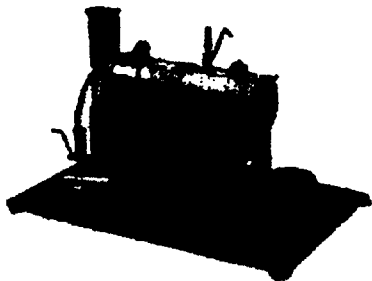


*Bowman Models Ltd.*  
*of Luton*

A biography by Basil Harley

MANY MODEL ENGINEERS will have happy memories of the steam engines, locomotives and launches made by Bowman Models Ltd in the 1920s and 1930s. The story of Mr. Bowman Jenkins and his company in Dereham, Norfolk, has already been told in the *Model Engineer* of December 1976. Production ceased and the firm was wound up in 1934 and Mr. Geoffrey Malins took over production of very similar engines which became the present Mamod range. Somewhat mysteriously, however, a number of engines and steam launches has recently appeared bearing very similar trademarks to the original ones, also made by Bowman Models Ltd but this time with an address in Luton, Bedfordshire. Younger readers will be interested to know that these were made just after World War II by another company of the same name. When I was completing my book *Toyshop Steam* (Argus Books 1978) I had only some sketchy information about this company which was quite unknown to Mr. M. B. Jenkins, Bowman Jenkins' son.



Now, however, a lot more facts about this short-lived company and its fascinating products have come to light and it seems appropriate to record them here. Among the steam engines made by the company was the now quite rare twin-cylinder Bowman-Bryant engine, probably the most ingenious and attractive Toy/Model steam engine ever put on the market.

Some time before World War II the firm of Piece Parts and Assemblies Ltd was set up in Luton to manufacture components and sub-assemblies particularly for the aircraft industry. This naturally flourished during the war but, in 1945, the end of hostilities posed problems and the late Mr. P. M. Nash, the then managing director, looked round for new product lines. The name and the "Archer" trade mark of Bowman Models Ltd was apparently

available and was purchased from a member of the Jenkins family with the intention of manufacturing new versions of the (mainly) steam driven toys that Bowman Jenkins had made so successfully before the war. This new company appeared as a member of the Luton and Dunstable Chamber of Commerce in their journal of March 1947 and is there described as a model engine, steamboat and games manufacturer. It was established on a corner site, 38 High Town Road and 96 Burr Street, Luton, Piece Parts and Assemblies' original premises.

Model engines were indeed their first products and Fig. 1 shows a typical example of one of their early stationary steam engines. It is conventional enough, with a methyated spirit-fired horizontal boiler supplying steam to a single oscillating cylinder engine with a massive lubricator. They had indeed learned something of Bowman Jenkins' success by adopting a sound system of lubrication. The particular distinguishing mark is the embossed B & M on the boiler casing. There is a series of holes drilled in the corners of the base plate to enable the engine to be easily incorporated into Meccano models and it is raised on felt pads to prevent table tops being scratched. This particular engine is the smaller of the two similar ones being made at this time. There was a larger one having a flanged base-plate and a third engine of the overtypic which, whilst being the smallest in the range, resembled the present day Mamod Minor 2. Some of these engines were being made by the end of 1945 but production only started in earnest the next year. This complete range of engines was mainly the

Fig. 1.



Fig. 2: Mr. G. W. Hunt (centre), production manager, responsibility of the late Mr. G. W. Hunt, the production manager, who was also a very keen model engineer in his spare time. His own models included steam driven trawlers and destroyers. He is in the centre of the photograph (Fig. 2) taken in the experimental workshop about 1946.

It was in this year that Mr. F. J. Bryant rejoined the company, with special responsibility for new design work. He is on the right in the photograph and had been employed by Piece Parts and Assemblies before the war, having left to join the

