

Conscience in Work.

The policy of right doing cannot be doubted. Every intelligent man and woman must see that in nearly every instance it pays richly and fully for whatever labor or self-sacrifice it may involve, and in the few cases where they cannot see this result most of them have sufficient faith in the law to trust it. Yet, if this be the only motive in action, it cannot be called right doing in the best sense. That which is done solely from the hope of gain or advantage cannot be of the highest type.

The habit of doing what we have to do as well, as thoroughly and as speedily as possible, without immediate reference to its probable or possible effects upon ourselves, is one which would of itself secure at once the best success for ourselves and the greatest good of the community. It would settle many vexed questions and solve many knotty problems. Instead of this, the common course is to consider closely the comparative benefit that is likely to accrue to us in return. There are all degrees of this calculation, from the strictly just to the grossly selfish. One man tries to estimate the true worth of his labor and performs it accordingly, another gives as little work and secures as large returns as possible, and between these there is every shade. But in all such reckonings there is one important element left out. No one can count up the value of the labor which is both generous and conscientious. Even its money value can never be calculated.

The youth who enters business determined to do all that comes to his hands as well and as quickly as he can, who is anxious to learn and anxious to please, who never measures his labor by his wages, but freely gives all the work and the best work in his power, is vastly more valuable than the one who is always bearing in mind the small pay he is receiving and fearing that he should give too much in return. So the mechanic or the clerk who, beyond his stated salary, beyond even his obligations to his employer or the de-

mands which public opinion could make upon him, exerts himself to make his work as perfect as he can, and delights in its thoroughness and excellence, apart from any private benefit it can render him, has a value which can never be computed. It matters not what the work be, whether it be done with the spade of the laborer, the pen of the clerk, the brush of the artist, or the voice of the statesman. Such people are sought far and wide, there are places always open to them, and their services are always at a premium. Talents and skill tell for much, but conscience in work tells for more. He whose integrity is unquestionable, who can be trusted far and wide, who will work equally well alone as when every eye is upon him, and will do his best at all times, is an invaluable member of society. And he cannot do this simply from the motive of self-interest. It is the result of something more than intelligence and foresight, it is conscience, vitalizing every detail of labor, and raising it to its highest pitch of excellence.—Condensed from a lengthy editorial in the *Confectioners' Journal*.

An Observatory for Mont Blanc.

A second attempt is to be made to build an observatory at the top of Mont Blanc. As the workmen who tunneled last year through the snow just below the summit did not come upon rock, M. Janssen has decided that the building shall be erected on the frozen snow. A wooden cabin was put up, as an experiment, at the end of last summer, and in January and early in the spring it was found that no movement had occurred. According to the Lucerne correspondent of the *Times*, the observatory is to be a wooden building 8 meters long and 4 meters wide, and consisting of two floors, each with two rooms. The lower floor, which is to be embedded in the snow, will be placed at the disposition of climbers and guides, and the upper floor reserved for the purposes of the observatory. The roof, which is to be almost flat, will be furnished

with a balustrade, running round it, together with a cupola for observations. The whole building will rest upon six powerful screw jacks, so that the equilibrium may be restored if there be any displacement of the snow foundations. The building is now being made in Paris, and will shortly be brought in sections to Chamounix. The transport of the building from Chamounix to the summit of Mont Blanc and its erection there have been intrusted to the charge of two capable guides—Frederick Payot and Jules Bossonay.

CORNELL UNIVERSITY had, in 1891-92, a larger number of students in her technical departments than any of the nine technical colleges of Germany, with the single exception of Berlin (Charlottenburg). Sibley College, in its courses in mechanical engineering alone, has a larger number of students than the total in any German technical college except Berlin, Munich and Karlsruhe. The following are the figures: Berlin, 1,756; Cornell, 1,090; Munich, 642; Karlsruhe, 586; Sibley, 525; Hanover, 514; Stuttgart, 363; Darmstadt, 334; Dresden, 251; Brunswick, 237; Aachen, 110.

When it is considered that the German colleges are the wards of the state, and are fully supported by their guardians, while Cornell University and its technical colleges are the wards of New York State, and left to be supported by private liberality, the contrast is something remarkably creditable to the latter, and not at all to the State so greatly benefited.

