

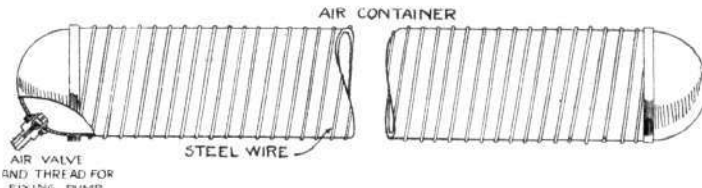
A really satisfactory compressed-air motor should, when set at the dead centre and the tap turned on, show no sign of leakage even when tested in oil. The autoplan motor referred to below does not fulfil this test, although, considering its original price, it is undoubtedly a very good motor. There is no doubt there is a good opening for a simple, cheap and efficient motor capable of giving a 6 to 8 oz. thrust at a pressure of about 110 lbs. and suitable for flying a compact model of the biplane type, of a total weight of about a pound.

(To be continued).

**The "Autoplan" Compressed-Air Plant.**

Mr. A. G. Boniface (Wimbledon and District Model Aero Club) sends us the following very interesting communication with respect to the above plant, similar to the one shown on the Bragg-Smith model:—

"Referring to your article on models driven by compressed air in last week's issue, I am able to give a few particulars of the



'Autoplan' compressed-air plant. The weight of the motor, including the front shaft, bearing and the throttle, is 3½ ozs. exactly, and that of the container just under 10½ ozs., which also includes the engine mounting and wire *cabane*. Thus the complete plant weighs 14 ozs.

"The weight of the 'fuel' in these plants forms another interesting question. Sixty pumpstrokes of the pump which is supplied with these machines turns the scale at exactly ½ oz. The average number of strokes given to a container for each flight going 'all out' is about 210. Thus the compressed air adds approximately 1½ ozs. to the weight of the machine when empty.

"That the weight of this plant is not by any means excessive considering the power developed is shown by the following test. The weight of my own model is 27½ ozs., or a good 29 ozs. when pumped to the above number of strokes (pressure about 145 lbs.

**AFFILIATED MODEL CLUBS DIARY AND REPORTS.**

Club reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

**Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).**

*Monthly Report.*—During the past month very little flying, the only work of note being trials by Mr. A. Rasmussen with a twin-tractor model. Several flights were made, but the stability of the model appeared to suffer from insufficient fin area. On Dec. 12th, a special general meeting was held at 77, Swinderby Road, Wembley, when a discussion on research work and the best means of carrying it on was introduced by the secretary, who pointed out that the lull in competitions owing to the war gave members an opportunity which should not be lost of doing other important work. It was pointed out with emphasis that models for purposes of research work must be well constructed, and in particular *fuselages* and planes should be rigidly built. The weight of such models would necessarily be slightly more than the usual run of record breakers, but this would be amply compensated for by the results achieved. Some of the subjects outlined for investigation were:—Propellers: Their diameters, width of blade, and pitches. Planes: Angles of incidence and cambers. Fins: Areas and positions. Air Currents: Streamlines formed around various objects. Flying speed of different types of models, measuring speed whilst in actual flight. Before concluding the meeting, the secretary explained by means of diagrams on the black-board the principles of the Merrill staggered converging biplane, an aeroplane with neither elevator nor tail. A sketch of a new plane was also shown, its two-fold object being a high lift/drag ratio combined with insusceptibility to side gusts. Some of the problems introduced at this meeting will be further discussed at the annual general meeting in January, of which members will receive due notice.

**South-Western Aero Club (373, BRIXTON ROAD, S.W.).**

JAN. 16TH, competition on Brockwell Park at 2.30 p.m. for enclosed tractors (rubber enclosed).

*Monthly Report.*—Owing to the preparations for Christmas things have not been very brisk. Several machines are in course of construction for the competition on Jan. 16th. The result of the target contest was disappointing, in spite of the fact that the weather was anything but unfavourable. At a meeting on the evening of Dec. 12th, it was decided to award Mr. F. Miller's prize to Mr. S. Smith and the club's second prize to Mr. J. Reid.

**Stony Stratford and District Kite and Model Ae.C. (OLD STRATFORD).**

JAN. 6TH, monthly meeting at clubroom. Jan. 2nd, December competition, at 2.30. Jan. 16th, January competition, at 2.30.

*Monthly Report.*—At a members' meeting, held Dec. 2nd, the subject was "Frame Tests." The annual report and balance sheet were read and passed. Attention was drawn to the absence of protectors at the last competition, it being resolved to strictly enforce the rule relating to the same. Arrangements were made regarding the club sales of materials, &c. Correspondence was read from the Scottish Model Ae. Club, and their trial of our club competition rule. It was decided to collect from members only for one wing of the air service.

per sq. in.). When held vertically with the engine running 'all out' the model rose easily, and would have come into rather violent contact with the ceiling had I not held on securely. The thrust was sufficient to hold the machine vertically for a period of about ¼ of the useful run of the motor, 25-30 seconds. The tractor used was a 15¼-in. Chauvière type of 23 ins. pitch. Incidentally visitors to Wimbledon Common during the last few months have probably noticed that one of the outstanding features of the compressed-air models was the manner in which they climbed at the start of a flight."

