

showed that Mr. Mawby had quickly made the local firemen efficient in handling the new machine. Amongst the large number of interested spectators were the Mayor (Mr. W. G. Prince), Major S. F. Chichester (chairman of the Rural District Council), together with many members of both the urban and district authorities, whilst interested visitors were Mr. W. J. Rushforth (representing Messrs. Merryweather and Sons), Mr. Hanson (chief officer of the Finchley Fire Brigade), and others, including representatives from several other brigades in the neighbourhood.

"At 3.30, the time arranged for the demonstration, the engine ran through the town with its full complement of men, to Church Street, where, in the pavement, one of the large stones had been removed to give access to the stream running below. Here the huge suction pipe was quickly given a connection, and meanwhile the firemen rapidly ran out the four separate lengths of hose towards the Abbey, their movements being very expeditiously carried out. With a steam pressure of between 100 and 120 lbs. being kept up by Fireman Longman an exhibition was first given with the single jet of 1½ inch. Here the pumping pressure was 155 lbs. and the height of the jet attained 160 ft. After this two ¾ inch jets were played simultaneously at the pressure of 135 lbs. on each, and a height of about 130 ft. was realised. Then came four ½ inch jets together, working at pressure of 125 lbs., and the height in each instance was about 115 ft. The next change was the use of one 1½ in. jet at 125 lbs. pressure, and here the huge volume of water was thrown up 120 feet high, after which the display concluded with four jets being brought into use as before. With regard to the pumping capacity it is interesting to note that when the 1½ in. nozzle was being used the engine was pumping the maximum quantity of between 420 and 440 gallons per minute, whilst at other times the use of the regulator shewed how even as little as under 50 gallons per minute could be pumped. Between the ordinary jets a demonstration was given with a special nozzle for dealing with smoky fires, in which by the movement of a regulator either a solid jet, a jet and spray, or a solid spray was obtained. In dealing with a fire in a house with a great deal of smoke a fireman would thus be enabled to use a jet with a covering spray of water as a protection, although in handling this nozzle Fireman Hatcher certainly did not find it a 'dry job.' The demonstration lasted about half an hour, and brought forth nothing but praise from those who witnessed it, whilst the firemen performed every single change with praiseworthy promptitude.

"In connection with the display it is interesting to note that the Hungerford Volunteer Fire Brigade possesses a similar engine, one size smaller, and the newspapers report that on the occasion of a fire last week at Inglewood House, about 2½ miles from Hungerford, the motor engine was piloted to the

scene of fire in record time. The fact that the Hungerford Brigade is organised on similar lines to our own, and the engine is standing cold in the fire station, emphasises the superiority of the new method of transport, as we understand that the Hungerford Brigade arrived at the scene of the fire in question within 20 minutes of receiving the call, this time of course including that required for raising steam to the necessary pressure before a start could be made."

The credit for the acquisition of the motor is to a considerable extent due to Chief Officer Chandler, whose untiring energy was mainly instrumental in bringing the matter to a successful issue.

### Steam Fire Engine for Sawbridgeworth.

Although motor fire engines are now being adopted in all parts of the country, the horse-drawn engine continues to obtain a considerable amount of patronage, and in cases where such a machine is decided upon the "Greenwich Gem" pattern still proves to be a most popular design. The illustration on this page is from a photograph of a "Greenwich Gem" steamer recently supplied by Messrs. Merryweather and Sons to the Sawbridgeworth Fire Brigade. It has a capacity of 300 gallons per minute, and should be admirably suited to the requirements of the district it is intended to serve. There is no doubt that the "Greenwich Gem" engine, with its unique arrangement of double vertical machinery and working fire door at rear of the boiler, is the best for country requirements, where long distances may frequently have to be traversed in reaching a fire. Under ordinary circumstances a good solid fire and pressure of steam can be ensured by the time the scene of the conflagration is reached, and everything be ready for immediate action as soon as the necessary hose has been run out. The Sawbridgeworth engine is equipped with all requisite gear for working, and a direct suction coupling is included for connecting the suction direct to a hydrant. An alarm bell, similar to those used on the London Fire Brigade engines, is fitted immediately behind the driver's seat. The acquisition of a "Gem" engine was decided upon after a visit had been paid to the makers' works, when the actual engine was seen in operation. Its performances created so favourable an impression that Chief Officer Allen and his Committee unanimously recommended its selection. The public testing and formal inauguration of the engine took place at the Wharf on Thursday afternoon, April 11th, Chief Officer Allen being in charge of the operations. The Bishop's Stortford, Harlow and Dunmow Fire Brigades were also represented. The engine was driven from the station to the wharf, where a large crowd awaited it. Here Mr. G. Day, Chairman of the Urban Council, rang the alarm bell, after which he made



