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CASTINGS

DIRECTORY

As you can see, availability of commercial castings is extensive; choose the ones you need from these lists.

Whilst every effort has been made to ensure that this directory is as complete as possible, there will obviously be some suppliers who have not been included. Apologies are made for such exclusions but it is not intentional; it has purely been as a result of lack of communication. It is expected that the directory will be maintained for future reference but its success will depend upon stockists supplying the information to the Publishers. Suppliers are therefore urged to notify us of any items that are not included in the present directory and also to notify any future subjects that may be considered for inclusion.

The directory includes brief information relating to equipment and

models and details of the stockist. These are indicated by initials and a reference at the end of the directory. The full addresses can be obtained from the main directory in this volume. Stuart Turner Models are listed but they have numerous stockists. A separate list of stockists is therefore included to avoid confusion in the directory.

No overseas suppliers have been included at this stage; this is due to lack of information. Although a couple have been ascertained it was considered unfair to include the odd two. It would, however, be useful to make the directory world-wide for the benefit of model engineers, and overseas stockists are urged to contact us with details of their ranges.

KEY TO CASTINGS SUPPLIERS

BG	Blackgates Engineering
BE	Bruce Engineering
BM	Brunel Models
CM	Camden Miniature Steam Services
CH	Chelston Model Engineering Supplies
JC	J.G.S. Clarke and Co
CES	College Engineering Supplies
DG	Dave Goodwin
GLR	GLR Distributors
NH	Hemmingway
JAY	L.C. Jay and Son
JPH	JPH Engineering
KB	Kennion Brothers
LS	Loco Steam
MES	Model Engineering Services
MESAS	Model Engineering Supplies and Services
MJ	MJ Engineering
JM	Milner Engineering
MB	M. Breeze
MK	My Kits
HLP	H.L. Pearson
HP	H. Plastow
KS	Ken Swan
R	Reeves
NS	Norman Spink
ST	Stuart Models (Stuart Turner)
BT	B & R Tite
PW	Paul Wainwright
WP	Woking Precision Models
DY	Don Young
BA	B. Arridge

GAUGE "0" LOCOS

NAME	PROTOTYPE	WHEEL ARRANGEMENT	MODEL DESIGNER	AVAILABLE FROM	REMARKS
Hertford Hall	GWR Hall Class	4-6-0		KB	Coal fired
Sir Morris De Cowley	Freelance	4-6-2	GBSC	KB	Coal fired
BAT	Southern Railway Schools Class	4-4-0	LBSC	KB	Coal fired
Josie	Hudson	4-6-4	LBSC	KB	Coal fired
Coronation	LMS Princess Coronation	4-6-2		KB	Coal fired, Walschaerts valve gear
Royal Scot	LMS Royal Scot	4-6-0	M. Evans	KB	Coal or gas fired, Walschaerts valve gear

GAUGE "1" LOCOS

MODEL NAME	PROTOTYPE	WHEEL ARRANGEMENT	MODEL DESIGNER	AVAILABLE FROM
DOT	LMS Class V	4-6-0	LBSC	R-LS
Diana	Freelance	4-6-2	LBSC	R
1366	GWR	0-6-0PT		LS
1361	GWR	0-6-0ST		LS
Green Arrow	LNOR V2 Class	2-6-2		LS
Southern Belle	LBSC/SR Class H2	4-4-2		LS
Atlantic	GN LNOR	4-4-2		LS

Project	LMS 4F	0-6-0	Bob Hines/Ron Poulter	LS
14XX	GWR	0-4-2T		LS
Pacific LNOR	GN/LNOR A1/A3	4-6-2		LS
Single	GNR Stirling single	4-2-2		LS
LMS Pacific	LMS Pacific	4-6-2		LS
Mona	LCDR	0-6-2	LBSC	LS
Mabel	LMS. LNWR	2-4-0	LBSC	LS
Newbury	Freelance	4-4-0	LBSC	LS
Chingford Express	LNOR/GE 0-6-0T	0-6-0T	LBSC	LS
Juliet	Freelance	0-4-0	LBSC	LS
County	GWR 1000 class	4-6-0	LBSC	LS
Dock Tank	LMS Class 2F	0-6-0T		LS

2 1/2" GAUGE LOCOS

MODEL NAME	PROTOTYPE	WHEEL ARRANGEMENT	MODEL DESIGNER	AVAILABLE FROM
Eagle	Irish GNR	4-4-0	M. Evans	D.G.-C.H.
Black Five	LMS Class V	4-6-0		DG. CH.
Flying Scotsman	LNOR A1/A3 Class	4-6-2		DG. MESAS
Evening Star	BR Class 9	2-10-0		DG.
Purley Grange	GWR Grange Class	4-6-0	LBSC	KB
Fayette	Freelance	4-6-2	LBSC	KB
Olympiade	LMS SXP Class	4-6-0	LBSC	KB
Austere Ada	War Dept	2-8-0	LBSC	KB
Southern Maid	SR	0-6-0	LBSC	KB
Dyak	Freelance	2-6-0	LBSC	KB

3 1/2" LOCOS

MODEL NAME	PROTOTYPE	WHEEL ARRANGEMENT	MODEL DESIGNER	AVAILABLE FROM	REMARKS
Iris	GWR	0-6-0	LBSC	KB	
Miss Ten to Eight	NE/LNER Former R1 Class	4-4-0	LBSC	KB	
City of Truro	GWR City Class	4-4-0	K. Wilson	KB	
Petrolea	GER/LNER	2-4-0	LBSC	KB-MESAS	
Blisworth	Contractors Loco	0-4-0ST		BM	Inside cylinders Joy valve gear
4321	GWR 43XX Class	2-6-0	D. Young	DY	
St Christopher	GWR 29XX Class	4-6-0	D. Young	DY	
B2	GNER B2 Class	4-6-0	M. Breeze	MB	Mainly drawings, some castings
U2	LNER Green Arrow Class	2-6-2	M. Breeze	MB	Mainly drawings, some castings
Jennie Deans	LNWR Compound	2-2-2-2	LBSC	R-MESAS	
Molly	LMS 3F	0-6-0T	LBSC	R-KB-MESAS	
Betty	S.R. Class N2	2-6-0	LBSC	R-MESAS	
Caribou	Canadian National Railways	0-8-0	M. Evans	R-MESAS	
Buffalo	Canadian National Railways	2-8-0	M. Evans	R-MESAS	
Greene King	SR Class S15	4-6-0	M. Evans	R.BG.MESAS	
Jennie Lind		2-2-2	L.B.S.C.	R	
Pamela	Freelance	4-6-2	L.B.S.C.	MESAS	
Flying Scotsman	LNER A1/A3 Class	4-6-2		DG-CH	Available late 1988
P.V. Baker	Freelance	0-6-0T	LBSC	KB	Baker Value gear
Tich	Freelance	0-4-0T	LBSC	NS. R. BG CH. GLR.KB. MESAS	
Juliet 1	Freelance	0-4-0T	LBSC	NS. R. BG KB.MESAS	Inside Stephenson or slip eccentric valve gear
Juliet 2	Freelance	0-4-0T	LBSC	NS. R. BG KB.MESAS	Outside Baker valve gear
Rob Roy	Caledonian Railway	0-6-0T	M. Evans	NS. R. BG. DG. CH. GLR. KB.MESAS	
Titfield Thunderbolt	Lion	0-4-2	LBSC	NS. R. BG.MESAS	Old time local
Virginia	Typical America Loco of late 1800	4-4-0	LBSC	NS. R. BG KB.MESAS	Available in small and large boiler versions
Canterbury Lamb	Invicta	0-4-	LBSC	NS. R. BG CH. KB.MESAS	Old time locomotive
William	Freelance	2-6-2T	M. Evans	NS. BG. DG. CH. GLR. KB.MESAS	Beginners loco
Rainhill	Rocket as rebuilt	0-4-0	LBSC	KB.MESAS	
County Carlow	GWR County	4-4-0	Don Young	DY.R.	
Mona	Freelance	0-6-2T	LBSC	R.MESAS	
Netta	NE/LNER	0-8-0	LBSC	R.MESAS	
Roedean	SR Schools	4-4-0		R	
Firefly	GWR 4500 Class	2-6-2T	M. Evans	R	
Heilan Lassie	LNER Thompson A3 Rebuild	4-6-2	LBSC	R. KB.MESAS	
Bantam Cock	LNER V4 Class	2-6-2	LBSC	R	
A3	LNER A3 Class	4-6-2	M. Breeze	MB	Mainly drawings but some castings
Doris	LMS Black V	4-6-0	LBSC	NS. R. BG DG. KB.MESAS	
Jubilee	LMS	2-6-4T	M. Evans	NS. R. BG DG.MESAS	
Masie	GN/LNER C1 Class	4-4-2	LBSC	NS. R. BG GLR-KB-MESAS	
Britannia	BR Express Locomotive	4-6-2	LBSC	NS. R. BG KB.MESAS	
Evening Star	BR Standard Class 9	2-10-0	LBSC	NS. R. BG.MESAS	
Euston	LMS Goods Loco	2-8-0	M. Evans	NS. BG. DG CH.MESAS	