With regard to the foregoing, the Autoplan plant is, of course, of German origin, and can no longer be obtained in England. Messrs. A. W. Gamage, however, inform us that they are putting a similar motor on the market at 12s. 6d., and have promised one for our inspection. The price of the German motor was 7s. 6d. Mr. Boniface's information with respect to the increase of weight with increase of pressure is especially interesting; it is this and similar kind of experiments that are so much needed.

**Desiccated Air for Compressed Air Motors.**

Mr. O. Hamilton, Junr., writes as follows with respect to the above:—

"With reference to your article on Compressed Air Motors, my father and I have been discussing the subject, and I mentioned the fact that you proposed making some experiments with reference to heating the air in the container, and in the course of our conversation he said that the best way to use compressed air was to use it 'dry,' the drying being carried out by using a filter charged with a desiccating substance, the air being blown over this as it is charged into the container by the pump; the air being dry will not on its expansion cause such a rapid fall of temperature as it does not absorb such a large proportion of moisture in the operation, and hence will not freeze.

"I am offering the suggestion of drying as a possible means of a light and handy method of experiment."

[The question of freezing of course depends very largely on the extent to which the container is charged.]

**Aeromodellists Serving with the Colours.**

Amongst aeromodellists at present serving with the Colours one of the best-known and most successful in open competitions is Mr. Leonard H. Slatter, of the Wimbledon and District Model Aero Club, who is at present in the armoured car section of the Royal Navy Air Service.

Will members who have promised please forward their contributions. Regular weekly flying has been impossible, owing to the rough winds, wet, &c. On Dec. 19th, Mr. Menzell turned up with a hollow-spar diamond shape, the first built in the club and by this member, which did credit to its builder. The weather was very rough, and at first the machine was underpowered, but making good this deficiency, he obtained 51 secs. and 280 yards, when the machine landed in the road and, unfortunately, the kind Samaritan who picked it up, in putting it over the hedge, broke the main plane. The December competition was postponed till Saturday, Jan. 2nd (to-morrow). Brown reports 110 secs. from a bench test of one of his singles, so we expect a little movement shortly.

**Wimbledon and District (165, HOLLAND ROAD, W.).**

JAN. 2ND AND 3RD, flying as usual.  
*Monthly Report.*—There has been very little flying during the past month owing to the inclement weather which has prevailed. Compressed Air Models.—Messrs. Boniface, Tucker, Chown, and Hayden have flown c.-a. models. Mr. Boniface's monoplane has been flying in its usual good style, doing durations up to 35 secs. Mr. Tucker's Avro has been out on several occasions, flying very fast at a good height. Mr. Chown's tractor-monoplane has been out twice, the best flight being one of 32 secs. The first trials of Mr. Hayden's new machine took place on Wormwood Scrubs on the 27th. Two flights of 35 and 39 secs. respectively were obtained. In the second flight the model reached a height of over 150 ft., but owing to the collapse of a strut a nose-dive brought it down at a very steep angle, doing some damage to the forward portion of the *fuselage*. This, however, will be repaired, and the machine will be out again next week. Rubber-driven Models.—Mr. W. G. Smith has flown a small fast twin-screw doing long distances. Mr. Powell and Mr. Chown have flown 3-oz. twins. Mr. Hayden has occasioned great excitement with his tiny Sopwith scout, which performs most agreeable stunts.

**UNAFFILIATED CLUBS.**

**Finsbury Park and District (66, ELFORT ROAD, Highbury, N.).**

JAN. 2ND, 3 p.m. Distance and duration contests (h.l. all types) prizes value 4s. 6d. and carved propeller presented by secretary.

*Monthly Report.*—There has been much less flying this month chiefly owing to the inclement weather experienced. Mr. F. E. Raynor who has previously been addicted to twin-screw machines, brought out a tractor of the Morane type which acquitted itself well. Other members flying include Mr. G. Wren (Morane), B. H. Barnard (Morane), A. Richards (Deperdussin), H. Mullin (Morane), A. Savage (Antoinette). All machines this month have been tractors and monoplanes.

**Liverpool Aero Research Club (62, CEDAR GROVE, LIVERPOOL).**

ALL model flying during January to take place at Clubmoor, Saturdays at 2.30 p.m. prompt. Discussions: Jan. 13th, at 62, Cedar Grove; Jan. 27th, at 22, Eton Street, 8 p.m. prompt.

*Monthly Report.*—Wretched weather has interfered greatly with model flying, one competition having to be postponed twice, whilst Dec. 5th, 10th, and 25th were blank days. On the 12th, despite a gale, Tear, Bennett, and Kilshaw turned out with r.o.g. biplanes. F. Lowe has had out a fine racer, which in spite of this period of gales made some good flights. On Boxing Day a good attendance was recorded, when the r.o.g. duration competition was held