THE NEW EXPLORATION OF THE AMAZON RIVER, BY PROFESSOR ORTON.---OVER THE ANDES.

No. 7.

THE COMMERCE OF PERU.

It would be quite as easy to ascertain the revenue of Atahualpa as to find out the present exports and imports of Peru. Both are impossible. The wildest confusion prevails in the custom houses, as well as in the minds of the people, regarding the commerce of the republic. But better days are coming, as the government has just established a statistical bureau.

Peru under the Incas was essentially an agricultural nation, without trade and with few mechanical arts. In many respects it resembled the Hebrew nation. The empire must have been a magnificent shell, that should so suddenly collapse on the appearance of a hundred Spaniards. It is a signal proof that agriculture alone will not preserve a people. Roads there were, but for military communication, not for commerce. Pizarro had sense to see that Cuzco was too far inland; so he founded Lima, the most lasting monument of his wisdom.

Peru no longer leads the South American republics in enterprize and thrift, for Chili now bears the palm. Peru has reached her level for the present. By a system of official stealing and reckless financiering, she has brought herself to the verge of bankruptcy. Everybody seeks office to sap, not to serve, the government. Every city hangs on the skirts of Lima. Arequipa, the second city in Peru, stands like a beggar at the door of the public treasury, receiving $80,000 annually; and even imperial Cuzco holds out her hand for $30,000. Employees distant from the head center (as Iquitos, for example) go unpaid. Yet Peru has immense capabilities. She is the France of the continent. With the great Pacific on her left and the navigable sources of the Amazons on her right, with mountains of mineral wealth untouched, with highland valleys like the hanging gardens of Babylon for beauty, and with plains and reclaimable pampas which might equal Egypt in fertility, Peru is potentially one of the richest countries on the globe. But she must have a more substantial and permanent basis of prosperity than guano and saliter. The wealth thus suddenly acquired has diverted the people from the slow but surer sources of national growth. Whoever heard of an original patent taken out by a Peruvian? Where is the vessel that was built in Peruvian waters? What manufactures thrive in Peru? We can think of only one success, the powder factory at Lima, which the government runs, dispensing the "villanous saltpeter" at thirty cents a pound. There was once a woolen factory at Cuzco, but it is now silent. Commerce is almost entirely in the hands of foreigners. Take out what foreigners have done for Lima, and little would be left but the bull ring.

The annual revenue from guano (including saliter) and customs is about $25,000,000. To the railways now nearly completed by Mr. Meiggs, Peru must look for an advance. It is a fact that the receipts at the custom house in Callao have increased by one million of soles every year since the beginning of the Oroya railroad.

In eastern Peru, hats, aguardente, salt, turtles, salsaparilla, tobacco, and hammocks are the main exports. Trade has vastly improved since the establishment of steam navigation on the Amazons. But until there is a better outlet than miserable Balsa Puerto, it must be inconsiderable.

On the coast, the majority of the sailing vessels are Anglo-Saxon. There are a few French steamers; but the Pacific Steam Navigation Company, founded by an American, the late Mr. Wheelwright, is the most prosperous navigation company in the world. It has a fleet of seventy steamers, some of them the largest afloat, with an aggregate tunnage of over 200,000. The six best harbors of Peru are Payta, Chimbote, Callao, Islay, Arica, and Iquique. But all are roadsteads opening to the north; and of each it can be said, as a captain sarcastically remarked of Mollendo, "the harbor is entered as soon as the ship turns Cape Horn." The wealth of Peru lies mainly in the following productions:

GUANO.

This valuable fertilizer, whose virtues were known to the Incas, comes no longer from the Chincha Islands, which have been pretty thoroughly scraped. It is now shipped from the Guañape Islands, where the deposit will last about eighteen months. The principal deposits yet untouched are those of Macabi Island, Lobes Island, Viejas Island, Lobillo Island, Huanillo Island, Huanillo Point, White Point, Pabollon de Pica, and Chispana Bay. The guano now in the market is inferior to that of Chincha, containing five per cent less of ammonia. Peru owns but four millions of tuns (the rest being mortgaged to Dreyfus & Co.), worth $35 a tun where it lies, or £13 a tun in Liverpool.

SALITER (NITRATE OF SODA).

