Streets on Tops of Houses.

To convey what I mean, says Dr. B. W. Richardson, let us move to the best constructed, as well as the most beautiful street of this metropolis, if not of the world—Regent Street—in the part called the Quadrant. That is laid out for such a design as if it had been prepared for the experiment. All the houses are of the same height, and the height throughout is just right for a city like ours. It is sufficient to be handsome and commodious without being overwhelming, and without excluding the light from the streets. The roofs of Regent Street, at this part, are flat in comparison with other roofs. They are utilized here and there by photographers' studios, which, although temporary structures, stand firmly and well, in ready communication with the houses on which they are placed. The studio, where it exists, seems naturally to form and become a part of the house. When we glance along the line of roofs, as on a levelterrace, the idea of reconstruction of all roofs, and of the readaptation of them, becomes most distinct and suggestive. The width of most London houses averages, as near as I can estimate, about 25 feet from front to rear. Here, then, is good space for a terrace for foot passage. Imagine along two lines of long streets a terrace of this kind, with handsome railing on each side, and perfectly level floor surface of wood; and, at intervals, light bridges spanning from one terrace to another, and you have an upper-day London which might almost relieve all the pressure from foot traffic in the streets below. Each house would have its own exit, or door, at the upper as well as at the lower parts; and, at convenient spaces, each terrace would be accessible from the street, as the Holborn Viaduct is at the present time.

It suggests, at first, a revolution of ideas to conceive such a change. It suggests much out of which a humorist can for a moment make capital. I know all this very well. But there is, in point of fact, nothing more in it than in the first idea of making a tunnel under the streets or under a river. When the suggestion is looked at bit by bit, without prejudice, it offers more of sanitary advantage for the purification of the atmosphere, the protection of property, the comfort of the people in transit, the lodging of the people, the exercise of the young, and the beautifying of the whole city, than could be entertained on a mere general statement of the proposition.

In the first place, for every house in connection with an upper terrace, there would be the most perfect through and through ventilation of air. The staircase would no longer be a closed cupola for holding and storing all the emanations from the basement upward.

In the second place, the fact of having terraces on the upper surface of London would lead to immediate arrangements for the purification of the air from smoke. So soon as the roofage was accessible as a terrace, the plan which Mr. (now Sir) Spencer Wells projected for the removal of smoke from every house, by laying down horizontal conducting tubes with central exits and smoke consuming furnaces, would be easily practicable, presuming always that some smokeless fire be not invented, or that coal gas does not become the fuel of the people. These terraces would then be the healthiest parts of London; charged with flowers and trailing evergreens; they would be the empyrean gardens of the great city.

The terraces, with their light intercommunicating cross bridges in the long thoroughfares, would be more than pleasant foot ways and shady lanes for the foot travelers or travelers in light, noiseless vehicles, like tricycles; they would be most useful for other purposes. Along them the electric lines would pass and enter the houses direct; and from them the letter carriers would most easily deliver their letters.

These terraces, while relieving the traffic in the streets below, would remove all necessity for the fire engine, and would make London practically safe from fire. From them water would be supplied readily, a trained police for this upper London being ready at every moment to go down and extinguish fire in every domicile, carrying bishose with him, or plying it from above.

I think that no one who reflects will fail to see that all these changes would be advancements of great value for the health of a city like ours. They are, however, not the chiefest advantages. If any one will take the trouble to go observingly through the busy parts of London, where there are long miles of roadway—along Whitechapel and Mile End, for example—he will see the most jagged, hideous lines of roofage. Here a row of houses two stories high; there a row of three or four stories; then a single house five or six stories; and so on, over and over again, like a set of bad teeth. If the plan here suggested were carried out, all this would be rectified. A street like Regent Street expanded into a straight line would extend from the Marble Arch to the City, and from the City to the extreme East End. The line of terrace pitched at five stories would necessitate the building up to the same level of all the houses in that line, by which at least one-fourth more housage would be supplied, with arrangements for giving comfortable and healthy homes, beyond what now exist, to a fourth of the present population. The suspension cross bridges would not be without their compound service. They would be bearers of electric lines along their side ways, and would probably soon be utilized as centers from which electric beacons would be suspended to light the streets beneath.

Imagine the metropolis turned into a fairy land by this adventure of science into the domain of art, and art reciprocating the idea with all her rich resources, and we see in our mind's eye what our children, when we are all of us gone, may really see, and, perhaps, thank us for proposing for their benefit.