The Raritan	Baldwin	4-4-0	B. Morewood	CM	American old time locomotive
Columbia	Baldwin	4-8-4	M. Evans	NS. BG.MESAS	American type bar frames
The Shay	American Shay	0-4-4-0	K. Hradko	CM	American Articulated
The Heisler	American Heisler	0-4-4-0	K. Hradko	CM	logging locos. Drawings and pivoted castings available
The Climax	American Climax	0-4-4-0	K. Hradko	CM	
Mabel	LNWR	2-4-0	LBSC	R-MESAS	
Princess Marina	LMS	2-6-0	LBSC	R	
75000	BR 75000 Class	4-6-0	LBSC	R	
Derby 4F	LMS Class 4	0-6-0	Don Young	R. DY. BG	
Lickham Hall	GWR Hall Class	4-6-0	LBSC	R	
Derby 2P	LMS 2p Class	4-4-0	D. Young	DY.	

5" GAUGE LOCOS

NAME	PROTOTYPE	WHEEL ARRANGEMENT	DESIGNER OF MODEL	AVAILABLE FROM	REMARKS
Marie E	American Porter	0-4-0	D. Young	D.Y	
Galatea	LMS Jubilee	4-6-0	A Allcock	N.S.	
New York Central	New York Central	4-4-0	J. Clarke	J.C	
B2	LNER B2 Class	4-6-0	M. Breeze	M.B	
V2	LNER V2 Class	2-6-2	M. Breeze	M.B.	Mainly drawings and some
A3	LNER A3 Class	4-6-2	M. Breeze	M.B.	
A4	LNER Streamline A4 class	4-6-2	M. Breeze	M.B.	
Duchess	LMS Coronation Class	4-6-2	M. Breeze	M.B.	castings
J 63	LNER J 63 class	0-6-0T		PW	
Liverpool	Manning Wardle Class H	0-4-0ST		BM	
William Cowen	GNSR Cowen goods loco built by Neilson & Co	4-4-0		BM	
Glen	NBR/LNER Glen class	4-4-0	Don Young	DY	
E. S. Cox	LMS Crab Type	2-6-0	Don Young	DY	
Black V	BR Class V	4-6-0	Don Young	DY	
Aspinall	S.R.	0-6-0	Don Young	DY	
Pom Pom	LNER/GC	0-6-0	Don Young	DY	
Lanky	LNWR/LMS	2-4-2T	Don Young	DY	
Star	GWR Star Class	4-4-0	P. Rich	CM PR	Super detailed model
Castle	GWR Castle Class	4-4-0	P. Rich	CM PR	Super detailed model
Ashford	SR	2-6-0	M. Evans	JAY-MESAS	
Waverly	NBR/LNER	4-4-2	M. Evans	NS-JAY	
Fishbourne	SR	0-4-4T	D. Young	DY	
McCaillin Mor	LNER K1 Class	2-6-0	D. Young	DY	
BR Class 2 78000	BR Class 2	2-6-0	D. Young	DY	
PUG	LMS Dock Shunter	0-4-0T	R. Bray	PW	
Y4	LNER Y4 Class	0-4-0T	R. Bray	PW	
King John	GWR King Class	4-6-0	K. Wilson	KB	
2251	GWR 2251 Class	0-6-0	K. Wilson/ C. Kennion	KB	
Dean Goods	GWR & ROD	0-6-0	K. Wilson/ C. Kennion	KB	
Tich	Freelance	0-4-0	C. Kennion/ R. Thompson	KB	5" gauge version of popular 3 1/2 gauge by LBSC
City of Truro	GWR city Class	4-4-0	K. Wilson	KB	
Peckett	Peckett	0-4-0	C. Kennion	KB	
Firefly	GWR 4560 class	2-6-2	M. Evans	KB.MESAS	
Twin Sisters	LMS class 2F	0-6-0T	J. Austen-Walton	KB	Highly detailed loco
Crampton	Crampton	2-2-2	B. Arridge	BA	
Dougal	Freelance	0-4-0T		MESAS-GLR	Suitable for the beginner

TRACTION ENGINES AND STEAM ROLLERS

NAME	PROTOTYPE	SCALE	DESIGNER OF MODEL	SUPPLIER	REMARKS
Tandem Roller	Aveling & Porter Tandem Roller	2"	J. Haining	JPH	
Fowler A7	Fowler A7	2"		MJ	Single cylinder
Fowler A7	Fowler A7	3"		MJ	Single cylinder
Burrell 8 Ton	Burrell 8 Ton	2"		MJ	Single cylinder roller. Fairly simple design
Burrell Gold Medal Tractor	Burrell	2"		MJ	Single cylinder
Burrell Showmans Tractor	Burrell	2"		MJ	Gold Medal conversion
Little Giant	Tasker Tractor	4"	D. Kilburn	CM	Single cylinder
Minnie	Freelance	1"	L. Mason	BG CH MESAS	Suitable for beginners
Minnie Roller	Minnie Roller	1"		BG	Roller version of 'Minnie'
Allchin	Royal Chester	1½"	W. Hughes	BG CH MESAS	
Durham & North Yorkshire	Durham & North Yorkshire	2"	J. Haining	BG	
Lincolnshire Lad	Ruston Hornsby	2"	Reeves Tech Dept	R	Available mid '88. Suitable for beginners
Ransome Sims and Jeffries	Ransome Sims and Jeffries	2"	J. Haining	BG-JPH	Light steam tractor
Ruston Proctor	Ruston Proctor Type S.D	2"	J. Haining	JPH	Light steam tractor
Foster 7NHP	Foster 7NHP	4"		LSM	Castings specially designed to aid machining
Allchin	Allchin	3"		PW	
Allchin	Allchin	6"		PW	
Marshall	Marshall 7NHP	3"	C. Lord	BM	
Burrell	Burrell Agricultural engine	3"	H. R. Plastow	HP	
Burrell	Burrell Agricultural engine	4½"	H. R. Plastow	HP	
Fowler Showmans	Fowler Showmans Engine "Princess"	2"-3" 4"	H. R. Plastow	HP	
The Wanderer	Fowler Road Locomotive	2", 3", 4"	H. R. Plastow	HP	
Simplicity	Wallis AD Stevens Roller	3", 4½"	H. R. Plastow	HP	
Ransomes 6NHP	Ransomes 6NHP	2"	J. Haining	JPH	
Fowler Compound Ploughing Engine	Fowler Compound Ploughing Engine	2"	J. Haining	JPH	
Fowler Class	Fowler 16 NHP Ploughing engine	2"	J. Haining	JPH	

STATIONARY STEAM ENGINES

MODEL	DESIGNER	DESCRIPTION	AVAILABLE FROM
Digger	B & R Tite	Single cylinder oscillating mill type engine with valve gear	B.T
Gazelle	H. R. Plastow	Single cylinder horizontal	H.P
Antelope	H. R. Plastow	Unusual horizontal engine with piston each end of cylinder	H.P
Scorpion	B & R Tite	Super detailed model of paddle steamer engine of 1845	B.T
Mill Engine	C. Kennion	Typical horizontal mill engine	K.B
Vulcan	E. Westbury	Non condensing beam engine with "A" frame length 13", height 12" width 5"	R-BE-MESAS
Mary	Tubal Cain	Four column beam engine length 14" height 9" width 6½"	R-BE
ME Beam Engine	Oliver Smith	Centre column beam engine	R-BE-MESAS
Lady Stephanie	Tubal Cain	Six column beam engine length 8" height 8" width 2½"	R-BG
Double Tangye	E. Westbury	Twin horizontal mill engine, 1½" bore	R-BG-MESAS
Unicorn	E. Westbury	Horizontal mill engine single cylinder, ¾" bore	R-BG-MESAS

