WHITE INDIANS OF NEW MEXICO. BY COSMOS MINDELEFF.

For more than a hundred years the question whether there existed in America a tribe of white Indians has been agitated, and more or less positive statements from learned men can be quoted on both sides. That the legend of a white race had a basis in fact is proved by the photograph which is published herewith, and which shows, not a tribe, but six individuals, living in the Pueblo of Zuñi, New Nexico. Their existence, however, is known to very few, and even of those who have visited the village not many have seen the white Indians, for as a rule they keep themselves out of sight. The history of the legend is interesting.

From the earliest times more or less definite rumors about white Indians have been current. In 1791 the Reverend Doctor John Williams published a treatise on the subject, which is now very rare, although the impetus which he gave the inquiry still survives. The purpose of the publication was to start a subscription fund, to be devoted to the exploration "of the wild parts of America beyond the Ohio River," where the author was sure the long-sought white men would be found. In his own mind there was not the slightest doubt that these whites were descendants of Prince Madoc of Wales, who, according to the old Welsh legend, left his native country soon after 1170 A. D., on account of family dissensions, and sailed out to the West, leaving Ireland on his right hand.

According to the ancient bards. Prince Madoc returned in the course of time with glowing accounts of a new country he had discovered, and gathering his adherents about him he set sail again for the far West, to the land which he had found, and was never afterward heard of. Dr. Williams contended that the white Indians were the descendants of these twelfth century Welshmen, and whatever may be thought of his conclusion his argument was certainly worth consideration. He cited the many reports concerning these Indians then current, coming from various parts of the American continent, particularly the account of a man named Rimington, a native of England, who had met the white Indians at a grand trading meeting, or Indian fair, at the forks of the Ohio. He was told that they came from a remote district, west of the Mississippi. Rimington's companion, a Welshman, claims to have spoken to these Indians in his own language. It was said also that these Indians had a book, which they venerated highly, but were unable to read.

More than sixty years later, when the Pacific Railroad surveys across the continent were made, the story cropped out in another form, but the white Indians were definitely located at the Pueblo of Zuñi. In the reports of that survey, published in 1856, a description of one of these Indians is given, together with a list of words, which were said to be practically synonymous

in the Zuñi and Welsh languages. No explanation of the presence of white members of the tribe was attempted. About 1877 J. H. Beadle, a newspaper correspondent. visited Zuñi. He mentions a book which those Indians had, and which they regarded with great reverence, although they could not read it.

There can be no doubt that the white Indians at Zuñi are albinos. There are four others at the Moki villages and sever al scattered

Scientific American.

To those who have seen these curious freaks they give the impression at first that they are Irishmen dressed as Indians, for their faces have a decidedly Celtic cast. The only way, however, in which they differ from other members of the tribe is in the absence of coloring matter in the skin and hair. The cause of this albinoism has not been determined; it may be due to close intermarriage within the family, an inevitable result of the social system of the Pueblos, and their organization under the clan or gens system.

SOME PACIFIC JELLYFISHES. BY CHARLES F. HOLDER.

In making the trip from San Pedro to Avalon, or from San Pedro to San Diego, into the warm waters of the great black current of Japan, the traveler is



PHOTOGRAPH OF A JELLYFISH, TAKEN AS IT REACHED THE SURFACE.

charmed with the display of large jellyfishes, particularly abundant in March and April.

The form most conspicuous, both for its size and beauty, is the one shown in the accompanying illustration, which was photographed as it had just reached the surface. The jellyfish was eight or ten feet in length, consequently the opalesque disk alone is seen, splashed with markings of a deep lavender. The picture has a peculiar interest inasmuch as it is the first ever shown of this jellyfish, and, in all probability, the first successful photograph of a living jellyfish of any kind. The tentacles of this specimen stretched away a whirled fluted mass, tinted a rich pink, folded flounced and fringed like twisted lace. Depending from the disk were numbers of long opal-hued tentacles, four only being shown in the photograph.

