

THE NORTHERN DIVER AT THE LEIPZIG ZOOLOGICAL GARDEN.

I was very much pleased at the beginning of June to see, for the first time, the northern diver (*Colymbus arcticus*), which had just arrived at the zoological garden of Leipzig. The bird has a very characteristic appearance, owing to its strong neck and head, and particularly the strange arrangement of black, white, and gray feathers, which is of a very striking beauty, and may be clearly seen in the principal figure of the cut, so that a further description is not necessary.

This extraordinary bird is very attractive, not only in appearance, but in its movements and habits. It is very interesting to see the bird, which but exceptionally leaves its natural element, the water, swimming and immersing its body more or less at will, which movement may be due to a particular action of the lungs. This ability of the bird can be observed in a very striking manner when the bird dives or swims below the surface. The bird rushes through the water at an appalling speed. It seems as if it could not swim slowly when fully immersed in water, and I could observe this very well, as Mr. Pinkert, the proprietor of the zoological garden, put the bird into a glass bowl, so that I was able to see it from the side, as shown in the small view, No. 3. It will be noticed that the bird swims with extended neck, tightly closed wings, and widely spread legs, employing the latter to propel itself under water. It is very interesting to see that nature achieves the same result in a quite different way in the lumme (shown in view No. 4), which swims under water with its head drawn back, the legs extended rearward and serving only as a rudder, while the wings are used after the fashion of fins. Both these aquatic birds follow their prey into the water, and their fish-like appearance is adapted to deceive the prey.

Though very agile in water, the northern diver is very clumsy on the land. The legs are so near the end of the body that the bird is unable to stand or walk. It can only crawl on the ground, and I have often seen it in the posture shown in view No. 2, sitting on the shore; but it never remained out of the water but for a very short time.

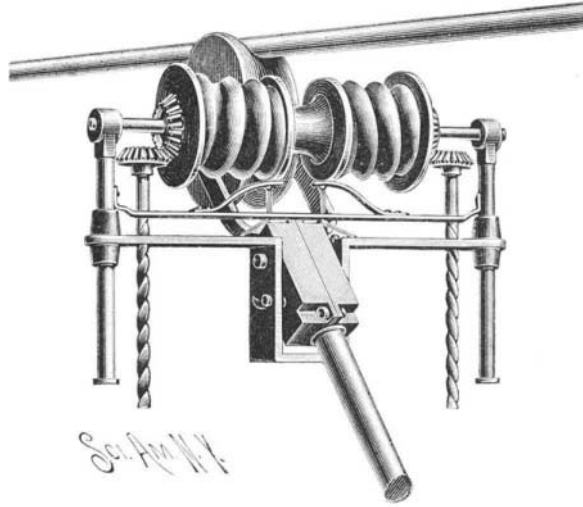
It is well known to ornithologists that the northern diver is a good flier, notwithstanding its comparatively small wings, and the bird I had the opportunity of seeing shows indications of this ability by agitating its wings, so as to almost rise out of the water (view No. 1), which probably is the manner it starts to fly from the water when it is in liberty.

The name of the bird already indicates that it is an inhabitant of the northern regions, and it only occasionally appears on the German shores; where it is but seldom caught—generally in the nets of fishermen. The bird is fully the size of a large domestic

duck, and the opportunity of studying its appearance and movements has been particularly valuable to me, as the ornithological reports on this bird are rather meager. Want of space has compelled me to give but a short description of this rare and beautiful animal. —H. Leutemann, in *Illustrirte Zeitung*.

A TROLLEY WIRE FINDER FOR ELECTRIC RAILWAYS.

A simple apparatus is provided by the improvement shown in the illustration for use with the ordinary trolley and pole of electric railways, whereby, on the trolley leaving the wire, it will be automatically re-



JONES' TROLLEY WIRE FINDER.

