Though this species is the true cisarctica whale, and therefore a denizen in the more temperate latitudes of the Atlantic, yet its great rarity, from causes here mentioned, renders it unfamiliar, and it is not probably often met with by vessels crossing to Europe. The whale that is so often seen by passing vessels is a fin-back, a baleen whale having much smaller and shorter plates and a fish-like fin on the after third of the back. The profile of the whale is strikingly different from those we have considered, as the baleen being so short, the head is not proportionately large and deep. The fin-back is a very comely animal, yet fish-like in form, saving always the radical difference in tail, the whale having one of horizontal form, which is suggestive of the hinder limbs, as seen in walrus, seals, etc.

The tongue of the baleen whale is a curious mass, containing considerable oil. It is not susceptible of movement externally. The gullet is small, scarcely large enough to take in a small herring. Their food, however, is of another character, being largely the masses of jelly fishes and minute ocean forms that realize with a slight variation the words of Macbeth's soliloquy, for they do "the multitudinous seas incarnadine, making the green one red." This is true is respect of the salps, and certain lower organisms, but the Arctic seas are tinged an olive green by the extended masses of various medusæ.

The uses of the baleen will now be apparent. When we consider that masses of minute jelly-like objects are taken into the enormous open mouth of these whales, and the water unavoidably closed within the mouth must be forced out, we see the frayed edges of the baleen acting as a sieve, and the water passing out between the plates.

The eyes are remarkable for comparative dimensions, the largest being about the size of a large orange. They are beautiful organs, being possessed of all the prominent features of the typical eye of mammals, having lids and lashes; and they are said to have acuteness of vision equal to any other animal. The eye is so placed that it commands a view from every point.

The internal ear is like that of other mammals, but the external part is reduced to a mere orifice, just large enough to take in a pen-holder. The sense of hearing is, however, acute.

These whales are regarded as silent as to voice, though a roaring sound is heard when the creature is hard pushed, which is thought to proceed from the blowing hastily repeated.

They have but one cub at a birth, though, as is the case in other mammals, twins sometimes appear. The teats are situated on the abdomen, about two feet apart. They are not prominent, the glands being concealed internally. The young at birth are said to be nearly one-fourth the size of the mother. The milk is remarkably rich.

The baleen of commerce is denominated whale fin. At various periods this portion has been no inconsiderable part of the profitable results of the whale hunting. The baleen of the present example is said to be worth over one thousand dollars.

A New Race of People in Russia.

In the *Revue Scientifique*, Mr. G. Le Bon treats at some length of a hitherto unknown people inhabiting an obscure part of Russia. Peculiar circumstances having induced the author to visit the Tatras Mountains, a very curious and beautiful region, and one very little known, since he was apparently the first to traverse it, he found there a territory surrounded on all sides by steep mountains and inhabited by a people speaking a different language from the nations surrounding them and with whom they had no intercourse. These people, although less than a century ago given up to brigandage, as the author learned in his study of them, are now very industrious and honest In spite of a climate so harsh that it would be necessary to go to the extreme north to find a similar one: in spite of a very infertile soil; and in spite of an almost Lacedæmonian diet, consisting mainly of oats, milk, and water, they are living in a most remarkable state of prosperity. They are clearly distinguished from all their neighbors in their external aspect, in their quick intelligence, and in their artistic and literary tendencies.

The villages inhabited by these new people are situated in the territory called Podhale, at the foot of the above-named mountains. This territory, as before stated, being surrounded on all sides by steep mountains, difficult of access, is almost as isolated from the rest of the world as if it were an island in mid-ocean.

As regards its origin, Mr. Le Bon thinks the original stock was Polish, which in past ages became intermixed with individuals coming from different peoples. In isolating itself more and more, and not uniting with outsiders, and in constantly being submitted to the action of the same environment and of the same selection, the primitive agglomeration has become more and more homogeneous and finally formed a new race, whose homogeneity may possibly still increase, but which already possesses common hereditary characters that permit it to be clearly differentiated from all surrounding races.

Singular Freak of a Sheep Dog.

A correspondent writes: "One of Sir George Wombwell's Yorkshire tenants reports a remarkable occurrence from the locality of Newburghe Park. A sheep dog belonging to this person a short while ago presented her owner with five puppies. Shortly after the puppies were discovered the mother was seen acting in a mysterious manner in the vicinity of an old oak tree in the neighborhood. As this conduct was repeated, an examination of the tree, which was a hollow one, was made. Inside the trunk were found a vixen fox and five cubs. The vulps were left in their lair, but next morning, on the place again being examined, all the lot had disappeared, and shortly afterward one of the cubs was found, apparently quite at home, with the puppies in the kennel. Whether the sheep dog had carried off the cub to her own offspring with the intention of appropriating the rest of the vixen's progeny in the dam's absence, and whether the vixen, finding one of her cubs minus, sought safer quarters or not, is a matter for the curious to settle."—*Land and Water.*

The Plants Found on the Mummies Near Thebes.

