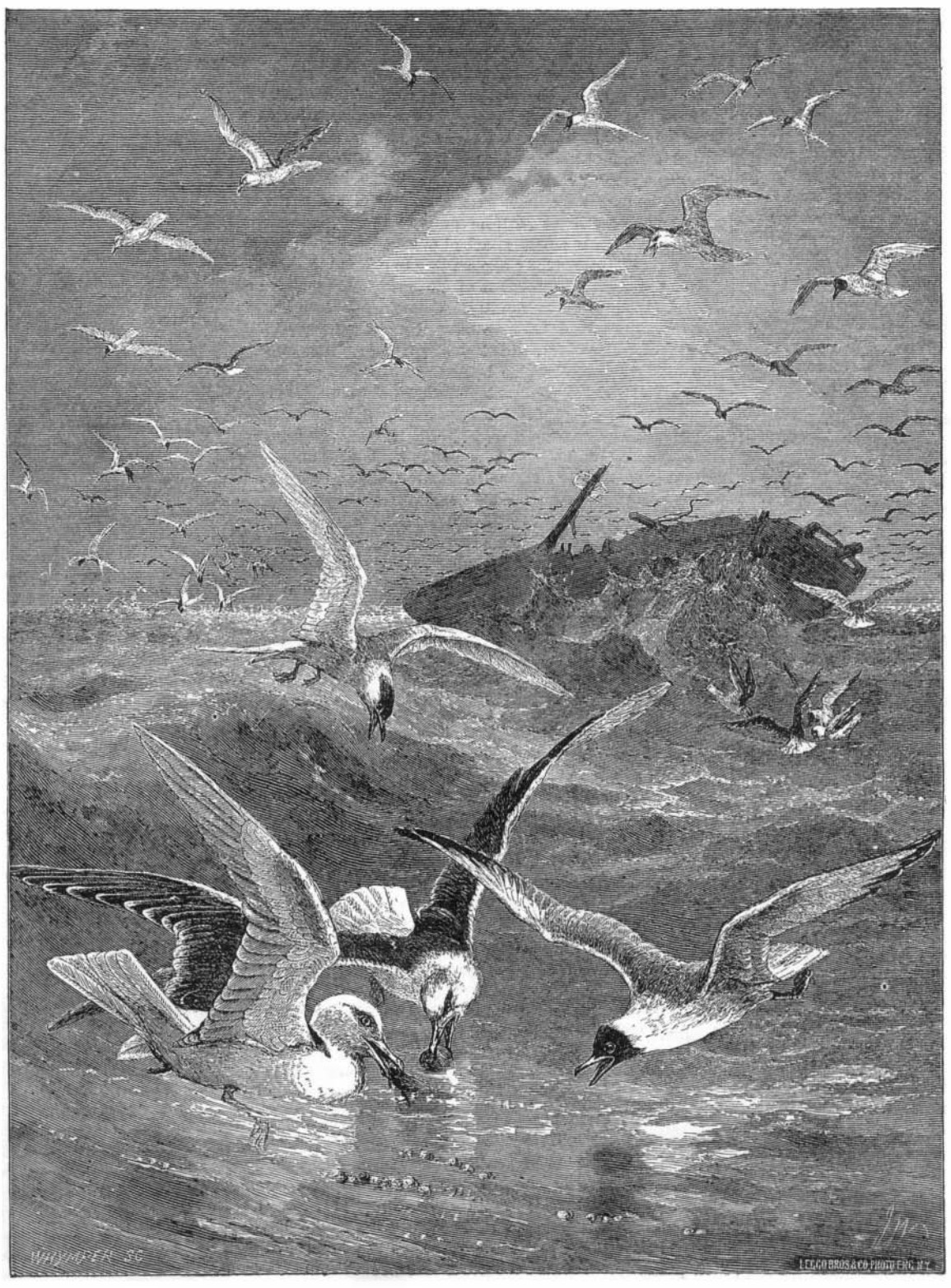
THE SEA GULL.

A traveler, making his first voyage across the ocean, is astonished to find birds following in the ship's wake a thousand or more miles from land. That such small animals should be gifted with the endurance necessary for keeping on the wing for a week continuously, with the exception of an occasional rest on the surface of the ocean, is certainly an extraordinary proof of the muscular power and vitality of this species of the winged tribe.