Perseus	E. Westbury	Simply constructed horizontal mill engine ¾" bore	R-BG-MESAS
Popular	Reeves	Vertical single cylinder, oscillating	R-BG
Master Vertical	Reeves	Twin cylinder vertical oscillating engine	R-BG
Master Horizontal	Reeves	Twin cylinder oscillating engine, parallel cylinders	R-BG
Master Horizontal Opposed	Reeves	Two cylinder (opposed) oscillating engine	R-BG
Warrior Mark II	P. Bertinat	An improved version of E. Westbury's 'Warrior'	R-BG-MESAS
Diagonal Paddle Engine	E. Westbury	Twin cylinder with Stephenson valve gear	R-BG-MESAS
Triple Expansion	O. B. Bolton	Typical Marine type triple expansion engine	R
Trojan	E. Westbury	Vertical single cylinder with slide valves	R-BG-MESAS
Nicholas	R. H. Clark	1/16 scale Savage organ engine	R-BG
Commander	D. C. Piddington	Compound launch engine for boats up to 6 metres length	R
Monarch	Reeves	Single cylinder double-acting vertical	R-BG
Emperor	D. C. Piddington	Two cylinder double acting vertical	R
Sovereign	D. C. Piddington	Single crank tandem compound with piston slide valves	R
Sovereign De Luxe	D. C. Piddington	A more advanced version of Sovereign	R
Regent	D. C. Piddington	Double crank compound	R
Consort	D. C. Piddington	A reversing double crank, triple expansion	R
Halls Rotary Engine	D. C. Piddington	A 2" scale model of an interesting prototype	R
Jowitt	J. Hodges	Single cylinder high speed poppet valve engine. Suitable for the beginner	CH
Jowitt Major	J. Hodges	Single cylinder poppet valve, governor controlled	CH
Marine Compound Engine	A. A. Leake	Two marine engines, one 3" and one 5", both for driving full-sized launch	CH
Single Cylinder Launch Engine	A. A. Leake	5" x 4" single cylinder launch engine for full-sized boat	CH
Dairy Engine	John Haining	A complete steam plant in 2" scale	JPH
Sirus		Twin cylinder high speed marine engine particularly suitable for use with flash steam boilers. 1" bore	ST
Sun		Twin cylinder high speed launch engine suitable for flash steam operation. ¾" bores	ST
Stuart Beam		Simple centre pillar beam engine 1" bore length 13" height 11½"	ST
James Coombes	A. Smith	A typical table engine based on an original at a Bristol colliery	ST
Victoria	Tubal Cain	Follows design of engines to be found in factories during 19th century. Single cylinder, horizontal 1" bore	ST
Twin Victoria	Tubal Cain	Basically two single 'Victorias' with extended crankshaft and central flywheel	ST
Alpha		Twin cylinder reversing oscillating engine of comparatively simple design	BM
Hotspur		Single cylinder horizontal slide valve, 6¼" flywheel, 10" base	BM
Cunardia		Twin cylinder vertical marine engine of fairly advanced design. Length 7¼", height 7¼"	BM
Tayport		Early table engine fitted with governor. Height 16½", length 6¾", flywheel 9" diameter	BM
Grasshopper		Grasshopper type beam engine. Base 18¼" x 6", flywheel 9½" diameter	BM
Side Rod		An unusual engine. Single cylinder with double connecting rods. Base 10" long, flywheel 5"	BM
Tandem Compound		Mill engine, the design of which has been simplified. Available with cast base or for mounting on mild steel plate	BM
ST Engine and Boiler		Small single cylinder oscillating engine and boiler	ST
S50		Mill engine of ½" bore. Simple construction	ST
No 1	Stuart Turner	Vertical single cylinder engine with 2" bore	ST
No 4		Vertical single cylinder engine with Stephenson link motion reversing. 1½" bore	ST
No 5A		Single cylinder vertical engine, 2¼" bore	ST
No 7A		Single cylinder vertical with	ST

		Stephenson's link motion reversing. 1" bore	
No 8		1" bore horizontal engine, length 8 1/2"	ST
No 9		1 1/2" bore horizontal engine, length 11"	ST
10H		3/4" bore horizontal engine, length 6"	ST
Score		Twin cylinder single expansion horizontal industrial type engine	ST
10V		Small vertical single cylinder engine, 3/4" bore	ST
D10		Twin cylinder vertical engine, 3/4" bore	ST
Twin Launch		A vertical engine of 1" bore	ST
Compound Launch		A vertical compound engine with 3/4" and 1 1/8" bore cylinders	ST
Triple		A typical triple expansion marine engine, bores 3/4"-1 1/4" and 1 1/4"	ST
Real	A. Smith	Single cylinder vertical engine of simple construction. 1" bore, height 15 1/2"	ST
Williamson	Tubal Cain	Unusual vertical engine with cylinder inside main frame. 3/8" bore, height 10"	ST
Major Beam Engine	G. Gentry	Large centre column beam engine. Bore 1 5/4", length 23", width 10 1/8", height 18 1/4"	ST
Undertype Compound Steam Engine	H. A. Taylor	Complete steam engine and boiler. Representing the type of steam plant frequently seen in factory yards, etc.	ST
6A Compound		Designed for driving full-sized launches. Cylinders of this vertical compound engine are 2 1/2 x 4" bores	ST
Cygnets		Single cylinder vertical. 2 1/4" bore reversible	ST
Swan		Two cylinder vertical. 2 1/4" bores reversible	ST

INTERNAL COMBUSTION ENGINES

MODEL	DESIGNER	DESCRIPTION	AVAILABLE FROM
Centaur 60cc Gas Engine	E Westbury	Typical model of the type of engines used to drive pumps	R-BG-MESAS
R & B Gas Engine	Bruce Davies	Gas engine of type used for electricity generating and pumping	BE
Atmospheric Engine	Bruce Davy	Unusual model of a nearly-forgotten prototype	BG
Seal	E Westbury	Four cylinder side valve engine of type used in motor cars in 1930s	WP
Sealion	E Westbury	Four cylinder overhead valve engine, the type still in use today in some motor cars	WP
Wallaby	E Westbury	Twin cylinder 30cc water cooled engine. 1" bore cylinders enable it to be used in model passenger-carrying locomotives	WP
Atom Minor		6cc two-stroke engine ideal for use in aircraft	WP
Jones 605		10cc glow plug engine suitable for aircraft or boats	WP
Seagull		Twin cylinder four-stroke 10cc engine. Realistic model of those used in river launches.	WP
Kiwi Mark II		15cc four-stroke single cylinder of reasonably simple construction	WP
Whippet		10cc water-cooled side-valve single cylinder, of reasonably simple construction	WP
Wyvern	E Westbury	Gas engine with twin flywheels, can also be used with petrol	

WORKSHOP EQUIPMENT

TYPE	DESCRIPTION	SUPPLIER
Angle Plates	For clamping work to sides, faceplates, etc., at right-angles	LES-BG-R-DG
Adjustable Angle Plates	For clamping work to slides, faceplates, etc., at various angles	LES-MES-DG
Keats Type angle plates	For clamping round, and irregularly shaped work to slides, etc.,	CES
Vee Blocks	For clamping or marking out round work	CES-BG
Surface Plates	For marking out work accurately	CES
Scribing Blocks	For accurate marking out	CES
Micrometer Stand	Supports micrometer	CES
Vertical Slide	For milling in lathe	BG
Stent Cutter Grinder	For sharpening machine tools	BG
Face Plate Chuck	Converts face plate to chuck	BG
Fixed Steady	Supports work on lathe	NH-BG-MES