New Pacific Mail Steamer.

A new steamship, the Peru, for the Pacific Mail Steamship Company, was launched on the 11th from the yards of the Union Iron Works at San Francisco. The Peru is a steel steamer, 350 feet long, with triple expansion engines of 2,800 horse power, and is expected to attain a speed of 15 knots per hour.

RECENTLY PATENTED INVENTIONS.**Railway Appliances.**

CAR COUPLING.—Robert S. Russell, Brownsville, Tenn. This is an improvement in that class of devices known as "twin-jaw" couplers, a coupling jaw of novel form being pivoted within each drawhead, the jaw having a horizontal hook at its forward end and a shoulder on the lower face of its weighted rear end, while a rock shaft journaled beneath the drawhead carries an arm adapted to contact with the jaw and the shoulder. The beveled forward ends of the coupling jaws pass each other as the cars come together, their hooks becoming automatically engaged, means being provided for locking the parts in coupled or uncoupled position. This coupling is inexpensive and always safe, and the device is readily operated from the side of the car.

MAIL BAG CATCHER.—James W. Horton, Madison, Ind. Catching and holding arms, normally pendant, are secured to a main or supporting bar hung in bearings upon the outer faces of the car door posts, these arms being swung out into operative or horizontal position by a lever arm. The catcher arms are adapted to be readily reversed to operate in either direction of movement of the car, the arms positively grasping the bag, while the holding devices yield to its inertia to overcome the shock. The device is simple in construction and easy to manipulate.

BAGGAGE STAMP OR CHECK.—Thomas M. Cunningham, Nashville, Tenn. This invention consists of a railroad ticket having separate and independent stamps or checks secured to it indicating the amount collected by the initial road on the route for the baggage of the passenger, with other particulars, such as the excess in value and excess weight of the baggage. The improvement has for its object the more certain division pro rata of charges for excess of baggage on connecting railroads using coupon tickets, although it is likewise applicable to local tickets.

Mechanical.

GRINDING WHEEL ATTACHMENT.—John H. Goetsche, San Francisco, Cal. Emery and other grinding wheels are, by this improvement, provided with a casing formed with an annular recess to retain the oil, the inner wall of the casing resting on the face of the wheel and being held in place by a washer. The arrangement is such that all the lubricant passing out of the bearing is readily gathered by the casing and retained therein, from which it can be readily removed by a sponge or other means, the work being protected from the oil or other lubricant ordinarily liable to be scattered over the surface of the wheel.

CLAW BAR.—James W. Gray, Brooklyn, N. Y. An implement especially adapted for drawing spikes from railroad ties, and capable of speedy and convenient adjustment to any size of spikehead, is afforded by this invention. The jaw is curved on its under side to rock, and its forward end is curved downward and inward to form a beak, in the rear of which is a vertical slot in which a bar has a sliding and pivoted movement. The construction is such that one of the clamping jaws may be utilized as a fulcrum for the bar in drawing the spike, the implement being also light, durable, and inexpensive.

Agricultural.

PLOW.—Henry M. McCafferty, Montrose, Col. A combination sulky plow and roller has been devised by this inventor, an implement designed to thoroughly plow the soil and roll it nicely at the same time, the roller forming one of the main wheels

of the machine. The frame is supported by an ordinary wheel at the landside, and the land roller is hinged centrally between its ends at its forward side to the opposite side of the frame, so that it will have a free lateral swinging movement. This improvement is designed to afford special advantages from the fact that the soil rolls better and the clods break up more easily just at the time they are turned up by the plow, and the weeds and vegetable matter are thus so effectually covered up that they rot more quickly.

FOWL CRATE.—Friedrich W. Ewert, Wood Lawn, Ill. A transverse partition divides this crate into upper and lower compartments, and transverse and longitudinal bars in each upper and lower division are made to form single compartments, one for each fowl, there being a door on the front end of each compartment formed of a bar sliding on vertical rods, guide rods held on the bar sliding in bearings on the crate. The crates are more especially designed for shipping fowls to a distance without injury, perfect ventilation being afforded, and the construction being simple and durable.

