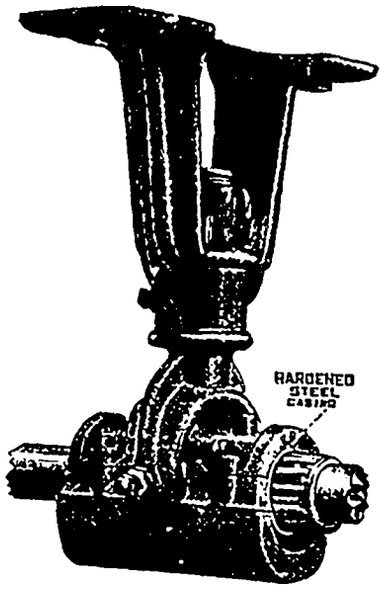
BRANTFORD ADJUSTABLE DROP HANGER WITH PATENT ROLLER BEARINGS.



This illustration gives a good idea of the patent roller bearings, with outer steel casing, made by Goold, Shapley & Muir Co., Ltd., Brantford. Their advertisement in this issue will be of interest to manufacturers and others who wish to keep posted in mechanical ideas.

ACETYLENE FOR COOKING.

There has been a general impression that acetylene gas does not compare with coal gas or water gas for heating or cooking purposes, but it is the opinion of W. J. Stinson, of the Acetylene Manufacturing Co., of London, Ont, that this impression is because of the crude burners or stoves used in the experiments. In a letter to The Canadian Engineer Mr. Stinson supplies the following interesting information on this subject:

"I may say that I have been experimenting with acetylene, along the line of heating, during the past two years, and have acetylene gas stoves in operation with the most satisfactory results. We have not heretofore pushed this branch of our business to any extent, owing to the scarcity of carbide, but now that we may reasonably expect an abundant supply, we anticipate a very large demand for combination machines for both lighting and heating. The following tests as to cost are typical of a great many that we have made. We have tried to be as fair as possible, and to give no advantage to either acetylene or city gas. The results are what the general public is interested in, and we have tried to put these comparisons in practical form.

"An oven full of slow-baking fruit cakes, etc., was baked in a Detroit Jewel gas stove, in one hour and ten minutes, with a consumption of thirty-one (31) cubic feet of city gas, which at $1 per M. cost three and one-tenth (3 1-10) cents An exact duplicate of this oven of cakes was baked in one of our regular acetylene ovens, such as we supply to our customers, in one hour and thirty minutes, with a consumption of three and one sixth (3 1-6) cubic feet of acetylene gas, costing two and one-half (2½) cents, with carbide at four (4) cents per pound. A given quantity of water was raised from freezing to boiling point, in five minutes by the consumption of two (2) cubic feet of city gas, costing one-fifth (1·5) of a cent. The same quantity of water was raised from freezing to boiling point, in four and one-half (4½) minutes, by the consumption of one-third (⅓) of one cubic foot of acetylene, costing one-fourth (¼) of one cent. We have made dozens of similar tests, all giving practically the same results. The above estimates have been made on the basis of carbide costing four (4) cents per pound, and city gas costing $1 per thousand feet. City gas is higher than this in most cities and calcium carbide will soon be very much lower than at present. You will notice that in baking acetylene has a very decided advantage, while in the water boiling test, city gas has the advantage. We can probably account for this difference by stating that we use, on our acetylene stoves, a somewhat better oven than is usually found in connection with gas stoves. It needs but a slight reduction in the price of carbide to place acetylene away ahead of coal, water or oil gas, as far as economy is concerned, but economy is not acetylene's only advantage. By its use the disagreeable smell found in connection with the ordinary gas stove is entirely done away with, as acetylene gives off no odor when being burned, either as a lighting or a heating flame. An ordinary gas stove is a more or less smoky, dirty, greasy affair, but an acetylene stove does not smoke, neither is it a grease or dirt producer. The general public admit the decided advantages of acetylene as an illuminant, and it is but a matter of a very short time until it will be looked upon as the ideal heat producer as well."

CANADIAN SOCIETY OF CIVIL ENGINEERS.

THE VISIT TO BOSTON.

The trip to Boston, which was planned as part of the programme of the 14th annual convention of the Canadian Society of Civil Engineers, will long be remembered by all who had the good fortune to take part in it After the annual business meeting, reported in last issue, the excursionists gathered at Bonaventure station, where by the courtesy of the Grand Trunk Railway Co, and the Pullman Palace Car Co., a special train with three sleeping cars was in waiting to take them to the New England capital. The Central Vermont and Boston and Maine gave the society free running privileges over their lines, and the party arrived in Boston on Thursday morning, February 1st. They were met at the station and cordially welcomed by a deputation from the Boston Society of Civil Engineers, who escorted them to their headquarters at the Hotel Brunswick, where the formal welcome was made by the president of the Boston Society, C. Frank Allen, professor of railway engineering in the Massachusetts Institute of Technology. On behalf of the Canadian society, Prof. Bovey, president-elect, thanked the Boston society for their hospitable welcome.

The first event in the list of Boston excursions was a visit to the Massachusetts Institute of Technology, the visitors being piloted by Desmond Fitzgerald, its professor of civil engineering; Gaetano Lanza, professor of mechanical engineering; Geo. F. Swain, Hayward professor of civil engineering, and C. Frank Allen, professor of railroad engineering. This great institution has grown from small beginnings till it now has four large buildings in which are taught civil and mechanical engineering, mining engineering and metallurgy, architecture, chemistry, electrical engineering, biology, physics, chemical engineering, sanitary engineering, geology, naval architecture and general studies. The various engineering and technical departments are equipped with machinery and testing appliances, many of which are of the most modern description. This school gives the degree of B.Sc., and has 1,200 students. The institution has ten technical libraries, having an aggregate of 47,000 volumes, while it receives 850 technical and trade papers, the largest collection, it is believed, in the world.

In the afternoon the party visited the new south terminal station of the Boston and Albany, and New York, New Haven and Hartford railroads. The station buildings cover 13 acres, the main building being 850 feet long by 725 feet wide. The train shed is 602 feet by 570 feet, and has 28 tracks in the main floor. Beneath this and below tidewater is a subway for suburban service. The switches and signals are operated by the electro-pneumatic system. There is a 2,000 h.p. steam plant for generating electricity and operating the air compressors, ice-making and air-brake testing plants, and a plant for hot air and hot water heating. There is also a plant for making and compressing the gas used in the cars, the capacity being 120,000 cubic feet per day. The station cost $15,000,000, of which $6,000,000 was spent in buildings and plant. Geo. B. Francis, the resident engineer, and A. B. Corthell, the assistant engineer, acted as guides in this interesting visit.

The evening was pleasantly taken up with a lecture under the auspices of the Boston society, by Frederick P. Stearns, chief engineer of the Metropolitan waterworks, on the new waterworks system now under construction. The lecture was illustrated by stereopticon views, and was most instructive. The water supply of the metropolitan area of Boston is derived from a chain of ponds, basins and streams extending from a point about ten miles outside the city to a distance of 50 miles north