Objections will be made about mechanical and architectural difficulties. I heard them all made when the Holborn Viaduct was projected; I saw them all melt way as Colonel Haywood's practical mind came into work, and his unthanked skill and industry and responsibility and genius carried all before him.

CARYATID IN MAUSOLEUM OF CHAACMOL, YUCATAN (FRONT).

It will be objected that flat roofed houses are not weather tight. In the year 1835 the then Parisian Asphalte Company roofed two houses with asphalt in Hinde Street, Manchester Square. I lived in one of those houses for twenty-eight years, and a better roof I never knew; but for the London smoke, it would have been made into a garden. Men working upon it, walking over it, communicated no sound whatever into the rooms immediately below.

It will be objected that houses will not bear the weight of superimposed suspended terraces for foot walks. If they will not, they ought. In no direction would the sanitary improvement for the purification of a great city be more useful, as a side improvement, than in so reconstructing defective houses as to make them capable of bearing an equalized weight, which, carried by many, would, as we know from the bearing of ice, be comparatively light and practicable.

Of the many plans which have been suggested for giving space to crowded cities, such as terraces in the streets opposite to first floor windows, and tunnels subterranean, none seem to me to be half so practical, half so likely to secure the purification of atmosphere, as this, which I have now for the first time, after some years' hesitation, ventured to sketch out, not as expecting ever to see such a project realized in my own time, but foreseeing as even a necessity and practicability in the times to come.

Restoration of Faded Photographs.

It is only to immerse the yellowed print in a dilute solution of bichloride of mercury until all the yellowness disappears. It is then well washed in water to remove the mercurial salt. If the print be a mounted one, it is by no means necessary to unmount it previously to treatment. All that is required in this case is to keep it in intimate contact for a time with blotting paper charged with the bichloride; indeed, this is the plan originally suggested by Mr. Barnes. By the bichloride treatment no lost detail is actually restored, as some have imagined. It is simply that the sickly yellow color which, as it were, buried the delicate half-tints, or what remains of them, is removed, and thus renders the picture bright and clear. Pictures which have been treated with the mercury always possess a much warmer tone than they did originally, as the purple or black tones give way to a reddish brown or reddish purple—more or less bright according, probably, as gold or sulphur had been the principal toning agent. Here a question very naturally arises with regard to the future permanence of pictures which have been thus "restored," seeing that negatives intensified with mercury or transparencies toned with it are so prone to change. In answer to this we may mention that they appear to be permanent—at least that is our experience with some that have been done for many years. There appears to be no further loss of detail, and the whites retain their purity. Indeed, since undergoing the treatment with mercury, no alteration is yet perceptible.—*Br. Jour. of Photo.*

DR. LE PLONGEON'S LATEST AND MOST IMPORTANT DISCOVERIES AMONG THE RUINED CITIES OF YUCATAN.

(*Continued from page* 240.)

THE MAYA PEOPLE.

We have been among the ruins since September 20, continuing our studies of the grand though now crumbling edifices of the ancient and highly civilized Maya people.

With abundant reason the Spanish soldiers and priests were amazed at the magnificent white stone houses which they saw on their arrival at Yucatan, in the fifteenth century. They little thought to find such edificesamong people whom they regarded as savages, but who, in fact, were most civil, and so warlike and determined that they resisted the invaders for twenty years. True it is that at that time the inhabitants of the peninsula were a degenerate people, owing to the admixture of races which resulted from the invasion of nations inferior to the Mayas. Nevertheless, Spanish writers who had every opportunity for knowing tell us that the Europeans found the country thickly populated by most polite people, who enjoyed and appreciated the refinements of life; people who had current coin, though not metallic; who had just laws and upright judges; who considered it an unpardonable offense to lie; who were so honest that no document was needed to make a contract binding, nor doors to keep intruders from their houses, which, according to the historians, were commodious and tasteful, though not luxurious as we consider things to-day. Their wise men were learned; the Spanish father burned their books without knowing what they contained. In their foolish estimation they had a right to destroy that written knowledge because the authors did not believe in their particular divinity! How narrow is human intellect where theology is concerned!

The Maya artisans were clever, the laborers industrious. As for that virtue *which covereth a multitude of sins*, in every city there was an asylum for the aged, crippled, and infirm, policemen being employed to look for them, and conduct them to the desired shelter. The strong and healthy worked together in community, sharing equally the result of their labor.

