Scientific.

Cravats.

Professor Hamilton's remarks at the Buffalo Medical College on asphyxia, and particularly that form caused by wearing tight cravats, may be of interest to the general reader.

Cravats were first worn by the Croats in the sixteenth century as a part of their military dress.

Public speakers, members of Congress, and clergymen, have literally hung themselves by wearing cravats and stocks, high and tight, thereby impeding the return of blood from the head; this can be explained on physiological principles; the brain, in speaking, is excited to increased action, a larger quantity of blood is sent to the substance, and unless it can find a ready return, produces congestion and apoplexy.

Students are not altogether free from the effects of this litigation of the neck. It is surprising how little pressure is necessary to prevent the ready flow of blood from the head; those who bend their heads forward, as in writing or studying, are apt to feel a dizziness and heaviness in the head which loosening their cravats or collars altogether relieves, and the mind returns to its original clearness. In clergymen who are particularly prone to bundle their necks with large cravats, bronchitis is induced, and the vocal chords become relaxed as the consequence. Men who speak extemporaneously can speak longer and with greater ease than those who read, as their voice is not confined as much to one key, and can be modulated with greater freedom.—*Albany Register.*

Artificial Teeth.

A most important discovery, says the Traveller, has lately been made in the manufacture of artificial teeth. The author of the invention is Dr. John Allen, of Cincinnati, who, after experimenting for eight years, has produced a composition of mineral substances which can be united by fusion to metallic plates, thereby securing some most important advantages over the block work heretofore employed in dental surgery. Greater strength is secured by this process, and a better color—even the most delicate tints—can be given to the gum; it obviates the necessity of soldering the teeth to the plate, and prevents any warping of the plate upon which the teeth are set; it secures cleanliness, as not the slightest moisture ever can get between the plate and the teeth; and by this method also, teeth can be inserted with much greater ease and facility.

Dr. Allen has submitted his invention to the inspection of dental surgeons, extensively, and they have pronounced it a decided and great improvement upon all former methods of preparing and inserting teeth.

The discovery being made, it depended of course upon enterprising and skilful Dentists in different cities and towns to bring it within the reach of the people, and we are glad to be able to say that in Boston the new discovery is the in hands of a Dentist who has gained a wide reputation. We refer to Dr. Hitchcock, who has purchased the patent right of preparing and inserting teeth upon Dr. Allen's plan, and who is perfectly familiar with the process, and able to execute orders in the most thorough and finished style.

A Useful Invention.

Among the patents recently issued is one to R. W. Parker, a house joiner of Roxbury, for an improvement in belting. By this improvement Mr. Parker is able to drive a circular saw by hand so as to enable one man to do the work of three or four—in fact making a hand machine more efficient than one driven by horse-power.

Having tried the machine and timed it carefully by a watch, we think it safe to say that a man can cut boards with it full three times as fast as with a handsaw, with more ease, and do the work vastly better. The machine is so adjusted that it performs the operations of cutting, splitting, beviling, rabbiting, &c., with perfect precision. The speed of the saw is got up instantly, and with very little effort. Every worker in wood will at once see its utility; and we have the pleasure to say that Mr. Parker sells to individuals the right to use it at a very moderate price.

The invention by which this extraordinary result is produced is a very happy one, and so simple that the examiner at the Patent Office refused to believe from the model that the effect could be produced, and would not report in favor of a patent till Mr. Parker carried the actual machine to Washington and showed it in full operation. Seeing is believing, and the patent was granted at once on the ocular demonstration.

Instead of having a series of banded drums between his power and the arbor of his saw, Mr. Parker has one drum, two and a half feet in diameter, to which his handle applies. There is no band around this drum. But resting on it at the top is the arbor of the saw, and another small drum is also in contact with it on one side. These two, the arbor and the the small drum, are banded together, their band being all that seperates them from the periphery of the large drum, so that the lower side of the band is in contact with the large drum for about 30 degrees.

By turning the large drum rapidly you put the small arbor into a velocity, at once, in the inverse ratio of the diameters, and there is no slipping of the band in working. The gain in compactness of machinery and economy of the power which in the ordinary mode is wasted on the *necessary* friction, must be obvious to any intelligent mechanic. Its application will of course be widely extended in driving various kinds of machinery where high velocity is required.—*Commonwealth.*

To Mend Iron Pots and Pans.—A correspondent of the *Scientific American* gives the following receipt for mending broken iron pots and pans, as superior to the Chinese:

"Take two parts of sulphur, and one part, by weight, of fine black lead, and put the sulphur in an old iron pan, holding it over the fire until the sulphur begins to melt, when the black lead is added, stirred well until all is mixed and melted, and then, in its molton state, the compound is poured out on an iron plate or smooth stone. When it has cooled down it is very hard, and is then broken in small pieces. A quantity of this compound is placed upon the crack of the iron pot to be mended, and by a hot iron it can be soldered in the same way a tinsmith solders his sheets. If there is a small hole in the pot, it is a good plan to drive a copper rivet in it, and then solder it over with this cement. I know a person who mended an iron pot by the above plan upward of twenty years ago, and he has used it ever since."