EGG CARRYING PACKAGE.—Robert G. Dale and Walter S. Weightman, Durango, Col. The outer body of this package or case is made of paste-board or thick paper bent or folded to form two tubular sections lying side by side, with their inner walls dividing them but left free to open, inner thin paper or flexible strips being looped to form a series of separate egg chambers in each tubular section. The improvement is more especially designed to facilitate the safe delivery of eggs in small lots to consumers, and is also applicable to egg cases of larger size, or packages containing any number of such divided lots.

CHEESE VAT.—Leopold Meyer, Ahnapee, Wis. This is an improvement upon vats having a water tank and heater, the milk being heated in a removable vat suspended upon the water tank. The milk vat has a sliding and detachable connection with the water tank, and a longitudinal discharge pipe extends along the under side of its bottom, the projecting end of the pipe entering an aperture in one end of the water tank when the vat is secured to the tank, the latter having a heating pocket in its bottom. The bottom of the sheet metal milk vat is strengthened, and a simple and convenient means provided for drawing off the whey from the curds, the tank and vat being easily separated and operated, and easily kept clean.

MUZZLE FOR HORSES AND STOCK.—Marcus S. Moremen, Switzerland, Fla. This is a simple and practical device, attachable to the head of the animal to prevent injury being done to other cattle or to trees and shrubbery, while allowing freedom to graze. The skeleton muzzle is secured upon the jaws of the beast, and its open bottom is normally closed by a pivoted and spring-pressed guard plate, a projection from the latter engaging the ground to swing the plate upward within the muzzle when the animal lowers its head.

POWDER DUSTER.—John P. Wright, Thomaeton, Texas. This is an inexpensive device adapted to be carried on a farm cart or wagon, and be easily operated by the driver to distribute poison upon plants. A bed or platform carries uprights supporting a hand shaft with crank handle, this shaft being connected by a belt and pulley with a distributor shaft on the outer ends of which are poison-distributing cylinders, which may be held at different heights, as desired, for dusting the plants. The distributor shaft is operated by the turning of the crank handle by the driver, and not by the moving part of the machine, so that the powder may be applied only where needed and none of it will be wasted.

Miscellaneous.

TOY.—William H. Gregg, New York City. The evolutions of a body of soldiery can be imitated and different positions of a company of infantry may be accurately represented by this novel and amusing toy, instruction in the order of marching bodies of men being illustrated thereby. In connection with a base board, a series of figures is supported on transverse strips secured pivotally at both ends on parallel bars, and thus adapted for changing the position of the figures by ranks.

PUZZLE.—Antenor Assorati and Arturo Cuyas, New York City. A puzzle in egg form, simulating the mythical egg of Columbus, is provided by this invention, the egg being so constructed that when handled in a certain manner it may be made to stand upon its end. Although the toy is inexpensive, the interior mechanism is so arranged that it requires considerable expertness to solve the puzzle.

DESIGN FOR THE ORNAMENTATION OF SHEET METAL.—Leopold Kahn, New York City. The leading feature of this design consists of alternating strips of ribbon-like and lace-like metal, the latter figures simulating different varieties of lace, and having preferably scalloped edges overlapping the ribbon-like figures.

DESIGN FOR A SHOE SHAPER PLATE.—Joseph W. Skinner, La Crosse, Wis. The edge lines of the flat main plate converge slightly toward both ends, which are turned up at right angle, one upturned end being bent over in a curve, while in the other is inserted a screw eye.

PRESSURE REGULATING VALVE.—Walfrid Gustafsson, Brooklyn, N. Y. This invention provides a valve of simple, durable, and inexpensive construction, with which, no matter what the pressure may be upon the inlet, the pressure at the outlet may be diminished as desired. The invention also provides a means whereby the regulating mechanism of the valve may be manipulated in a convenient and expeditious manner, the improvement embracing various novel details of construction and combinations of parts.

