GOOD HEALTH.

Regulating the Bowels.

It is best that the bowels should act every morning after breakfast; therefore, quietly remain in the house and promptly attend to the first inclination. If the time passes do not eat an atom until they do act; at least not until breakfast the next day, and even then do not take anything except a single cup of weak coffee or tea and some bread and butter, or dry

toast, or ship bisonit. Meanwhile arrange to walk or work moder-ately for an hour or two each forenoon and af-ternoon, to the extent of keeping up a moisture on the akin, drinking as freely as desired as much cold water as will satisfy the thirst, tak-ing special pains as soon as the exercise is over to go to a good fire or very warm room in win-ter, or, if in summer, to a place entirely sheltered from any draft of air, so as to cool off very slowly indeed and thus avoid taking cold

or feeling a "soreness " all over next day. Remember that without a regular daily healthful action of the bowels it is impossible healthful action of the bowels it is impossible to maintain health or to regain it if lost. The coarser the food the more freely will the bow-els act, such as corn (Indian) bread eaten hot, hominy, wheaten grits, bread made from coarse flour, or "shorts," graham bread, boiled tar-nips, or stirabout, or grapes, or dried figs, or stewed tamarinds. A handful or two of raw or boiled chestnuts eaten during the day; a table-spoonfal, more or less, thrice a day of white mustard seed swallowed whole, in water or otherwise; eating freely of parched corn: takotherwise; eating freely of parched corn; tak-ing on rising a tumblerful of cream which has been allowed to stand until it has thickened, been allowed to stand until it has thickened, whether sweet or sour, are means which are sometimes successful in keeping the bowels acting freely once a day, without the necessity of taking medicine. When one fails to keep up a good effect, try another, in the hope that when the bowels have got into a habit of reg-ular action it may be kept up by the judicious employment of such daily food as observation may show is best adapted to the object. The babitual use of pills, or drops, or any kind of may anow is Dest adapted to the orgent. The habitual use of pills, or drops, or any kind of medicine whatever, for the regulation of the bowels, is a sure means of ultimately under-mining the health, in almost all cases laying the foundation for some of the most distressing of obravic melades. Hence all the pairs are the foundation for some of the most distressing of chronic maladies. Hence, all the pains pos-sible should be taken to keep them regulated by natural agencies, such as the coarse foods and exercises above named, or stewed prunes, or a glass of water on rising, into which has been stirred a teaspoonful of salt or a heaping tablespoonful of corn meal. Reliance on in-jections is disastrons eventually. If the bowels sot more than twice a day live for a short time on boiled rice, farina, starch or boiled milk. In more aggravated cases keep as quiet as possible on a bed, take nothing but rice, parched brown like coffee, then boiled and eaten in the usual way; mean-while drink nothing whatever, but est to your

while drink nothing whatever, but est to your fullest desire bits of ice swallowed nearly whole, or swallow ice cream before entirely melted in the mouth; if necessary wear a band-age of thick woolen fiannel, a foot or more broad, bound tightly round the abdomen; this broad, bound tightly round the abdomen; this is especially necessary if the patient bas to be on his feet much. All locomotion should be avoided when the bowels are thin, watery or weakening.—Hall's Journal of Health.

The Scarlet Fever.

It is as unnecessary for a child to die of scar-let fever as it is that it abould be blind with cataract. Let us see: At any time before the body has finished its ineffectual struggle we are able to help it, not by wonderful medicines but by the knowledge of anatomy and the appli-cation of common sense. We consult the sym-pathetic nerve and do what it commands us to do. We must give this ablid salt when it wants pathetic nerve and do what it commands us to do. We must give this child salt when it wants it; we must give it acid when it bas fever— not vinegar but lemon juice, because the first coagulates albumen and the latter does not, on account of the surplus of oxygen which it con-tains. To imitate the soothing mucus in the intestines, which is now wanting, and to give some respiratory food at the same time, we add some gum arabic. To restore and relieve the injured nerve we apply moist warmth. In injured nerve we apply moist warmth. In practice we can fulfil all this with the following simple manipulations: Undress the child and bring it to bed at the

very first sign of sickness. Give it, if it has already fever, nothing but warm, sourisb lem-onade with some gum arabic in it. Then cover

and the sobool teacher are often concerned to know how long a time must elapse before it is safe to admit the convalescent children to min-gle with other children. And the answer is, that for a month, at least, the body of a scarlet fever patient is custing off scales from the skin, and from the nose, throat, bowels and kidneys discharges which are roisonous and couvey the disease. The chief danger, however, arises from the skin, as this is the main outlet for the blood poison to escape; hence every scale it throws off can carry the infection.