This formidable competitor with guano is found in the Province of Tarapacá, especially on the Pampa del Tamarugal. The average yield is 4,000,000 quintals; but were the senseless restriction on its exportation (25 cents per quintal) removed, the quantity would be tripled. It is mainly exported from Iquique, where the price is about $2.50 a quintal. Mixed with guano saliter (or "caliche" as it is called in the crude state) is the best compost for cereals. In the deposit at La Peña Grande, fossil birds have been discovered nine feet below the surface.

SUGAR.

In many respects, this is the most important production of Peru. All along the coast, wherever the land is watered by streams or irrigation, the cane grows luxuriantly (from 15 to 20 feet) and yields 85 per cent of juice, having 12° or 15° Baumé. The green and ripe are seen in the same field; men are cutting at one end and planting at the other. The cane requires replanting but once in ten years, and gives a crop every fourteen months. It is exported mainly from Eten (12,000 tuns annually)—the richest agricultural region in northern Peru—Pacasmayo (800 tuns), Malabrigo, Huanchaco, Chancay, and Pisco. The bulk goes to Europe to be refined. A superior quality is grown in the interior at Abancay, which is sent to Bolivia.

COFFEE.

A small quantity is produced at Guadaloupe near Pacasmayo, which is second to none in richness of flavor. Its excellence is due to the fact that it is grown in the shade, and with the greatest care. This "Goyburu" coffee, as it is called, brings fifty cents a pound at the hacienda. A very choice article (valued at $1 a pound) is made by selecting the smallest Goyburu; but it is not in the market. Fine coffee grows also at Huauuco and Urubamba.

COTTON, GRAIN, AND LIQUORS.

A very fine article, next to sea island, has been grown at Pacasmayo; but the yield, only 50 or 60 lbs. to the acre, is not encouraging. It suffers from mildew. The points from which cotton is exported are Pacasmayos (100,000 lbs.), Payta, Eten, Chancay, Lomas, and Pisco.

Rice is now imported from China direct and from India *viâ* England, so that little is raised. The usual yield is 200 fold. Its production is nearly confined to Eten, Pacasmayo, and Huanchaco.

A prime article of corn, quite different from the short, particolored ears on the highlands, is grown to some extent on the coast; 700,000 lbs. passed through the custom house of Pacasmayo last year.

The best cacao comes from the Department of Cuzco, especially from the hacienda of Echarati. It brings 60 cents per pound in Lima, or double the price of the Guayaquil.

The province of Moquegua is the Bordeaux of Peru; and a large amount of rum and wines are exported from Pisco. The "Italia" is the leading brandy. Ordinary "Pisco" is worth $1 a bottle; "Locumba," $2.

TOBACCO.

This grows luxuriantly at Eten and Pacasmayo, sometimes standing eight feet high with leaves four feet long. It is sent chiefly to Chili. Pacasmayo exported 100,000 lbs. in 1873. Tobacco is also grown along the Urubamba and Utcubamba.

Coca is almost confined to the Urubamba province, and is not exported from the coast, as it is consumed in Cuzco, Puno, and Arequipa. It is considered inferior to the coca of Yungas, Bolivia.

CASCARILLA BARK.

Less and less of this is exported every year, as the hunters have to go farther and farther into the interior for it. The greater part now goes down the Amazons from Bolivia. It is shipped from Payta (coming from Loja), Pacasmayo (coming through Cajamarca, nearly 200,000 lbs. in 1873), Islay, and Arica (coming from Cuzco and Bolivia). At Arica, it is worth $90 a quintal.

WOOL.

After guano and sugar, alpaca is the great export. It comes almost entirely from the departments of Puno and Cuzco; and the outlets are Pisco, Islay, Mollendo, and Arica. But Arequipa is the great center of the alpaca trade. Such is the reputation of the Arequipa brand that the wool is generally taken to that city from other points to be re-assorted and re-packed. The alpacas thrive best in the black, almost barren, boggy lands from 13,000 to 14,000 feet in elevation. Shearing time begins, December 15; but an individual is sheared only once in two or three years. A fleece of three years is of course the largest and commands the best price. It is now worth in Arequipa $70 a quintal. Vicuña wool brings $100 a quintal: but little is exported. The sheep's wool of Peru ("cholo") is of middling quality, inferior to the "mestigo" of the Argentine Republic. It brings twelve pence in England. It is exported from Arica and Islay.

About 4,000 goat skins are exported annually to the United States from Payta, and a few chinchilla skins from Arica.

MINERALS.