FEED PIPE FOR VACUUM PANS.—Henry Basanta, Ponce, Porto Rico. The feed pipe is preferably ring-shaped, provided with a series of perforations, and located directly above the heating coil of the vacuum pan. One end of the pipe is closed and the other registers with a short pipe leading to a chamber into which discharges the supply pipe, valved steam and chemical supply pipes being also connected with this chamber, the valves in the latter pipes being ordinarily closed. The regular perforations in the feed pipe cause a uniform discharge of the sirup under an equally distributed pressure, any crystals in the sirup not being liable to break, and facilitating the production of well-grained sugar in the boiling.

TRANSFER PAPER.—William Schwartz, New York City. This invention relates to an improvement in the paper and in a composition for coating it, providing at a low cost a paper by means of which a number of copies of a manuscript or design may be quickly and conveniently taken on single sheets or on the leaves of books. The coating is composed of glycerine, carpenter's glue, agar-agar, and other components, in specified proportions, and is applied while hot. The compound never thoroughly dries, but always retains its absorbent qualities, and with the paper thus treated a distinct and perfect impression is made of the matter to be copied.

HARNESSES.—Thomas J. Magruder, Marior, Ohio. This is a strap-attaching device for harness, of simple and durable character, especially adapted for connecting the inner and outer belly-bands, or for connecting any two straps crossing one another.

The device has side bars with upwardly curved extremities from which tongues extend inwardly, a bridge bar connecting the side bars, the bridge bar having studs and a central aperture.

SACK HOLDER.—James C. Bratney, Sparta, Ill. This is a device for holding any kind of sack in a position to be easily filled, and is readily adjustable to suit and support sacks of different lengths. The holder has a funnel top, with depending neck to enter the sack, and on opposite sides of the funnel are downwardly-depending sockets to receive supporting legs. The funnel has projections or teeth and hooks to engage the sack, which may be fastened in place by one motion of the hand, and thus held without injury, the hooks not extending through the fabric, but simply forcing it into aligning perforations.

EMBROIDERING.—Hermann Gehrlich, New York City. This invention relates to a fabric-holding frame for embroidering machines, and especially adapted for use with the Heilmann or Swiss machines. The frame may be secured to the machine in any well known manner, is of simple and inexpensive construction, occupies but little space, and the fabric can be readily and securely attached to it and stretched without injury. It is provided with an automatically-working lock, so that when the fabric is stretched it will be held under the desired tension.

SHOW CASE.—James C. Loughry, Greensburg, Pa. This case is especially adapted to exhibit cigars and permit them to be easily reached. It has a vertically-sliding glazed front, operated in ways by chains or cords extended over guide pulleys to the rear of the case and there weighted for operation by the salesman, there being a shield or mirror in front of the upper ends of the ways. The salesman pulls on the chain to raise the glass front when a customer desires to select a cigar.

COMBINATION LOCK.—William H. Thompson, Winnipeg, Canada. This lock has a rotary bolt with a locking notch in which rests a tumbler on a spring bar, at right angles to and operating on which is a grooved pull-shaft, in the grooves of which play one or more adjustable slides. The lock can be opened only by one knowing the proper combination, and is adapted for use on cupboard doors, drawers, valises, and in connection with the ordinary bolts of safe locks.

STOVEPIPE FASTENING.—John H. Johnston, Little Rock, Ark. Metal loops are, according to this invention, riveted to the pipe sections on the inside near their ends, a separate connecting strap or tie being bent around the loops and connecting the opposite pipe sections, thus forming a firm and secure union of the sections to prevent them from becoming loose and falling apart, without producing any visible or unsightly effect.

FURNITURE CONSTRUCTION.—Frank M. Hauman and Andrew L. Eaton, of Ottumwa, Iowa. This invention provides a convenient means of securing the legs to tables, stands, desks, and similar articles, temporarily for shipment. A diagonal right and left screw bolt is made to connect the rails in the rear of their spaced ends, the leg being clamped between the rail ends beyond the screw, which serves to connect and brace the rails when the leg is removed.

FISH HOOK.—William H. Hunter, Farnhamville, Iowa. A bowl and two hooks are combined in this improvement, the shank of one hook being fixed in the bowl while the shank of the other hook engages a pin or lug on the bowl to hold the two hooks in a closed position. While trolling the hooks are thus held closed to prevent them from getting caught in weeds, grasses, etc., but they are adapted to open instantly when the fish takes the bait.