Regarding their amusements, Father Cogolludo, who has written a most interesting work on Yucatan, tells us that they were clever actors, remarkably witty, and very sarcastic, often telling hard truths to their superiors, and in such language that no one could accuse them of having done so—at times converging their whole meaning in a single word. But it is to the historian Herrera that that we are indebted for a description of some of their pastimes. They had large

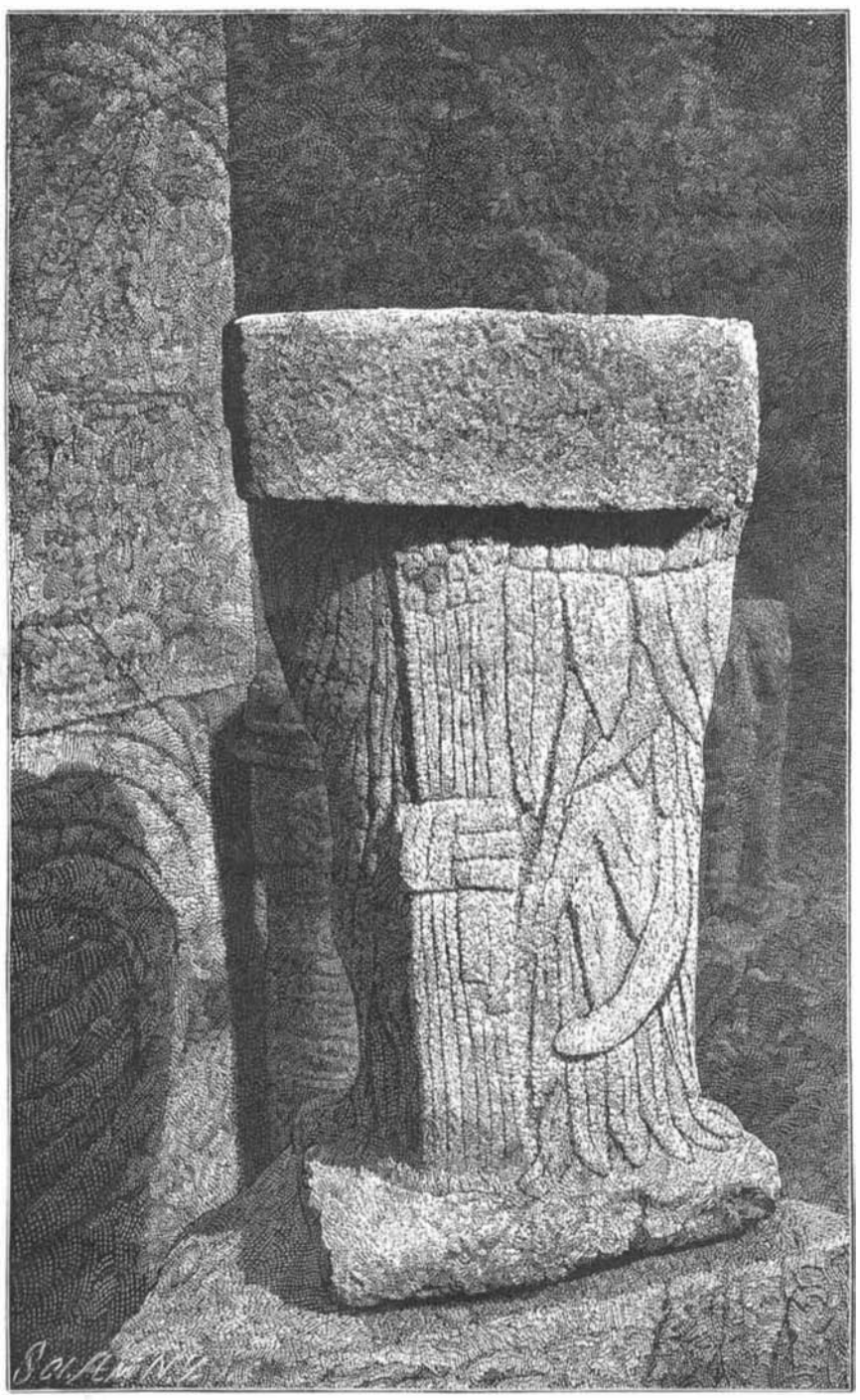
gymnasiums, where the people congregated to be amused by athletes and agile gymnasts—the aborigines of the present time climb and stand in very dangerous places without fear or hesitation. In one game a ball was to be received on the hip, and by a peculiar movement made to rebound from it without being touched by the hand. He who succeeded in thus casting it from him, causing it to pass through a certain stone ring, had a right to seize the cloak of any one present. On such occasion there was a general scamper that gave rise to much fun, but no one cared to forfeit his mantle and ransom it afterward. This garment was called *tilma*, and was simply a square cloth tied with ribbons by two corners on one shoulder; some were very costly, beautifully woven like damask. Even yet, the Indians when at work secure their shirts by tying the sleeves on one shoulder; and the *tilma* is still used by certain Maya tribes.