This specimen is a pigmy compared with some ob-

statica. So far as the observation of the writer goes, it is the most rapid in its movements of all the jellyfishes. When the specimen mentioned was placed in a tank, it darted about with all the rapidity of a fish. In a short time it learned apparently that rapid movement would not avail and slowly swam about with fanciful, lacelike adornments and pendants, resembling an inverted thermometer more than anything else; for there is a central axis, which calls to mind the tube of the thermometer—it is elongated into a bulb at the upper portion and is filled with gas at the will of the animal.

This axis may be four or five inches in length. About it are numbers of transparent glass-like bodies (nectocalices) resembling individual jellyfishes, which are so delicately attached to the stem that they wave to and fro. They easily break off, and for a short time seem to possess life of their own.

These beautiful bodies are so many pumps, and are the organs of locomotion of the Physophora, forcing it along swiftly or slowly, as it pleases. At the base of the central column are groups of various organs, the most conspicuous resembling the tentacles of a sea-anemone, and colored a rich pink. Below them extends a maze of lacelike tentacles, lavender and pink in hue. The float is an exact imitation of a bulb of quicksilver.

The writer was fortunate in observing the Physophora in the act of descending. When captured its bulb was filled with gas and was half an inch in length -a float that kept the animal at the surface with the top of the bulb bobbing above it so charged; it was impossible for the creature to sink. It made several ineffectual efforts to do so, pumping itself a few inches below the surface; but the bulb would carry it up again. It now swam around several moments, then stopped in the center of the tank; the lower part of the bulb or float was seen to restrict, as though some one had tied a string about it. Presently the restric tion reached the center, forming a separate drop of seeming quicksilver, which was gradually pushed downward by muscular action until it escaped and rose to the surface. Another restriction was now forming. and another drop of gas was pushed down and out of the tube of the mimic thermometer. This was repeated four or five times in ten minutes, and finally the beautiful and complex pumping machines forced the entire animal below the surface without difficulty.

Similar to the Physophora, but rarer in these waters, is the allied form, Agalmopis, two specimens of which it was the writer's good fortune to secure. In the open water it was a most delicate creature ablaze with color. So delicate was it that the slightest swirl of the water seemed to threaten it, and it was only taken by lowering beneath it a glass jar. Like Physophora, it has an axis which is covered with the glasslike pumping machines, or nectocalices, in two rows; all giving the upper portion of the animal the appearance of an



elongated globeof glass. Each nectocalix, or pump, resembles a jellyfish in appearance, and is connected with the axis by a delicate stem and with its neighbors by gelatinous horns which become locked, giving the entire mass some stability. The crystal pumps have circular openings which lead to cavities within; all the openings point at right angles to the axis. As in Physophora, they are the organs of locomotion, water being taken in and

violently forced

out by the sudden compression of the

walls of the crystal pump. The

animal has the

power to change

among the other Pueblos. In dress, m a n n e r s, customs, language, they are like their fellows, but their complexion is very



WHITE INDIANS OF ZUNI, NEW MEXICO.

fair ; they are, indeed, much whiter than the average white man who has lived much in the open air. Their hair is a tawny yellow, instead of the jet black which characterizes the Indian. Their eyes are so weak that they have to keep them closed in the sunlight, as shown in the photograph. This is due, doubtless, to the absence of coloring matter in the iris. As the skin lacks that protection also, these people suffer very much from sunburn, where the regular Indian is almost as immune as a negro. Their eyelids and lips are always sore, and it is probably on account of their dread of the sunlight that so few travelers have seen them. served in these waters. Jellyfish with tentacles forty feet in length—veritable giants—have fouled the nets of the fishermen off the mouth of Avalon Bay. Doubtless this jellyfish sometimes attains great length. So vast are the numbers of jellyfishes at the time of writing—April—that in crossing the Santa Catalina channel they are almost constantly in view. The entire channel may be said to be filled with these living comets, which at night aid in converting the waters into a sea of light. One of the most beautiful of all jellyfishes, and one not uncommonly seen here, has been kept in confinement by the writer. This is the Physophora hydrothe direction of the openings, and so its direction, to a certain extent.