Travelling Steady	For supporting extra long work on lathe	NH-BG
Slotting Attachments	Machining keyways, etc., with lathe	BG
General Purpose Tool Post	Tool holding in the lathe	BG
Tailstock Turret	Holding several tools in the lathe tailstock which can be rotated for use as required	R
Face Plates	Use on lathe for workholding	R-DG
Kennet Tool & Cutter Grinder	Sharpening machine tools	MES
Quorn tool and cutter grinder	Sharpening machine tools	MES
Abrasive Band Machine	Useful for rapid smoothing and cleaning of all metals	MES
Dore Westbury milling machine	Small milling machine, useful for home workshops	MES
Surface Grinder	Precision grinding of surfaces	MES
Hacksaw (Power)	Self-contained unit for 10" blade	WP
Vertical milling machine	Light machine used as mill/drill	WP
Sawing & Filing Attachment	Useful device for operation from lathe	WP
Spray Gun	For painting models	R
Depthing Tool	Accurate gear spacing, particularly useful for clock making	R
Compound Table	Allows light milling to be carried out on a drilling machine or can be used to make a milling machine	R
45° Tilting Table		R
Veg Angle Plate	For holding round and irregular work to faceplate	R
Speed Reducer for Senior "E" Milling Machine	Gives machine greater flexibility	R
Adaptor Block	Allows dividing head of Myford lathe to be used on milling machine	NH
Universal Pillar tool	Combined drilling/tapping machine for construction on 3 1/2" centre lathe	NH. R. MESAS
Drilling Machine		NH-BG-R WP
Four Tool Turret	Allows four tools to be mounted on lathe at the same time	NH
Retracting Tool Holder	The tool holder can be swung clear of the work but replaced accurately in position	NH
Retracting Top Slide	Design allows whole top slide to retract	NH
Taper Turning Attachment	Allow accurate turning of long tapers	NH
Hand Turning Rest	For using hand tools on an engineering lathe	NH-R
Rear Tool Post	Useful for parting off, in particular	NH-BG-R
Bending Rolls	For accurate forming of sheet metal	NH
Knurling Tool	Forms knurls on metal	NH
Spherical Turning Tool	Accurate turning of spherical surfaces and concave recesses	NH
Cross Drilling JK	Allows holes to be drilled accurately across metal bars	NH
Finger Plate	For holding thin work whilst it is machined	NH
Tool Posts		NH CES
Bell Punch	Accurate centering of round bars	CES
Back Plates	For holding chucks on lathes	CES R WP
Adjustable height Vee Body	Supports work in vice which would normally be too long	CES
Adjustable angle table	Similar to adjustable angle plate but offering more support	CES
G Clamps	For clamping work	CES
Various small machine vices	Holding work during machining operations	CES BG R MES
Die Holder	Holds dies while in use	CES
Screw Jack	An aid to setting-up work for milling	CES
Hand Vice	For supporting small work	CES
Machine Clamps	For securing work	CES
Bench Block	An aid to supporting work on the bench	CES
Dial Test indicator stand	Aids accurate setting-up when using a dial indicator	CES
Lathe Carrier	Drives work supported between centres on a lathe	CES
Spirit Level	Helps setting accuracy when installing machinery, etc	CES
Instrument Makers Vice	Small vice can be swivelled at various angles	NH CES
Rotary Table	Machining round surfaces in milling machine and obtaining various angles	NH-R CES-MES
Power Hacksaw	Saves physical effort when cutting metal. Takes half 12" blade	NH-MESAS
Precision Boring Heads	For boring and facing. Micrometer adjustment gives high degree of accuracy	NH WP-R MES
Dividing Head	For use on lathe or milling machine where it is necessary to get accurate divisions	NH-BG-R MES
Boring and Facing Head	Supplied with ready-made taper or straight shank. Micrometer adjustment, no awkward dovetails to make	W.P
Jason Lathe	Small centre lathe suitable for the model engineer	JAY
Dividing Attachment	24 division attachment for Myford ML7 lathes	MK

Potts Milling and Drilling Spindle	Useful spindle for making a drilling or milling machine	WP
Potts Universal Milling Attachment	Potts spindle with column and lead screw can be used vertically or horizontally	WP
Milling and Dividing Attachment	For 3½" lathe, combines vertical slide, slotted table milling spindle and dividing head	WP
Potts Tailstock Turret	Enables six tools to be mounted in tailstock for production work	WP
Potts Saw Table	Enables circular saws to be used in the lathe with accuracy	WP
Boring and Facing Head	Fitted with radial slide and automatic feed in both directions	WP

MISCELLANEOUS MODELS

MODEL	SCALE	DESIGNER	AVAILABLE FROM
18th Century Cannon			BG
Slate Waggon	5" Gauge		BG
Passenger Bogies	Various		BG, R, KB, CH
Shand Mason Fire Engine	2"	Edgar Westbury	R
Clayton Undertype Steam Lorry	2"	R. Dyer	R, BG, CH, MESAS
Foden Steam Waggon	3"	T. Morris	R
Henrici Hot Air Engine		E. Westbury	R, BG, WP, MESAS
Duplex Donkey Pump	Various	L.B.S.C.	KB
Weir Donkey Pump	Various	L.B.S.C.	KB
Railway Waggons	5" Gauge		PQ
Railway Waggons	3½" Gauge		BM
Rider Ericson Hot Air Engine	3"		CH
Living Van for Traction Engine	2"	J. Haining	JPH
Water Cart from Traction Engine	2"	J. Haining	JPH
Steam Hammer			ST
Boiler Feed Pump			ST
Compressor			ST
Foden Steam Lorry Type C	6"		BM
32lb Muzzle Loading Ships Gun	¾"	H. L. Pearson	HP
Trident Major marine boiler		Edgar Westbury	MESAS

Because Stuart Turner stockists are so numerous and widespread, we list the outlets for castings from this major supplier separately below. There are, no doubt, more but this data is reproduced from Stuart Turner's own records and is correct at March 1988.

AVON

Camden Miniature Steam Services.
13 High St., Rode, Nr. Bath,
Somerset. BA3 6NZ. Tel: 0373-830151

BEDFORD

Bryan Scale Models.
74 Midlands Road, Bedford.
Tel: 0234-59652

CAMBRIDGE

D. Mackay.
85 East Road, Cambridge.
Tel: 63132/6

CHANNEL ISLANDS

The Model Shop.
1 Commercial Arcade, Guernsey.
Tel: 0481-24729

CHESHIRE

Macclesfield Model Engineers.
c/o K N Motor Repairs,
173 Copper Street, Macclesfield.
Tel: 0625-614219

CUMBRIA

Modelmaker.
West View, The Park, Hallbankgate,
Brampton, Cumbria CA8 2DF.
Tel: 0228-47198

DEVON

Chelston Model Engineering.
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19 Sherwell Lane, Chelston,
Torquay, TQ2 6BG.
Tel: 0803-607210

The Model Shop.
9 City Arcade, Fore Street,
Exeter.

ESSEX

J & M Model Railways.
146a High Street, Maldon.
Tel: 0621 53959

Essel Engineering.
23 Cavell Road, Billericay, CM11 2HR

HAMPSHIRE

Mr. G.M.H. Bunce.
206 West Street, Fareham
PO16 0HF. Tel: 0329 234136

Eastleigh Model Centre.
2E High Street, Eastleigh.
Tel: 0703 617849

EURO Precision Tools Ltd.,
259-263 London Road, North End,
Portsmouth. Tel: 0705 6677331

M.J. Engineering.
63B Southampton Road, Ringwood
Tel: 042 54 6234

HUMBERSIDE

Keadby Marine.
Canal Side, Keadby, Scunthorpe,
S. Humberside. Tel: 0861 302

P. Filby.

5 The Close, Little Weighton,
Nr. Hull. Tel: 0482 846787

KENT

Maidstone Eng. Services.
Hedley Street, Maidstone,
ME14 5AD. Tel: (0622) 62005

LANCASHIRE

A.H. Collins.
99 Venables Ave., Colne.

N & A Hemingway.
30 Links View, Half Acre,
Rochdale, OL17 4DD.
Tel: 45404

Rawstron Bros. (Waterfoot) Ltd.,
The Millers Barn, 35 Burnley Road East,
Waterfoot, Rossendale, BB4 9AG.
Tel: (07062) 6231

Kingsway Motors & Models.
3 The Copse, Chapelton Road,
Turton, BL7 0DP. Tel: (0204) 852861

LEICESTERSHIRE

Modelcraft Ltd.,
2 Paigle Road, Aylestone.
Tel: (0533) 83664

LONDON

Steam Age.
19 Abingdon Road,
Kensington High Street, London W8
Tel: (01 938) 198

L.H. Turtle Ltd.,
12 Park Street,
Croydon CR0 1YE. Tel: (01 688) 5513

MERSEYSIDE

Model Engineering Supplies & Services.
MESAS House, Alma St. Works, Peasley Cross
St. Helens. WA9 3AR. Tel: (0744) 53634

MIDDLESEX

Allmodels Engineering Ltd.,
91 Manor Way, Ruislip

Bruce Engineering.
Hollow Tree, Riverside,
Walton Bridge Road
Shepperton TW17 8NF. Tel: (0932) 226767

MIDLANDS

E.W. Tennant F.P.S.
77 High Street, Halefowen
W. Midlands B63 3BQ. Tel: (021 550) 126

Wednesbury Wheels Ltd.,
Unit 3, 98 Sandwell Street
Walsall, W. Midlands WS1 3EB.
Tel: (0922) 3371

NORFOLK

Panks Engineers
The Old Tannery, 8 Heigham St.,
Norwich NR2 4TE. Tel: (0603) 20294

NORTHAMPTONSHIRE

Stagg Models
22 Bridge Street, Northampton
NN1 1NW. Tel: (0604) 35718

NOTTINGHAMSHIRE

Model Engineers Supplies
111 Church Rd., Burton Joyce
Nottingham. Tel: (060 231) 28

OXFORD

Millhill Supplies
66 The Street, Crowmarsh, Gifford, Nr.
Wallingford, Oxford OX10 8ES.

