

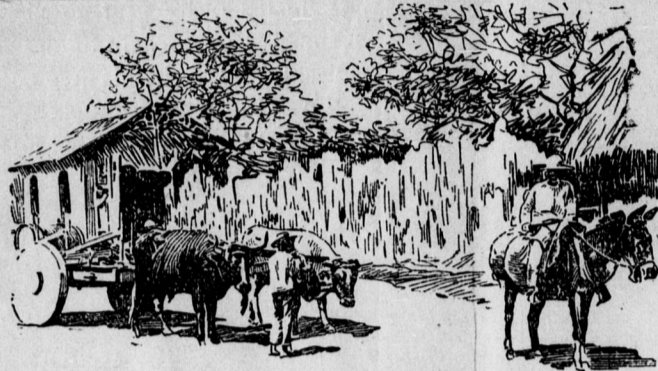
# NICARAGUA CANAL.

DESCRIPTION OF A GIGANTIC PROJECT.

The final fate of the Nicaragua Canal project will shortly be decided, says the New York Herald. The United States gunboat Newport has sailed away with a commission of engineers appointed by the Government, and their report as to the feasibility of the waterway between the Atlantic and Pacific will determine whether or not the United States shall control this great but still embryonic enterprise.

Records show that it became a seri-

ously through the jungle country until locked up to the level of Lake Nicaragua. This will be about 110 feet above the mean low water level in the Caribbean Sea, and is called mean lake level. On entering Lake Nicaragua the channel across the lake runs straight toward the point on the opposite shore where the cut to the Pacific begins. The lake is less than fifty miles wide at its broadest point and is deep enough at a distance of half a mile from the shore to float



MANAGUA (NICARAGUA) STREET SCENE.

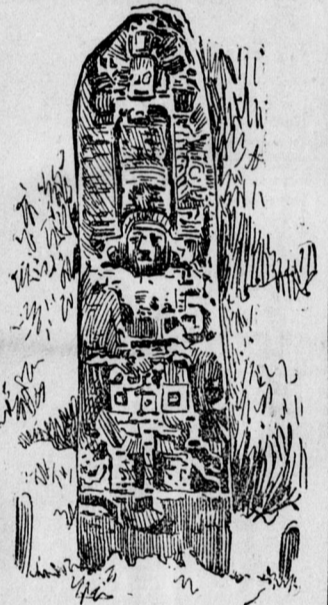
ous matter in the last century, but no definite plan of action was ever adopted until a few years ago, when work on the route was actually begun.

But this canal through the isthmus is not a thing which can be accomplished readily, and there is some divergence of opinion in regard to the best place on the isthmus through which to cut it. The French have been working through the narrower strip near Panama, but so far there is no immediate promise of success in the undertaking.

the largest ship. Here the sailor will have a breathing spell after his cruise overland, and after being locked down to the quiet waters of the Pacific, the vessel will be free to proceed to her destination with a full realization of how well the quiet ocean deserves its name.

The commission appointed by the President to go over the proposed route during the winter of 1897-8 is to decide certain questions in regard to the cost and feasibility of the project, as suggested by the canal company. It is composed of three of the ablest men in the United States for deciding these matters, and is supported by a number of naval officers, civil engineers and assistants. Two men-of-war will aid the expedition and will assist in the hydrographic work in the harbors on the east and west coasts. The shore parties will have to go over many of the old lines, and, as the jungle has long closed these, they will have to cut their way through, as before, with the machete.

The Commissioners will return to the United States in the spring, and



STONE IDOL, RUINS OF QUIRIGUA.

The American company has chosen the longer, though apparently less difficult, route through the State of Nicaragua. On this line the natural water courses will be used extensively, and it is supposed by many to be, consequently, a more practical undertaking than the one through the higher hills near Panama.

At the eastern entrance of the canal is the settlement of Greytown. After proper dredging and lights have made the harbor navigable a ship approaching from the eastward will not

as their report will probably be final as to the interest the Government will take in the project, the civilized world will await them with some impatience to know if the greatest of Republics will decide to control the gateway to the Pacific.

A French druggist, named Jasquemin, has conceived the idea that the flavor of fruits of shrubs and trees generally is generated in the flowers of these plants, and passes from them into the fruits. The fragrance which the leaves of the black currant bush give off, especially after a little rubbing, and which is so very similar to that to the taste of the berry, has led this man to adopt this opinion. He goes further, and says that the pleasant taste of the apple, pear or grape is prepared in the leaves of the respective plants, although he admits that it



ENTRANCE TO CANAL, GREYTOWN.