The gymnasium at Chichen consists of two long walls, forty feet high, and thick enough for two large carriages to roll on abreast. About the middle of each wall, projecting from near the top, was a stone ring; one is yet in place, the other fallen, and eight strong men with difficulty raise it from the ground. Entwined rattlesnakes are sculptured on its sides, with crowns on their heads. One of the uses of these rings was no doubt the game described by Herrera.

At the north end of the gymnasium there is a structure that may very well have been a box from which the royal family witnessed the games. The front half of the roof was supported on round stone pillars, still in place, with figures of warriors and other designs sculptured on them. The back wall and sides of this box are covered with bass-reliefs that do great credit to the dead and forgotten artists. They represent human figures in various dresses and attitudes, and landscape. There is one face with Semitic features and full beard. There is not the least doubt that a bearded race dwelt here, for many bearded men are carved in stone, and nearly all seem to be in the act of worshiping.

On the south end of the east wall of the gymnasium a monument was built to the memory of a certain individual, and it seems that no time, labor, or expense was spared in beautifying it. The most patient laborers, cunning artificers, and clever artists taxed brain and body at that work. This is apparent even yet, though for the last thousand years at least it has been abandoned, and, what is worse, purposely damaged, first by invaders, and then by foolish iconoclasts.

The engravings which we present this week are enlarged views of the caryatides described in the last issue, and enable the reader to form a very perfect idea of the peculiar headdress and the other details of the costume which were not discernible in the comprehensive views of the interior of the chamber of monument of Chaacmol shown last week. The rear of the caryatid is also very curious.



CARYATID IN MAUSOLEUM OF CHAACMOL, YUCATAN (BACK)

Bodily Location of Human Happiness.

Dr. B. W. Richardson, in *The Asclepiad*, treating of felicity as a sanitary research, observes: "The center of the emotion of felicity is not in the brain. The center is in the vital nervous system, in the great ganglia of the sympathetic, lying not in the cerebro-spinal cavities, but in the cavities of the body itself, near the stomach and in the heart. We know where the glow which indicates felicity is felt, and our poets have ever described it with perfect truthfulness as in the breast. It comes as a fire kindling there. No living being ever felt happy in the head; everybody who has felt felicity has felt it as from within the body. We know, again, where the depression of misery is located; our physicians of all time have defined that, and have named the disease of misery from its local seat. The man who is miserable is a hypochondriac; his affection is seated under the lower ribs. No man ever felt misery in the head. Every man who has felt misery knows that it springs from the body, speaks of it as an exhaustion, a sinking there. He is broken-hearted; he is failing at the center of life; he is bent down because of the central failure, and his own shoulders, too heavy to be borne, feel as if oppressed by an added weight or burden, under which he bends as though all the cares of the world were upon him to bear him down."

Commenting on this the *Lancet* says that, in other words, felicity is a physical result of a brisk and healthily full circulation of blood through the vessels supplying the ganglia of the great sympathetic system of nerves; and whatever quickens and at the same time frees the flow of blood in these vessels particularly, engenders the feeling we call happiness. This is the fact, and we believe it explains the action of many articles of food and medicine and medical appliances. It, moreover, explains and confirms the truth of the maxim which we have so often recommended for general adoption: "Be briskly, not languidly, joyous if you would be well." This is the converse of the doctrine that happiness is an affair of the heart and stomach. A comfortable, as contrasted with an austere, mode of life is the most natural, and therefore the healthiest and the best. We sometimes wonder why those who live by rule, and tremble as they live, laboring to eat and drink precisely what is "good for them," and nothing else, are so weakly and miserable. The cause of failure is that such persons are overcareful; life is a burden to them. They have no "go" in their mode of existence. One-half of the "dyspeptics" we see, and whose sufferings we are asked to relieve, would be *well* if they were only *happy*. Everything in life and nature acts and reacts in a circle. Be happy, and your sympathetic ganglia will have the blood coursing through them with the bound of health; and this quickening of the pulse, if it be produced by "good cheer," whether at the table or on the mountain side, will, in its turn, produce happiness. Felicity is the outcome of a physical state, and that state is itself enhanced by the sort of cheerfulness which often consists in being happy in spite of circumstances.

A Queer Character.