SUFFOLK

Eversons Boatyard Ltd.,
Phoenix Boatyard, Riverside
Woodbridge. Tel: (03943) 4358

SURREY

Cherry's (Surrey) Ltd.,
62 Sheen Road, Richmond.
Tel: (01 940) 2454

Masters of Epsom.
29 Tattenham Crescent, Epsom.
Tel: (07373) 56373

SUSSEX

Bonds O'Euston Road.
Arundel House, Rumbolds Hill,
Midhurst, GU29 9NE.
Tel: (073 081) 3441/3424

TYNE & WEAR

Mr. N. Stothard.
14 Burnhope Road, Barmston,
Washington. Tel: 4162993

WILTSHIRE

Melksham Models.
19 Bath Road, Melksham.
Tel: (0225) 703311

YORKSHIRE

Blackgates Engineering.
20 Wakefield Rd., Drighlington,
Bradford BD11 1EB. Tel: (0532) 853652

Ian Thompson Models.
3 John Street, Harrogate.
Tel: (0423) 66787

W. & J. Oliver.
153 Wincolmlee, Hull HU2 0HD.
Tel: (0482) 20195

Hobbies (Sheffield)
2-3 Shalesmoor,
(W.H. Burrows)
Sheffield S3 8UH. Tel: (0742) 26149

Skilled Crafts Ltd.,
Model & Eng. Supplies
34 Bradford Road,
Cleckheaton BD19 3LN.
Tel: (0274) 872861

P.E.M.C.O.
The Old White Horse, Wesley Place
Halifax Road, Keighley.
Tel: (0535) 662189

Morton's Models.
Unit 27, The Colonnade,
Piece Hall, Halifax HX1 1RS. Tel: 67863

SCOTLAND

Gateglen (Scotland) Ltd.,
The Hobby Shop, Main Street,
Alford, ABERDEENSHIRE AB3 8PX
Tel: (0336) 2963

Glassford's.
89 Cambridge Street,
GLASGOW C3. Tel: (041 332) 398

WALES

The Paint Shop.
High Street, Rhuddlan CLWYD.
Tel: (0745) 590250

D.W. Models.
67A Nolton Street, Bridgend,
MID GLAM. CF31 3AE.

S U P P L I E R S LISTINGS

AKRON TOOL SUPPLY CO.

Unit 8, The Grove, Tonbridge Rd., Harold Hill, Essex RM3 8TS.

Tel: 04023 77009

Among this company's wide range of tools (over 2,000) are some hard-to-find items at attractive prices: a special anniversary catalogue is available price 85p.

ARGUS BOOKS LTD.

PO Box 35, Wolsey Road, Hemel Hempstead, Hertfordshire HP2 4SS

Tel: 0442 41221

Publishers of an extensive range of model making and hobby books of all kinds, particularly noted for their fine list of model engineering titles.

ARISTOCRAFT

44 St. Mary's Lane, Louth, Lincolnshire LN11 0DT

Tel: 0507 605303

Manufacturers of scale super-detailed ride-on railway carriages and accessories for 5in. and 7/4in. gauge railways.

ARRAND ENGINEERING

The Forge, Knossington, Nr. Oakham, Leicestershire LE15 8LN

Tel: 066 477 566

A wide range of high quality British precision tools and machine tool accessories including fly cutters, boring heads, die holders, arbors and, in particular, a diamond hone.

B. ARRIDGE

1 New Village Road, Cottingham, North Humberside HU16 4LS

Drawings, cylinder castings, wheels, etc., for 5" gauge beginners Crampton locomotive.

ASHDOWN MODELS

Rose Cottage, Vinehall Road, John's Cross, Robertsbridge, East Sussex TN32 5JN

Tel: 0580 881144

Mainly noted for paints and transfers; the firm also carries a range of other items of interest to the model engineer.

ATLAS TOOLS LTD.

Duxons Turn, Hemel Hempstead, Herts.

Tel: 0442 42606

Suppliers of precision small tools and measuring instruments to industry and the model engineer, including files, vices, micrometers, marking-out equipment and dial test indicators, etc. Watch their ads in the Model Engineer - they often have useful special offers.

ATM CO LTD.

6 New Road, Dagenham, Essex

Tel: 01 503 5593

Suppliers of the entire range of Primus-Sievert LPG appliances, invaluable for soldering and silver soldering.

AXMINSTER POWER TOOL CENTRE

Chard Street, Axminster, Devon EX13 5DZ

Tel: 0297 33656/34836

Mail order specialists and suppliers of a wide range of model engineering power tools including lathes, drilling machines and miscellaneous accessories.

A&D BARRACLOUGH LTD.

Elm Street Mill, Elm Street, Burnley, Lancs.

Tel: 0282 27048

Manufacturers of the well-known Sharp 4" rotary table which they supply complete or in kit form. Check with them for availability of other castings.

BASSETT-LOWKE LTD.

Harvey Reeves Road, Northampton, NN5 5JR

Tel: 0604 585999

A name that needs little introduction to modellers anywhere in the world. The firm mainly specialises in industrial models these days, but they still stock an excellent range of drawings of ships by Harold Underhill. All of which are recognised in the hobby for the high standard they set.

BEATSON & CO (ELECT.) LTD.

17/21 Mowbray Street, Sheffield S3 8EN

Tel: 0742 760881

Suppliers of all types of electric motors; telephone or send for free list of stock.

ERIC H. BERNFIELD LTD.

7A Southbank, Thames Ditton, Surrey KT7 0ND

Tel: 01 398 7812

The firm's products are basically aimed at very high quality engineering rather than model engineering. Nevertheless, they carry a first class range of measuring equipment such as Verniers and micrometers, some of which are very inexpensive. Their machine tool range only includes very high quality machines. The standard is absolutely excellent and, although the price is higher than for other machinery, they represent good value for money for those with that little bit of extra cash to spend. The firm also carries a full range of watchmaking machinery and tools, including the famous Boley Leinen range.

BLACKGATES ENGINEERING

20 Wakefield Road, Drighlington, Near Bradford, West Yorkshire BD11 1EB

Tel: 0532 853652

A friendly little firm nearly always to be found at rallies, etc., with their caravan that converts into a mini showroom. So frequently do they travel about in the summer that they have been nicknamed Nomads Ltd. Always willing to offer help, the firm stocks Myford lathes and accessories, hand tools, and a wide range of castings for workshop equipment, stationary engines, traction engines and locomotives. They have recently developed a cutter grinder which can be made from their castings. They produce the locomotive "Sweet Pea" which has proved highly popular and also produce all the castings for the Durham and Yorkshire traction engine. Their range is constantly on the increase and a new locomotive is due shortly. A good stock of metal is also carried. The premises bulge at the seams with stock and squeezed in amongst this they have their own pattern shop.

BLACK & DECKER LTD.

Cannon Lane, Maidenhead, Berkshire

Tel: 062 882 2130

Well-known range of power tools and accessories including drills, saws and sanders plus the Minicraft range.

BONDS OF EUSTON ROAD

Arundel House, Rumbolds Hill, Midhurst, Sussex

Tel: 073 081 3441

An old-established company dealing in a wide variety of model engineers' requisites.

M. BREEZE

21 Castle Drive, Northborough, Peterborough

Tel: 0778 346565

A range of high quality locomotive drawings in 3/2 and 5 inch gauges. Castings either are or will be available for the models. The range includes an L.M.S. Pacific, two L.N.E.R. Pacifics and the L.N.E.A. Green Arrow class as well as other types.

BRUCE ENGINEERING

Hollow Tree, Riverside, Walton Bridge Road, Shepperton, Middlesex, TW17 8NF.

Tel: 0932 245529

Suppliers of drawings and castings for stationary steam engines and in particular stockists of the Stuart Turner range. They also produce drawings and castings for the R&B gas engine which was serialised in Model Engineer. This model is also available part machined.

BRUNEL MODELS

3 Longlands Crescent, Heysham, Lancashire

Tel: 0524 51400

Suppliers of castings and drawings for stationary engines, locomotives and rolling stock. Illustrated catalogue; UK £1.00 overseas £2.50.

BOXFORD LTD.

Wheatley, Halifax, West Yorkshire HX3 5AF

Tel: 0422 58311

Famous manufacturer of high quality machine tools for industry whose range also includes a lathe and associated accessories specially developed for the hobby market.

BRIDGEPORT MACHINES

PO Box 22, Forest Road, Leicester LE5 0FJ

Tel: 0533 531122

An old-established and renowned maker of high quality industrial milling machines and accessories.

G.M.H. BUNCE & CO. LTD.

206 West Street, Fareham, Hampshire

Tel: Fareham 234136

Dealers in machine tools who also stock a wide range of materials and castings of interest to model engineers.

BURGESS POWER TOOLS LTD.

Sapcote, Leicester LE9 6JW

Tel: 045 527292

Manufacturers of a wide range of woodworking power tools, especially a three wheeled bandsaw.