ROUTE OF THE PROPOSED CANAL.

find the navigation difficult. At the present time, however, the shoal water and the low country, partly hidden in the almost continual rain, make the approach rather dangerous. On entering the ship will proceed along an almost straight cut until the Ochoa district is reached. Here an enormous dam cross the natural bed



HEADLAND AT BRITO, PACIFIC OUTLET TO CANAL.

of the San Juan River marks the first point where remarkable skill in engineering will be displayed. The ship will be turned into the natural bed of this large stream, and will proceed

is hardly noticeable with these, and by far not in the same degree as with the black currant. Jasquemin places apple leaves in water containing from fifteen percent of sugar; then he adds yeast. During the process of fermentation there is an odor of apples, and when the fermentation is finished and the yeast has settled, a straw yellow liquid is obtained which possesses the fine "bouquet" of the fruit of the respective trees from which the leaves were obtained. With vine leaves the results are still more prolific. A beverage tasting and smelling strongly of wine is obtained, and finally brandy may be distilled from it which is equal to the best cognac.

Ingenious Street Lamp. Street lamps can be mounted on a new telescopic post to make them easy to reach for trimming and filling, a setser engaging the central shaft to hold it in a position with pulleys and weights set in the post to counter-balance the lamp.

## USES FOR CORNSTALKS.

A WORTHLESS PRODUCT TO BE UTILIZED IN MORE THAN SIXTY WAYS.

Cellulose for Armored Vessels Is to Be Turned Out in Vast Quantities—Something of the Factory Methods—Farmers' Base Now in Great Demand.

When the pioneers of America, who had successfully tussled with the Indian and possessed themselves of his inheritance, tackled the Indian cornstalk, they retired baffled and beaten, and from that time to the present the stalk has been monarch of the field, at once the biggest nuisance and most worthless product of the farm. But a Moses has arisen to deliver the farmer from his thralldom. From a nuisance in farm economy the stalk has become a valuable product; from a worthless waste it has attained to the dignity of \$4 a ton rating, and now it is daily arriving in great loads from all parts of Winnebago county, Illinois, and is being piled in immense stacks on the grounds of the Marsden Development company at Rockford.

Already, says the Chicago Record, there are several thousand tons of the stalks collected, and by the time the crop is all in there will be many times as many on hand. The past year was not a good one for stalk development, and the average crop does not exceed 1000 pounds an acre, but normally nearly twice this amount would be realized. The vast piles of stalks will be turned into a marketable product before summer comes again, and the beginning of a great industry will have been fairly made in Illinois. If the claims and hopes of the officials of the company are realized, the benefits of the Marsden patents to the world at large will be stupendous financially, and a great waste in agricultural economy will be stopped. It is stated on good authority that the crop of cornstalks in the United States for 1895 reached the immense aggregate of 160,000,000 tons, and this of a product unfit for food for man or beast.

The processes of the Marsden company are many, but there are only two products that they are commercially operating with. Mr. Marsden has proved that over sixty different products may be made from stalks, among the leading minor possibilities being alcohol of a superior quality, shoe enamel which will not crack, smokeless powder of a high degree of efficiency, paper much better than any now produced from wood pulp, an efficient material for use in electric insulation, a material possessing in marked degree the property of non-conduction of heat. But these thus far have been commercially overshadowed by the corn pith cellulose, and as a by-product, an excellent cattle food.

Although the process of the company is secret and the agents of the concern will neither allow inspection of the plant nor indicate the methods employed, the general idea of the operation which converts the stiff fibre-covered pith into merchandise is quite simple. The stalk is ground very fine and the resulting comminuted mixture of pith and fibre, the two differing greatly in specific gravity, is separated by the use of a strong air blast and the action of gravity, the heavy fibre first falling, while the pith is carried on by the blast to another receptacle. There is no waste product; the heavier part, the fibre which has composed the stock and blades, is put into sacks and goes as stock food, while the pith is sacked and as corn cellulose goes to the Eastern market to aid in armoring battleships.

The stalk yields pith and fibre in about equal quantities, but on the scales the tale is different, the pith not being more than 10 per cent. of the product. The stock food is estimated to be about equal to hay as a stock ration, and serves the same purpose—that of a base for feeding heavier rations. It has not been put to a test on the farms, as it is not sold at all in the open market. The whisky trust appreciated the advantages of the food, and has contracted for the entire output of the present factories, using it in the cattle-feeding barns.

The plans of the Marsden company, which has an authorized capital of \$50,000,000, look to an immense enlargement of the business and the spreading of their factories through the corn belt as fast as the demand for the products grows. Every part of the cornstalk, other than the pith, is used in the food, as also the fibres which bind the pith itself in its natural state, but which are separated in the great grinder.