It was fascinating to watch the evolutions of this beautiful creature and the peculiar movements of the nectocalices, leaping as the water was pumped out; but the "pumps" very soon broke away, and covered the bottom of the tank, each moving and turning about, apparently with a life of its own. Reaching out from this portion of the animal are groups of organs of various kinds and lacelike tentacles of rose pink.

With these delicate forms were kept for a short time

both physalia and velella members of the Siphonophora. The latter is very common in this latitude in August, coming with great regularity, being blown in on the prevailing west wind. The writer has seen the Santa Catalina channel so covered with these mimic craft, all sailing on the starboard tack, that the water so far as the eye could reach glistened with their satin leg of mutton sails. Nearly all which were examined held delicate shrimps in their short tentacles, while some had captured tiny fishes. Velella is a perfect raft with a horizontal sail always set; the hull, as it may be termed, is a mass of concentric compartments which communicate with one another, making so buoyant a disk that it never leaves the surface. On the upper side rises the glass-like sail, or frame, covered with a delicate blue membrane. On the lower surface the tentacles hang around a central mouth. A number of different appendages add to the interest of this animal ship. In some works it is figured beneath the surface, but this is impossible; the raft is always on the surface, with the sail set; and if a wind be blowing the velella is carried along over the sea, a mimic ship in every sense of the word, dragging its short tentacles, which seize and overpower small animals by the aid of the lasso darts they bear. Velella is harmless, but its ally Physalia, which is supported by a beautiful bubble, is one of the most dangerous of all the jellyfishes. The specimens observed in this portion of the Pacific were not over two inches and a half in length; but in the Gulf of Mexico they appear to attain their maximum size of five or six inches, with tentacles from ten to thirty feet in length. The sail when retracted is a simple ridge; but when physalia wishes to move it elevates a crumpled mass of pinktinted satin and a sail is seen extending the entire length of the bubble, an effective organ of locomotion in a good breeze, the movement tending to bring the tentacles to within a foot of the surface, these poisonous, and indeed deadly, organs to fishes, being towed along as would a fisherman's bait. Small fry bite at them, and so virulent is the poison that they roll over dead, when they are hauled up to be absorbed by the body mass.

The most interesting feature of the jellyfishes, taking the one shown in the accompanying illustration as a type, is their development. Late in the summer yellow masses are seen through the disk ; these are the eggs, particularly noticeable in the common Cyanea. The first stage of the latter is carried about in the mouth folds of the parent, and is then known as the panula, a minute elongated spherical body covered

with cilia or hair-like organs. It now escapes and assumes a pear shape and becomes fixed to the bottom at one end. The upper or free portion now appears to divide, and small tentacles are seen, the object resembling a small hydra. This upper portion in the jellyfish Aurelia now seems to divide itself up into a series of fringed platters, which break off, become distinct jellyfishes, and so swim away.

"Scorching."

A sad story appeared in The New York Times of June 11. A young bicyclist was running a race with a trolley car. When he showed signs of tiring, the jeers of the men on the car spurred him to renewed effort, which was further encouraged by the favoring smiles of the ladies at his renewed efforts. Then came the tragedy. The onlookers, sitting at their ease in the car and themselves risking nothing, "saw him regain what he had lost, go forward. * * * Blood was pouring from mouth, ears and nostrils, and he was badly cut and scratched "-and dead! No wonder that the reporter has occasion to add that, after the part they had played as unintentional causes in this tragedy, "the young men and the young women slowly returned to their car. The young men did not jeer again. The young women had no heart to smile." This principle of "record-breaking" and of insatiable attempts to outdo others is the bane of the age. It is urged that it is the very life of progress. We do not think so. There would be just as much real progress -nay, more—in all careers of life if men would leave off pitting themselves so eternally against each other and put themselves instead against their own best without regard to what others might have done or be doing. Let each man strive in every walk and relation of life to attain the best of which he is capable, with due regard to the harmony of his own best interests, and let him neither mind if he is distanced by others on the one hand, nor be satisfied though he beat all the world on the other, yet fall short of the standard of his own capabilities. So will the harmonious progress of the race be better assured than by all the "record-breaking" and "scorching" possible.-The Sanitarian.