The *Druggist* relates the following curious account of one Mangin, a celebrated black lead pencil maker who recently died in Paris. He drove every day, in an open carriage, attended by a servant, to his stands, either by the column of the Place Vendome or on the Place de la Bourse. His servant handed him a case, from which he took large portraits of himself and medals with descriptions of his pencils, which he hung on either side of him. He then replaced his round hat with a magnificent burnished helmet, mounted with brilliant plumes. For his overcoat he donned a costly velvet tunic with gold fringes. He then drew a pair of polished steel gauntlets upon his hands, covered his breast with a brilliant cuirass, and placed a richly mounted sword at his side. His servant then put on a velvet robe and helmet, and struck up a tune on an organ mounted in gold. To the crowds gathered around he then exclaimed: "I am Mangin, the great charlatan of France. Years ago I hired a modest shop in the Rue Rivoli, but could not sell pencils enough to pay my rent. Now, attracted by my sweeping crest, my waving plumes, my din and glitter, I sell millions of pencils." This was true, the writer adds. His pencils were the very best.

Simple Method for Determiniug the Value of Wheat Flour.

The nutritive value of wheat flour depends upon the amount of gluten, sugar, starch, and phosphate of lime that it contains. The superiority of this breadstuff over all others is due to the large quantity of gluten and phosphate of lime that it contains as compared with other kinds of grain.

The *Germano-Austrian Millers' Journal* (No. 37) gives the following *approximate* method of estimating the above named constituents of wheat flour, which can be easily performed by any one:

1. THE GLUTEN.

One hundred grammes of flour (or 1,000 grains may be taken if preferred, and the same relative proportions maintained throughout the analysis) are mixed with water to a dough, let lie for an hour, and then kneaded, fresh water being added until all the starch is washed out. The residue is gluten, and may be laid aside on some thick blotting paper, but all the wash water must be kept.

2. THE STARCH.

The various portions of water used in washing out the starch are united and set aside in a large vessel where the starch can settle. When this has taken place and the supernatant liquid is clear, the latter is poured off and the precipitate placed upon a weighed (tared) filter, which is placed in a funnel. All the starch must be washed out of the vessel and brought upon the filter.

3. ALBUMEN, GUM, AND PHOSPHATES.

The clear liquid that was poured off, as well as that which runs through the filter, is evaporated to a certain degree (how far is not stated, probably to one-fourth of its original quantity), then filtered through a weighed filter. The residue that remains on the filter is the albumen. The filtrate is evaporated still further, until it forms a thick sirup, when it is mixed with ten times its weight of alcohol, and filtered; the residue is washed with alcohol on the filter. This residue consists of phosphate of lime and gum. The two substances can be separated by dissolving in water, filtering, and evaporating; for the latter is soluble in water, while the former is not.

4. SUGAR.

By evaporating or distilling off the alcohol from the solution the sugar is obtained, and can be collected on a filter as above.

5. WEIGHINGS AND CALCULATIONS.

The substances above separated are dried at a moderate heat (212° Fahr.), and weighed. The weight of the albumen can be added to that of the gluten, since it is a kind of gluten, and has nearly the same nutritive value. Having taken 100 parts of flour, by weight, the weight of each constituent in grammes will at once represent the percentage. (If 1,000 grains were taken, divide the weight in grains by 10 for the per cent.) In each case the filter must be dried at the same temperature (about 212° Fahr.), and carefully weighed beforehand, for if it is subsequently heated to a higher temperature it will lose moisture and weight.

The quantity of gluten will be found to vary according as the flour is fresh or old, for old gluten retains less water. There is also less gluten in flour from hard grain, and less in freshly mixed dough than in that which has stood for a few hours, and also less after long washing with large quantities of water, which will make a gluten 10 to 20 per cent lighter.

To avoid gross errors in estimating gluten, the *Pharmaceutische Zeitung* recommends making a dough from 50 grammes of flour with 20 or 25 grammes of water, which is divided in two parts at the end of twenty-five minutes. In one half the gluten is estimated at once, while the other is left an hour longer before the gluten is separated. As soon as the water runs off clear it is pressed firmly with the hand and weighed, then washed for five minutes longer, pressed, and weighed again. As both weighings are made with each half we have four different results, the average of which may be taken as approximately correct.

[The only method of estimating gluten with great accuracy consists in determining the percentage of nitrogen in the flour by combustion with soda lime or copper oxide. Both require skill and experience with costly appliances. Even here the albumen is reckoned in with the gluten, but does no harm. An extensive series of wheat analyses have been made by the Department of Agriculture, estimating gluten in this way.—ED.]

