

mechanism is provided on the driving shaft, which consists of a large bevel gear and two bevel pinions loosely mounted on the shaft, one of these pinions being secured to the driving pulley at the right. The pinions are each provided with clutch faces, which are adapted to engage the teeth of the double clutch mounted to slide on a feather of the driving shaft. Either right-hand or left-hand motion can thus be imparted to the screws by sliding the clutch into engagement with one or the other of the bevel pinions. This reversing mechanism is designed for use with a horse power or engine that cannot reverse the motion. Handles are secured to the base, enabling the device to be readily moved from place to place whenever desired.

Brief Notes Concerning Patents.

Andrew Phillips, of St. Louis, Mo., has invented an electrical sweating robe, comprising an outer layer and an inner layer of equal size. These layers are secured together by a seam around their edges and by a number of seams extending longitudinally. These longitudinal seams divide the robe into columns wider at the head than at the foot. An electrical heat-generator wire of zigzag form is arranged within columns; the terminals of the wire being at the columns at the same end of the robe.

The Armour Packing Company, of Chicago, has acquired the patents of a new canning process, the invention of Mr. Maconohie, the English member of Parliament for East Aberdeenshire, Scotland. The salient characteristics of this process are the elimination of all solder in the canning of preserved provisions, the obviation of all danger of ptomaine poisoning, while canning can be carried out more expeditiously and economically than with any other system at present practised.

I. G. Waterman, a millionaire resident of the Montecito Valley of California, has invented an electrical device for controlling the spigots of the bathroom by a touch button in the bedroom. By this means one can reach out from the bed and turn the water into the tub, and when the latter is filled the flow is automatically shut off. With an installation of this character in the house one is enabled to stay in bed until the bath is entirely ready, and then jump almost from under the covers into the water.

For inventiveness the town of New Britain, Conn., apparently takes the palm. Since the United States patent laws have been in existence, 1447 inventions have been patented by 344 New Britain citizens. For ten years one patent was granted annually to every 367 inhabitants of the town. The man who heads the list for the number of patents taken out is Justus A. Trout. From his prolific brain 121 patented inventions have sprung. Another man, George E. Adams, has patented 66 inventions. A third inventor, Thomas E. Corscaden, has patented 51 devices. The fourth place in the list is occupied by Henry G. Voight, who has taken out 44 patents on inventions.

A new process for the manufacture of artificial marble has been patented by S. Sborowitz, of Berlin. The new product is said to be particularly fine and very cheap. Asbestos, dyeing materials, shellac and ashes are pounded into a stiff mass, and then subjected to high pressure. The resulting mass is surprisingly firm and tough, not brittle, is very easily worked by means of tools, can be given a fine polish, and cannot be distinguished on a mere ocular inspection from genuine marble. As it does not break easily, it can be used in the shape of very thin slabs of little weight, and will be very useful for the manufacture of washstands, wall coverings, etc. Owing to its being much cheaper and more durable in contact with water than any other kind of artificial marble, this new material, which can be pressed into molds and given any shape desired, seems to have a promising future for the manufacture of a great variety of household goods and also insulators for electro-technical purposes.

Two inventors who live in Stirling, Scotland, have invented a lifeboat which is intended to become automatically inflated when it is immersed in water. A spring is employed which is kept in a state of tension or compression by means of a strip or roll of paper, the tensile strength of which, as long as it is dry, is sufficient to maintain the spring in a state of tension or compression, but which, when it becomes wet by immersion in water, immediately loses its strength or rigidity to such an extent that it is ruptured by the energy stored in the spring. Thus is the spring set free. The release of the spring causes the production of a volume of gas from materials sufficient in quantity to give the appliance any flotation power required. The materials in question are inclosed, together with the spring, in a perforated metal case, secured in the appliance in any desired manner, but so that water can have access to the controlling strip, as soon as the appliance is thrown overboard. Gas can be produced by the combustion of cordite or ballistite.

Legal Notes.

TWO GREAT IRON COMPANIES IN COURT.—The Supreme Court of the United States has handed down a most important decision in which the Carnegie Steel Company and the Cambria Iron Company are concerned (22 S. C. Rep. 698). The Carnegie Company sought to recover against the Cambria Iron Company for an infringement of letters patent issued June 4, 1899, to William R. Jones for a method of mixing molten pig metal.

The Court broadly decided that a process patent is not anticipated by the mechanism which might with certain alterations be adapted to carry out that process, unless such an application would have occurred to one whose duty it was to make practical use of the mechanism described.

The process claim of the Jones patent for mixing molten pig iron covered a method of securing great uniformity in chemical composition, and of avoiding the necessity of remelting before further treatment in converters. The dominant idea was the permanent retention in a covered reservoir of so large a quantity of the molten metal as would absorb variations of the product from the blast furnace received into it and discharged from it into the converters. That claim, the Court held, was not anticipated by prior patents which contemplated the storage or mixture of the reservoirs of molten metal from blast furnaces for use in casting or converters. For in none of these patents was the retention of a quantity of the molten metal recognized as essential. Nor was the invention anticipated by the practice in steel works of mixing remelted pig iron from cupola furnaces in receiving ladles, in which a considerable residue was generally maintained.

The specification of Jones' patent stated that the primary object of the invention was to render the product of steel work uniform in chemical composition. The construction of Jones' process claim as covering a method for avoiding abrupt variations in the chemical constituents of molten pig metal before further treatment in converting it into steel, seems to conflict with this statement of the object of the invention. But the Court held that such a construction was not inconsistent with the specification.