Arica, being the main port of Bolivia, ships the most metal, especially bar silver (at $12.4 per mark), copper barilla or powdered ore (at $18 a quintal of 70 per cent), and tin barilla (at $19 a quintal of 70 per cent). Pacasmayo and Chimbote will ere long export considerable silver ore and bituminous coal, the latter having been discovered of excellent quality and in large quantity near the line of the Chimbote railroad.

Besides these exports, Tumbez yields petroleum, Huanchaco, starch, Quilca, olives, and Amotape (near Payta), cochineal. Orchilla was formerly sent from Payta; but a better article has recently been found on an island off Mexico.

JAMES ORTON.

DECISIONS OF THE COURTS.

United States Circuit Court---District of Connecticut.

PATENT CARRIAGE WHEEL.—SARVEN *vs.* HALL & CO.

[*In Equity.—Before Woodruff, Judge.*]

A patent for a carriage wheel in which the spokes have tenons inserted in the hubs, and are sustained against pressure endwise by the shoulders of the tenons, and laterally by collars on each side bolted together, is infringed by a similar wheel in which the spokes are made tapering without shoulders, and enter into corresponding mortises in a solid collar and in the hub, and are sustained endwise on the inclined sides of the mortises.

The defendants were led into adopting this form in consequence of their employment of the shoulders having been urged by the patentee's counsel in a former suit as constituting the breach of the patent; and though an injunction was ordered against them, it was without costs.

John S. Beach, Samuel S. Fisher, Charles Keller and Charles F. Blake, for complainant.

Charles R. Ingersoll and Benjamin F. Thurston, for defendant.

The Turner Car Brake Patent.

For some time past, an actively prosecuted litigation has been going on against several railways in Illinois and elsewhere for alleged infringement of the late Charles B. Turner's patent, of which Batcheider and Thompson are assignees, dated November, 1848, and extended on November, 1862. Henry W. Bishop, Esq., Master in Chancery of the United States Court in Chicago, recently determined that the railway companies, who have associated together for the purpose of defence, must pay damages to a very large amount, over $60,000. A bill of exceptions to the Master's ruling was filed and the case argued before Judge Drummond, who sustained the Master in all particulars, and confirmed the report.

Judge Drummond decrees that the Batcheider and Thompson patent is good and valid; that the inventors never abandoned such patent; that the patent covers the connecting of all the brakes of a car with windlasses so that a brakeman, by operating any one of the windlasses, can apply brakes to all the wheels; and that the Stevens' brake (used by the railroad companies in question) contains the covered combination.

Judgment for the plaintiff for $67,334.49.

Recent American and Foreign Patents.

Improved Pipe Joint.

John Demarest, Mott Haven, N. Y., assignor to himself and Jordan L Mott, of same place.—The invention consists in pipes having corresponding end enlargements, with two annular recesses to form chambers, the former to receive an extension, and the latter to form a close chamber for packing, so that the packing will not be exposed to the water or acid, and thus gradually be forced out of its place into the pipe.

Improved Combined Shutter and Window Fastener.

William T. Fry, Brooklyn, N. Y.—This invention consists in fastening the catches of a shutter and window by the same lever, but so that they may be unfastened separately. The arrangement is such that, when the shutter or door is fastened, all parts, except the inside handle, are concealed from view, and access from without for forcible entry is effectually prevented, and the fastening and unfastening of shutters can be effected without opening the windows. A spring is arranged with the shutters to throw them open when they are unfastened. It may also be used with gates and doors, if required. The spring catch is provided with a metal case made in two parts, which form a lining for the mortise through the sill or frame. The parts of the said casing are contrived so that, when they are placed together preparatory to being put in the mortise, they receive the pivot of the catch in opposite holes formed for it, and are held together to confine the catch by the walls of the mortise. The said lining may be provided with a flange on the inside of the sill, to prevent it from being pulled outward. The invention also consists in utilizing this shutter fastening for locking the window sash by means of a stud catch on it, projecting down from the lower edge, and engaging the spring catch.

Improved Cooking Stove.

Solomon Long, Mayville, O.—This invention is an improvement in the class of stoves whose fire boxes are provided with movable or adjustable backs. The improvement relates to the arrangement of two pivoted or hinged plates, one forming, when elevated, the back of the fire box and supporting the other, which thus forms the horizontal inner top plate of the stove.

Improved Spring for Chairs, etc.