THE British *Medical Journal* says: "We often hear a great deal about the dampness of our climate as a cause of disease, of the respiratory organs especially, but the death rate and the amount of rain fall do not appear to stand in any definite relationship, whereas a spell of cold weather produces an immediate and notable effect."

A Disease from Reeds.

A curious affection has been occasionally met with in certain parts of France, especially in Provence, among reed workers, chiefly those who manipulate the stems of Arundo donax. A case at Frontignan (Herault) has lately been very carefully studied by M. Baltus, of Lille. A man, aged forty-seven, and his son, aged seventeen, had been at work for several hours loading a cart with reeds, which had been cut a year before, and kept in a damp trench. Both were seized with painful irritation of the nose, eyes, and throat, followed by erythematous swelling in the same parts, which extended to the hands, trunk, and genital organs. A number of acuminated pustules appeared on the red swollen areas, the conjunctivæ were injected, the eyes streaming, and there was a slight cough. The next day four other persons —three adults and a child—who had come in contact with the reeds deposited at the farm, presented the same symptoms, although in slighter degree.

Moreover, four cats and three dogs which had frequented the same reeds presented red painful crusts about the nostrils. In every case the disease ran a mild course, and disappeared in a few days, under the influence of wet compresses. An examination of the reeds showed that they were covered with a mould consisting of the spores and mycelium of a fungus—Sporotrichum dermatodes—which had developed under the influence of the prolonged exposure to moisture. The spores had been shaken off as dust during the manipulation of the reeds, and had irritated the exposed parts of the skin on which they had lodged. Although usually trifling, the malady may sometimes assume a severe form, lasting nearly a fortnight, and has been known to cause the death of an old man seventy-one years of age. It may apparently be prevented by the simple expedient of washing the reeds before their manipulation.—*Lancet.*

New Slate Mines.

An important discovery of slate was made a short time ago at a spot about one mile from L'Anse, Mich., which report now says is proving of immense magnitude. The following is given in a press dispatch: "A depth of 25 feet has been reached, which shows a deposit of excellent billiard and roofing slate. The vein dips toward the southeast to a distance of 300 feet in width as far as the test pits have been made, then runs west, crossing the Marquette, Houghton & Ontonagon Railroad to an indefinite distance. The outcroppings on the sections show the slate to be within three feet from the surface. The facilities for shipping are excellent. With the railroad to the left of it 200 feet, and the Keewenaw Bay one mile in front of it, the markets of Chicago, Buffalo, and other leading ports can be reached with a cost of 50 to 60 cents a square. The discovery is looked upon with great interest, and will be one of the leading industries of the Upper Peninsula. Stripping and test pitting and other work to improve the property is under progress. The slate is equal to that which has been selected for covering the new Board of Trade Building in Chicago."

American Wheat Exports.

According to the statistics of the British Board of Trade, the United States supplied four years ago 75 per cent of all the wheat and flour imports into Great Britain; in 1881 this import decreased to 69, in 1882 to 55, and in 1883 to 46 per cent; in other words, the import of 93,000,000 bushels in 1881 diminished to 74,000,000 bushels in 1883. The decrease is not due to a reduced consumption, for the total import has increased from 136,000,000 bushels in 1881 to 160,000,000 bushels in 1883.

While we thus see a constant diminution in Great Britain's imports from the United States, we find an increase from other countries, especially Russia and India. Russian grain shipments to England have, for instance, increased from 8,000,000 bushels in 1881 to 27,000,000 bushels in 1883, and the import from India, which consisted of 15,000,000 bushels in 1881, has risen to 23,000,000 bushels in 1883.

In addition to this, Australia produced in 1883 not less than 32,000,000 bushels of wheat, of which a large part was taken to England and sold at prices refused by American speculators.

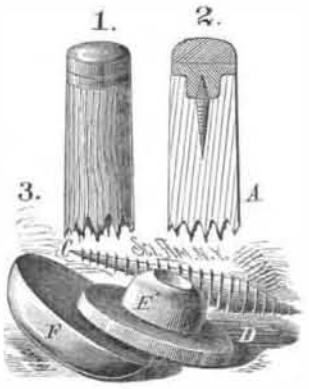
BUTTER PACKAGE.