SCARLET FEVER .--- In this disease the parent

USEFUL INFORMATION.

Lubricating Oils.

"A simple method for testing the hydrocar bons or mineral oils in lubricators is to fill a bot tle with the oil in question, moistening the cork and inside the neck of the bottle, and then twisting the cork about its longer axis. The best lubricating oils produce no sound, but the more the oil is adulterated with hydrocarbon more the oil is additerated with hydrocarbons and products of dry distillation, the louder the noise produced. An oil that gives a loud cry is most unfitted for a lubricator." Upon the above item, which has gone the

round of all the scientific papers in the coun-try, the American Manufacturer comments as follows: The method proposed is indeed "sim-ple"—we have been submitting some oils to this test, not, of course, to prove the correct-ness of the test, for with the endorsement of all the scientific more we should not measure to fail the scientific papers we should not presume to do that-but we find that we must change somewhat the estimate in which most oils have been held to make them conform to the standard set up in this simple test. A few examples

will show what we mean. Pure sperm produces no sound, therefore it Pure sperm produces no sound, therefore it is a good lubricant. Pure sperm mixed with an equal quantity of parafine oil produces no sound, therefore it is as good a lubricant as pure sperm. Pure rosin oil produces no sound, therefore it is a good lubricant. Pure fish oil produces no sound, therefore it is a good lubricant. Coal tar produces no sound, there-fore it is a good lubricant. Downer's best spindle oil gives a "loud cry," distinctly heard at 100 feet distance, therefore it is " unfitted for a lubricant." Parafine oil gives a distinct at 100 feet distable, therefore it is "united for a lubricant." Parafine oil gives a distinct "cry," therefore it is a poor lubricant. (N. B. Parafine oil is in general use either alone or "adulterated" with sperm in nine-tenths of the cotton factories in this country, and gives entire satisfaction, but then the "test" says it is not a lubricant.) Pure West Virginia oil is not a horizant.) Fure west virginia oil gives a slight cry, therefore it is not as good a lubricant as petroleum residuum, which gives no sound, and is therefore a good lubricant. We need not continue to record our tests.

Every one who knows enough to handle a pen or a pair of scissors for a scientific paper must admit that the publication of such things only adds to the world's ignorance, not to its knowl edge.

MACE AND NUTMEGS .- Most of our readers doubtless know that the nutmeg, like all other spice, grows in tropical countries. The fruit of the nutmeg tree, especially as it approaches of the nutmeg tree, especially as it approaches maturity, is very like a large yellow peach. At maturity the outer hull opens, and if not gath-ered the valuable product would soon fall to the ground. The mace is the second coat which covers the nutmeg, and almost envelops the dark, impervious hull, or third covering of the nutmeg. When the product is gathered the mace is of a deep red color, and is taken care-fully from the hull which still incloses the nut. Then the hull is broken and the nut taken out, when it is ready for market. In the palmy when it is ready for market. In the palmy days of the "Hon. East India company," all days of the "Hon. East India company," all the company's possessions were governed by 24 gentemen in London, called the "Hon. Court of Directors," who had spent their lives from early manhood to middle age in India, were usually the company's most distinguished civil and military servants, and were supposed to know everything pertaining to the interests of the great corporation. They superintended the sale of all Indian products, and, finding at one period that the mace sold more readily than the nulmeg, they wrote to the government in India to cultivate more of the mace and less of the nut ! the nut !