The first cost to manufacture ladies' India rubber shoes is about 22 cents per pair, and the retail price is $1. The first cost of those for men's wear is from 33 to 38 cents per pair, and the retail price about $1,25 to $1.50 per pair. The daily product of the United States is about 15,000 pairs. The process by which these shoes are made has thus far been kept a secret. This art is of great value and importance, and has not yet been discovered in Europe. The profits on this buisiness will reach almost $2,000,000 in a year, and the present manufactories cannot supply the demand. Shoes which weigh 9 ounces per pair have only about 3½ ounces of rubber, the other materials being worth only from 1 to 6 cents per pound. One girl can make 20 pairs per day, for which her wages are 2 or 3 cents per pair. The expense of curing and heating 1200 pairs does not exceed $3.

Papier Mache Goods.—The beautiful papier mache goods which are so perfectly displayed at our jewelry and fancy stores attract much attention and admiration. The pearl figures which adore and embellish them are not inlaid, as is generally supposed, but laid on. The process, which is very simple, has been in use about twenty years, and it is as follows:

"The pearl shell, cut into pieces of such forms as may be desired, is laid upon the articles to be ornamented; a little copal or other varnish having been previously applied, the pieces of pearl at once adhere to it; thereafter repeated coats of tar-varnish fill up the interstices and eventually cover the pearl; this extra varnish is removed, a uniform surface is produced, and the pearl exposed by rubbing with pumice-stone, polishing with rotton-stone, and finally "handling," or polishing with the hand."

Experiments.—Melt any quantity of lead in the open air, and keep it melted until it becomes red lead, and it will be found to have increased in weight ten per cent,

Expose a small quantity of mercury to a moderate heat, in contact with atmospheric air, and it will slowly combine with oxygen, and become red oxyde; but by an increase of heat, the oxygen will be driven off, and the metal will be restored.

Place together, on a shovel, a little sulphur and mercury, and make the whole red hot over a strong fire, and the beautiful paint, called vermillion, will be produced.—[Scientific American.

The Farm.

On Varieties of Symptoms in corresponding Diseases of the Horse and Cow.

For many years after the establishment of the first Veterinary School in this kingdom, the diseases of horned cattle received but little consideration from those on whom the duties of teaching devolved.—Professor Coleman when appealed to regarding the importance of teaching cattle pathology, replied, to the effect, "that those who understand the diseases of the horse cannot be under any difficulty, when required to treat the diseases of cattle." Every veterinary practitioner, however, is fully aware of the fact, that the diseases of cattle, although many of them essentially the same in nature as in the horse, are still denoted by somewhat different symptoms from those manifested in the latter animal. Some diseases are incident to cows which do not occur in the horse, and the progress and termination of others are much modified by her peculiarity of temperament and constitution.

As illustrating the bearing of the statements here made we may give a simple example or two. A horse affected with inflamation on the lungs will not lie down, but a cow laboring under this disease will frequently maintain the recumbent position for hours together. A horse affected with inflamation of the bowels, betrays his suffering by urgent symptoms of agonizing distress, and fequently dies in four, five or six hours after the commencement of the attack. A cow laboring nnder the same malady does not show anything like the same amount of distress, and although she may eventually die, will often live for a week or ten days. Horses are very subject to "cold" or catarrh, especially affecting the head and throat, but frequently suffer derangements of the udder and bowels from causes inducing catarrh in the horse.

Seeing these points of dissimilarity (and many more could be enumerated), we have just grounds for stating, that fully to understand the apparent difference between certain diseases in the horse and cow, and in order to avoid being misled by the same, it is surely of much importance to inquire into the conditions upon which they depend. *First*, then we conceive that some of the differences alluded to may be explained by peculiarities of anatomical structure and functions associated therewith, and to illustrate this view, a few special examples are here introduced. It has just been said that a cow will lie down when labouring nnder inflamation of the lungs, and that a horse will not do the same. An animal suffering from disease, naturally seeks those positions of the body which afford greatest relief; thus a horse, in inflamation of the lungs, stands with the elbows turned widely outwards, in order that by doing so, he may allow oppressed organs in the interior of the chest to expand as freely as possible. His ribs are strong, tolerably perfect arches, united to their cartilages without true or synovial joints, and are thickly clothed with flesh. His breast bone is narrow from side to side, short, and convex below from before to behind; in short it is of such a form, and has such connections as do not admit the horse fully to rest upon it when laid down, or, if he do lie down, his position for free breathing is not nearly so favorable as when he is standing.