Dr. Schweinfurth, the celebrated explorer of tropical Africa, having examined the dried plants found on the mummies discovered last year in a cave near Thebes, has identified them, and gives the following account of them in a letter published in *La Nature:*

"I have examined the garlands which covered the breast of the mummy of King Aames I., which formed part of the great 'find' of Deir el-Bahari. The garlands are composed of the leaves of the Egyptian willow (*Salix safsaf*) folded twice and sewed, one alongside of another, along one of those branches which form the spadix of the date tree, in such a way as to form clasps which held isolated flowers inserted between the folds.

"In the breast garlands of King Aames I., these flowers are those of the *Acacia nilotica*, *Nymphæa cærulea* in isolated petals, *Alcea ficifolia*, and, finally, of a *Delphinium* which I believe to be the *Orientale*. Please send me a few dried flowers of this latter species in order that I may be certain of the identity.

"The garlands of the other kings contain flowers of *Carthamus tinctorius*; and the leaves folded into clasps are those of *Mimusops kummel*.

"In the coffin of Neb-Seni, high priest of the XXth dynasty, there were also found leaves of the common watermelon (*Cucumis citrullus*). These leaves and flowers date from some centuries before the epoch of the Trojan war. I have preserved a large number of them by moistening them, putting them afterwards into alcohol, and then spreading them out and drying them. They thus form a small herbarium of plants thirty-five centuries old. What is remarkable is the preservation of the color of the chlorophyl—violet in the *Delphinium* and green in the water melon."

Salix safsaf, *Acacia nilotica*, and *Nymphæa cærulea* still grow spontaneously at the present day in Egypt, their geographical range also embracing tropical Africa. *Mimusops kummel* has in our time been observed only in Abyssinia. *Delphinium orientale*, a species of larkspur very near *D. ajacis*, the common garden species, is spread throughout the entire East, but appears to be found only sporadically in Northern Africa, where it is cultivated as an ornamental plant, and where it was likewise so cultivated in that remote period if its identity with the flowers on the mummies be confirmed. Finally, *Carthamus tinctorius* is still cultivated at the present day in Egypt and in the entire East as a dye plant. It is unknown in a wild state, but Mr. A. De Candolle thinks that its native country may well have been the central plateau of Arabia Felix. Outside of the marvelous preservation of these delicate flowers and their color, due without doubt to the complete absence of light and humidity in the cavern in which they were inclosed, we have thus a new example of species, some of them spontaneous and others cultivated, which, for a long series of ages, have undergone no variation.

A Threatening Pest.

An insect, known in South Africa as the Australian bug, was unintentionally introduced four years ago into the Government Botanical Gardens at Cape Town. It multiplied with alarming rapidity, and already has done much damage to forest and fruit trees. Some handsome oak trees in the grounds of Government House at Cape Town, said to be a hundred years old, were reduced to such a state that they had to be cut down. It is particularly hostile to fruit trees, and on a single estate destroyed 600 orange trees. As yet no means of stopping the spread of the pest have been devised; but, as it has been noticed that it does not attack the Australian gum trees planted in the Cape Colony, it has been suggested that by a judicious intermixture of these with the fruit and other trees liable to its ravages the latter may be stopped. A better plan would probably be to import from Australia the natural enemies of the "bug"—birds or insects, as observation may indicate.

The Total Solar Eclipse of May.

The central line in the eclipse of May 17 passes near to Teheran, in which longitude the duration of totality will be within five seconds of the maximum. Taking the position of the Indo-European Telegraph Station in longitude 3h. 25m. 41·7s. east of Greenwich, and latitude 35° 41' 7", as determined by the Russian General Stebnitsky, it appears that the central line will pass between nine and ten English miles south of the station. At Shanghai, the eclipse is partial, magnitude 0·996 at 5h. 21m. P.M. local mean time; the central line runs some fifteen or sixteen miles north of that place; the sun at an altitude of 17°. At the observatory of Zi-ka-Wei, the eclipse is also partial, magnitude 0·994. In Cairo, upward of nine-tenths of the sun's diameter are covered.

MECHANICAL INVENTIONS.