BICYCLE VS. HOBSE .- A ten mile race, between a fast horse named Happy Jack and a velocipede rider named Stanton, recently took place at Lillie Bridge, England, for \$250. For the first three miles the borse kept level with the bioyclist. The ground was rather sticky, owing to the late rains, for both, and Stanton seemed laboring, but this is his peculiar way of riding. Stanton was the favorite at as much as three to one, for the start allowed him was generally considered too much. For three miles the horse went easily; where he lost at the corners he made up in the straight. This style he kept up until the sixth mile, when his stride began to falter, not being ridden so well as on the last occasion, combined with the effect of the extra occasion, combined with the effect of the extra weight he was carrying. Stanton from this point gradually went ahead, and in the next mile he gained 50 yards. The horse was now beaten, and after going another lap was pulled up at eight miles. Stanton went on and finished the distance, 10 miles less 764 yards, in 34 minutes 34 seconds, being at an average veloc-ity of nearly 18 miles an hour. He rode a 58 inch machine made by Keen, weighing 40 lbs. He seemed to have a good deal more in him had it been required.

SHARFERING EDGE TOOLS.—We copy the fol-lowing recipe for sharpening edge tools from a German scientific journal, for the benefit of carpenters, machinists and laborers: "It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water to which has been added one twentieth of its weight of muriatic or sulphuric acid, then lightly wips it off, and after a few hours set it on a hone. The acid supplies the place of a whetstome by corroding the whole surface evenly, so that nothing further than a smooth polish is necessary. The process never injures good blades, while badly hardened ones are generally improved by it, although the cause of improvement remains unexplained." The cause of this improvement is simply that those particles which are softer contain less carbon, are most attacked by the acids, and thus re-moved by them; while the harder particles.— the more perfect steel—is richer in carbon, which causes it to resist the sotion of the acid better, and they remain. For the same reason, old rusty tools, when cleaned and sharpened, are always better than when they were new.

HORTICULTURE.

Cherry Culture. [From the Paoine Bural Press.]

Gums.

Gum is a substance which belongs to all pitted fruits, more or less, but the cherry tree possesses a great quantity of this material, which sometimes works sad havoo with its growth, causing the bark to blister and burst open, making bad looking sores that are very hard to heal over. Why this is so is one of the things, as the little boy said to the miller, I do not know; but it is a fact, nevertheless, and there is no remedy that I know of to prevent it. Indeed, I do not know that there is need of one, if one could be found, if care and watchfulness are maintained in the orchard. There is a right place and a wrong place for gum to exude. If it comes out at the crotch or fork of the tree that is right and proper, but if it issues from smooth bark, either on the trunk or large branches, it is wrong and something is the matter. It should be looked after at once. The tree has either been bruised or punctured by some kind of insect. If let slone it will, in by some and of insect. If testade it will, in all probability, make a bad sore. If taken in time and the remedy applied no harm will be done. No remedy need be applied, to the fork, for you cannot stop its running out if you were to try, for there is a cause at that point which we cannot remove. That cause I will explain in a little while.

Gum on Branches or Trunk.

The remedy to be applied where gum is found either in the form of a blister or such as a sharp pointed stick would make, I use a compound o pointed stick would make, I use a compound of resin and gum shellac; two parts of resin and one of shellac, melted together, adding a small piece of tallow to the melted mass. Apply it warm with a small brush or a stick with rags tied on the end, making what I call a "swab." If the wounded part is a bluster take a sharp mids with a smooth edge areafully remove the It the wounded part is a binster take a sharp knife with a smooth edge, carefally remove the outer bark, for that is as deep as a blister goes, and you will see a small opening in the inner bark, from a quarter to half an inch long. When the blister is first out the gum will run out clear as the white of an egg and about the same consistence. out clear as the white of an egg and about the same consistency. Have a wet rag with you to wipe the wound dry and clean. After this is done take your knife and pare the inner bark at the opening very thin, being careful not to go through to the wood. Put on a good coat of your mixture and that is the last of that place. Now, if the wound is a puncture, the operation is about the same. Flatten the bark at the wounded part, being careful not to frac-ture or tear the outside bark and not go through to the wood. Put on your salve and the work is done. Go and see the trees occasionally. Gum in the Cretch

Gum in the Crotch

Or fork of cherry trees. In this case we must let Nature take her own way. As I said a while ago, there is a cause existing here that we can-not remove; for the cherry tree is different from all other trees in its growth and habits. Some varieties are worse than others. In the forks of cherry trees there are two barks on the inside of the wood, consequently there is a space of wood from three to twelve inches long that does not unite. This space or length of wood

Cleaning the Gum off

Cleaning the Gum off Is absolutely necessary. In a great many cases the rain will wash off a good deal of it, but not all clean. In places where two or three limbs come out close together it forms a kind of cup, which will hold the gum from one years' end to another, and in its soft state every leaf, stick, cherry pits, dust and dirt will stick and hang, and sometimes I have seen them so foul that the stench could hardly be endured. By this collection also, a nest is made for all manner of insects, bugs and worms. Another evil in let-ting the gum stay on is, if rain does not wash it off clean, it runs down the trunk of the tree and wakes the bark look tad, and if it is very thick on the bark when it dries it will contract and crack the bark crosswise, and is very injurious to the tree.