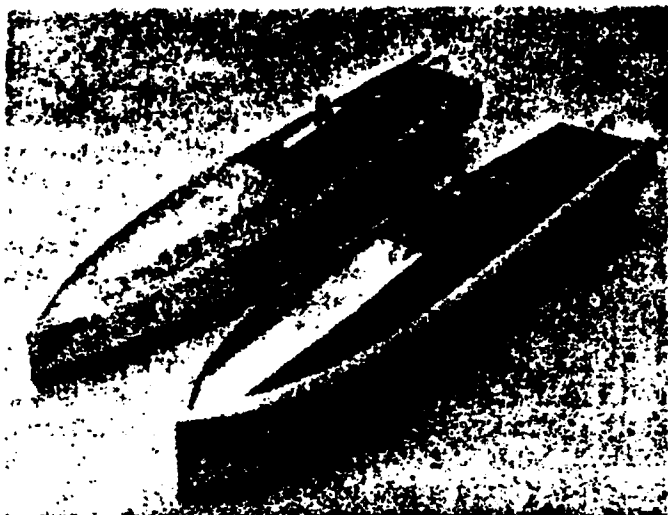
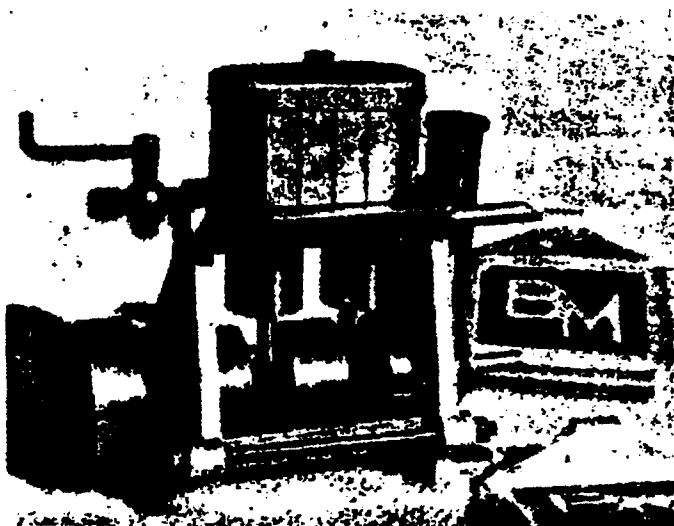


Fig. 3: Two versions of Snipe.

R.A.F. He had had previous experience as a ship's engineer as had Mr. Geoffrey Malins — perhaps there is something about the sea that encourages people to manufacture toys and models. Maybe to his own surprise he found himself as a fitter (marine) in the R.A.F. dealing with high-speed coastal rescue craft. At the time of his return to the company it was just starting to make some oscillating cylinder marine engines some of which were sold as such and some of which were fitted into wooden hulled launches. One of these was named *Snipe* and very much resembled the pre-war Bowman boat of the same name. Fig. 3 shows both versions.

A more elaborate boat followed equipped with a larger engine of similar design to the stationary versions. This hull was of wood, too, with pressed aluminium decks, funnel and cabin. The design of the vessel owed much to Mr. Bryant but the relatively unrealistic oscillating cylinder of the engine didn't satisfy him. After all, he remembered having

Fig. 4: The Bowman-Bryant engine.



just such an engine in a toy boat in his own childhood and he felt that it should be possible to design and make something a little more realistic for much the same cost. The pre-war Bowman engines suffered the same way though this was camouflaged in some of the stationary ones by enclosing the moving cylinder in a static brass casing. Mr. Bryant thought he could do better than this and the result, round about 1948, was the ingenious and fascinating Bowman-Bryant engine shown in Fig. 4.

It is a twin-cylinder, single-acting engine  $\frac{1}{2}$  in. bore x  $\frac{5}{8}$  in. stroke measuring some  $3\frac{1}{2}$  in. long by 3 in. high overall. The end frames are of cast aluminium whilst the sump is formed from a curved sheet of the same material. Two side covers embossed with the B & M motif are fitted to make the engine totally enclosed though they can be either hinged open or removed altogether (as in the photograph) if you want "to see the wheels go round".

A steam cock and displacement lubricator are fitted and the crankshaft is built up from silver steel rods pressed into heavy brass discs which help to put the centre of gravity low (ideal for a marine engine) and also to provide a built-in mass that enables the engine to run smoothly even without its brass disc flywheel. Where the two cylinders project above the  $\frac{1}{4}$  in. thick brass cylinder frame they are lagged with asbestos cement and finished off with a polished aluminium cover.

The designer's ingenuity centres on the fact that the engine has no conventional valve gear. Inlet and exhaust ports are drilled in the sides of the cylinders about half way down so that they are covered by the pistons except when ports cut in these pistons coincide with them. The little end of the connecting rod terminates in a ball and socket joint within each piston instead of the conventional gudgeon pin. This, in addition to allowing the usual back and forth movement of the rod due to the crank also permits the pistons to move round horizontally in the cylinders. Movement of a few degrees each way as the pistons rise and fall is imparted by pins set in the balls at about 45 degrees engaging in slots in the pistons. On the down stroke the piston port is brought into coincidence with the steam inlet by this movement and on the up stroke the exhaust port is uncovered. Special shaping of these ports give early cut-off and the engine is quite economical of steam. The action is not unlike a sleeve valve and the porting arrangements are somewhat reminiscent of a diesel fuel injection pump. The exhaust note has a nice sharp bark for a tiny engine.

These engines sold as separate units for £3-17-6 each mounted on polished wooden bases with transfer trademarks in colour. There was also available a D-shaped copper boiler with super-

heater pipe under the casing together with a vaporising spirit lamp all for £2-7-6. This boiler was also designed to keep the centre of gravity low for marine use and is well stayed with the safety valve designed to blow at 15 p.s.i.