Septic Skirts.

The streets of our great cities are not kept as clean as they should be, and probably they will not be kept scrupulously clean until automobiles have entirely replaced horse-drawn vehicles. The pavement is also subjected to pollution in many ways, as from expectoration, etc. Enough has been said to indicate the source and nature of some of the most prevalent of nuisances of the streets and pavements, and it will be generally admitted that under the present conditions of life a certain amount of such pollution must exist, but it does not necessarily follow that this shall be brought indoors. At the present time a large number of women sweep through the streets with their skirts and bring with them, wherever they go, the abominable filth which they have taken up, which is by courtesy called "dust." Various devices have been tried to keep dresses from dragging, but most of them have been unsuccessful. The management of a long gown is a difficult matter, and the habit has arisen of seizing the upper part of the skirt and holding it in a bunch. This practice can be commended neither from a physiological nor from an artistic point of view. Fortunately, the short skirt is coming into fashion, and the medical journals especially commend the sensible walking gown which is now being quite generally adopted. These skirts will prevent the importation into private houses of pathogenic microbes.

**** The Current Supplement.

The current SUPPLEMENT has an unusually large number of interesting articles. "The New Waterworks Extension in Glasgow" is by J. A. Stewart. "Iron and Steel Rails in America" is by Robert W. Hunt. "American Engineering Competition, V." deals with ore supplies and transportation. "Persia and Its Capital City" is an elaborately illustrated article. Some of the Resources of the Philippines" is by G. D. Rice. "Panoramas of the Exposition of 1900" deals with the Stereorama and the trans-Siberian panoramas. "The Reaction Breakwater as Proposed for the Opening of the Southwest Pass of the Mississippi River" is by Prof. Louis M. Haupt.

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RECENTLY PATENTED INVENTIONS. Bicycle Attachments.

BICYCLE-LAMP HOLDER -- EUGENE E. HENRY, Stamps, Ark. In this lamp-holder is found a new departure in a very simple and ingenious contrivance by which, when the rider is about to turn a corner, the lamp is swung around faster and to a greater extent than the fork is turned. The lamp-bracket is mounted to turn in a frame or support clamped to the fork, and small chains extend from the lamp-bracket to the steering-head, the arrangement being such that, in addition to swinging with the fork, the lamp-bracket turns on its own axis to throw the light around the corner.

BICYCLE-SUPPORT. - HUGH H. COOTE, Phœnix Ariz. This support is of the type which may be carried on the bicycle, and the legs thrown down by springs, when it is desired to support the wheel. The novelty lies in the general construction and arrangement, which the inventor has designed with a view to decrease weight and promote convenience in adjusting the support.

Electrical Apparatus.

ELECTRIC SIGNAL AND FIRE-ALARM .- DAVID GEYWITS, Rome, N. Y., and WILLIAM STILL, Utica, N.Y. This invention merits the consideration of hotel men. It provides for awakening guests at the hours requested, the receiving of an answering ring from the guest to avoid disputes, the automatic sounding of an alarm at the hoteloffice in case of firein any of the rooms. and permits the sounding from the office of an alarm in each room in case of fire. At the office a clock and a switch system are provided so that a pin inserted to correspond with a given hour and a given room will cause the clock to ring the bell in the guest's room. In the absence of an answering ring from the guest, the signal may be repeated. If a fire occurs in any room, a thermostatic curcuit closer sounds an alarm at the office. A single switch device enables the hotel clerk to alarm the

having this title is noticeable for the arrangement of knives, the belts which feed the blocks of glue and the belts for carrying the cut slices to the dryer or elsewhere. Parallel knives have their edges facing upward, one projecting above another in step form, and the vertical runs of two belts grip the blocks of glue or gelatine and feed them forcibly to the knives. From the base of each knife a separate downwardly inclined conveyor belt is arranged the belts running one above another and of different lengths, all terminating adjacent to a horizontal conveyor which may lead to a dryer.

