varied by putting under it blocks of different heights, or the screw which holds the back end may be used for this purpose.

The saw is attached to the lathe by means of an iron bent twice at right angles, attached to the board, H, and fitted to the tool rest support. The rear end of the sawing apparatus may be supported by a brace running to the lower part of the lathe or to the floor.

The simple attachments above described will enable the possessor to make many small articles of furniture which he would not undertake without them, and for making models of small patterns they are almost invaluable.

M.

THE OSPREY.*

One of the most interesting of the predaceous birds which belong to Great Britain is the celebrated osprey or fishing hawk. This fine bird was formerly very common in England, but is now but rarely seen within the confines of the British Isles, although isolated species are now and then seen.

As the bird is a fish-eater, it is generally observed on the sea coast or on the banks of some large river, but has occasionally been observed in some comparatively waterless situation, where it has probably been driven by stress of weather. In some parts of Scotland the osprey still holds its own, and breeds year after year on the same spot, generally choosing the summit of an old ruined building or the top of a large tree for that purpose. The nest is a very large one, composed almost wholly of sticks, and contains two or three whitish eggs, largely blotched with reddish-brown, the dark patches being collected toward the large end of the egg. As in the case with the eagles, the osprey is monogamous; but on the death of either of the pair, the survivor soon finds another mate, and is straightway consoled by a new alliance. From all accounts it is an affectionate and domestic bird, paying the greatest attention to its mate and home, and displaying a constancy which is not to be surpassed by that of the turtle-dove, so celebrated for matrimonial felicity.

The flight of the osprey is peculiarly easy and elegant, as might be expected from a bird the length of whose body is only twenty-two inches, and the expanse of wing nearly five feet and a half. Living almost wholly on fish, the osprey sails in wide undulating circles, hovering over the water and intently watching for its prey. No sooner does a fish come into view than the osprey shoots through the air like a meteor, descends upon the luckless fish with such force that it drives a shower of spray in every direction, and soon emerging, flies away to its nest, bearing its prey in its grasp. In order to enable it to seize and retain so slippery a creature as a fish, the claws of the osprey are long, curved, and very sharp, the soles of the feet are rough, and the outer toe is capable of great versatility. When the bird has settled upon its nest, or upon any spot where it intends to eat its prey, it does not relinquish its hold, but, as if fearful that the fish should escape, continues its grasp, and daintily picks away the flesh from between its toes. Sometimes in making its swoop it arrests itself for a second or two, as if to watch some change of position on the part of its intended prey.

The singular beauty of the osprey's flight attracted the attention of M. de Quatrefages, who remarked that the bird was able with outstretched and immovable wings, not only to withstand the power of a "squall" that would have flung a man to the ground, but even to work its way against the wind. How this feat was performed he confesses to be a mystery to him, and that the so-called scientific theories of "acquired velocity" or "tremulous movement" of the wings could not at all account for the phenomenon which he observed.

Harmless though the osprey be—except to the fish—it is a most persecuted bird, being not only annoyed by rooks and crows, but robbed by the more powerful white-headed eagle, who strikes the osprey on the wing and snatches from the poor bird the results of its morning's labors.

*For our beautiful cut of the osprey we are indebted to "Brehm's Animal Life." We extract the description from "Wood's Natural History."

There is but one species of osprey, although it has been thought that the American bird ought to be reckoned as a different species. The general color of the osprey is dark brown, but it is pleasingly variegated with various shades of black, gray, and white. The crown of the head and the nape of the neck are covered with long gray-white feathers, streaked with dark brown. The under surface of the body is white, with the exception of a light brown band which extends across the chest. The primaries are brown tipped with black, and the tail is barred above with a light and a deep brown, and below with brown and white. The legs, toes, and cere are blue, the eyes golden yellow, and the beak and claws black.

THE OSPREY.—(*Pandio haliætus.*)

A Wasp Attacks a Spider.