The discovery of the possibility of utilizing the cornstalk was made through the use of cellulose in naval construction. It was found soon after the adoption of armored craft that they were more liable to dangerous leaks if the armor were once penetrated than a wooden vessel would be, being less buoyant. With the development of modern heavy ordnance of wonderful penetrative power the question became a serious one. It was solved by French designers. The vulnerable area of the ship is not large, the most dangerous breaks being but little below the water. The French plan provided for the construction of an arching false deck from a point a few feet below the water line to the deck, leaving a space about thirty inches wide between this deck and the outer shell of armor, the side of the battleship. This space is densely packed with cellulose, stowed by hydraulic pressure. In the French construction coconut fibre was used and answered fairly the requirements. It remained for Mr. Marsden to apply the despised pith of the cornstalk in place of the more expensive coconut. At first it was claimed only that the new material would be an economy, but the tests made by the government established a great superiority for the American product.

## THE REALM OF FASHION.

Novelty goods of all sorts, according to May Manton, are much in vogue for children's wear. The costume shown combines blue with



GIRLS' COSTUME.

with fur throughout, thus insuring both warmth and elegance. Some outdoor blouses are made entirely of caracal, not only in its natural black, but dyed blue, green, brown, etc. The dyeing remedies the bruised look and the inky hue, the density of which is becoming too few.—The Housewife.

### [A Word About Hats.

A variety of hats are shown, among which the Tyrolese hat with its erect cock's feathers is quite conspicuous. Small toques of fur, and hats of felt, with one side turned up and trimmed with velvet, and ostrich feathers are next in favor to the Tyrolese. Velvet trimmings are more liked than any others, and the cock's feathers and the ostrich plume carry all before them; and we feel thankful that the bird of paradise and the heron's feathers are less in favor than they were.

### Lace, Net and Chiffon.

Lace, net and chiffon were never more popular than at the moment, and the spangled net skirts are luxuries which every woman of taste might covet. They are not to be confounded with the old spangled nets. Those in vogue now have the sequins placed very closely together, and as a rule they outline some geometrical design on net or silken ground.

### Costume For a Little Boy.

While trousers are donned at an early age, there is always a necessary time of transition between the baby dresses and the genuine boy's garb. The costume shown is especially designed to fill that need, and can be worn out of doors or in, according as the material is heavy or light in



RUSSIAN SHIRT BLOUSE.

effect. At the neck is a high standing collar.

The skirt is four-gored, and shows fulness at the back only. It is lined throughout, and trimmed with braid ornaments at the left-front seam.

To make this costume for a girl of eight years will require two and one-half yards of forty-four-inch material.

### Ladies' and Misses' Russian Shirt Waist.

The latest variation of the shirt waist, writes May Manton, combines the blouse front with the familiar yoke back. The model shown is of plaid taffeta silk, cuffs, collar and necktie being all made of the material. The fronts pouch over the belt and the right side, which laps over the left, is finished with a frill beneath which the closing is invisibly affected. The back shows the double-pointed yoke and plaited body which is separated from the fronts by under-arm gores. The sleeves are of moderate size and one-seamed, the fulness at the wrists being gathered into the straight cuffs. The collar is made in the narrow turn-over or stock style, but one of linen can be substituted with equally good effect. At the waist is worn a plain belt of the silk.

To make this waist for a lady in the medium size will require four and one-half yards of twenty-two-inch material.

### Weaves and Fabrics.

The craze for giving a Russian name to almost everything in the line of apparel this season has resulted in old materials masquerading under new titles. A closely-woven corded woolen brocade, now very fashionable under the name of Muscovite reps, is nothing more nor less than empress cloth, as we called it in other days.

Repped silks are also very fashionable this winter, and are always rich and handsome in black, fawn color, plum, gray, moss green or cream color. Then there are exquisite materials of rare and beautiful tints, such as the finer grades of Henrietta cloth, double-faced cashmere, drap d'ete and similar fabrics.

For redingote and other long wraps, German broadcloth in a shade of dark Russian red or blue is much used. Some of the richest wraps are lined

weight. As illustrated, the material is English tweed trimmed with narrow black braid and worn with a black leather belt. The garment is cut in one length from the shoulders to the edge of the skirt, and is made snug-fitting by means of smooth under-arm gores. The back shows only slight fulness, which is arranged in gathers at the waist line. The front is gathered at the neck and again at the waist, where a casing is stitched to the under side. The deep collars and revers are attached at the neck and down each edge of the full front, the closing being invisibly effected beneath the right side. The sleeves are two-seamed and in coat shape. The



BOYS' COSTUME.

neck is finished with a roll-over collar banded with braid.

