

sioner, Detroit, to the National Association of Cement Users, distributed by the R. D. Baker Company, Detroit, Mich.

Pacific Type Locomotives.—Bulletin No. 1016, American Locomotive Company, New York City, containing tabular comparison of this type as built by that company for various roads. The bulletin is well illustrated, and contains general information that will be found of interest.

General Catalogue.—Robert Hudson, Leeds, England, manufacturer of portable railway plants, steel tipping wagons, locomotives, turntables, switches, crossings, rails, etc. Illustrating also a complete supply of contractor's plant, mining accessories. 70 pages, illustrated, and equipped with price lists.

The Milburn Light.—A handsomely printed 48-page catalogue published by the Alexander Milburn Company, Baltimore, descriptive of their portable acetylene lights for powerful out-door illumination. It contains a few pages on oxy-acetylene welding and cutting apparatus, as manufactured by the company.

Gears and Rolling Mill Pinions.—An 8-page pamphlet published by the Mesta Machine Company, Pittsburg, containing interesting data respecting gears in heavy mill machinery, and charts for determination of the dimensions of moulded gears for cast-steel. A section of the catalogue is also devoted to cut gears.

Steam Water and Air-Flow Meters.—Bulletin No. A4157, Canadian General Electric Company, Limited, Toronto, showing illustrations descriptive of accessories, parts, and installations of these products. Contains tables of pipe fittings, plugs, reducers, etc., and diagrams of dimensions of orifice tubes for measuring steam, air or water flow.

Baker Armored Concrete Pavement.—40-page illustrated catalogue, published by R. D. Baker Company, Detroit, Mich., descriptive of their armored plate to take care of expansion in concrete pavements. The catalogue also describes their installation bar. It contains interesting data about pavement materials, and includes specifications for laying concrete pavements, using the above appliances.

Hoisting Accessories.—A well-illustrated, carefully compiled 28-page pamphlet, being Bulletin No. 1805, Mining Machinery Department, Canadian Allis-Chalmers, Limited, Toronto. It is descriptive of cages and skips, landing-dogs, wire rope, sheaves, differential drums, safety hooks, mine and scoop cars, ore bins, and bin gates, etc. Photographs, line diagrams, charts and tables of strengths, weights, dimensions, etc., make this catalogue one that will be well appreciated.

ENGLISH CHANNEL TUNNEL POSSIBLE.

At the first Franco-Prussian Travel Congress, held in London the latter part of November, 1913, Sir Francis Fox, the engineer, gave an address explaining how the channel tunnel may be, and probably will be constructed between England and France. Sir Francis Fox and his partners agree that the enterprise is one that can be carried out with certainty, and at a comparatively moderate cost, the geological and other conditions being of exceptionally favorable character for the construction of a submarine tunnel. The English company would construct the double-barrelled tunnel from Dover to a point in mid-channel, and the French company would construct the other half from Sangatte. Borings would be made through the lower, or gray chalk, which is practically free from and remarkably impervious to water. This chalk bed is eighty-seven feet thick at Dover and eighty feet thick at Sangatte. Its ingredients are very similar to the

components of Portland cement. It is an excellent material to work in as it "puddles" itself and becomes impervious. Sir Francis pointed out that protective works might be constructed similar to those introduced by the French, Swiss, and Italian military authorities in connection with the Alpine tunnel from the "food-supply-in-war-time" point of view. "Finally, we ought emphatically to dispel a fallacy which seems to have arisen in connection with the earlier proposals," he said, "namely: that in case of war it would be necessary to blow up or permanently destroy this great work of a channel tunnel. Both in the English and the French portions the level of rails has been so arranged that, by the simple process of opening some valves—which will be under the control of the military authorities, and within the lines of fortification at Dover—a sufficient volume of water could be admitted to fill the tunnel to its roof—for a few hundred yards. This would eventually block the tunnel without injuring it." He estimated that the "drainage heading"—a smaller boring in advance of the main boring—could be driven through the chalk at the rate of seventeen yards a day, or three miles a year each way, making a joint progress of six miles a year. It would thus take four years to complete the drainage bore, and the entire work might be completed in a little over six years. Each tunnel would, when completed, consist of a cast-iron tube, "grouted" on the outside with cement, and lined inside with concrete in cement, so as to make a smooth surface and prevent corrosion.

FILTER PATENT SUIT DECIDED.

A decision has just been rendered at Cincinnati sustaining the patent of J. C. W. Greth, for Water Purifying Apparatus described by claim 11, of that patent, as follows:—

"In continuous flow water purifying apparatus the combination with a single tank containing the chemical reacting compartment, and an upward flow settling compartment of a series of independent gravity filters carried on the top of the tank, fed by overflow from the settling compartment, and each having means for washing the filter and a valve to close communication with the settling compartment, whereby any one of said filters may be isolated and washed, while the flow continues through the others from said supporting tank."

The suit was originally filed at Louisville, Ky., in 1910, by Wm. B. Scaife and Sons Company, of Pittsburgh, Pa., against the Falls City Woolen Mills. The district court denied the injunction and appeal was taken with the above result.

Under the ruling of the Court in this case, it would seem that there would be no way to use plural, or continuously washable—without interrupting—filters in any continuous system in the United States. Greth having been the first to devise such structure, or, as the Court says, near the end of its decision:—

"The idea of a group of filters, each of which could be cut out independently, without affecting the work of the others was broadly old, but had been applied nowhere except in city water supply systems or for analogous uses where the lake, river or pond was the settlement basin and the water was brought therefrom in conduits to the filters. It had never been applied as a part of a unitary structure in the treatment of water to produce a comparatively small continuous flow for industrial purposes. When so united with such a structure, in a compact unitary well designed and effective form, it makes a new combination, and it produces a result different from what had before been accomplished."