These birds are nearly all members of the gull species (*larus*, of Linnæus), of which the largest *genera* are *larus glaucus* (Brünnich), which measures 30 inches in length, and has a wing breadth of 5 feet, and the *larus marinus* (Linnæus), which is nearly or quite equal in size to the *l. glaucus*. The gull family has several general characteristics, among which may be mentioned the curvature at the end of the bill, the length and pointed form of the wings, and the web between the toes, the hind toe being short and elevated. The *l. marinus*, commonly called the black-backed gull, may be distinguished by the dark slate color of its back and wings, its black primary feathers tipped with white, and its yellow legs and feet. This species is found in summer on the coasts of New England, and in winter travels as far south as Florida, its favorite breeding places being on the coast of Labrador. It flies high, and has a majestic carriage in the air: it encounters the fiercest gales, and swims well but slowly. It preys on fish, young birds, and carrion, indeed on anything but vegetable food; it is tyrannical towards weaker birds, but is naturally very cowardly. Its eggs are good eating, and the young birds are killed and salted by the fishermen of Labrador and Newfoundland; but the old ones are very tough and too fishy in taste for food.

Our illustration* shows a flock of black-backed gulls surrounding a wreck, and hurrying with screams of delight after small pieces of garbage or refuse food that float away from the wrecked vessel. Mr. Wolf, the artist, shows well the great wing power of these birds, and the easy grace with which they carry themselves in a gale. Their endurance in flight is aided by the lightness of their bodies, which, however, makes them the sport of a high wind; but this obstacle they overcome by a novel species of tacking, which enables them to make headway against the tempest.

Many of the high rocks and almost inaccessible cliffs of Scotland and North Wales are the homes of countless millions of sea birds; and the pursuit of them, for their eggs and plumage, is one of the most hazardous pursuits in which men ever engage



THE GLEANERS OF THE SEA.

Feathers.

The natural color of feathers is produced by the internal arrangement of the colorless plates of horny matter, and not by any pigment. This is also the cause of the iridiscence or varying shades of color on beetles' wings and some nacreous shells; the different thickness of the horny films interferes with the light, and produces the play of colors. Almost any artificial color can, however, be given to feathers by dyes. "When," says Professor Owen, "the barbules are long and loose, they characterize that form of the feather which is properly called a 'plume,' and such are the most valuable products of the plumage of birds in a commercial point of view." The annual quantity of bed feathers used in the United Kingdom has been estimated at nearly 700 tuns, a very large quantity when the lightness of the substance is taken into consideration. The foreign imports only amount to a few thousand hundredweight. Feather beds being a fruitful source of contagious disease, the feathers are frequently sent to the purifiers, where they are subjected to steam and dry heat, and again rendered perfectly sweet and pure. In making a nest for her young by robbing her breast of its downy covering, the eider duck has little thought of ministering to the luxurious requirements of civilized man, who appropriates it for his comfort. As much as 1,200 lbs. of this down is often sold annually by one company from Greenland; and when clean and pure, it fetches from $6 to $6.50 per pound. The export of eider down from Denmark, the produce of Iceland, Greenland, and the Faroe Islands, averages 6,000 to 8,000 lbs. weight a year. Paris enjoys a high reputation for the preparation, bleaching, dyeing, and arrangement of feathers, a great number of persons being employed in the feather trade, which was stated to have reached, before the late war, an annual value of nearly two and a half million dollars. The largest portion of these were exported to America and the colonies. A new and very pretty ornamental application of feathers, etc., is that of the entire head and plumage of some birds for fans and fire screens, instead of the mere feather trimming which was formerly applied to fans; and the brilliant heads of the humming bird family, set as necklets, ear pendants, brooches, etc., form a novel species of bird jewelry. Feather flowers are chiefly made at Madeira and in Brazil, but the latter are the besr, and fetch a higher price. At Bahia the Solidade Convent is the great *locale* where they are made. They ought to be made entirely of undyed feathers, the best being those of a purple, copper, or crimson color, from the breasts and heads of humming birds. One of these wreaths has a beautiful effect, and reflects differently colored lights. The cocks of the rocks, white herons, roseate spoonbills, golden jacamars, metallic trogons, and exquisite little seven-colored tanagers (*calaspiga tatas*), with many gay parrots and other beautiful birds of the country, offer an assortment of colors capable of producing the most exquisite effects. The feather work is cften applied with a pretty effect to the borders and fringes of hammocks. Examples of these, with the arms of Portugal or Brazil, have been frequently shown at the several International Exhibitions.

