sliding carriage L, having a plate through which the ends of the wires, the threaded cams for holding the wire, the said cams being suitably operated, a sliding guide plate 56, and means for operating the said twisting mechanism K, the grippers M, cutters N, and the carriage L, substantially as set forth. 2nd. The combination in a machine for making wire bale ties, with a pinion driving the gear wheel carrying on its axle a balanced arm provided with a flanged friction wheel, of the slotted standard in which the said friction wheel slides, the said standard being attached to and operating the carriage L, substantially as set forth. 3rd. In a machine for making wire bale ties, the combination, with a frame running by means of flanged wheels on rails secured to the main frame carrying a slotted standard, of a plate secured to said standard, the said plate being bored for the insertion of the wires, cams penetrating the said bores and holding the said wires, said cams carrying weighted arms, a guide plate slidingly secured under the said plate, and means for operating the same, substantially as set forth. 4th. In a machine for making wire bale ties, the combination, with the plates 76, guides 77, slots 81, and pins 78 and 82, for bending the end of the wire, and means for operating the said pins, of the shafts 71 and 74, carrying the said plates, small intermeshing gear wheels 72 and 73, the large gear wheel 60, suitably journaled and operating one of the said small gear wheels, an annular rim 63, secured to the spokes of the said gear wheel 60, provided with equidistant notches, spring pawl 65, dog 67, and means for operating the said pawl and the spring 69, substantially as set forth. 5th. In a machine for making wire bale ties, the combination, with the balanced arm 26, suitably revolved, carrying the cam 27, of the arm 92, adapted to be engaged by the said cam, the rocking shaft 86, arm 87, attached to the sliding rod 89, the sliding rod 89, carrying forks 91, grooved sleeves 84, adapted to be engaged by the said forks, the said sleeves sliding on the shafts 71 and 74, links 83, connecting the said sleeves with the pins 82, sliding in the segmental grooves 85, substantially as and for the purpose set forth. 6th. In a machine for making wire bale ties, the combination, with the balanced arm 26, suitably revolved, carrying a cam 27, of the arm 102, on the rocking shaft 100, the said arm adapted to be engaged by the said cam, the rocking shaft 100, the arms 99, operating the upper jaws of the grippers M, the grippers M having jaws suitably journaled and geared together, and the spring 104, substantially as and for the purpose set forth. 7th. In a machine for making wire bale ties, the combination, with the balanced revolving arm 26, and the friction wheel 28, of the arm 54, operated by the said pin, the cranked bar 53, carrying at its end the said arm 54, and adapted to operate the weighted arms of the cams 48, substantially as set forth. 8th. In a machine for making wire bale ties, the combination, with the balanced revolving arm 26, carrying the pin 29, of the arm 51, of the rocking shaft 50, the rocking shaft 50, and T-shaped arm 49, substantially as and for the purpose set forth. 9th. In a machine for making wire bale ties, the combination, with the arm 26, and cam 27*a*, of the rocking shaft 117, carrying an arm 118, operated by the said cam, the arms 116, rods 115, the rocking shafts 111, having arms 114, connected by the said rods 115, to the said arms 116, the said rocking shafts journaled in brackets 113 and 112, the said brackets 112 being secured to a sliding support 105, the sliding supports carrying the jaws of the cutters, the jaws 107 and 108, the link 106, the arm 110*a*, on the rocking shaft 111, link 110, and spring 120, secured to the arm 119, on shaft 117, substantially as and for the purpose set forth. 10th. In a machine for making wire bale ties, the combination, with the arm 26, and cam 27*a*, of the arm 124, on the shaft 121, adapted to be engaged by the cam 27*a*, the shaft 121, arms 125, connected to the sliding supports 105, the arm 122, and spring 123, substantially as and for the purpose set forth. 11th. In a machine for making wire bale ties, the combination, with the plates 76, of the twisters of the pins 78, moving in apertures in the said plates, and the guides 77, the levers 79, carrying the said pins, the flattened ends 80, the vertically sliding rods 129, sliding in brackets 130, and engaging the ends of the levers 79, the bell crank levers 128, operating said rods 129, the connecting rods 127, and bell crank levers 126, connected to the said connecting rods, and the sliding supports 105, substantially as set forth. 12th. In a machine for making wire bale ties, the combination, with levers 107, of the cutters N, of the arms 131, on rocking shafts 132, the said arms being connected to the said levers 107, and arms 133, connected to the said rocking shafts 132, substantially as and for the purpose set forth. 13th. In a machine for making wire bale ties, the combination, with the plate 45, of the carriage L, of the sliding plate 55, having a guide plate provided with apertures 57, the stops 134 and 135, substantially as and for the purpose set forth. 14th. In a machine for making wire bale ties, the combination, with the twisting mechanism K, carriage L, cutters N, and grippers M, of the driving shaft 20, pinion 22, gear wheel 23, gearing with the said pinion, the shaft 24, carrying the said gear wheel, the stud 25, on said gear wheel, the balanced arms 26, 26*a*, the cams 27 and 27*a*, pin 29, and flanged friction wheel 28, on the said arm, substantially as set forth. 15th. A device for forming a loop on the end of a wire, consisting of a plate carried by an intermittently revolved shaft, a guide on one side of said plate in which the end of the wire is received, a pin at the open side of the said guide adapted to be withdrawn at will, a segmental slot in said plate in which slides a pin, said pin is carried by a link attached to a sleeve sliding on the said shaft, and means for operating the said sleeve, and means for holding the bent wire while the plate is being revolved, substantially as set forth.

