ten years' service, and found to be practically indestructible. The accompanying illustration shows a Curtis Damper Regulator as used in a large establishment in England to control the pressure of the boiler by throwing an automatic stoker in and out of action, according to the steam pressure.

The makers guarantee that the motion of the damper will begin to change from one direction to the other on a variation of steam pressure of one-quarter of a pound either way from the point at which it is set to operate.

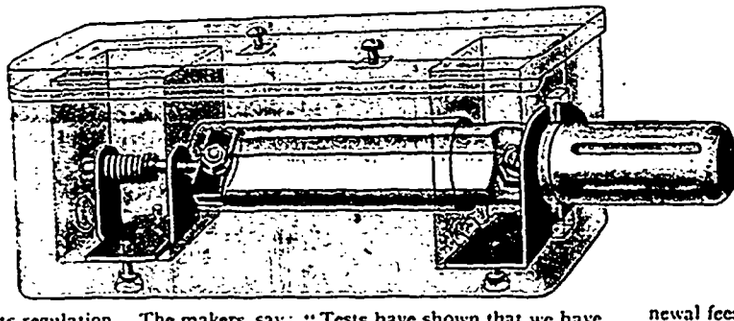
The hook in the top of the yoke is a turn-buckle, by means of which the chain can be lengthened or shortened at will, so that the damper can be shut so close as to prevent combustion, and at the same time not throw out gas. By means of the clamp on the plunger rod at the bottom, the amount of opening of the damper can be changed at different seasons or with different coal.

The D'Este & Seely Co., manufacturers of the Curtis Regulator, make the following claims for this mechanism: "Long experience has demonstrated that with our regulator, a damper partly open is just as effective as it would be wholly open without the regulator, and great economy is effected on strong drafts, by using only part of the damper area. We have saved 15 per cent. of the fuel while reducing the stroke of the damper from 10 inches to 3½ inches. We guarantee a saving of 8 or 9 per cent. over the best hand regulation, or the old style (diaphragm and lever), and it often comes up to 15 per cent. of all the fuel Now a word as to the reasons why we are willing to guarantee and why we do accomplish these savings We open the damper as wide as is needful for perfect combustion and burn the fuel at a high temperature, with enough air to eliminate the carbonic oxide. A few moments of this sharp combustion raises the pressure the one-eighth or one-quarter pound requisite to close the damper, which shuts close enough to stop combustion and hold the heated gases in the tubes until they have given out their heat to the water. Then the pressure falling the one-eighth or one-quarter pound, the damper opens and the process is repeated. The damper is closed before clinker has time to form, and opened before the fuel is cooled injuriously."

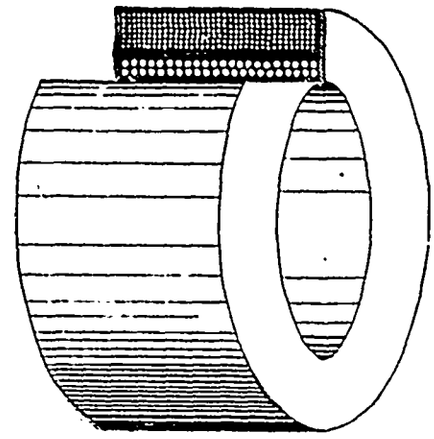
The company have about 1,200 of these regulators in use in the United States, and are establishing a successful trade in England and Canada.

THE PACKARD TRANSFORMER.

Prior to this year the Packard Electric Company, of St. Catharines Ont had never manufactured their transformers in Canada, but imported them all from the Warren factory. Since then they have been pushing the transformer trade and meeting with every success The first claim made with this transformer is



its regulation. The makers say: "Tests have shown that we have the highest regulation on the market of any transformers, efficiency and life being equal. Our small 10-light transformers regulate within 2½ per cent., whereas our 100-light transformers regulate within 1¾ per cent. This, as you will appreciate, is an extremely small drop. The reasons for this regulation are shortness of magnetic circuit and the entire absence of any bolts in the iron, as well as only one break in the magnetic circuit. Our circular coil also requires shorter wire than any other form, and we use a very large cross-section of copper, and all wire in the transformers is active and has no dead ends We have, of course, as well as other manufacturers, made a special study of insulation and we now use a form of insulation which will stand the very low temperature that many of our transformers are subjected to in winter, in the Dominion. This is of very great importance where 2,000 volt primaries are used and is absolutely necessary, that no infinitesimal cracks should be formed in the insulation by any temperature the transformer may be subjected to any winter. We feel that we have attained practical perfection in the mechanical construction, and the use of vulcabeston spools is far in advance of the old style rectangular form, necessitating the taping that has been freely used in the past and is generally used to day. Vulcabeston is almost as strong as brass, and no abrasion of the insulation can possibly take place. This makes the finished coil mechanically perfect. We do not claim any higher efficiency than the best transformers on the market, as this has everything to do with the quality of the iron used, but we use the best iron that can be obtained. We feel that our fusing device,



which we send you an electro of, is mechanically and electrically correct. In breaking the circuit it is as positive and sharp as a knife switch and is always absolute and reliable in making contact. There are no delicate springs to get out of adjustment and no tools are necessary for re-fusing. All plugs are interchangeable, and, as our fuse boxes are on opposite sides of the transformer, there is no danger in blowing. It makes the lineman's work easy, and this, with the ordinary intelligence of a lineman, is an important point. We make a special line of transformers for low frequency, and the results we are obtaining with these are highly satisfactory in every respect."

ADDRESS BY PRESIDENT AMES OF THE ONTARIO ASSOCIATION STATIONARY ENGINEERS.

After thanking the members for his re-election, the president said "As a member of this association, I will be ready at all times and under all circumstances to advance its interests, and the interests of the engineers generally The interests of the engineers in this country depend largely on their own endeavors to procure an education in the principles involved in operating a modern steam plant The rapid strides made almost daily in the advancement of this science make an up to-date knowledge of these facts indispensable; and it is being recognized that the opportunities offered by this and other similar societies, together with the various publications connected therewith, greatly facilitate the acquiring of such a knowledge.

"I am glad to be able to state that the Ontario Association has progressed very favorably during the past year, as is evidenced by the fact that over 150 certificates have been issued by the Registrar for the current year, making in all some 700 now in force in this Province. That such a showing is eminently satisfactory, I am sure you will agree with me, knowing as you do that the engineers of this Province are not, unfortunately, under a compulsory law. The reduction of renewal fees on, I think, two previous occasions, has without doubt had a beneficial effect. I would respectfully suggest, however, that the fees, as at present, remain for at least another year, viz., $*, 75 cents and 50 cents for 1st, 2nd and 3rd class respectively, this being as low as possible consistent with the raising of a revenue sufficient for the proper carrying on of the affairs of the association.

"I will now call your attention to the very important question of legislation. As you are doubtless all aware, a joint committee from the Ontario Association and Canadian Association of Stationary Engineers was appointed, for the purpose of drafting a measure, to be presented at the last session of the Ontario Legislature, such as would procure for the Province a compulsory license law. This very laudable attempt, for the carrying out of which the members of the said committee deserve all praise, I regret very much to say, fell through, owing to the lateness of the session.

"I would at this time like to impress upon the officers and members of this board, and also upon the officers and members of the Canadian Association throughout the province, the absolute necessity of a compulsory law; and I am quite sure that the majority of the engineers and steam users will heartily indorse any action the Government may take tending in such direction. Appalling