A celebrated brush manufacturer in Paris makes brushes from quills, which he splits by a mechanical process into thin strips, much resembling bleached bristles. Besides the neat appearance of this article, it possesses the advantage, over the common hair or whalebone brush, that its single fibers are more dense and solid, while the bristle represents a hollow tube.

Our engraving is selected from Mr. Wolf's "Life and Habits of Wild Animals," published by Macmillan & Co., of London and New York.

Progress of Railroad Building.

One of the most encouraging features of the fall trade is the increase in the railroad building that is going on. The Chicago *Journal of Commerce* has a summary, from which we quote: "At the East a narrow gage road, nine miles long, has been commenced between Boston and Stoneham, that will cost $300,000. A road following the valley of the Lamoille river, in Vermont, is being ironed, and will be opened to Lake Champlain this fall. The Rochester, N. Y., road will reach Salamanca this year, and be pushed forward to the coal fields of Jefferson county in the spring. The Columbia and Port Deposit, Del., road has twenty-five miles of track laid, and is pushing ahead actively. The Portsmouth and Huntington, Ohio, to give the Scioto Valley an Eastern and Western connection, and obviate the delays of Ohio river navigation, only waits until it is decided whether the gage shall be common or narrow; and the Harrisonburg and Fredericksburg, Va., having been changed to a three-foot gage on the completed portion, will be pushed forward and completed from Orange Court House to Rawley Springs at once. A coal tributary of the Scioto Valley road has been surveyed, commencing a dozen miles above Circleville. The Cincinnati and Portsmouth having adopted a narrow gage will advertise for its roadway at once. The Cincinnati Southern has contracted for rails to complete the way to Lexington, Ky. The Federal Creek, O., coal road, eighteen miles, has its bed completed a part of the distance and is expecting iron. The Rock Island and Mercer county, Ill., striking the eastern portion of the country, is laying track and using it. The Omaha and Northwestern, completed to Herman, is being constructed at the rate of half a mile a day toward Tekamak. The Kansas and Northwestern narrow gage road is open forty-four miles to Lexington, Mo. In the South funds are being raised to extend the Mobile and Alabama road seventy-eight miles, from Uniontown to Birmingham, with a promise of speedy success. The gage of the Houston and Texas has been changed to 4 feet 8½ inches for 120 miles between Houston and Hearne, making it uniform through to Philadelphia and New York. Track laying has recommenced at Kingsbury, on the Galveston, Harrisburg, and San Antonio road, advancing toward San Antonio. Utah is solicitous of commencing a road from the Union or Central Pacific, by the valleys of the Snake and Columbia rivers toward Portland and Puget Sound, and one is to be surveyed along the Colorado Valley, with the hope of reaching San Diego. The Tomales, Cal., road to Freestone, Sonoma county, will reach Russian river this fall. Colorado is also at work on a narrow gage from Floyd Hill, terminus of a branch of the Central, to Idaho and Georgetown, that will branch to Central City and be extended into the Middle Park.

A New Use for Sea Weed.

Hai-thao, or gelose, is a tasteless, odorless, colorless mass, obtained from a fibrous sea weed common on the coast of China and Mauritius. It is insoluble in cold water, but dissolves in hot water after boiling for ten minutes, and then forms a thin, dirty white solution, which, on cooling, deposits a yellowish gray jelly. The material has lately been used for finishing cotton fabrics, and is reported to fill the thread more perfectly than dextrin or starch. By adding glycerin to the hai-thao solution, a still softer and at the same time stronger material is obtained. According to experiments made by Heilmann, an abstract of which is given in Dingler's *Polytechnisches Journal*, it appears that the material can only be employed for fine textures, soft and firm to the touch, and cannot be used as a substitute for dextrin or potato starch where a strong material is required.