

accompany every petition, and the Lord Chancellor has power to award costs and to call in the assistance of an expert. The next step is the "request for sealing," which must be made within three months from the date of the warrant and within the period of provisional protection, but the Lord Chancellor has power to extend the time for this step on good cause being shown. Failing this "request" the patent will not be sealed. The fee on the patent will be 15*l.*, and the sealing must take place within seven days before the expiration of the provisional protection and not sooner. Here again the Chancellor has a discretionary power to enlarge the time within which the patent may be sealed. Patents will be dated as on the day of application, but no proceeding can be taken in respect of an infringement committed before the publication of the specification and relative documents.

FOREIGN AND COLONIAL INVENTIONS.—If there be a foreign patent for the invention in force, no patent will be granted except to the foreign patentee or his attorney or agent, and application must be made within six months of the date of the foreign patent. The publication in this country of the specification of the foreign patent will not affect the validity of the English patent. If there is no foreign patent in force, the applicant must show either that he is the first and true inventor, or that he is entitled to all the rights in respect of the invention of the first and true inventor. No patent will be granted in respect of a communication from abroad, and the English patent will cease on the cesser of a foreign patent if there be one. No patent will be granted in this country after the expiration of a foreign patent for the same invention.

AMENDMENT.—A specification may be amended at any time either by way of disclaimer, explanation, supplement or otherwise. If the "request for leave to amend" be made before sealing, the fee will be 5*l.* A fee of the like amount will be payable on leave to amend after sealing, except when the amendment is "by way of supplement," when 10*l.* will be charged. The mode in which amendment prior to sealing will be dealt with is left to the Rules, but it would appear that amendments after sealing will be treated as if they were original applications. The fee on a caveat against leave to amend will be 2*l.* An amendment by way of supplement will not be allowed unless it is of such a nature that it might have been included in the original patent had it then been known at the time. In granting leave to amend otherwise than by way of supplement, care will be taken that the specification, as amended, does not claim an invention substantially larger than or different from the original specification. An amendment will not be evidence in proceedings pending at the time, except in case of proceedings for the revocation of the patent. In the case of an amendment after sealing, leave may be obtained to take proceedings in respect of an infringement committed before the amendment.

USE OF INVENTION.—COMPULSORY LICENSES.—A patent will be liable to be revoked after the expiration of two years from its date unless it has been used or put in practice within the United Kingdom to a reasonable extent, or unless reasonable efforts have been made to secure the use or practice thereof, proof to the contrary to lie on the patentee. It may also be revoked if the patentee fails to grant licenses to "proper persons requesting the same," provided that it be made to appear to the Lord Chancellor that such licenses are necessary "in order to insure a proper supply to the public of articles produced under the patent, or proper means for the use of the invention by the public." The terms of these compulsory licenses are to be settled by the Lord Chancellor.

CROWN.—A patent shall have to all intents the like effect as against the Queen, as it has against a subject. But the officers or commissioners administering any department of the service of the Crown may, by themselves, their agents, contractors, or others, at any time after the application, use the invention for the service of the Crown, on terms to be, before or after the use thereof, agreed on, with the approval of the Treasury, between those officers or commissioners and the patentee, or, in default of such agreement, settled by the Treasury; and the use and publication of the invention under this section during the period of provisional protection shall not prejudice the grant of a patent for the invention.

PROGRESSIVE STAMP DUTIES.—These remain the same as at present, viz., 50*l.* before the end of the third year, and 100*l.* before the end of the seventh year, with this important proviso, however, that the Lord Chancellor is empowered to grant an extension of time for payment not exceeding three months from the expiration of the third and seventh years respectively. No proceedings can be taken in respect of an infringement committed within the enlarged time, unless leave to do so be made

a part of the order for enlargement of time. The additional fees will be 5*l.* on an order for the enlargement of the time for paying the third year's duty, and 10*l.* on an order for paying the seventh year's duty. These provisions will apply to patents existing at time of the commencement of the new Act, as well as to patents to be granted on applications made before the commencement of the Act.

PROLONGATIONS.—The Bill proposes to abolish the powers of prolonging a patent at present vested in the Judicial Committee of the Privy Council.

MODERN STREET ARCHITECTURE IN STOCKHOLM.

(See next page.)

The illustration given in this number shows a good specimen of architecture in Sweden, and represents the residence of Herr Jean Bolinder, in Blasieholmen, Stockholm.

A detailed description of the building is scarcely required. Designed in the style of the Venetian Renaissance, the work, when completed, will be a proof of Herr Zettervill's (the architect's) abilities. The ground floor is intended for shops and offices, the other floors for private residence. At the back, the central part, containing the domestic offices, juts out into a garden.

DAMP-PROOF BUILDING MATERIAL.

Fire-bricks and other heat-resisting pottery have been manufactured in the vicinity of Gunnislake for several years. It has been reserved for the proprietors of the Phoenix Works in that locality, to make also vitrified bricks and ware, from a material that hitherto has been almost worse than useless. They seem to have thus solved a most important problem, by the manufacture of a building material which is damp-proof, and which can be produced at a reasonable price.

Common clays when vitrified are apt to swell and puff out like a pudding. Hitherto the blue "terro metallic" bricks and tiles of Staffordshire have been accepted as the sole solution of the problem.

At the Phoenix Works, however, both and white blue damp-proof bricks are manufactured thoroughly vitrified throughout, and impervious. They are not made of clay in the ordinary sense of the term, but of a soft untuous killas, or clay state, which abounds on the sett, and which on being exposed to the weather becomes quite friable. Experimenting upon this Mr. Cowell found that it would burn without change of shape to a semi-porcellaneous substance. Two varieties of killas occur in the sett, differing chiefly in the amount of iron they contain. From one of these—the irony—blue bricks, &c., are made; and from the other, white. The uses of the material are not confined to bricks, but it is worked up into paving tiles, stable pitching, kerbing, copings, damp-proof string-courses, and the like.

THE DEPTH OF THE PACIFIC OCEAN.

Recent soundings in the eastern part of the Pacific Ocean indicate that its bed is singularly level. The United States steamer "Tuscarora," having finished its first cruise between Cape Flattery and Unalaska, as well as between Cape Flattery and San Francisco, has recently completed a survey from San Francisco to San Diego. Its results may be stated in general to show that along the entire coast of California a depth of fifteen hundred fathoms or more is reached as soon as we go westward to a distance of from twenty to seventy miles from the shores. The greater part of this sudden fall occurs in the last ten to fifty miles. At one hundred miles west of San Francisco the bottom is over twenty-five hundred fathoms deep. The bed of the ocean continues of a uniform depth greater than fifteen hundred fathoms until we reach the Sandwich Islands, the greatest depth being three thousand fathoms at a distance of about four hundred miles east of Honolulu, which great depth is maintained until we reach within ninety miles of Honolulu. At fifty miles from that town the depth is fifteen hundred fathoms. The calculations made by Professor Bache, in 1854, based on the movements of the earthquake waves, gave an average depth of from twenty-two hundred to twenty-five hundred fathoms. The average depth of the present sounding is about twenty-four hundred fathoms. The bottom is generally a soft yellowish-brown ooze, and the temperature was everywhere about 35° Fahrenheit. In all these soundings the steel wire recommended by Sir William Thomson has been used, and, wonderful to relate, the same wire has been used in the entire work, and the apparatus still works excellently. The soundings were made at an average distance of forty miles apart.—*Annual Record.*