William T. Doremus, New York city.—To the lower part of the seat is attached a centrally slotted metallic plate. Through this passes the screw, by which the chair seat is raised and lowered. The seat slot is elongated to admit of the oscillation of seat. Two rubber blocks are placed one upon each side of the plate, and may be kept from turning by toes, said toes entering notches in them. The toes, when the chair is oscillated, press laterally against the rubber, and thus make the spring more efficient.

Improved Fishing Stake.

John O. Campbell, Alpena, Mich.—This invention consists of a fishing stake composed of two parts connected together by a socket and spring catch, in such manner that the upper portion can be readily detached from the lower portion, just above the ground when the season is over, to be preserved, and then be readily attached again at the beginning of another season.

Improved Mangle.

Ernst Gundlach, Hackensack, N. J.—The mangle is firmly secured by suitable clamping screws to the table. The standards, of cast iron, support the mangle rollers. The shaft of the upper or pressure roller turns in a frame which is pivoted to the standards above the clothes roller. The upper roller is made of larger diameter than the lower, both being made of cast iron. The frame is also made of cast iron, in fork or U shape, with a central lever, extending toward the person mangling, which is supplied with a handle for pressing the roller down, or with a weight suspended at its end for producing the necessary pressure on the lower roller. The frame is applied to standards eccentrically, so that the pressure of the roller, when brought down to act on the clothes roller, is in proportion as the degree of eccentricity to the length of the lever and the weight applied, which may be increased or decreased according to the power desired to be exerted. By holding with one hand the lever of the pressure roller, and turning the crank with the other as long as desired, the clothes are rapidly mangled They are then taken off and replaced and run through the roller again, and so on till they have all passed through the mangle.

Improved Rock Drill.

William Roberts, Jr., Copper Falls, Mich.—This invention consists in fastening drills in a solid chuck, stock, or head by a couple of half boxes and tapered bolts, the said half boxes having the shank of the drill between them, and entering the socket of the stock. The bolts pass through the stock on opposite sides, and bear against the back of the boxes in grooves, so as to wedge them tight against the shanks of the drill, and hold it in the boxes, and also hold the boxes from working out by the notches in the back.

Improved Shaving Conductor for Planing Machines.

William Weaver, Burlington, Vt.—The object of this invention is to produce an improved shaving conductor for wood working machinery, by which the shavings are carried off by the force imparted by the rapid revolutions of the cylinders and side cutters, and transmitted to elevators or other receptacles, whether used with or without suckers or blowers. The conductor, covering the machinery, protects the gearing against the accumulation of shavings, leaves every part of the machine fully within view of the workman, and permits readily any repairing of the same at any desired moment. The invention consists, mainly, of a hood-shaped conductor adapted in form to a cylindrical planer and side cutter, combined with an extension casing leading to the opening of the blowers, suckers, or receptacles, and turning in a circular sleeve, so as to be lifted off the machinery The chip breaker of the side cutter is suitably enlarged and recessed for the passage of the shavings into the conductor, which may also be arranged separately for the side cutter.

Improved Curtain Fixture.

Charles C. Moore, New York city.—This invention has for its object to improve the construction of the shade roller described in letters patent No. 75,446. Upon each end of the roller is slipped a metallic tube, which tubes are made with dies, so as to be exactly of the same size and perfectly true. The tubes are designed to receive the side parts of the shade, and cause it to roll up true, thus obviating the annoyance in hanging and using shades arising from the rollers not being exactly true. In the sides of the tubes are formed small holes, to receive tacks, which at the same time fasten both the shade and tube to the roller. A broad beaded screw is screwed into the ends of the roller, which, in connection with the end of the tube, forms the spool upon which the suspension cord is wound. By this construction the length of the spool upon which the cord is wound may be adjusted as required by simply turning the screw in and out. Upon the outer edge of the end of the tube is formed a flange or bead, projecting outward, and upon the outer edge of the head of the screw is formed a flange or bead, projecting inward. These flanges or beads are designed to bear against the cord when it comes to either end of the shank of the spool in being wound thereon, so that it cannot make more than one coil upon itself, and to cause it to at once begin to pass back along the spool.

Improved Riding Attachment for Plows.

Andrew H. Ballagh, Bowensburg, assignor to himself and Martin McNitt Mound Station, Ill.—This invention is an improvement in riding plows; and consists in an arrangement of plow beam with a triangular frame, supported on caster wheels, the parts being so connected that the same rods which serve to brace or hold the plow beam in proper position serve also as draft rods