limits of Scranton in 1788, and a primitive grist-mill, a saw-mill and a charcoal iron-furnace were erected during the next few years; but there was little further development until 1840, when the Lackawanna Iron Company was formed for the manufacture of iron here. The limestone and iron ore of the vicinity proved to be of inferior quality, and the failure of the enterprise was prevented only by the persistent efforts of George Whitefield Scranton (1811-1861), aided by his brother Selden T. Scranton and his cousin Joseph Hand Scranton. Under the leadership of George W. Scranton better grades of iron ore and of limestone were procured, and within a decade a rolling mill, a nail factory and a manufactory of steel rails were established, and adequate facilities for railway transportation were provided. Scranton was incorporated as a borough in 1854, was chartered as a city of the third class in 1866, and became a city of the second class in 1901. See B. H. Throop, *A Half-Century in Scranton* (Scranton, 1895). SCREAMER, a bird inhabiting Guiana and the Amazon valley, so called in 1781 by T. Pennant *(Gen. Birds,* p. 37) “ from the violent noise it makes ”—the *Palamedea cornuta* of Linnaeus. First made known in 1648 by G. de L. Marcgrav under the name of “ Anhima,” it was more fully described and better figured by Buffon under that of *Kamichi,* still applied to it by French writers. Of about the size of a turkey, it is remarkable for the curious “ horn ” or slender caruncle, more than three inches long, it bears on its crown, the two sharp spurs with which each wing is armed, and its elongated toes. Its plumage is plain in colour, being of an almost uniform greyish black above, the space round the eyes and a ring round the neck being variegated with white, and a patch of pale rufous appearing above the carpal joint, while the lower parts of the body are white. Closely related to this bird is another first described by Linnaeus as a species of *Parra* (see Jaçanã), to which group it certainly does not belong, but separated therefrom by Illiger to form the genus *Chauna,* and now known as *C.* *chavaria,* very generally in English as the “ Crested Screamer,” a name which was first bestowed on the Seriema *(q.v.).* This bird inhabits the lagoons and swamps of Paraguay and Southern Brazil, where it is called “ Chajá ” or “ Chaka,” and is smaller than the preceding, wanting its “ horn,” but having its head furnished with a dependent crest of feathers; while the plumage is grey. Its nest is a light con- struction of dry rushes, having its foundation in the water, and contains as many as six eggs, which are white tinged with buff. The young are covered with down of a yellowish-brown colour. A most singular habit possessed by this bird is that of rising in the air and soaring there in circles at an immense altitude, uttering at intervals the very loud cry of which its local name is an imitation. From a dozen to a score may be seen at once so occupying themselves. The young are often taken from the nest and reared by the people to attend upon and defend their poultry, a duty which is faithfully@@1 and, owing to the spurs with which the chaka’s wings are armed, successfully discharged. Another very curious property of this bird, which was observed by Jacquin, who brought it to the notice of Linnaeus,@@2 is its emphysematous condition—there being a layer of air-cells between the skin and the muscles, so that on any part of the body being pressed a crackling sound is heard. In Central America occurs another species, *C. derbiana,* chiefly distinguished by the darker colour of its plumage. For this a distinct genus, *Ischyrornis,* was proposed, but apparently without necessity, by A. B. Reichenbach *(Syst. Avium.* p. xxi.).

The taxonomic position of the Palamedcìdae, for all will allow to the screamers the rank of a family at least, has been much debated. Their anserine relations were pointed out by W. K. Parker in the Zoological *Proceedings* for 1863 (pp. 511-518, and in the same work for 1867 T. H. Huxley placed the family among his *Chenomorphae',* but this view was contravened in 1876 by A. H. Garrod, who said, “ The screamers must have sprung from the primary avian stock as an independent offshoot

at much the same time as did most of the other important families.” P. L. Sclater in 1880 placed them in a distinct order, *Palamedeae,* which he, however, placed next to the true *Anseres,* and they are now generally regarded as forming a sub­order of anseriform *birds.*