In Cleaning off

I use very simple and cheap machinery. Get some bamboo from China baskets, such as the some bamboo from China baskets, such as the Chinamen use to carry their goods in, cut them eight or 10 inches long, until you get a bunch about one inch in diameter. The some twine about four inches from one end and two inches from the other. Take a case knife, one that is not very sharp, and split the long end down to the twine, until you have a coarse brush. I then take an old grain eack and open it and cut off strips about as wide as my two hands. I am now ready to go a gnaming when the first am now ready to go a gumming when the first rains come and the leaves are all off. The gum is soft now, and the leaves are an on. The gim is soft now, and two or three brushes will throw the most of it out. Take a strip of the sack and draw it two or three times through the fork and it is nice and clean and the job is done.

Removing Large Limbs.

To remove limbs without having them gum, great care must be taken not to tear the bark and it must be done at the right time. That is, from the time the buds are large and plump noti the blossoms are open. But it should not be done later. Take a fine, sharp saw, cut the limb off at the base, not too close to the trunk, so as not to make a large sore, then take your knife and pare the surface nicely and smoothly, and give it a good coat of the com-pound which was used for blisters and it is finished and will heal over without a particle of gum oozing out. Cherry Vale, San Jose Co., Mar. 13th, 1876.

Swarming.

BEES.

Already swarming has commenced among the Italian colonies in the valley apiaries. In the Los Angeles apiary for the past week the Italians have been throwing off swarms as if they proposed to sweeten the world and the rest of mankind. Early swarming is a pecu-liar characteristic of the Italians. No black swarms have as yet made their appearance that

we have heard of. There are two evils attending matured swarming-uncertainty and loss of swarms by absconding to the woods or to eurich some absonding to the woods or to enfon some neighboring splary, and uncertainty on account of the state of the colony, the sesson or weather. Some seasons they will not swarm at all; others they will swarm too much, so that they become very weak and sometimes de-stroyed or become worthless. They require constant watching, and should the splarian have constant watching, and should the splariah have many of them, several awarms may issue at the same time and perhaps settle together, or may come out so close to each other that he cannot attend to hiving all and thus some are lost. Artificial swarming or dividing obviates all these difficulties. We will briefly describe the execution operation: If you wish to divide but one swarm, re-

move from it about one-third of the frames that are filled with comb, with the queen and bees adhering. Place them in the middle of your new hive, and empty comb or frames on either side. Then remove the old hive two or three rods, and place your new one where the orig-inal one stood. This should be done about the middle of the day when the bees are out at work, so as to catch them when they return.

Work, so as to cathen the them when they return. Care should be taken to leave plenty of eggs and young brood in the old hive, so that its occupants can rear another queen. If you had four or more colonies, take two or three frames with the bees adhering from each of four hives, taking care that you do not remove a queen. Three or four of the combs thus transferred should contain eggs and brood. After placing them in your new hive remove the fifth col-ony, which should be a strong one, and place your new one in its place. In about ten days

The Temple of Belus-Some Interesting Discoveries.

3

Mr. George Smith states, in the London Atheneum, that he has recently discovered, in his researches amid the ruius of Nineveh, an ancient tablet which gives a remarkable account of the temple of Belus (the audient tower of Babylon), in which are given the principal points of arrangement and dimension of this remarkable structure.

This temple was the grandest religious edifice of the age-the center of religious worship and the wonder of the world. It was founded centuries before Babylon became the chief city and capital of the State, and retained its fame even down to the commencement of the Roman empire.

