvanic Battery. (*Pile galvanique.*)



Ralph Warshaw Gordon, Boston, Massachusetts, U.S.A., 21st June, 1895; 6 years.

Claim.—1st. In a battery cell, the combination with a jar containing an exciting fluid, of a perforated receptacle suspended therein and forming the negative element of the battery, a depolarizing agent contained in said receptacle, and a positive element also suspended in said jar, as described. 2nd. In a battery cell, the combination with a jar containing an exciting fluid and a perforated receptacle containing a depolarizing agent, said receptacle forming the negative element of the battery, of a positive element of zinc connected to the cover, and means for preventing the action of the battery from breaking the connections between said zinc and cover, until the zinc is substantially entirely dissolved, as set forth. 3rd. In a battery cell, the combination with a jar containing an exciting fluid, of a perforated receptacle containing particles of oxide of copper suspended therein, and a positive element also suspended therein, the points of suspension being at or near the bottom of said positive element, substantially as described. 4th. In a battery cell, the combination with a jar containing a solution of caustic soda, of a cover for said jar fitting tightly thereon, a perforated receptacle containing particles of oxide of copper, said receptacle being secured to the under side of said cover and extending downward into the said solution, a positive element consisting of zinc suspended in said solution by a suspender connected at the upper end to the said cover, as described. 5th. In a battery cell consisting of a jar containing an exciting fluid and positive and negative elements and a depolarizing agent suspended therein, the herein described positive element comprising a piece of zinc decreasing in diameter from a point near the surface of the exciting fluid to its lower end, substantially as and for the purpose described. 6th. In a battery cell, the combination with a jar containing an exciting fluid, of a positive element suspended therein, and a receptacle for the depolarizing agent also suspended therein, said receptacle consisting of outer and inner perforated walls and perforated chambers between said walls, as and for the purpose described.

No. 49,296. Motor. (*Moteur.*)

John C. Lueneburg, Lakeside, Minnesota, U.S.A., 21st June, 1895; 6 years.

Claim.—1st. In a motor, the combination with a main driving shaft and gear wheels for imparting a rotary motion to the said shaft, of a travelling sprocket chain for imparting motion to the said gear wheels, and a reciprocating cross-head carrying spring-pressed jaws adapted to engage the strands of the said chain to impart a travelling motion to the chain in one direction on reciprocating the said cross-head, substantially as shown and described. 2nd. In a