CAMDEN MINIATURE STEAM SERVICES

13 High Street, Rode, Near Bath, Somerset BA3 6NZ

Tel: 0373 830151

One of the leading suppliers of technical books for model engineers in the UK carrying numerous imported titles. Magazines, plus castings for very different designs are their speciality.

CAROUSEL CRAFTS

"Choctaw", 26 Church Drive, Orton Waterville, Peterborough, Cambs. PE2 0E2

Tel: 0733 231719

Fairground items are a rarity. This firm stocks many different items, including those that cause the greatest difficulty to the home constructor. They also stock drawings of fairground equipment.

CARRS MODELLING PRODUCTS

Unit 5, Centre 88, Elm Grove, Wimbledon, London SW19 4EH

Suppliers of solders and in particular the excellent Fry's silver solder range. They also specialise in chemicals for various metal treatments and colourings. Other items stocked include military models, low melt alloys, and scenic products. A stamped addressed envelope is all that is required for a full list.

CHERRY'S OF RICHMOND

62 Sheen Road, Richmond, Surrey, TW9 1UF

Tel: 01 940 2454

Dealers in finished models of traction engines, locomotives, marine models, stationary engines, Mamod models etc. Catalogue is issued now twice yearly, usually January and June.

CHELSTON MODEL ENGINEERING

19 Sherwell Lane, Chelston, Torquay, S. Devon TQ2 6BG

Tel: 0803 607210

Stockists of machines, tools, metal, as well as castings for various workshop equipment and locomotives. A recent introduction has been 2 model poppet valve high speed stationary engines which are easy to make and yet are true scale models.

CHRISTIES

85 Old Brompton Road, London SW7 3LD

Tel: 01 581 7611

Famous international auctioneers with a specialist division dealing with the auction of models. Sales are held periodically and announced in the modelling press.

CHRONOS LTD.

95 Victoria Street, St. Albans, Herts.

Tel: 0727 32793

Mainly specialist suppliers for the clockmaker. Their range however includes many items of considerable use to the model engineer interested in other types of modelling. In particular they make a very fine range of direct division plates. They also stock a range of machines and tools and many books of interest to the clockmaker.

J.G.S. CLARKE & CO.

The Old School, Love Lane, Denbigh, Clwyd, LL16 3LT North Wales

Tel: 074571 3118

This firm specialises in drawings and castings for locomotives basically for 5 and 7/4in. gauges. All their designs are their own special products and include some most unusual and attractive models. They also supply completed models to order as well as a bolt together kit

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for a 5in. gauge steam locomotive and tender. All their products are of the highest standard and make up into excellent models.

CLASSIC CLOCK KITS

75 Foxley Lane, Purley, Surrey CR2 3HP

Mail Order only

Suppliers of ready-machined kits of parts for a selection of clocks. The kits are self-assembled, using hand tools and polishing papers, into attractive and functional timepieces to grace any decor.

COLLEGE ENGINEERING SUPPLIES LTD.

2 Sandy Lane, Codsall, Wolverhampton WV3 9HO

Tel: 09074 2284

Originally started to supply technical colleges with suitable drawings and castings for workshop equipment, the range produced became an obvious target for the model engineer seeking to improve the facilities in his or her workshop. A very comprehensive range of castings for workshop equipment is available and this has just been augmented by a new design in the form of a rotary table. Many of the castings are suitable subjects for beginners to the hobby.

CLERKENWELL SCREWS LTD.

109 Clerkenwell Road, London EC1R 5BY

Tel: 01 405 6504/1215

Long-time suppliers of all kinds of screws for model engineering purposes; they have many unusual varieties among their range of 230 types and sizes.

COLUMBIA METALS LTD.

19 High Street, Earls Barton, Northamptonshire NN6 0JH

Tel: 0604 810317

Specialist suppliers of non-ferrous metal with no minimum order charge. Of special interest is their Colphos 90 free-cutting bronze which has exceptional wear-resisting properties.

COMPASS HOUSE TOOLS

High Street, Rotherfield, E. Sussex TN6 3LH

Tel: 0892 852968

Suppliers of surplus tooling and new equipment for the model engineer.

CRAFTS FOR 4 SEASONS

1120 Melton Road, Syston, Leicester. LE1 8HJ

Tel: 0533 607242

The firm stocks very many designs for clocks in which they specialise. They have in particular a wide range of special brasses of types that are often difficult to obtain. They also stock a wide range of tools and other items of value to the clockmaker in particular and the model engineer in general.

CROWHURST ENGINEERING

2 Mill Fields Road, Hythe, Kent. CT21 4DH

Tel: 0303 64928

Manufacturers of Crowhurst Engineering brazing hearths in two sizes, purpose built for the model engineer. Strong welded steel framework with refractory able to withstand elevated temperatures. Refractory bricks available separately and special purpose hearths made to order. SAE for leaflet.

CZ SCIENTIFIC INSTRUMENTS LTD.

2 Elstree Way, Borehamwood, Hertfordshire

Tel: 01 953 1688

Makers and distributors of the East German Hobbymat and Pretzimat lathes, their associated tools and accessories and a mill.

DAVALL GEAR COMPANY LTD.

Welham Green, Hatfield, Herts. AL9 7JB

Tel: 07072 65432

Manufacturers of all types of power transmission gearing, with over 2,400 standard stock gears. Toothed timing belt drives also available.

JOHN M. ELLIS

Unit 3, Fairfield Drive, Off Stone Lane, Kinver, West

Midlands. DY1 6EQ

Tel: 0384 872122

Although particularly specialising in making boilers for the smaller gauges right up to 10 1/4 in. gauge as well as for traction engines of all scales, the firm also makes an interesting range of forged coupling hooks which look highly authentic as well as having the additional strength associated with the forging process.

EMCO MAIER LTD.

10 Woodshots Meadow, Croxley Green, Watford, Herts.

WD1 8YZ

Tel: 0923 50051

U.K. importers of the EMCO range of machine tools which are so well established in the hobby as to probably need no description. It includes the well known Unimat and the Compact 5 and Compact 8 lathes. The range has both milling attachments for the lathes and milling machines in their own right. They also stock accessories and other machines likely to be of use to the model engineer.

EURO PRECISION

Unit 1, Venture Industrial Park, Ackworth Road, Hilsa,

Portsmouth PO3 5JP

Tel: 0705 667331

The firm stocks the Unimat range of machines and, in particular, specialise in the Unimat 1.

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EVERETT MODEL ENGINEERING SUPPLIES

24 Station Road, Meopham, Kent

Tel: 0474 814925

Suppliers of metal, drawings, castings, etc. for locomotives and stationary steam engines.

EXCEL MACHINE TOOLS

Unit 1, Colliery Lane, Exhall, Coventry CV7 9NW

Tel: 0203 365255

A wide range of good quality imported machines, in particular larger size milling machines from the far East.

EXPO (DRILLS) LTD.

Clock Tower Works, Warsash, Hampshire SO3 6FH

Tel: 04895 83966

A wide range of very useful miniature electric powered hand tools, in particular the Saturn series of drills.

FAN AND MOTOR CENTRE

65 Sidney Street, London E1 2HH

Tel: 01 247 3710

A large stock of new and second hand electric motors suitable for all model engineering purposes.

P. FILBY

Unit 1, Half Acres, Welton Road, Brough, North

Humberside HU15 1PQ

Tel: 0482 666662

Model traction engine specialists who can supply a wide range of parts and accessories for models from 4in. to 6in. scale.

FLAMEFAST LTD.

Pendlebury Industrial Estate, Bridge Street, Swinton,

Manchester M27 1FJ

Tel: 061 793 9333

Manufacturers of gas equipment for the model engineer; range includes soldering torches, small furnaces, casting tools and equipment and brazing torches and materials.

FYNE FORT FITTINGS

Clarence Boatyard, East Cowes, Isle of Wight PO32 6EZ

Tel: 0983 293633

Specialist suppliers of steam fittings of high quality for the builder who can't wait to see his model in steam.

PHIL W. GIBBONS

Six Score Road, Langtoft Common, Market Deeping,

Peterborough PE6 9OD

Tel: 0778 347515 or 0780 63458 (evenings)

A foundry specialising in castings for the model engineer. Although they have some patterns of their own, basically their work is making castings to customers' own specifications. Either from patterns or drawings. A useful service not always easy to obtain elsewhere.

G.L.R. DISTRIBUTORS LTD.

Great Northam Works, Hartham Lane, Hertford,

Hertfordshire

Tel: 0992 552962

Suppliers and stockists of tools and raw materials of all kinds including taper tooling, punch end bend, green grit wheels, aluminium, brass, copper (all types), drill sets, blanks, drills, dies, grinding wheels, heavy metal, non-corrosive balls, carbide-tipped tools. Drawings and castings for "Dolphur" 5" narrow gauge 2-8-4 tank loco. Catalogue available at 60p - everything for the model engineer.