Our knowledge of this structure has heretofore been confined to what Herodotus and Strabo have told us of it. They tell us that the principal building was one stade in length and breadth and hight, and that it consisted of eight stories or towers, one above another, the whole forming a pyramidal shape—the highest being the chief sanctuary or holy of holies of the Babylonish worship. A stade has been supposed to be 600 feet, which would give the dimensions of the structure as 600 feet square and 600 feet in hight.

But the tablet which Mr. Smith has brought to light, and which undoubtedly gives the cor-rect measurement, changes those figures very considerably.

considerably. First, in the tablet we have the measure of the outer enclosure, called the "Grand Court," which is given at 1,156 feet in length and 900 feet in breadth. The next court is called the "Court of I-htar or Zamms," which is set down at 1,056 feet in length and 450 feet in breadth. Round this court were six gates, ad-milting to the inclosed tamples. Even the breadth. Round this court were six gates, ad-mitting to the inclosed temples. Even the names of these gates are given. The four walls of the courts, like the great pyramid in Egypt, faced the four cardinal points, and in this the faces or sides of all the other portions of the structure agreed. The extent of the next en-closure appears to be uncertain; it had four gates or entrances—the gate of the rising sun, the southern gate, the gate of the setting sun, and the northern gate. Each of these three euclosures seem to have been on a level with the general plain on which Babylon stood, and were simply walled paved courts, open at the were simply walled paved courts, open at the top, and one within the other. In the center of the third enclosure stood the

top, and one within the other. In the center of the third enclosure stood the "tower" or principal building, which was the grandest portion of the whole pile, the founda-tion of which was 300 feet square, and the en-tire hight, above the foundation, also 300 feet. The lower stage or story was 300 feet square and 110 feet high. The next or second stage of the tower was 260 feet square and 60 feet high. The epithet applied to this stage is ob-scure; it had probably sloping sides. The third stage differs widely from the lower ones, and commences a regular progressive series of stages, all of equal hight. It was 200 feet square and 20 feet high. The fourth stage was 170 feet square and 20 feet high. The fifth stage was 140 feet square and 20 feet high. Probably by accident, the dimensions of the sixth stage of the tower are omitted in the in-inacription, but they can be easily restored in accordance with the others. This stage must have been 110 feet square and 20 feet high. On this was raised the seventh stage, which was the upper temple or sanctuary of the god Bel. This building had a length of 80 feet, by 70

Bei. This building had a length of 80 feet, by 70 feet broad and 50 feet high. Thus the whole hight of this tower above its foundation was 300 feet, exactly equal to the breadth of the base; and, as the foundation was most probably raised above the level of the ground, it would give a bight of over 300 feet above the plain for this grandest of Baby-lonian templas.

feet above the plain for this grandest of Baby-lonian temples. This grand central tower or temple was sur-rounded with a number of smaller buildings, the chief of which, and the one which appears to have been most intimately connected with the principal structure, was 200 feet square. Beyond this, and around the base of the tower, were arranged the obspels or temples of the principal goins. On the eastern side stood a cardinal points. On the eastern side stood a sanctuary or temple, 117 or 133 feet by 67 feet, with 16 shrines, the principal being the shrine devoted to the god Nebo and Urmit or Trasmit his wife. Nebo was considered the eldest son of Bel, the great deity of the temple. On the northern side stood two temples, one devoted or bei, the great delty of the temple. On the northern side stood two temples, one devoted to the god Hes, the other to Nusku. The tem-ple of Hes was 142 feet long by 50 feet broad, and that of Nusku was a square, 58 by 58 feet. On the southern side stood a single temple, dedicated to the two great gods, Anu and Bel. This was 117 by 50 feet. On the western side were the principal buildings, consisting of a double house, with a court between the two wings. On the one side the wing was 166 by 34 feet, and the space between them was 58 feet. The ouilding at the back was 208 by 50 feet. The description of the position of the western temples must be taken as conjectural. In these western chambers soud the couch of the god, and the throne of gold mentioned by Herthere western chambers s'ood the couch of the god, and the throne of gold mentioned by Her-odotus, besides other furniture of great value. The couch is stated to have been 15 feet by 6 feet 8 inches in area. The mound of Babil, which is already iden-tified by the best authorities with the temple of Belus, consists now of the lower stage of the tower and the rains of the buildings around it. We can only conjecture that the magnifi-We can only conjecture that the magnifiit. cent superstructure was removed by Alexander in his operations for clearing the site and rebuilding the temple, a work he did not live to accomplish. The adornment of the temple of Belus with gold and silver, the splendid colors of its fur-piture and statuary, combined to make it one of the grandest buildings of the ancient world, and earned for it the name of the "Basis of Heaven and Earth," and the "Glory of the City of Babylon " of Babylon." The discovery of these and other tablets-constituting the books and libraries of that ancient people—are among the most interesting scientide discoveries of the age. Their number seems almost without limit, and the information which they are bringing down to us from those far off ages is of the most important character. The constantly recurring reports of new dis-coveries in this direction, keep up the inter-est, and will tend to secure, beyond persiden-ture, the funds necessary to continue the work of exploration, so long as the discoveries con-tinue. This field of research seems almost in-exhaustible. exhaustible.