Mr. Seth Green, writing to the New York *World*, says that one morning when he was watching a spider's nest a wasp alighted within an inch or two of the nest, on the side opposite the opening. Creeping noiselessly round toward the entrance of the nest the wasp stopped a little short of it and for a moment remained perfectly quiet; then reaching out one of his antennæ he wiggled it before the opening and withdrew it. This overture had the desired effect, for the boss of the nest, as large a spider as one ordinarily sees, came out to see what was wrong and to set it to rights. No sooner had the spider emerged to that point at which he was at the worst disadvantage, than the wasp with a quik movement thrust his sting into the body of his foe, killing him easily and almost instantly. The experiment was related on the part of the wasp, and when there was no resport from the inside he became satisfied probably that he held his fort. At all events he proceeded to enter the nest and slaughter the young spiders, which he afterward carried off one at a time.

IMPROVED FERTILIZER.—In Biedermann's C. Bl. Ir. W. Pochin describes a new fertilizer obtained from sls produced by dephosphorizing iron with lime. The sls are powdered, are treated with muriatic acid for remove part of the iron and lime, and are finally transformed into perphosphates by means of sulphuric acid.

Peculiar Reddening of Salted Codfish.

During the hot and damp weather of summer a peculiar redness often makes its appearance on salted codfish, rendering them unfit for the market and causing them to putrefy comparatively quickly. The loss suffered by dealers from this cause during some years is considerable. Prof. W.G. Farlow, of Harvard University, having been requested to investigate the matter, has rendered a report, which appears as an appendix to the recently issued report of the U. S. Fish Commission for 1878.

Prof. Farlow finds, on microscopic examination, that the redness is due to a minute alga known to botanists as *Clathrocystis roseo-persicina*. The plant consists simply of very minute cells filled with red coloring matter and embedded in a mass of slime. Its development has been studied by several botanists, who agree in considering it closely allied to *C. æruginosa*, a common species growing in fresh-water ponds, and which has lately come into public notice in consequence of the so-called "pig-pen" odor which it exhales when decaying. The species found on the codfish is also known in dissecting-rooms, where it grows in tubs in which bones are macerating. Wherever found it does not flourish nor increase very rapidly at a temperature below 65° F. Although the plant may be introduced into the fish-packing houses from the marshes in the vicinity of Gloucester, Prof. Farlow is inclined to believe that its origin is to be looked for from another source. The two kinds of salt most used by the fishermen of Gloucester are the Cadiz and Trepani. The former has a rosy tinge, while the latter is pure white. An examination with the microscope revealed the fact that the rosy color of the Cadiz salt was due to the presence of considerable quantities of precisely the same minute plant which is found in the red fish. What must happen then is plain. When the latter salt is sprinkled in large quantites upon the fish as they are packed in the hold of the vessel, the plants, if the weather is sufficiently warm, begin their growth, and the fish are soon affected during the voyage. As a preventive of the evil, Prof. Farlow recommends that every part of the woodwork of the packing houses be painted, so it may frequently be washed clean and the lodgment of the plant be prevented. He also suggests that Trepani salt be used instead of Cadiz in curing the fish, although the cost may be greater.

Descent of Man.

Two French savants have for the last twelve months been keeping nine pigs in a state of habitual drunkenness, with a view to testing the effects of different kinds of alcoholic liquors; the Prefect of the Seine having kindly put some sties in the yard of the municipal slaughter-houses at the disposal of the savants, in order that they might conduct their interesting experiment at the smallest cost to themselves. Pigs were chosen for the experiment because of the close resemblance of their digestive apparatus to that of man. The pig who takes absinthe is first gay, then excitable, irritable, combative, and finally drowsy; the pig who has brandy mixed with his food is cheerful all through till he falls to sleep; the rum swilling pig becomes sad and somnolent almost at once; while the pig who takes gin conducts himself in eccentric ways; grunting, squealing, tilting his head against the sty door, and rising on his hind legs as if to sniff the wind. Dr. Decaisne, describing these experiments with intoxicated swine, remarks in the *France* that they are none the worse for their year's tippling.

These experiments, taken in conjunction with the pig's well known personal peculiarities in feeding and his obstinate refusal to travel the correct path, go far to show that man was evolved from the hog rather than from the monkey, as some have surmised.

FOREIGN COMMERCE TO THE UNITED STATES.—The Secretary of the Treasury reports that the value of merchandise exported from the United States for the single month of December, 1880, was ninety-eight million eight hundred and fifty-six thousand six hundred and thirty-two dollars ($98,856,632), being the largest monthly export ever made in the history of the country. The total exports for the year 1880 were $889,649,840. Imports during same period, $696,803,433.