The ribs of the cow on the other hand, are flatter than in the horse, are united to heir cartilages by true synovial joints which allow of much motion; the breast-bone is broad from side to side, flat on its under surface, and at the prominence known as the brisket is raised into a considerable jointed protuberance which is covered by a thick, fatty, and gristly pad familiar to every one. In a recumbent positon the flat lower surface of the breast bone comes into such contact with the ground as to afford a large space for receiving the weight of the body; the jointed protubreance, with its pad just named, by being pressed on from below, transmits this pressure to the joints or points of motion between the ribs and their cartilages, which are forced outwards and the chest expanded. It will be noticed that a cow labouring under inflammatory disease of the chest usually lies directly upon the breast-bone, and less on the side than does the horse. The position she thus assumes is obviously one calculated to afford relief; whereas to the horse it would occasion an increase of distress, yet an explanation of this fact could not be rendered without our possessing a knowledge of certain anatomical conditions peculiar to each animal.

Horses are very liable to serious and fatal diseases of the bowels, such as *constipation* and *inflammation*, &c. The liability to these is much increased by pursuing certain plans of feeding, and by giving kinds of food ascertained to be injurious. The stomach of the horse, although subject to disease also, is less frequently affected than the bowels. In the cow matters are reversed. She is especially prone to diseases of the stomach, and proportionately less disposed to suffer from diseases confined to the bowels. To explain this circumstance, we must remark that the stomach of the horse, when compared with the size of his body, is but small; it is simple in form, and not adapted for retaining articles of diet for any great length of time. Food passes from it speedily into the intestines, which organs are very voluminous, and are fitted to render more complete the digestive process commenced in the stomach. In the cow the stomach is immensely larger, both absolutely and relatively, and much more complicated in structure than in the horse. It is so divided into compartments as to receive the food when first swallowed, then after subjecting it to a macerating comminuting process, allows or facilitates its return to the mouth for a second chewing, and, receiving this food a second time, subjects it to a kind of further sifting or grinding, preparatory to its full digestion in another part of the stomach. This complicated arrangement ensures a digestive process much more complete in the stomach of the cow than that of the horse. The complex anatomy of her stomach, however, and the more elaborate nature of its functions, render that organ more liable to disease than in an animal where these conditions of complexity do not exist. That part of the stomach of the cow lying in connection with the left side of the body, is often the seat of peculiar affections, denoted by symptoms which a person only conversant with diseases of the horse would be unable to explain. Thus we frequently have distension of this organ by gas to an enormous extent, whereas in cases of windy distension of the belly in horses the intestines are involved equally with, and frequently more than the stomach. The relief of this distention in the cow as a simple and more summary affair than in the horse; because, in cows, the position of the stomach allows medical and surgical remedies to be more freely and directly applied to it than they can to organs which are the sort of distension in the horse.

It is a very common circumstance for distention of the stomach by gas to take place in the cow in connection with diseases of other organs. For instance, diseases of the lungs, liver, or throat, are frequently attended by copious evolutions of gas in the stomach, a condition never seen to the same extent in the horse. In the cow this seems mainly to depend on the fact that the stomach always contains a considerable quantity of food, and if, from the existence of disease in any part of the system, the functions of the stomach are impaired or impeded, action, more purely chemical than vital in character, is established, which favours the generation of gas from macerating food now, as it were beyond the control of simple digestive processes. This sympathetic distention (if such may be called), is almost invariably present in cases of choking, and is sometimes so severe as actually to cause death. A person who has seen a horse choked is well aware that no such distension exists in that animal, and if unacquainted with the peculiarity in the cow just alluded to, he would, when called to a case of the kind, be puzzled to account for appearances with which every herdsman is familiar.

John Darlow, V. S.

Cedar chests are best to keep flannels, for cloth moths are never found in them. Red cedar chips are good to keep in drawers, wardrobes, closets, trunks &c., to keep out moths.

When clothes have acquired an unpleasant odor by being from the air, charcoal, laid in the folds, will soon remove it.

If black dresses have been stained, boil a handful of fig leaves in a quart of water, and reduce it to a pint. A sponge dipped in this liquid and rubbed upon them, will entirely remove stains from crapes, bombazines, &c.

In laying up furs for summer, lay a tallow candle in or near them, and danger from worms will be obviated.