DAVE GOODWIN

43 High Street, Rishton, Blackburn, Lancashire BB1 4JS

Tel: 0254 885836

Suppliers and manufacturers of specialist parts and castings for model locomotives, in particular designs from Model Engineer Patterns.

GRAHAM ENGINEERING LTD.

Roebuck Lane, West Bromwich, West Midlands B70 6QP

Tel: 021 525 3133

Importers and suppliers of good quality foreign machine tools and associated spares and accessories, especially far East equipment.

T.S. HARRISON & SONS LTD.

Union Street, Heckmondwike, Yorkshire WF16 0HN

Tel: 0924 403751/6 and 0924 409361/6

A 'big' industrial lathe manufacturer who has developed a model specifically for the model engineering hobby market; this is the high quality Harrison M250.

HEGNER (UK) LTD.

111 Sutton Road, Southend on Sea, Essex SS2 5PB

Tel: 0702 617298

Saws and associated woodworking power equipment.

N.S. HEMINGWAY

30 Links View, Half Acre, Rochdale, Lancashire OL11 4DD

Tel: 0706 45404

Stockist of tools, metal etc. but specialising in drawings and castings of workshop equipment of a high standard. Many of the designs by George Thomas but some by members of the firm themselves. A pair of newly designed steadies and a taper turning attachment are amongst their latest offerings. Older items include various toolposts, dividing heads, rotary table amongst the very wide range. No doubt at all that the workshop capacity can be greatly increased by using their workshop equipment.

D. HEWSON (Models)

73 Victoria Road, Barnetby, South Humberside ON36 6HY

Specialises in odd little parts cast to a high standard through the lost wax process. The sort of detail that makes models look good.

HEWARD & DEAN LTD.

90/94 West Green Road, Tottenham, London N15 4SE

Tel: 01 802 1731

Suppliers of tools, materials and sundries for model engineers.

HIRSCH JACOBSON MERCHANDISING CO. LTD.

91 Marylebone High Street, London W1M 3DE

Tel: 01 935 4709

Specialist suppliers of high quality optical equipment and measuring instruments.

F.L. HUNT & CO.

48 Chapel Street, Manchester M3 7AA

Tel: 061 834 1465

A long established firm of Foundry Suppliers who specialise in the small quantities needed by the home foundryman. The range is vast and it is suggested that you phone or write for a quotation stating your exact needs - despatch is immediate to any address in the U.K.

IRON HORSE ENGINEERING LTD.

113 Stein Road, Southbourne, Emsworth, Hants.

PO10 8LS

Tel: 0243 373624

Complete suppliers for scale passenger-carrying railways from 3 1/2 to 10 1/4 in. gauge. Services include everything from planning through to running railways for the garden, estate or park.

J.A. JACKSON

"Tufagh", Ramsden Park Road, Ramsden Bellhouse,

Billericay, Essex CM11 1NG

Tel: 0258 710144

Designer and supplier of the "Manumatic" Boring and Facing Head which gained high distinction in its class at the 1987 Model Engineer Exhibition. Drawings, castings and instructions for use of the device are obtainable only from this source.

J.P.H. ENGINEERING

7 Bournemouth Park Road, Southend on Sea, Essex

SS2 5JQ

Tel: 0702 66688

The firm specialises at the moment only in the John Haining designs. These include most of the traction engines and all the other published designs such as the Dairy Engine, the living van and the water cart.

J.M. WILD

12 Norton Green Close, Sheffield S8 8BP

Tel: 0742 745693

A specialist in clocks, parts and tools suitable for clockmaking. Their large catalogue includes all manner of general tools suitable for other types of model engineering, as well as clock items. A very large range of clock faces and hands as well as books. Plenty to interest all facets of the hobby.

L.C. JAY & SON LTD.

19-21 Oak Street, Norwich NR6 7DT

Tel: 0603 628798

Specialist foundry willing to cast from customers' own patterns in iron bronze or alloy. Also stock castings for popular designs as well as for a couple of their own specialities. These include a neat little lathe suitable for home construction.

A. KELLET

2a Egerton Street, Denton, Manchester M34 3LU

Tel: 061 320 0047

Gearmakers of repute and happy to supply small quantities to customers' requirements.

KENNION BROS.

2 Railway Place, Hertford, Hertfordshire SG13 7BT

Tel: 0992 52573

The oldest model engineering supplier of them all. Founded in 1901 they moved to Hertford in 1944. Stock includes a large range of tools, and materials. Their castings include many old designs with very rare gauge "O" and 2 1/2 in. gauge models. They also keep drawings and castings for many of the later published designs as well as some of their own specials. These include a mill engine, A Pecket Tank Locomotive, a 7 1/4 in. gauge GWR King, and a pannier tank in the same gauge. Two 5 in. gauge Great Western Locomotives and Butch, an 0-6-0 tank locomotive that is one of the most popular designs ever. They also carry drawings and castings for two small steam pumps suitable for model locomotives or stationary plants.

LEEDA LTD.

14 Cannon Street, Southampton SO9 2RB

Principally manufacturers of fishing equipment, this company's magnifying spectacles (marketed as an aid to fly-tying) are of equal value to model engineers.

LINAZE LTD.

PO Box 343, Old Marsh Lane, Maidenhead, Berks. SL6 0EJ

Tel: 0628 74344

Manufacturers of a demonstration gyroscope with balanced flywheel running on ball bearings. Useful as a teaching aid, and also as a high quality executive toy for children and adults, it is available direct from the manufacturer.

LIRIMA DESIGNS

Unit 9, Pendre Industrial Estate, Tywyn, Gwynedd

LL36 0AU

LOCOMOTIVE DESIGN CO.

Nyala, Scruton, Northallerton, N. Yorks DL7 0QZ
Tel: 0609 748315

A recently-established company specialising in 2 1/2" gauge designs who also market the extensive range of castings available from Dave Goodwin.

LOCO STEAM

Keswick Lodge, Keswick, Norwich, NR4 6TY
Tel: 0603 58270

A general range of supplies of metal tools, etc., for the model engineer, the firm, in particular, specialises in Gauge 1 drawings, castings and parts. They also stock drawings and castings for larger gauges and particularly attractive is the narrow gauge model "Hackfly" which is exclusive to them.

L.S.M. ENGINEERING

92 Eastfield Road, Wollaston, Northamptonshire N9 7RU
Tel: 0933 665409

Builders and suppliers of parts, castings and drawings for the larger scale traction engine model.

MACHINE MART

71-73 Manchester Road, Altrincham
Tel: 061-941 2666

Also at Birmingham, Bradford, Liverpool, Sheffield, Stoke on Trent, Hull, Preston, Wolverhampton, and Nottingham. Suppliers of machine tools, mainly imported. In particular, they carry a large range of electric motors and starters. Also MIG welders.

MACHINE TOOL SALES

Sparks Lane, Cuckfield, Sussex RH17 5JP
Tel: 0444 413122 or 04446 42266

Suppliers of the well-known Matosa rotating centre, a British made product which MTS are able to offer at a special price direct to customers.

MAIDSTONE ENGINEERING SERVICES

Hedley Street, Maidstone, Kent ME14 5AD
Tel: 0622 62005

Suppliers of tools and materials, castings and kits of parts.

MARDYKE MINIATURE RAILWAYS LTD.

No. 3 Factory, Lambs Lane, Rainham, Essex RM13 9XL
Tel: 04027 54618

Builders and suppliers of ready-to-run locomotives and rolling stock for the large gauge enthusiast or the commercial operator.

A. MARKS (MODELOY)

3 Old Hall Close, Laughton-en-le-Morthen, Sheffield S31 7YZ
Tel: 0909 563940

Manufacturers of machine tool accessories and other related materials including centre drill holders and chuck adaptors, etc.

MARTEX NORTHERN SALES

PO Box 250, Chester CH1 4HE

A drill sharpening device is the main item of interest. They also stock a useful flexible sanding disk of above average quality as well as a range of drills etc.

MERCER PNEUMATIC TOOLS LTD.

Springfield Works, Moorside, Cleckheaton, W. Yorks BD19 6JT
Tel: 0274 874586

Manufacturers of the useful Swan-neck Clamps used for holding work on the faceplate or milling machine. A range of other useful tooling is offered; 'phone or write for details.

MICROW ENGINEERING

5 Lindsay Street, Kettering, Northants.

Manufacturers of machine tool accessories of high quality, in particular a double-ended sliding die holder.

MILNER ENGINEERING

Old School, Main Road, Higher Kinnerton, Chester CH4 9AJ
Tel: 0244 660791

Consultants, designers and manufacturers of model locomotives and equipment in 7 1/2" to 15" gauge.