No. 37,300. Churn. (*Baratte.*)

Ephraim Alpaugh, Galt, Ontario, Canada, 3rd September, 1891 ; 5 years.

Claim.—1st. The cream holding cylinder, having a central opening in one or both of its heads, mounted upon the supporting roller and operated by the cranks, substantially as set forth. 2nd. In combination, with the cream holding cylinder mounted upon the supporting rollers and operated by the cranks, the corrugated band and plane space for gathering the butter, substantially as set forth. 3rd. In combination, with the cream holding cylinder mounted upon the supporting rollers and operated by the cranks, the expansion plate or dish and sieve, as and for the purpose described.

No. 37,301. Switch Stand. (*Bâti d'aiguille.*)

Fred W. Snow, Hillburn, New York, U. S. A., 3rd September, 1891 ; 5 years.

Claim.—1st. The combination, in a switch stand, of a sliding clutch section bearing against a spring, a rotating clutch section engaging with the sliding section and a switch lever and a movable bolt for locking the lever to the rotating section of the clutch, substantially as set forth. 2nd. The combination, with the sliding clutch section bearing against the spring, and with a switch lever of an intermediate rotating clutch section having a series of peripheral notches or teeth and a bolt carried by the lever for engaging said notches or teeth, substantially as set forth. 3rd. The combination, with the sliding and rotating clutch sections, spring, lever, and bolt carried thereby for locking the rotating section to the lever, of a projection or lug extending from said bolt, and a flange 16, having notches for the passage of said projection, substantially as set forth. 4th. The combination, with the switch lever, clutch sections and bolt, of a bolt operating lever 31, and means for locking the latter, substantially as and for the purpose described. 5th. The combination, in a switch stand, of a lever, a rotating clutch section, a sliding clutch section, a spring bearing on the latter, and a frame in the form of a horizontal closed casing supporting all the parts and provided with guides for the sliding clutch section, substantially as set forth. 6th. The combination, with the lever, clutch section and spring, of a frame having a recess for receiving the sliding section and a projecting portion of the turning section, substantially as described. 7th. The combination, with the frame in the form, of a horizontal case, and a switch lever, and clutch sections, and spring, and a bolt passing through the lever sections, and spring and case and secured detachably, substantially as set forth. 8th. The combination, with the case B, of a yoke provided with a slot for the passage of the switch lever and secured detachably to the case, substantially as set forth.

No. 37,302. Electric Arc Lamp.

(*Lampe électrique à arc.*)

William Arthur Turbayne, Toronto, Ontario, Canada, 3rd September, 1891 ; 5 years.

Claim.—1st. In an electric arc lamp, the combination of main and shunt magnets or solenoids, a centrally pivoted lever connected at its opposite ends with the cores of the respective magnets, and a ring clutch for the carbon rod resting freely upon the top of the said lever, for the purpose set forth. 2nd. In an electric arc lamp, the combination of main and shunt magnets or solenoids, a centrally pivoted lever connected at its opposite ends with the cores of the respective magnets, and a ring clutch for the carbon rod, provided with lateral arms extending in opposite directions, one arm carrying a roller or other anti-friction device bearing upon the said lever, and the other arm carrying an adjusting screw, the end of which also bears upon said lever, for the purpose described. 3rd. In an electric arc lamp, the combination, with main and shunt magnets, of a centrally pivoted lever connected at its opposite ends with the cores of the respective magnets, a weight having a tendency to maintain the lever in a horizontal position, and a ring clutch for the carbon rod operated by said lever. 4th. In an electric arc lamp, the combination of main and shunt magnets, a centrally pivoted lever having its opposite ends connected with the cores of the magnets respectively, a ring clutch resting freely upon the top of the said lever, and guides connected with said lever for holding the clutch in its proper place.

No. 37,303. Art of and Composition for Making Ornaments from Hair.

(*Art et composition pour faire des ornements avec des cheveux.*)

Margaret I. Waldron, St. Joseph, Missouri, U.S.A., 3rd September, 1891 ; 5 years.

Claim.—1st. The above-described adhesive compound for use in ornamental hair-work, consisting of white glue, shred isinglass, acetic acid, water, carbolic acid, and oil of roses, in substantially the proportions above stated. 2nd. The described improvement in the art of making ornamental hair-work, consisting in uniting together the hair, and a strip or piece of silk or equivalent of white glue, shred isinglass, acetic acid, water, carbolic acid, and oil of roses, and cutting up the same, as desired, to be fabricated into the required ornaments.

No. 37,304. Method of Constructing Wooden Bridges. (*Méthode de construire les ponts en bois.*)

Richard Boyle, Township of Peel, Ontario, Canada, 3rd September, 1891 ; 5 years.

Claim.—1st. The combination of the extra-deck plank a^{1}, a^{11}, with the bottom of each truss so as to cover the centre joint and securing it with the iron rods b^{1}, b^{11}, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the iron plate c^{1}, c^{11}, with the side of each truss, and secured thereto by iron bolts, substantially as and for the purpose hereinbefore set forth. 3rd. For the using of welded eyes on lower ends of the suspension rods d^{1}, d^{11}, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the iron hinge e^{1}, e^{11}, with the lower ends of suspension rods d^{1}, d^{11}, substantially as and for the purposes hereinbefore set forth. 5th. The combination of a corbel stringer f^{1}, f^{11}, (made of cedar timber of any suitable size), with the end of each truss, and secured thereto by iron bolts, substantially as and for the purpose hereinbefore set forth. 6th. The use of a needle-beam g^{1}, g^{11}, formed of two pieces of timber separated by blocks of wood, the whole being securely joined with iron bolts, substantially as and for