SCREEN (usually, but very doubtfully, connected with Lat. *scrinium,* a box for holding books, from *scribere,* to write; a connexion with Ger. *Schranke,* barrier, has been suggested), in architecture, any construction subdividing one part of a building from another—as a choir, chantry, chapel, &c. The earliest screens are the low marble *podia,* shutting off the *chorus cantantium* in the Roman basilicas, and the perforated *cancelli* enclosing the bema, altar, and seats of the bishops and presbyters. The chief screens in a church are those which enclose the choir or the place where the breviary services are recited. This is done on the continent of Europe, not only by doors and screen-work, but also, when these are of open work, by curtains, the laity having no part in these services. In England screens were of two kinds: one of open woodwork; the other, massive enclosures of stonework enriched with niches, tabernacles, canopies, pinnacles, statues, crestings, &c., as at Canterbury, York, Gloucester, and many other places both in England and abroad (see Rood and Jubé).

As an article of furniture, the screen is an ornamental frame, usually of wood, but sometimes of metal, for protection from observation, draught, or the heat of a fire. Screens are made of all shapes and sizes, and may consist of leather, paper or textile materials fastened to the framework; they may have several leaves or only one—thus a fourfold screen has four leaves. Fire- screens are usually small, with a single leaf—indeed in the Georgian period of English furniture they often took the form of a circular, oval, heart-shaped or oblong piece of framed embroidery fixed to a wooden pole or upright, upon which they could be raised or lowered. This variety, which was called a pole-screen, was more effective as an ornament than as a protection. The hand-screen was light and portable, as the name implies. At the present time fire-screens are often of glass set in metal frames. The larger type of screen, with several leaves, is of uncertain origin, but probably first came into use towards the end of the 16th century. The earlier examples were of stamped or painted Spanish leather or of some rich stuff such as tapestry; at a later date lacquer was extensively used. They were tall enough to conceal the person sitting behind them, and were frequently exceedingly handsome and stately.

SCREW (O.E. *scrue,* from O. Fr. *escroue,* mod. *écrou',* ultimate origin uncertain; the word, or a similar one, appears in Teutonic languages, cf. Ger. *Schraube,* Dan. *skrue,* but Skeat, following Diaz, finds the origin in Lat. *scrobs,* a ditch, hole, particularly used in Low Latin for the holes made by pigs boring in the ground with their snouts), a cylindrical or conical piece of wood or metal having a groove running spirally round it. The surface thus formed constitutes an external or male screw, while a similar groove cut round the interior of a cylindrical hole, as in a nut, constitutes an internal or female screw. The ridge between successive turns of the groove is the “ thread,” and the distance between successive turns of the thread is the “ pitch.” The present article will deal with the standard pitches in common use and with modem methods of manufacture, the earlier history of which, down to the time of Sir Joseph Whitworth, may be read in Holtzapffel’s *Turning and Mechanical Manipulation.* For the screw as a mechanical power see Mechanics; for the screw used to propel steamships see Shipbuilding.

*Standardization of Screws.—*All screws made to-day are copies of pre-existing or master screws, which are familiarly known as “ guide screws,” “ hobs ” or “ leaders,” “ chasers ” or “ comb tools,” “ taps,” and “ dies ” in numerous forms. These are so standardized that a thread cut to a given standard in England fits its fellow thread cut to the same standard in America, Germany or elsewhere. At one time screws cut by one firm would not match those cut by another. Formerly there was no “ tackle,” but large screws were cut with chisel and file, and a nut was cast around them and used for correction, until gradually

@@@1 Hence J. Latham’s name for this species is “ Faithful Jacana ”— he supposing it to belong to the genus in which Linnaeus placed it.

@@@2 “ Tacta manu cutis, sub pennis etiam lanosa, crepat ubique fortiter ” *(Syst. Nat.* ed. 12, i. p. 260).