The accompanying engraving illustrates an invention, recently patented by Mr. J. P. Sinclair, of Mottville, N. Y., which provides an air tight package for holding small quantities of butter. The package is composed of two similar parts made with flanges, so as to form lips which hold the rubber packing in place when the jars are put together. The flanges are beveled to form enlarged portions on opposite sides—as clearly shown in the perspective view, Fig. 1—thereby permitting the jars to be drawn tightly together upon the packing by the buttons. The flanges are under cut in order to furnish a secure hold for the notches in the buttons. This construction prevents the buttons slipping off or in any way injuring the flanges, and insures an hermetical seal.

After the jars have been filled with butter they are placed together, the packing rings having been put between their edges, and the buttons are moved to the thick portions of the flanges. Air being excluded from the interior, the butter will keep fresh and sweet for a great length of time. One-half the contents of a package can be removed, moulded ready for the table, as shown in Fig. 4, without disturbing the other half. Fig. 2 shows the packing ring and clamping buttons, and Fig. 3 is a front view of one jar.

BILLIARD CUE TIP.

A screw, C, which is tapered toward both ends—one taper being about one-third the length of the other—is screwed into the end of the cue in the middle of a cavity having a concave bottom, the short taper projecting from the base of the cavity. One side of the butt piece, E, is furnished with a neck fitting in the cavity in the cue and into which the short taper is screwed, thereby holding the piece securely on the end of the cue. The tip, F, is then glued on the



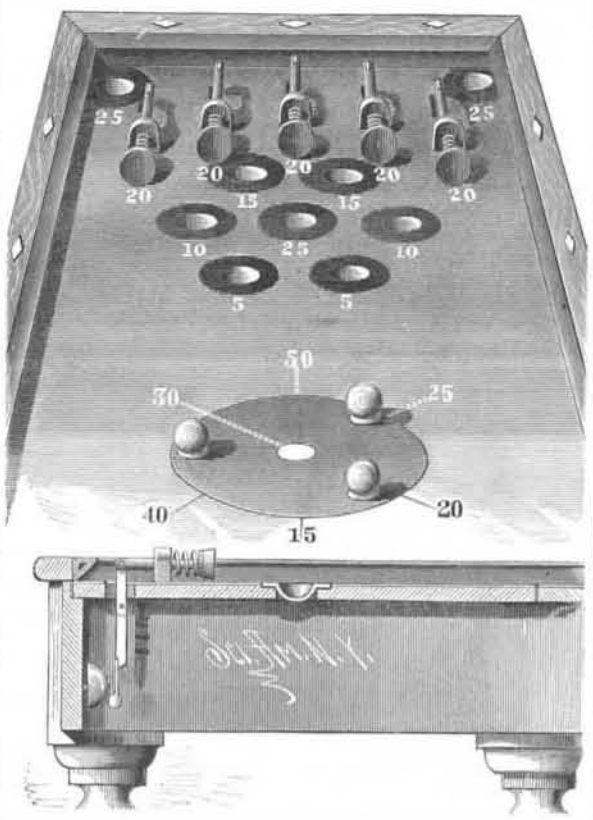
THOMAS & CORES' BILLIARD CUE TIP.

front surface of the butt piece. As the bottom of the cavity is made concave, the leather, in shrinking, forces itself against the screw, binds firmly, and cannot become detached. The tip can be adjusted very readily and accurately, and in such a manner that it cannot be knocked off.

This invention has been patented by Messrs. W. H. Thomas and C. B. Core, whose address is P. O. Box 696, Peoria, Ill.

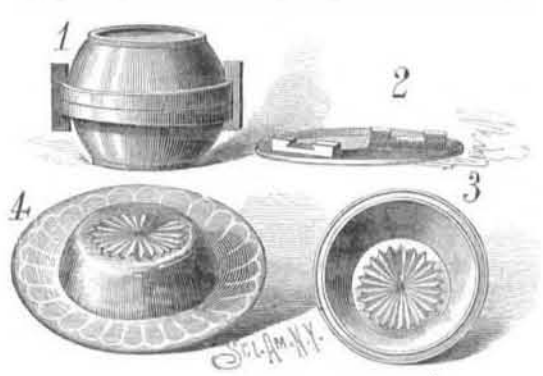
NEW GAME TABLE.

The table is rectangular in form, covered with baize, and cushioned at the edges like a billiard table. Near the upper



DE FOY'S NEW GAME TABLE.

corners are formed pockets, and near the center of the table is a cluster of pockets, each of which is made of hard rubber, flanged and set in a circular countersunk recess. Just beyond this cluster toward the head of the table are secured five uprights arranged in crescent form. These uprights support buffers which, when struck by a ball, ring a bell placed under the table. This mechanism and the way the pockets are formed will be readily understood from the lower engraving, which is a sectional view. In the center of



SINCLAIR'S BUTTER PACKAGE.

the table is pivoted a wheel provided with three pegs placed equal distances apart. In the middle of the wheel is a spot from which leads a radial index line, and around the wheel, upon the baize, are marked six radial lines as shown. The lines, pockets, and buffers are numbered as shown in the cut.