The complete power plant was designed as a single unit to go into Bowman's largest steam boat, the "Super Steam Cruiser *Sea Jay*". She was a more elaborate version of the earlier oscillating engined boat and measured 2 ft. 7 in. long by 5¾ in. beam (Fig. 5). Again the hull was of wood (not made in the Bowman works) and all the superstructure of aluminium pressings. The *Sea Jay* was equipped with mast, opening hatches over the engine room and a (dummy) searchlight mounted on the cabin roof. All the superstructure was removable in four sections for access to the engine room before sailing. She was, and happily the example in my Collection still is, a good steady seaworthy boat. Mr. Bryant told me that in seeking to test a pre-production model the owner of the nearby mansion of Luton Hoo was approached and gave his permission for the tests to be carried out on the lake in the grounds. A most attractive and

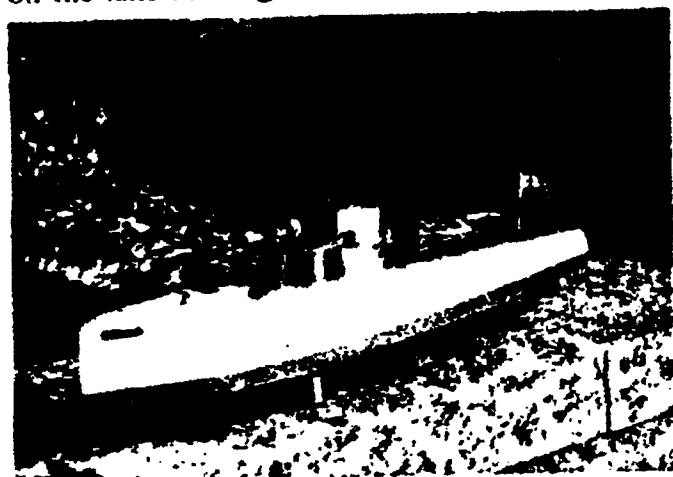


Fig. 5: "Sea Jay", for the engine shown in Fig. 4.

elegant setting for a miniature "measured mile" though a tangle with some weeds which stalled the engine on one occasion tested the efficiency of the safety valve.

The company also made other toys and games though no workshop or other accessories were made to be driven by the stationary engines. It might well have been intended to rectify this omission later since purchasers of the engines were invited to join the Bowman Steam Engine Users' Club to promote ideas for their applications. Each member was issued with a large enamelled badge about 1¼ in. diam., together with a certificate from the Luton works. I wonder if any have survived?

Some toy weighing machines were made and also "Casino" games with either dogs or horses — the example shown in Fig. 6 has horses. Then there was a clown with movable arms and various other

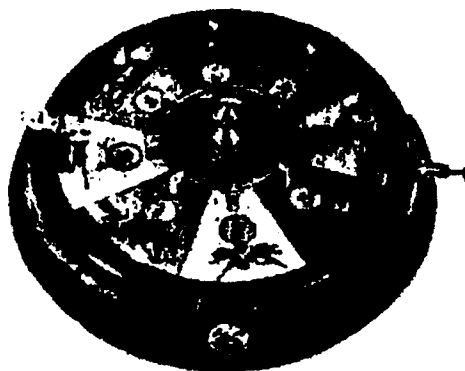


Fig. 6: A "wheel of fortune".

toys. It was also proposed to start manufacturing wooden home looms — to be named the *Weaveesi* I'm afraid — but the firm got into financial difficulties before this could be marketed. In the event comparatively few of any of their products were made and the output of the steam engines and steam boats probably didn't exceed a few hundred of each model. Towards the end of the company's life the stationary models were sold as "do-it-yourself" kits of parts for home assembly. This meant that they could be sold more cheaply and avoided the newly imposed purchase tax. It used to be said that the standard of interchangeability of the parts was so poor that they had to be completely assembled in the works, tested and then dismantled before being boxed for sale! In 1950 Gamage's bought up almost all the stock of boats, engines etc and sold them off at half price.

The twin cylinder engines continued to fascinate people for some time to come and in 1954 some correspondents asked about them in *Model Engineer*. It was Mr. Bryant who replied and it was through this letter that I was able to get in touch with him almost a quarter of a century later. When the Bowman company failed he set up his own engineering company in Edward Street, Luton, and for some time made and sold some of his own engines together with a series of horizontally opposed twin-cylindered engines on the same "valveless" principle. These were the Bryant "Simpler" engines and they ranged from 3/16 in. bore by ¼ in. stroke to 7/16 in. bore by 9/16 in. stroke. But tastes were changing and he saw little future at the time in model production. He also changed the emphasis of his works and the company, John Bryant (Engineers) Ltd still flourishes in Buxton Road and is now largely run by his son. The company primarily makes press tools and undertakes sub-contract press work for local industry. Mr. Bryant still has some of the tooling for the earlier engines and a complete set of drawings. Though now semi-retired he is still a very lively and ingenious toolmaker and inventor. And I found he still retains his dislike of oscillating cylinder engines!

I am indebted to Mr. F. J. Bryant for much help and information and for Figs. 2 and 6.