DUST COLLECTOR.-LOUIS C. MEYEROTT, Evansville, Ills. The important adjunct of the dust collector. in modern flour mills, to collect and dispose of the flour dust in the air, is the subject of constant improvement. A type of apparatus for this purpose consists of frames or drums covered with cloth through which the air is passed. The one referred to above includes a horizontal drum in which separate compartments are formed by the cloth, the compartments being collapsible and as each in its turn comes uppermost, its sides are collapsed by a cam and then suddenly forced outward by a spring to jar the cloth and free it of the dust, which then falls into a trough having a conveyor screw.

CALCINING FURNACE.-GODFREY HUGHES, El Paso, Texas. This patent relates to ore calcining furnaces and discloses a novel manner of passing the ore through the calcining flume or chute. 'I'he latter is inclined and has a series of dumping plates, which are acted on by a traveling chain having trips. The ore is received, from an elevator, on the top and falls step by step to successive plates. The flames from the furnace rising through the chute serve to thoroughly calcine the ore by the time the latter has reached the outlet provided at the bottom. The rapidity of the travel of the ore may be regulated as required.

no waste of air can occur in the supplying of air to the here as with other mechanical problems to no set lines, retainer cylinder and the operations of controlling the leak port.

subject of a patent to this inventor. He employs on one car a coupling hook having an arrowhead at one end, and this is engaged by peculiar spring retainers on the opposite car, which are stated to be effective in preventing uncoupling on curves. The hook is made reversible and may co-act with an ordinary link and pin coupling.

Steam, Gas and Lighting.

BOILER-FEEDER.-HENRY J. DAVIS and others Birmingham, Ala. This apparatus is automatic in its action and maintains the water level at any predetermined height. A chamber in communication with the boiler contains a float which falls as the water level lowers and permits entrance of water to the chamber by first controlling the entrance of steam to the water chamber and then exhausting the steam to reduce the pressure in the water pipes and thus permit the inflow of water The rising of the float by the charge of water in the water chamber acts to admit steam from the boiler, equalizing the pressure and causing the water to flow into the boiler by gravity.

GAS BURNER.-MICHAEL B. CARMODY, Zanesville, Ohio. This invention is noticeable in providing a feature of marked improvement in fuel-gas-buruers, for the purpose of regulating the gas supply in the interest of efficiency and economy. The gas supply pipe delivers to a gas chamber divided into compartments and the mixing tube for the air and gas is similarly divided. Thus gas from one compartment and its complement of air may be delivered to the burner, or two or more compartments may be utilized according to the heat required. The invention is also designed to prevent the flame from

but endeavors to produce various embodiments of the principle involved. In the McLean press the cotton is CAR COUPLING. - MARK A. BROWN, Douglas, fed through the feed rollers into a baling box which os-Ga. A car coupling out of the conventional lines is the cillates beneath a series of rollers arranged in the arc of a circle, so that the cotton is compressed in layers. The follower of the box is carried by a screw, mechanism being provided to turn the screw and cause the follower to recede gradually as the bale is formed. A very ingenious feature is a means for automatically governing the follower in its descent according to the pressure of the bale.

> PERFORATOR.-GUSTAVUS A. EVANS, Nelson, B. C., Canada. In the practical operation of perforating attachments of job printing presses difficulty is not infrequently experienced in insuring a proper register of the punches with the perforations in the bed piece, in freeing the perforated sheets, and in preventing accumulation of the punched particles in the bed piece. To remedy the defects, the present patentee modifies the punch bar and bed piece so that the former is properly guided and yieldingly engages the bed piece; he provides a novel clearing bar which first presses on the paper to clamp it securely, then yields to permit the punches to pass, and, as the punches withdraw, the bar acts to dislodge the sheet from the punch bar. The punched particles enter a groove having its ends so formed as to permit the particles to free themselves.

> MECHANICAL MOTOR.-GEORGE S. ZENT, Little River, Kans. This motor is of that class in which a descending weight operates a train of gearing, and the improvements provide a special transmitting and regulating mechanism for applying the power of the motor by means of a walking-beam to operate two pumps or similar devices.

