chamber process for sulphuric acid necessitated by the invention of the contact process. He showed that the yield of acid per chamber was augmented by increasing the height in proportion to the length, or, in other ways, by turning the old chamber through an angle of 90 deg. Chambers are now built 48 feet square and 80 feet high, giving a capacity of 178,000 cubic feet. A novel method of hanging these chambers from the roof by means of vertical rods and straps was suggested. Glover towers in volvic lava, built up in sections, and held together by lead-covered iron hooks, were shown, and mention was made of the feeding arrangements for Gay-Lussac towers.

A nitric acid still, holding five tons of nitrate of soda, was described, and a reference made to even larger ones capable of receiving at once ten tons of this salt, or fifty times as much material as that dealt with twenty years ago in one distillation.

The Building of Explosives Works.

In his second paper, Mr. Guttmann dealt with some of the arrangements made to minimize the distinctive effect of explosions in explosives factories. The author proposed that buildings in explosives works should be constructed in ferro-concrete with fine river gravel. Such a structure being practically a solid mass would not be liable to collapse, it would be fire and lightning proof, and, should an explosion take place, would be so pulverized that particles could not be projected to any considerable distance. In order to resist the fall of heavy pieces of machinery or other ponderous materials, the roof is made with a double ferro-concrete skin, a layer of sand about one foot thick being interposed. The use of wire-glass is recommended to avoid the dangerous splintering of ordinary window-panes.

Nova Scotia Society of Engineers.

The second annual meeting of the Nova Scotia Society of Engineers was held June 10th, 1908, in the Chamber of the House of Assembly, Halifax, N.S. The attendance of members was large. The chair was occupied by Rod. McColl, president of the society. The annual report was an interesting review of the year's work. It alluded to the fact that two members, R. McColl, of Halifax, and C. M. Odell, of Glace Bay, have been honoured by election to the council of the Canadian Society of Engineers. Two other members, A. McColl, of New Glasgow, and A. W. Robb, of Amherst, have been honoured by the election to the mayoralty of the towns in which they reside. The report concludes: "We think it a good and proper thing that men such as these should be selected for civic rulers. A good thing, because with their professional qualifications and business experience, they must be a valuable addition to any municipal governing body; and a proper thing, that men leading the business lives which these gentlemen must necessarily do, should be prepared to sacrifice some of their time in working for the benefit of those amongst whom they reside, and for the good of the State generally. We believe good civic government is the keystone to good provincial and national government, and, as professional men and good citizens, we should do all we can to further it."

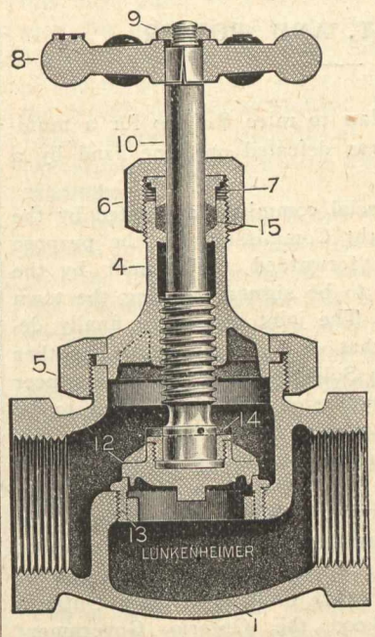
The following papers were read:—"Harbours," by J. J. Taylor, C.E.; "Mechanical Engineering," by J. A. Stairs, Nova Scotia Steel and Coal Company; "Some Common Mistakes in the Construction and Maintenance of Water Systems," by W. G. Yorston, C.E.; "Mechanical Strains in Pole Line," by F. A. Bowman, District Superintendent Eastern Telephone Company; "The Use of Electricity in Coal Mining," by E. G. Archibald, who has returned from abroad.

The new officers are as follows:—President, J. H. Winfield, Halifax; vice-presidents, P. A. Freeman, Halifax; J. Fellows, New Glasgow. Council: J. W. McKenzie and F. H. Sexton, Halifax; F. A. Bowman, Sydney; J. G. W. Campbell, Sydney Mines; J. A. Stairs, New Glasgow; E. H. Morley, Westville; L. H. Wheaton, Bridgewater; L. C. Gelling, Bridgewater; secretary, S. Fenn, Halifax; treasurer, J. L. Allen, Halifax.

The next annual meeting will be held in New Glasgow.

A NEW VALVE.

The Lukenheimer Company, Cincinnati, Ohio, have designed the valve shown in sectional view herewith for the benefit of the trade preferring a renewable seat regrinding valve. This valve differs from the Lukenheimer Regrinding Valve only in the construction of the disc and seat. The disc 12 is provided with a projecting ring which enters the valve seat ring 13. Its principal function is the preservation of the seat, which is accomplished in a two-fold manner. First, as it enters the cylindrical part of the seat it deflects the current of steam from the seat ring face, thus preventing the wire-drawing which would otherwise occur. This feature is especially important should the valve be left partly open for any length of time. Secondly, the seating surface is kept free from scale and grit by the action of the thin current of steam discharged over it as the disc is brought home. Another function of his ring is the prevention of waterhammer which is caused by the sudden admission of steam, for it will readily be seen that no matter how quickly the hand wheel may be operated, the flange will only permit the steam to enter gradually. The seat 13 is renewable, and can be removed from the valve body by using a flat bar to engage the lugs of the inside of the ring. Particular attention is called to the fact that the seat may be reground a number of times before it is necessary to renew it. Not only is the seat renewable, but all of the other wearing parts, including the disc, can be renewed if necessary. The hub is securely held to the body by means of a union ring, owing to which it is impossible for the hub and the body to become corroded together, as the thread which holds the union to the body is protected at all times from the action of the steam, the joint being made between the flange on the hub and the neck of the body. This connection also acts as a tie or binder in screwing over the body, and tends to strengthen the valve. The stuffing-box can be repacked under pressure when the valve is wide open, as a shoulder on the stem, directly above the threads forms a seat beneath the stuffing box. All valves above the ½-inch size have a gland follower in the stuffing box.



These valves are guaranteed to stand 200 pounds working pressure, and are made in both screw and flange ends. Up to 1½ inches inclusive, valves are furnished with hexagon bonnet rings; above 1½ inches, round slotted rings are sent. Either style of ring can be had for any size valve without extra charge. English instead of American standard pipe threads and flanges are furnished when so ordered. The valves are also made with navy standard flanges, and brass hand wheels.

With the exception of the seat rings, Lukenheimer "Renewo" valves are made entirely of only the highest grade of bronze, according to the formula specified by the United States Navy. The seat rings are made of hard, close-grained nickel, and will permit of regrinding many times over. It is very noticeable that Lukenheimer valves are heavier than imitations.

To regrind, unscrew the union ring 5, take the trimmings from the body, and place a little powdered sand or glass and soap or oil on the disc, inserting a wire or pin through the slot in the disc locknut and hole in the stem. Then replace the trimmings in the valve body and regrind, leaving the ring unscrewed, so that the hub rotates in the body and acts as a guide for the stem while regrinding.