"GREENWICH GEM" STEAM FIRE ENGINE FOR SAWBRIDGEWORTH.

a few remarks appropriate to the occasion. Mr. Roberts (Chairman of the Fire Brigade Committee) followed with a short speech, in the course of which he said that Chief Officer Allen and the men had raised £42 towards the cost of the engine. Steam now being ready, Mrs. Allen stepped forward to christen the engine. A bottle of champagne was tied with blue ribbon to the engine, and Mrs. Allen broke it against the fire-box, saying "I am proud to have the privilege to christen this engine 'The Sawbridgeworth Steamer.' I wish her Godspeed and success to the Fire Brigade."

Pumping then commenced, and lengths of hose were run out along the river bank, from which one, two and four jets were played with great force. The high wind prevailing did not permit of maximum altitudes being attained, but the results were considered very satisfactory.

In the evening a smoking concert was held in the Shaftesbury Hall, at which there was a large attendance. Mr. E. B. Barnard presided, and several artistes from London contributed to an excellent programme. Captain Sam. Deards (Harlow) and Mr. Harry Hall introduced into topical songs the names of many of the individuals present, as well as the makers and their representative, Mr. W. J. Rushforth.

Merryweather fire engine. There was an informal test held yesterday afternoon, close to the Power Station, to see what the engine was capable of doing, and from what a representative of this paper saw, and the expert opinions gleaned, the test proved most satisfactory from every point of view. The huge motor was drawn up on the pavement just outside the Power Station, so as to utilise the large dam in the Power Station for the testing of the pumping capacity of the engine. The City Engineer (Mr. Stewart) and the Assistant Town Engineer (Mr. Wallace) and Mr. East (the Johannesburg expert) were in attendance, as were Mr. Lacey Savage and the whole of the local fire brigade.

The first test was made with a one and a quarter inch nozzle attached to one hose. The water was thrown to a great height, and was projected at a pressure of 160lbs. to the square inch.

The next test was with two one inch nozzles attached to separate hoses. Once again the jet spurted upwards with tremendous power, a pressure of 120lbs. to the square inch being maintained for a considerable time.

Then three three-quarter inch nozzles on separate hoses were put into use. Little difference seemed visible as regards the height to which the water spurted. It shot upwards and upwards many yards above the S.A. Milling Company's building, next to the



NEW "HATFIELD" COMBINATION FOR BLOEMFONTEIN.

### Motor Fire Engine for Bloemfontein.

South Africa can pride itself upon being well to the fore in the adoption of motor fire apparatus, and the most popular machine is undoubtedly the Merryweather "Hatfield" petrol motor fire engine, which has been supplied to Cape Town, Durban, Johannesburg, Bloemfontein, Krugersdorp, etc. The engine for Bloemfontein is the latest to be received in the Colony. It is propelled by a powerful 75 h.p. six-cylinder engine, and the "Hatfield" pump delivers 450 gallons per minute. The chassis also carries a 40-gallon chemical cylinder for dealing with small fires, as well as a telescopic ladder to reach 40 feet. A large number of firemen and a full quantity of hose and working gear can also be carried, and altogether the engine constitutes one of the most up-to-date fire fighting machines ever constructed. Fifteen hundred feet of "Extra Dub-Sub" canvas delivery hose are included in the equipment.

The following particulars of tests carried out at Bloemfontein are taken from *The Friend*, Bloemfontein, dated March 21st, 1912:—

The inhabitants of Bloemfontein have every reason to be satisfied with their latest mechanical acquisition—the new

power station, falling in volumes on the corrugated iron roof, the spray resembling a mighty cascade, tinged in many colours by the rays of the sun.

The fourth test was with a one and a quarter inch nozzle, the power of the engine being concentrated into one hose. This was the most remarkable test of all. The water shot upwards like a rocket, in a powerful hissing stream. Three firemen were manipulating the hose and had enough to do in controlling the direction of the stream. The jet rose higher and higher, until it was almost level with the top of the power station chimney—which is about 150ft. high. All the time a continuous pressure of 160lbs. to the square inch was maintained. This concluded a test which, as a preliminary one, must be adjudged quite satisfactory. Considering that hoses 100ft. long were utilised for the experiment, it speaks volumes for the capacity of the engine that the time taken from the word "go" to the pumping of the powerful jet into the air was only twenty seconds. Once, however, the hoses were in working order the time occupied in projecting a powerful jet was only ten seconds.

This concluded the test for the pumping capacity of the engine, and it was decided that a hill climbing test should be