> POWER-MACHINE.-DAVID W. REYNARD, Morris, Pa. For driving bicycles or other machines, this inventor has patented an apparatus in which he employs the principle of two hand or foot levers at opposite sides of the machine to be alternately pressed downward. The special transmitting mechanism is designed to avoid dead centers and effectively apply the power.

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guests in all the rooms at once, in case of fire.

ELECTRIC ARC-LAMP. - JAMES E. DAVIDSON. Butte, Mont. In the new lamp devised by this inventor, there are disclosed a number of important improvements to a full understanding of which a copy of the patent should be examined. The carbons are prevented from " bucking" or bobbing up and down a slight movement. of the armature of the regulating magnet imparts, through special connections, an increased throw to the carbon so that the movements of the latter are much more sensitive, and a means is provided which is designed to make the burning out of the magnets impossible.

TROLLEY-HARP.-Edward G. JOHNSON, Brigantine, N. J. Instead of mounting the trolley-wheel in a fixed position on its shaft as usual, the harp mentioned permits the wheel to slide on its shaft in order to follow the conductor, as in turning a curve, and springs are provided on the shaft, at each side of the wheel, which return the latter to the normal position.

Industrial Arts.

APPARATUS FOR CUTTING GLUE. - CARL

Kailway Cars and Appliances,

RAILWAY-CAR.-THOMAS L. STATE. Detroit, Mich. floors, the lower one comprising a parlor, reception room, state-rooms, etc., and the upper one arranged with sleeping berths and baggage compartments. The improvements comprise, besides the general features referred to, a special arrangement of the sills and transoms, as well as a new form of convertible seat.

DOOR HANGER AND TACK THEREFORE. JOHN C. GABEL, JR., Onarga, Ills. This inventor has patented a door hanger and tracks of the class in which provision is made for moving the door laterally into the door opening in addition to the longitudinal sliding movement. In the opening and closing of the door, only a longitudinal pressure is necessary, the track and hanger serving to guide the door into and out of the opening.

RETAINING VALVE. - JOSEPH S. LAPISH, Salt Lake City, Utah. As an improvement on a prior patent relating to the same subject, this inventor has patented a new form of retainer valve for retaining the air pressure in the brake cylinder while the auxiliary reservoir is Wolff, New York city, N. Y. An automatic machine, being recharged, and the new form is so arranged that inventor, and true to his reputation he confines himself

running back ir the mixing chamber.

CALCIUM-WICK LAMP. - ANDREW PLECHER. A car, patented by this inventor, is provided with two Savannah, Ga. A new type of lamp has been patented of this inventor. The light is produced by a lime wick or .ube which draws up the oil by capillary action, and oxygen gas which is caused to issue from a perforated ring and impinge against the wick, the burning of the oil causing the incombustible lime wick to glow with a brilliant incandescence.

> LAMP BURNER .- WILLIAM HARRIS, Mound Bayou Miss. This inventor arranges a pressure strip to be pressed by a set screw against the wick of a burner, to hold the wick securely, and also with the object of limiting the amount of oil consumed and enabling the lamp to burn without a chimney if desired. The invention is mainly intended for signal and railway lanterns which are required to burn a long time without being charged.

Mechanical Devices.

COTTON-PRESS. - SILAMON MCLEAN, Bingham, S. C. The development of the roller cotton-press is one of the comparatively recent fields inviting the American

Miscellaneous Inventions.

ATTACHMENT FOR FEED BAGS.-HENRY BARK. Yonkers, N. Y. In the different attempts to prevent vaste of oats from a feed-bag by the horse tossing his head, the bag itself has been variously modified. The inventor above referred to employs the ordinary bag. uspended as usual, and provides a crescent-shaped guard to be secured to the extreme upper end of the bag, at the back, the front of the crescent having a strap to go around the horse's nose.

TOY MUSICAL INSTRUMENT.-ROBERT PITT, St. Lewis, N. C. This inventor has produced a new form of musical toy, into which air is blown through a tube at the side and causes a loud musical sound by means of two specially constructed perforated diaphragms at the ends of the instrument.

TRUNK-HANDLE.-BERTNIE M. WHITE and FRANK A. HOYT, Gordon, Neb. In the handling of trunks, the