

the path of said vehicle, a translating device on the vehicle, an electrical connection between said translating device and working conductor, a current transformer on the vehicle in electric connection with the working conductor, a secondary circuit of lower resistance than the working conductor, an electric heater to heat said vehicle in the secondary circuit, and means to control the currents passing to the translating device and transformer independently of each other.

No. 39,301. Support for Upholstery Springs.

(*Support pour ressorts de tapisserie.*)

John Atkinson Staples, Bay View Terrace, Newburg, New York, U.S.A., 13th July, 1892; 6 years.

Claim.—1st. The combination, with the seat frame, of spring supports formed of wire with horizontal portions of approximately the measurement of the opening of the seat frame, and having bends in the wire to receive the springs, and end portions extending upward and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and means for permanently attaching the ends of such spring supports to the upper surfaces of the seat frame, substantially as set forth. 2nd. The combination, with the seat frame, of spring supports formed of wire with corrugated horizontal portions of approximately the measurement of the opening of the seat frame to receive the springs, and end portions extending upward and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and means for permanently attaching the ends of such spring supports to the upper surfaces of the seat frame, substantially as set forth. 3rd. The combination, with the seat frame, of spring supports formed of wire with horizontal portions of approximately the measurement of the opening of the seat frame, and having bends in the wire to receive the springs, and end portions extending upwards and laterally to rest upon the upper surface of the seat frame, and adapted to be bent to fit various sizes of frames, and downwardly projecting ends to enter holes in the seat frame, substantially as set forth.

No. 39,302. Artificial Stone. (*Pierre artificielle.*)

Edward Gallagher, Lock Haven, Pennsylvania, U.S.A., 13th July, 1892; 6 years.

Claim.—The described composition for artificial stone, consisting of cement, sand, plaster of Paris, powdered soap stone and salt, mixed in a dry state in about the proportions set forth, and then rendered plastic by the admixture of lime water, substantially in the proportion and manner hereinbefore set forth.

No. 39,303. Apparatus for Testing Flour and Dough and for Recording such Test. (*Appareil à faire l'épreuve et à enregistrer pour la farine et la pâte.*)

James Hogarth, West Mills, Kirkcaldy, Fifeshire, Scotland, 13th July, 1892; 6 years.

Claim.—1st. The improved modes of, and means or arrangement and combination, of mixing vessel A, dynamometer D, diagram cylinder F, and differential weighted lever K to K², or equivalent spring B, for mechanically testing and sampling different qualities of flour, and graphically indicating and recording the various characteristics or properties of the different flours or doughs, substantially as herein described and shown. 2nd. In apparatus for testing and recording the characteristic properties of flour and dough, the combination and use, of a diagram cylinder F, and dynamometer D, combined or formed in one, substantially as and for the purposes herein described. 3rd. In apparatus for testing and recording the characteristic properties of flour and dough, the construction and use of various appliances b to b⁶, and I, I¹, and B¹, used in combination with the water cylinder or vessel B, for delivering and feeding a uniform quantity of water to the kneading machine during the time of taking the diagrams, substantially as herein described. 4th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with a movable or fixed water cylinder or vessel B, of an inverted siphon flexible or rigid tube b, and connecting fittings b¹ to b⁶, substantially as herein described. 5th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with the water cylinder or vessel I, of a rotating tap or valve I¹, formed with recesses i, and of a spring closing valve I², substantially as and operated in the manner and for the purposes herein described. 6th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with a rotating water vessel of a segmental cavity or tube I³, with wheel arms mounted on a rotating spindle I⁴, and connecting siphon fittings b, b¹, and rotating chain and pulley I⁵, I⁶, substantially as and for the purposes herein described. 7th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination with the dynamometer D, of a reciprocating piston or plunger B¹, with cylinder B, filled with mercury, and connecting glass tube b⁶, b⁷, and fitting i², to i⁴, substantially as and for the purposes herein described. 8th. In apparatus for testing and recording the characteristic properties of flour and dough, the use in combination with a dynamometer D, of a diagram cardboard F traversed horizontally at a uniform speed having the pointer or pencil e actuated