A novel knot-tying device for grain binders has been patented by Messrs. Rossco Chamberlain and Josiah Austin of East Liberty, Ohio. This invention relates to knot tying devices in which a rotary head is employed; and it consists in a hollow rotary head provided with a pair of oscillating armed segments and an oscillating guide lever.

In gathering oysters from the bottom of the river by dredges the dredges are dragged along the bottom by the headway of the vessel, and if any obstruction be met with a violent back movement is produced at the windlass, which is likely to injure or kill the men at the cranks. Mr. Sumner W. Dana, of Crisfield, Md., has patented an improvement upon that form of dredge winder in which a rotary shaft bearing a clutch moves the latter longitudinally away from the winding drum (whenever a back strain occurs) by the engagement of a pin on the shaft with a cam slot in a sleeve encircling the shaft and held rigid by a pawl.

An improvement in wagon hubs has been patented by Mr. John A. Hudgens, of Pine Bluff, Ark. This invention relates to improvements in a wagon hub for which Letters Patent were granted to the same inventor, November 8, 1881, No. 249,358. The improvements consist in hollowing out the inner faces of both hub collars, so as to form on the inner face of each hub two beveled surfaces, intersecting each other, for the reception of outwardly projecting double beveled surfaces formed on the side faces of the spokes, whereby the collars are braced by being hollowed out, and the spokes strengthened near their butts by being made larger, and the spokes more securely held in place by the double bevels on the collars and spokes.

Mr. Francis Seymour, of Paterson, N. J., has patented an improved machine for spinning, doubling, and twisting fibrous materials at a single operation. In this mechanism while the feed is arrested by the stop motion there is no positive connection between the stop mechanism and the lever carrying the feed rollers. The inventor thus avoids the necessity of accurate adjustment of the two motions which is required when the stop motion lever, feed roller lever, and shifting lever are in connection positively. This machine saves labor, economizes space and power.

Mr. Jesse A. Heydrick, of Barnhart's Mills, Pa., has patented an improvement in pumps for oil wells. The object being to throw the weight of the fluid on the packers and upper ball valve to relieve the sucker rods of the heavy weight of the fluid, and thereby lessen the danger of breaking the rods.

Paper Negatives.

The method of preparation of the paper by Messrs. Morgan & Co., of Greenwich, England, is a special one, and forms, with some of its applications, the subject of a patent. The object is to render the sensitive film, as far as possible, independent of its paper support (which may or may not be retained as the *final* support), and so to reduce the chances of granularity. The paper is, in fact, a transfer paper; that is to say, the picture after development may be removed or transferred to any other suitable surface. Briefly, says the *British Journal of Photography*, the method employed is as follows:

The paper is first of all submitted to the action of acid to remove from its pores all traces of sizing material. It then receives a layer of an emulsion of finely powdered asbestos, talc, or similar material in gelatine. When dry this is submitted to very heavy pressure under polished steel rollers; a second coating is given and the rolling repeated, after which the paper has a beautiful satin-enamel surface, to which, after a polish with a mixture of wax and resin, the sensitive gelatino-bromide emulsion is applied. The preliminary coating serves the double purpose of thoroughly isolating the gelatino-bromide from the paper, and also of causing it to detach itself easily when required; in fact, Mr. Morgan says the difficulty is sometimes to keep the film *on* the support. Extensive premises are in process of erection for the preparation of the new transfer paper, which will shortly be in the market. A portion of the patent relates to the pressure of the paper into blocks—either flat or curved—ready for exposure in the camera. By the aid of the curved surfaces it is claimed that a better marginal definition is secured, and after development the picture may be transferred to a plane surface.

Curious Effect of Water on Glass.

As well known, the glass disks of the Holtz machine become quickly inactive. Their superficial conductivity occasions an induction of the current which completely neutralizes that of the machine. For this reason it was for a long time the practice to cover the disks with an insulating varnish. That not answering, the method was tried of putting the entire apparatus under a glass case and keeping it exposed to the vapors of petroleum. Jenkins, in his treatise on electricity, says that a glass rod, which, on account of its superficial conductivity, is not a good insulator, may acquire that property if it be immersed for twenty-four hours in distilled water and be allowed to dry for the same length of time without rubbing it with anything whatever. It has occurred to Prof. Carlo Marangoni to apply this process to the revolving disks of the Holtz machine, and he has found, in fact, that when thus washed and dried the disks at once assume their maximum activity. The activity, it is true, continues to decrease, but the same thing happens likewise with varnished disks. It results, then, that it would be less expensive and less troublesome to use the method here described than to varnish the disks.—*La Nature.*