In his patent Jones specified neither the size of the reservoir nor the amount of metal to be left therein, in carrying out his process of mixing molten pig iron so as to secure greater uniformity of chemical composition. But the specification called for a reservoir of any convenient size, "holding say, 100 tons of metal," with the bottom of the discharge spout two feet above the bottom of the vessel in a 100-ton tank, "and more or less according to the capacity of the vessel," for the purpose of leaving a considerable quantity remaining and unpoured with which the fresh additions may mix. In the Court's opinion, the height of the permanent retention in a reservoir of a large quantity of molten metal as a basis for unification of the product of blast furnaces received into it, is sufficiently disclosed.

In order permanently to retain in his covered reservoir a quantity of molten metal sufficient to absorb the variations of the blast furnace products received into it and discharged from it into converters, Jones used a covered refractory-lined and turtle-shaped tilting vessel of about 300 tons capacity. By not allowing the vessel to tilt beyond a certain point gaged by a chalk mark, it was possible to retain in the vessel about 175 tons of molten metal. Before Jones' invention there had been used an intermediate, uncovered receiving-ladle for cupola metal, which held considerably more than the amount of metal necessary to charge a converter. It was the Court's opinion that such prior use was not an anticipation of Jones' invention. The Circuit Court had held with the Carnegie Company; but its decision was reversed by the Circuit Court of Appeals. On a writ of certiorari the Supreme Court reversed the decision of the Circuit Court of Appeals.

TESLA'S PATENTS AGAIN IN COURT.—In a suit brought by the Westinghouse Electric Manufacturing Company against the Royal Weaving Company, of Pawtucket, R. I., the Tesla patents were again sustained. In the opinion it is stated that the defendants relied on two French patents to make out their case of non-infringement, contending that these patents disclosed what was not before the courts in the Granite case, namely, that two single-phase synchronous motors could be coupled together, as, for example, by having their armatures mounted on the same shaft; and that these two motors might be run each by its own circuit of alternating currents. The Court held that these patents, even if produced in the Granite case would not have affected the decision as to the nature and novelty of Tesla's invention; and as to the validity of the patents in suit, the Court decided that the question of

infringement seems to be substantially determined by the prior decisions.

THE NORTON FEED-SCREW PATENT CONSTRUED.—On March 8, 1892, Wendell P. Norton was granted a patent for a feed to be used on screw-cutting engine-lathes, whereby it was possible to change the speed of the feed-screw rapidly, according to the requirements of the screw to be cut. Two sets of devices were described. One consisted of a series of three interchangeable gear-wheels of varying diameters, arranged at one end of the machine, speed variation being secured by changing their relations to one another—a result that could be obtained only when the machine was at rest, since nuts would first have to be unscrewed, and the wheels removed and placed on different spindles. By such changes, three different speeds could be imparted to the feed-screw. The other set of devices consisted of a series of twelve gear wheels of varying diameters, arranged in steps. By means of a hand-lever and connecting mechanism, one or other of these could be brought into engagement while the machine was moving, and thus twelve speeds could be imparted to the screw-feed. An examination of the prior state of the art, which was made by the Court in the case of the Hendey Match Company vs. Prentiss Tool and Supply Company (113 Fed. Rep. 592), showed that the patentee was not a pioneer. "The case is one, therefore, in which the particular combination of parts and details secured to the inventor by his patent is to be conformed to the self-imposed limitation in the claims, and nothing can be infringement which does not fall within the terms the patentee has chosen to express his invention." The bill in the case was dismissed, because the defendants' combination changed the location of the gears from the feed-shaft to the counter-shaft.

SCIENTIFIC NAMES AS TRADEMARKS.—In the case of Searle & Hereth Company vs. Warner (112 Fed. Rep. 674) the use of scientific names as trademarks was fully discussed by the Circuit Court of Appeals for the Seventh Circuit, Mr. Justice Groscup delivering the opinion of the court. The substance of the decision handed down is, in brief, that after both pancreatin and pepsin had been discovered and named, their effects as aids to digestion had been investigated, and the results of such investigation had been published to the world for several years, the manufacturer of a digestive preparation could not adopt "pancreopepsin," a combination of such names, as a trademark, and thereby prevent the use of these names by other manufacturers of similar digestive preparations. The specific word "pancreopepsin" is in a sense artificial. As the Court pointed out, it was doubtless coined to some extent through the ingenuity of the appellee. In another case it might even be made the basis of injunction against unfair competition. But the Court held that the appellee could not appropriate similar words, simple or compound, that grow out of the medical nomenclature relating to pancreatin and pepsin, and that such right of appropriation does not at any rate extend to the word "pancreopepsin," which was the name applied to the digestive preparation of the appellee.

One of those incomprehensible bills which are often enough presented to the House of Representatives seeks to extend the term of George B. Simpson's patent for an improvement in insulating submarine cables. Under ordinary circumstances the reason for the extension of a patent's term can be readily understood. Often enough seventeen years pass without an invention's coming into actual use. In the present case, however, the patent was originally granted on the 21st of May, 1867, and, therefore, expired fully nine years ago. It would seem an injustice to those manufacturers who may have begun the making of Simpson's appliances after the expiration of the patent to restrain them now, and to curtail for seven years a business that they may have built up. Of course there is no chance of its receiving favorable consideration.

VALIDITY OF DESIGN PATENTS.—In the matter of the Bevin Brothers Manufacturing Company vs. Starr Brothers Bell Company (114 Fed. Rep. 362) the United States Circuit Court for the District of Connecticut held that the fundamental question in determining the validity of a design patent is whether the inventive faculty has been exercised to produce something which is original and pleasing to the eye; for in design patents the test of identity on questions of anticipation and infringement is the eye of the ordinary observer. In determining this question, the Court may avail itself of such common knowledge as the general public may possess.

The application of the Allgemeine Elektrizitäts Gesellschaft to the German patent office for the annulment of the Braun wireless telegraphy patent has been refused with costs.