from the dynamometer D, traversed differentially in front of it or *vice versa* the diagram board F stationary, and the pencil e traversed horizontally and vertically over it or alternately having the pointer or pencil e stationary, and the diagram board F traversed horizontally and vertically from the dynamometer D, substantially as herein described. 9th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of a differential acting weighted quadrant lever K², K³, actuated from the dynamometer D, by a chain or cord D¹, or by toothed gearing K⁴, K⁵, substantially as and in the manner herein described. 10th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of accumulative or differential increasing weights or weight levers, consisting of a scroll or cam groove K⁶, and a card D¹, and weight K², reciprocating in a fluid cylinder or trough K⁷, substantially as and in the manner and for the purposes herein described. 11th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use in combination with a dynamometer D, of accumulative differential increasing weights consisting, of a reciprocating toothed rack with hollow or solid spindle D⁸, and wheel gearing D⁹, and a piston or plunger D⁷, and a cylinder D⁸, containing mercury, substantially as and in the manner and for the purposes herein described. 12th. In apparatus for testing and recording the characteristic properties of flour and dough, the construction of the dynamometer D, with a hollow shaft C, within which is mounted a solid shaft d^x, with cross arms d¹¹, at its inner end carrying the axis of differential bevel or spur pinions d², substantially as and in the manner and for the purposes herein described. 13th. In apparatus for testing and recording the characteristic properties of flour and dough, the arrangement and use of a dynamometer D, with accumulative weight K², K³, and indicating dial, and pointer Z, Z¹, without a graphic diagram cylinder F, substantially as herein described. 14th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination, with the mixed and mixing vessel A, of a differential acting quadrant lever K² to K⁴, or equivalent accumulative springs or weights, substantially as and for the purposes herein described. 15th. In apparatus for testing and recording the characteristic properties of flour and dough, the combination and use with the water cylinders B, of rods or wires R for reducing or increasing the area of same, substantially as and for the purposes herein described. 16th. In apparatus for testing and recording the characteristic properties of flour and dough, the use of hydrochloric, acetic, lactic, or equivalent acids, or of alcohol, sodium chloride, or yeast, and solutions of the flour being tested in the kneading machine or water being fed to same for determining the amount of degradation in the gluten, substantially as described.

No. 39,304. Tool. (*Outil.*)

John Novris M. Shimer, Philadelphia, Pennsylvania, U.S.A., 13th July, 1892; 6 years.

Claim.—1st. As an improved article of manufacture, a tool comprising a tubular metal handle and the tool proper, also of metal, said tool proper provided with a lug or shank adapted to fit within the tubular handle, and the parts welded together, as described. 2nd. As a new article of manufacture, an excavating tool comprising a tubular metal handle and the tool proper, also of metal, said tool proper provided with a shank having a shoulder, said shank adapted to snugly fit within the tubular handle and its shoulder to abut against the same, and the parts welded together, as described.

No. 39,305. Spacer for Type Matrices.

(*Appareil pour espacer les matrices à caractères.*)

Joseph Charles Fowler and Lemon G. Hine, both of Washington, District of Columbia, U.S.A., 13th July, 1892; 6 years.

Claim.—1st. A compressible spacer for type matrices, composed of normally separated parts having elastic nibs or points to form a fluid-tight closure for the mold between adjacent matrices, substantially as described. 2nd. A compressible spacer for type matrices, consisting of substantially similar nibs or points converging to an apex from the members or parts of the spacer and having outer faces which are slightly convex under all degrees of compression, substantially as described. 3rd. A compressible spacer for type matrices, consisting of normally expanded or separated parts provided with flat transverse surfaces and with converging nibs or points projecting from the edges of said parts and having the width of the mold, substantially as described. 4th. A spacer for type and other similar matrices, consisting of members or parts capable of compression and having converging nibs or points which project from the said members or parts and cross the mold, said members or parts being substantially assimilated in form to the matrices with which they are used, to enable them to be handled without special mechanism, substantially as described. 5th. A spacer for type and other similar matrices, consisting of two members having contact at their extremities and separated throughout the intermediate portion, said members being provided with elastic nibs or points converging to an apex and crossing the mold, into which they project, in combination with a series of matrices and a cast box, the parallel walls of which lie close to the edges of said elastic nibs or points and form a fluid-tight closure for the mold between adjacent matrices, sub-