WILLAMETTE FARMER.

its abdomen with some dry flannel. Take a well folded bed sheet and put it in boiling hot water; wring it out dry by means of dry towels and put this over the flannel on the child's ab-domen. Then cover the whole and wait. The domen. Then cover the whole and wait. The hot cloths will perhaps require repeated heat. According to the severity of the case and its stage of progress perspiration will commence in the child in from 10 minutes to two hours. The child then is asved; it soon fails asleep. Soon after the child awakes it shows symptoms of returning inclination for food; heln its howels if necessary with injections of

help its bowels if necessary with injections of oil, soap and water, and its recovery will be as steady as the growth of a green house plast if well treated. Of course if the child was already dying nothing could save it, or if it has effu-sions in the lining of the heart or brain it is much better that it should die. But if the above is applied in due time, under the eyes and directions of a competent physician, I will guarante that not one in a hundred children will ever die of scarlet fever.

I know this will startle some of my readers. I know this will startle some of my readers, especially those who bave lost children already, but I shall go still further. I maintain that a child will never get scarlet fever if properly treated. If a child has correctly mixed blood it will not catch the disorder if put in bed with a sick child. This is still more startling, but nothing is easier of proof.—Good Health.

Beds and Bedrooms.

Never use anything but light blankets as a covering for the sick. The heavy, impervious cotton counterpane is bad, for the reason that it keeps in the exhibitions from the pores of it keeps in the exhaustions from the pores of the sick person, while the blanket allows them to pass through. Weak persons are invariably distressed by a great weight of bed clothes, which often prevent their getting any sound sleep whatever. It is better to sleep in a cool room and dress in one that is well warmed, than the opposite. If it is necessary to heat the bedroom, lat it he by means of an open grate the opposite. If it is necessary to the bedroom, let it be by means of an open grate bedroom, let it be by means of an open grate.

the opposite. If it is necessary to nest the bedroom, let it be by means of an open grate fire, rather than by a register or flue. In view of the fact that most people pass one-third of the 24 hours in bed, the importance of having only the best bedding needs no argu-ment. There is no wisdom, therefore, in buy-ing cheap or second-class articles for the alcep-ing room, but true prudence directs to get the very best bedding that your means will com-mand; a first-class hair mattrass will outlast two of inferior quality. The same difference will also be found in respect to feathers, and with the latter as with haft, the best is always cheapest. Too many young housekcepers neglect to follow this rule, and pursue a penny-wise and pound-foolish policy, when they might just as well have adopted the opposite practice.

LIGHTHOUSE WHITE-WASH. - The following are the ingredients which compose the white-wash sent out by the Lighthouse board of the wasn sent out by the Lighthouse board of the Treasury Department, and which, it may reasonably be supposed, is the preparation which the best knowledge and fullest experi-ence has selected from the many which are used for the purpose indicated: Slack one-half bushel of unslacked lime with boiling water, thereing it coverse during the process. Then bushel of unslacked lime with boiling water, keeping it covered during the process. Then strain it, and add a peck of salt, dissolve in warm water, three pounds of ground rice put in boiling water and boiled to a thin paste, half pound powdered Spanish whiting and a pound of clear glue dissolved in warm water. Mix these well together and let the mixture stand for several days. Keep the wash in a portable furnace, and when used put it on as hot as possible with either a painter or white-wash brush. Thus prepared, this wash has been found, by experience, to answer on wood, brick or stone nearly as well as oil paint, and it is much ohesper. much chesper.