The game, which the inventor, Mr. Frank R. De Foy, of Dannemora, N. Y., calls "Apollo," is played with one red, four white, and four black balls, by two or four persons. The red ball is placed on the spot on the wheel. The first player shoots a ball, with a cue, at one of the pegs, so as to revolve the wheel and start the red ball off. If this ball goes in any of the pockets in the cluster, it counts for double the number marked upon it; and if the index line of the wheel stops in line with one of the marks in the table, it counts the number indicated. Subsequent shots are made at the balls on the table, and if they strike the red and another ball, it counts five. Any of the balls entering the cluster pockets or striking the buffers count what they are marked, but if the player sends his own ball into one of the corner pockets it counts twenty-five for his opponent. Unless the player hits his partner's ball with his own, he cannot count. If the player touches his partner's ball, then touches the red, it counts fifteen. The game is two hundred points.

California Dried Fruits.

Geo. W. Meade & Company, of San Francisco, give the following *resume* of the above California products for the year 1883:

Raisins, 20 pound boxes	125,000	boxes.
Sun dried apples	800,000	pounds.
" peaches	500,000	"
" pears	75,000	"
" apricots	300,000	"
" nectarines	20,000	"
" figs	60,000	"
Evaporated apples	250,000	"
" apricots	90,000	"
French prunes	250,000	"
Dried grapes	150,000	"
Pitted plums	100,000	"
Comb honey	125,000	"
Extracted honey	835,000	"
Almonds	700,000	"
Walnuts	500,000	"

Acidity of Beer.

It is frequently asserted that the acidification of beer is due to the development of acetic acid, and therefore writers have frequently called this change acetification; but when beer is submitted to careful chemical analysis, it is surprising to find how small a quantity of acetic acid is to be found in even that which is very sour. The fact is that very little acetic acid is formed in beer, the acid which gives the taste of sourness being mostly lactic acid. Acetic acid is only formed by the oxidation of alcohol, brought about by the intervention of a peculiar ferment called *Mycoderma aceti*, while lactic acid is formed by the simple molecular change of any of the carbohydrates of the sugar type, and does not even require the presence of any oxygen. Lactic acid may be easily distinguished from acetic acid by its property of not being volatile. If the total acidity of a sample be first determined, and then a portion of the same beer be evaporated to dryness, and the acidity of the residue be determined, this will give the amount of lactic acid, and this, deducted from the total acidity, will give the amount of acetic acid.

Resolutions of the Legislature of the State of New York.

On the 11th inst., in the Assembly of New York, the subject of the proposed objectionable changes in the patent laws came up for discussion, in the course of which Gen. Husted, from Westchester County, made a very able speech in defense of the rights of inventors and in support of patent property. The following excellent resolutions were passed almost without a dissenting voice:

RESOLUTIONS OF THE NEW YORK ASSEMBLY.

Whereas, The incentive and rewards given to inventors by the Constitution of the United States and the laws of Congress passed thereunder have done more, perhaps, than any one cause to advance our whole country to the front rank in wealth, resources, and industries among all nations in the world; and, *Whereas*, any material change in those laws would, in the opinion of this House, seriously retard our material progress as a people,

Therefore, be it resolved, etc., That our Senators and Representatives in the United States Congress are respectfully requested to oppose the passage of any bill which would have the effect to discourage inventions, by impairing the value of patented property or of imposing any conditions on the owners of such property in prosecuting and maintaining their rights to the full value of their said property which are not equally applicable under the laws of Congress to the rights of all property, and the remedies provided to protect the same, for all citizens of our entire country.

Resolved, That this House heartily approves of such amendments to existing patent laws as shall provide speedy and full punishment for all persons who appropriate the patented property of others without authority of law, and manufacture and sell the same to innocent purchasers and users thereof, to the great annoyance in some cases of the user, and to the great injury of the rightful owner of such property in all cases.

Resolved, That a copy of these resolutions be forwarded, etc., etc.

It is to be hoped that the Legislatures of all the other States in the Union will pass similar resolutions without delay. A little earnest effort on the part of the friends of progress and industry in each State where the Legislature is in session will secure the adoption of suitable resolutions likely to have much influence with Senators in Congress.