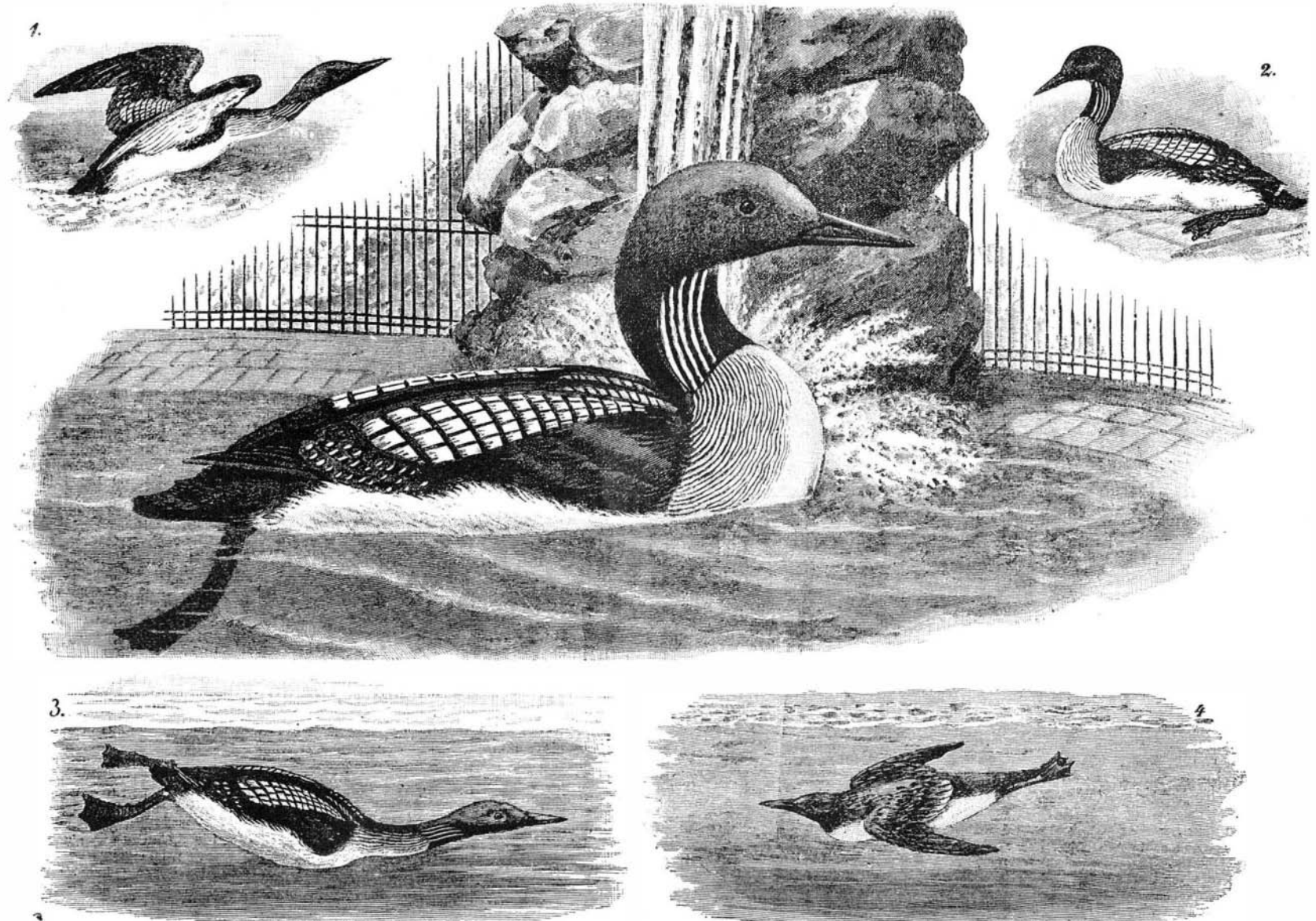
turned to its proper position. The improvement has been patented by Mr. Henry C. Jones, of Montgomery, Ala. (box 285). On the trolley pole, beneath the wheel contacting with the line wire, are clamps having outwardly projecting studs, which support the crossbar or bracket of a guide, the bracket being held in a vertical position by set screws projecting from the clamping pieces through a curved slot in a central depending portion of the bracket. At the outer ends of the bracket are sleeves, through which extend vertically movable posts affording bearings for a cross shaft, on each side of which are secured spools with spiral threads running toward the center, where they connect with a loosely running guide pulley. Washers arranged between the spools and pulley, and normally projecting above their meeting edges, prevent the wire from sliding upon the pulley until the guide has been raised sufficiently to permit the transfer of the wire to the guide pulley and the main trolley wheel. To effect this, the outer ends of the spools have bevel gears meshing with gears on the ends of vertical screw

shafts turning in threaded bearings in the bracket, whereby the friction of the wire as it turns the spool raises the guide, the wire at the same time being carried inward by the groove of the spool. The washers between the spools and pulley have central openings permitting of the vertical movement of the washers, which are normally pressed upward by springs. The lower edges of the washers and the free ends of the springs are connected by short chains, also secured to the bracket, which limit the upward movement of the spools and posts when the guide has been raised to the proper height. The pitch of the screws of the vertical screw shafts is such that, when the wire has been transferred to the main trolley wheel, the weight of the spools and other mechanism will cause the screws to turn back, permitting the guide spools to drop to their normal lower position.

The Valiant.

Mr. W. K. Vanderbilt's new yacht the Valiant is a veritable floating palace. The Valiant is of 2,400 tons measurement, 312 feet in length, 34 feet beam, and is propelled by twin screws, each driven by a 2,250 horse power engine. The yacht was built by Laird Brothers, of the Birkenhead Iron Works. The interior fittings of the beautiful vessel are not quite finished. Some of the doors, for instance, are merely primed and will remain so until the vessel reaches Nice, when she will be decorated. The metal work throughout the vessel is a silver alloy called Wilson's white metal. This metal stays very brilliant with little care. The saloon and library are fitted up by Messrs. Cael, of Paris, in the most expensive style. The saloon is 18 feet long and is 34 feet in width. The design is Louis Quatorze, worked out in white and gold; the furniture is in the best Chippendale style, inlaid with brass, and is upholstered in crimson silk velvet. Each stateroom, and there are twenty, has a bathroom connected with it, and no two rooms are decorated alike. A hundred foot passageway, arched and beautifully decorated, connects the library with the saloon. The library is finished in dark unpolished walnut. Mr. Vanderbilt's stateroom is covered with special designs in Tyne castle tapestry. The wall spaces are paneled in light blue, with floral designs of rich blue silk.

The Valiant left Liverpool August 16 and reached New York August 25, with her sailing master, Captain Henry Morrison, and a crew of sixty-two men. The Valiant is the property of an English syndicate, and among the five or six stockholders are Mr. Vanderbilt's private secretary and the sailing master. Of course this English syndicate is entirely controlled by Mr. Vanderbilt, and it is shrewdly surmised that the company was formed only to avoid annoying custom regulations.



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