KEROSENE is making rapid advances against coal gas all over the country. The cost of oil light is about one-sixth the cost of gas light, and there is no doubt that it affords a far bet-ter light for the eyes. We do not see how the gas companies are to stem the tide that seems to set against them, except by adopting petro-leum themselves and thus enabling themselves to reduce the price of gas to a point nearer the cost of oil light.

A NEW MUCILLOE. - The Journal de Phar A New MICHAGE. — The Journal de Phar-macie states that if, to a strong solution of gum arabie, measuring eight and one-thild ounces, a solution of 30 grains of sulphate of aluminum dissolved in two-thirds of an onnce of water be added, a very strong mucilage is formed, capable of fastening wood together, or of mend-ing porcelain or glass. not united varies according to the age of the tree. Hence comes the liability to split open. The issuing of gum from the fork depends upon the relative position the branch sustains to the trunk of the tree. Thus in the accompanying



The Formation of Gum.

illustration you see that it is the branches that grow nearly perpendicular with each other that gum the worst at the two barks, while those that grow more horizontally do not gum at all, because the wood is united, consequently there are not two barks, the wood being solid. It is the same with those on the right of the illustration.

tration. The two barks are caused by the branches growing so close together, and by the expansion of the large limbs in their growth the bark of both is forced in between the two woods, so that it is impossible for the wood to grow to-gether. The sap is forced in between these two barks and pursues a downward course until it arrives at the lower edge of the bark, where the wood is sciid, and is then forced out of its nat-ural place between the barks and so finds its way out, and then we have it in the shape of gum in the fork of the tree. The cherry tree always issues its gum just under the bark, and not in the wood, as some people think.

the queenle s par bave finished queen cells, when all but the largest and best formed should be destroyed for fear of swarming. Do not divide too much so as to weaken your colonies. You should remember that the great success in bee keeping is in strong

Bees consume large quantities of water when building comb and rearing brood. Want of it, it is said, will produce dysentery among them. —Los Angeles Herald.

New Cask Making Machinery.

An invention, the result of which may here after have a very serious effect on the skilled labor market in certain departments of trade. was recently exhibited at the works of Messrs. Ransome & Co., sawmill engineers, King's road, Chelses, Eng. The invention referred to is a series of improved machines, about a score in number, constructed for making casks for in number, constructed for making cashs for beer and hogsheads for wine. The great mer-its of Messrs. Ransome's patent are not only an improvement upon former patents which they have pressed into their service, but the combination of their own inventions with those of previous date, and the formation of the whole into one general system. Bractical illustration was given that each for

Into one general system. Practical illustration was given that casks for holding liquids of all kinds can be produced entirely without the aid of the skilled cooper at less than half the cost for labor, and when it is stated that one machine alone, worked by a lad, will joint in the most perfect manner six staves in a minute, while another will turn, bevel and oval a head with mathematical accu-racy in less than that space of time, the great economy is at once apparent. Apart from the utility of the invention, or combination of in-ventions, it is a true satistic treat to witness the working of this massive clockwork machin-ery, and visitors were loud in their admiration of a most interesting and, indeed, educating ex-hibition.—Iron. hibition.-Iron.

"WHAT IS STEEL" seems to be an unanswer-able conundrum just now among metallurgists. Bir Joseph Whitworth proposes the following: "With so many rival and unsatisfactory defini-tions of steel, the writer would do away with all the different names by which various kinds of steel are known, such as blister, shear, double shear, common steel, spindle steel, sli-ver steel, cast steel, etc., which carry no pre-cise definite meaning; and would express what is wanted to be known by two numbers which should represent tensile strength and ductility." should represent tensile strength and ductility."

THE rinderpest has broken out in Japan mong the cattle.

In reference to the amount of carbonic sold excreted in the breath and perspiration by dif-ferent animal species under the same condi-tions, and by the same species under different conditions, Dr. Pott finds that the greatest amount of carbonic acid per 100 grms. of liv-ing weight is excreted by birds (4.93 grms. in six hours); next follow mammals (2.95 grms. in six hours), and then insects. Young ani-mals excrete a proportionately greater weight than old ones.--Chem. News.

Tas floods have destroyed a large portion of the crops in southern France.