To make this garment for a boy of two years will require two and one-half yards of forty-four-inch material.

### The Stylish Waist Finish.

The jeweled belt, the sash and the velvet girdle, with a bow on the left side, replete with jeweled buckle, are the novelties in finish at the waist.

## SCIENTIFIC SCRAPS.

French experiments have shown that an addition of arsenic to the molten metal increases the strength of steel.

A Leipzig firm is manufacturing wall hangings of aluminum which are fastened by nails of the same material to wooden boards or laths.

The operators at the Cross Mountain coal mines, in the Jellicoe regions of Tennessee, are preparing to put in electrical apparatus for mining coal.

A sea otter of average size is about six feet long from the tip of his nose to the end of his tail. It is little like a land otter and more than twice as large. A whole skin is worth from \$800 up.

Railroad cars of steel are supplanting the wood ones. They are more roomy, lighter and can be made longer. In strength they are far superior to the ordinary car and they are adapted particularly well for freight.

Science announces that the Austrian steamship Pola has gone to the Red sea for scientific explorations, and will this year cover the ground between Deschedda and Aden. Dr. Franz Steindachner, ichthyologist, has charge of the zoological work, and observations will also be made in physical oceanography.

Ernest Salzenberg, director of the city gas works in Crefeld, Germany, has invented an incandescent gas burner which produces a golden-yellow light, most soothing to the eye and extremely powerful. It is said that a single incandescent jet enables a person to read fine print at a distance of 100 to 150 feet from the light.

That birds build their nests by imitation has been called in question by A. G. Butler of London, who says that the reason why many of them at the beginning of the season trifle with ouliding material for some time before they produce a satisfactory result is that they are unable at once exactly to remember what the character of the nest was in which they first saw the light of day.

## STATURE DENOTES CAPACITY.

Commongling Strains Have Worked No Deterioration.

In a paper read by Major Henry S. Kilbourne, surgeon, United States army, before the Association of Military Surgeons of the United States, he advocated the theory that the physical power of a race or people, and consequently their capacity for work, is measured by their average stature. For every inch of height between five and six feet the extreme breathing capacity is increased eight cubic inches; the vital capacity being at its maximum at thirty-five years. A table of measurements of 190,621 native white Americans, accepted for the military service of the United States, shows that the number of men below sixty-three inches in height is but little greater than that of the class above seventy-three inches. The most numerous class is included between sixty-seven and sixty-nine inches, and this standard class would have a greater chest girth than the average.

The mean height of 125 United States naval cadets above the age of twenty-three years was 67.80 inches. As these men are drawn from all parts and classes of the United States, they represent very nearly the typical physical development of the American people of twenty-five years of age.

Major Kilbourne concludes that the commingling strains of Celtic, Danish, Norwegian and German blood among our people have thus far worked no deterioration of physical quality. "Not so with the swarthy, low-browed and stunted people now swarming to our shores. Absorbed into the body of the people, these multitudes must inevitably evolve an inferiority of type. To realize the result of such a contingency, let it be considered that the loss of an inch in stature might bring in its train the loss of national ascendancy. Let us take care, then, that the state shall suffer no injury."—Boston Transcript.

## Bound in Human Skin.

In Camille Flammarion's library is a volume of the famous astronomer's works which bears the unique title "Souvenir d'Une Morte." It is unique because the title is wholly incompatible with the contents of the book, which is mainly devoted to scientific matters. However, when one hears the story that is told of this little volume it does not appear so strange after all, though interest in it grows all the greater. It is said that Mr. Flammarion, meeting a beautiful lady at a reception one evening, openly expressed his admiration for her really lovely shoulders. So impressed was the lady that when she died her will directed that enough skin be taken from that part of her person to bind the next work of the distinguished scientist. This was done, and the book referred to is the result.—Pittsburg Dispatch.

## Coins in Statuary Hall.

When the pedestal of the statue of Blair, which Missouri has presented to Statuary hall, was standing in that hall the other day awaiting its bronze figure, some one noticed that in the centre of the stone block was a small square hole. The Missouri delegation was present to watch the placing of the statue, and one of the congressmen, fishing through his pockets, found a penny. He put the coin in the square hole, and also deposited a bit of paper with his autograph.

The example was contagious. Every member of the delegation put in a penny and his name, some curious bystanders did likewise, and by the time that the statue was placed in position there was almost enough copper in the pedestal to smelt a ship.—Washington Post.