MODEL ENGINEERING SUPPLIES AND SERVICES

MESAS House, Alma St. Works, Peasley Cross, St. Helens, Merseyside WA9 3AR
Tel: 0744 53634

Suppliers of a large range of new and second-hand machine tools, castings, materials, sundries and books and publications.

MODEL ENGINEER PLANS SERVICE

Model & Allied Publications, PO Box 35, Wolsey Road, Hemel Hempstead, Hertfordshire HP2 4SS
Tel: 0442 211882

A large range of plans and working drawings for model engineering subjects of all types. A fully illustrated handbook is available, price £1.50 including postage.

MODEL ENGINEERING SERVICES

6 Kennet Vale, Brockwell, Chesterfield, Derbyshire S40 4EW
Tel: Chesterfield 79153

A wide range of castings and drawings for workshop equipment. These include a milling machine and surface grinder, dividing head, and lapping machine as well as many smaller items. Some of the larger castings are available ready machined. They produce castings for two different cutter grinders for those wishing to sharpen their own milling cutters etc.

M.J. ENGINEERING

Manor Hatch, 63b Southampton Road, Ringwood, Hants. BH24 1HE
Tel: 04254 6234

Castings for Ariel the 5 inch gauge Merchant Navy Pacific Locomotive and a 7 1/4 inch gauge Bagnall narrow gauge locomotive are included in the locomotives. Three 2 inch and one 3 inch scale traction engine and a 2 inch scale steam roller all to the firm's own individual designs. They also stock metal and a large range of fittings and have plans to increase their range further in the near future.

MOTORUM PHASE CONVERTERS

23 Waldengrave Road, Teddington, Middlesex
Tel: 01 977 0242

Specialist in the supply of electrical phase converters, particularly useful when purchasing secondhand machinery.

D. MACKAY

85 East Road, Cambridge CB1 1BY
Tel: 0223 63132

Not primarily model engineer suppliers, the firm stocks an exceptionally large range of tools and machinery. They also stock and will cut to size brass steel etc. but that service for callers only. Stuart Turner castings are also available.

MALDEN TRANSFORMERS

134 London Road, Kingston on Thames
Tel: 01 546 7534

A large range of new and secondhand electric motors as well as phase converters, transformers etc.

MAXITRAK

"Rotheimay", Offham Road, West Malling, Kent ME19 6RG
Tel: 0732 840660

Manufacturers of large scale live steam and diesel models in both narrow and standard gauges; the locos are available in either kit or ready-to-run form.

MEDDINGS SALES LTD.

Lee Mill Industrial Estate, Ivybridge, Devonshire PL21 9LL
Tel: 07554 3277

Manufacturers of a range of high precision drilling machines among other quality machine tools.

MERIDIAN CLOCKS

Wheelwrights House, Hillgrove, Lurgashall, Petworth, Sussex

Mail Order only

Suppliers of an excellent series of specialist books by the well-known horological author John Wilding. The books deal with the making and restoration of clocks of all sorts. These books make an excellent reference source for any horologist, amateur or professional.

MICROFLAME (UK) LTD.

Vinces Road, Diss, Norfolk IP22 3HQ
Tel: 0379 4813

Importers and distributors of the Dremel range of precision hand-held power tools and Microflame soldering, brazing and welding tools and accessories.

MODEL WHEELWRIGHT

1 Fieldway, Fleet, Hampshire GU13 8ER

Mail order supplier of carriage, waggon and caravan plans and books for the construction of model horse-drawn vehicles.

N. MOLE & CO. (MACHINE TOOLS) LTD.

5 Tolpits Lane, Watford, Hertfordshire WD1 8LU
Tel: Watford 43135

A supplier of lathes, milling machines, etc., and the Amolco milling attachment.

MY KITS

1A Holly Close, West Winch, Kings Lynn, PE3 0PW
Makers of a small simple indexing device for the Myford 7 series lathes.

MYFORD LTD.

Beeston, Nottingham NG9 1ER
Tel: 0602 254222

Manufacturers of model engineers' lathes and associated tools and accessories. Latest model is their 254s.

MILLHILL SUPPLIES

66 The Street, Crowmarsh Gifford, Nr. Wallingford, Oxon OX10 8ES
Tel: 0491 38653

Specialist mail order tools suppliers; a free list is available on request.

Z.R.D. NADIRSHAW

441 West Green Road, Tottenham, London N15
Tel: 01 888 1865/4613

Suppliers of taps, dies, drills and reamers in all popular model engineers' sizes; one-off sizes are available, contact for a quote. Send a large S.A.E. for price list.

NAEROK LTD.

Unit 2, 96 Gore Road, New Milton, Hants. BH25 6SA
Tel: 0425 619151

Suppliers of good quality imported machine tools, in particular milling machines and drilling machines from the far East.

NUTOOL GROUP

Carcrahy Industrial Estate, Wellsyke Road, Adwick 1e

Street, Doncaster, S. Yorkshire

Suppliers of hand tools and machinery suitable for model engineering workshops. Latest offering a combined milling and drilling machine.

F. O'BRIEN & CO. LTD.

Swadlincote, Burton-on-Trent DE11 0PH
Tel: 0283 217588

Manufacturers of drilling machines, including the Star range and, in particular, the Startrite (Fabco) series.

H.L. PEARSON

5 Ruskin Avenue, The Straits, Sedgley, Dudley

Manufacturers of parts for model cannon which can be obtained as part machines or plain castings. The models are supplied with proper cast iron barrels and look most realistic when completed. The sort of odd project to fill in the shorter periods of time spent in the workshop.

PEATOL MACHINE TOOLS

19 Knightlow Road, Harborne, Birmingham B17 8PS
Manufacturers and suppliers of the Peatol Micro Lathe and its associated spares.

H.R. PLASTOW

The Old Rectory, All Saints, South Elmham, Nr. Halesworth, Suffolk IP19 0PB
Tel: 098 682 325

Traction engine specialists who stock a large range of drawings and castings for various types of traction engines and steam rollers. They include amongst the range some models in larger scales up to 4 1/2 inches to the foot. They also have drawings and castings for some unusual stationary engines and stock several useful books on traction engine construction. Two of these are aimed at helping the constructor by showing a complete range of photographs relating to traction engine construction.

PRO-AM MACHINE TOOLS & MODEL ENGINEERS

SUPPLY LTD.
Felmingham, North Walsham, Norfolk
Tel: 0263 732661

Excellent source of both new and used machine tools in most sizes.

PRECISION ENGINEERS LTD.

Mary Street, Rishton, Blackburn, Lancs. BB1 4RF
Tel: 0254 888001

Manufacturers of the Rishton VM series of vertical milling machines and attachments, the Union range of grinding, polishing and belt-grinding machines and the Clarendon range of hand-operated presses. Whilst recently new to the model engineering market, the company has been established for over forty years and is increasing its commitment by designing and producing truly British-made machines and accessories.

PRECISION PAINTS CO. LTD

P.O. Box 43, Cheltenham, Gloucestershire GL51 5HR
Tel: 0452 714514

Manufacturers of authentic railway colours in trinkets and spray aerosols. Paints carry colour - matching approval of British Railways Board.

PRECISION SERVICES

Princes Drive, Crackley Industrial Estate, Kenilworth, Warwickshire CV8 2FD
Tel: 0926 59142

Specialists in the supply of quality measuring instruments. The firm also stocks the Unimat range of machine tools.

PROOPS BROTHERS LTD.

52 Tottenham Court Road, London W1P 0BA
Tel: 01 636 4420

Suppliers and stockists of a very wide range of tools, materials and model engineering sundries, many at bargain prices.

PROOPS DISTRIBUTORS LTD.

Heybridge Estate, Castle Road, London NW10 8TD
Tel: 01 267 6911

Originally part of the Proops firm at Tottenham Court Road, this particular firm specialises in a very wide range of small items likely to be of interest to the model engineer. Many are in £1 packs with a variety of pieces of similar type incorporated in the same pack. They represent remarkable value.

QUALTERS & SMITH

Smith Wilkinson Ltd., Albion Road, Carlton, Barnsley, South Yorkshire S71 3HW
Tel: 0226 287561

Manufacturers of high quality, high precision drilling machines.

A.J. REEVES & CO. (BIRMINGHAM) LTD.

Holly Lane, Marston Green, Birmingham B37 7AW
Tel: 021 779 6831/2/3

The largest stock of all the suppliers. Probably with a leaning towards castings for locomotive construction for which they stock nearly all the popular types. They also have castings for traction engines, stationary engines, as well as a range of workshop equipment. They have several exclusive designs including a number of locomotives as well as workshop equipment and stationary engines. They keep the drawings and castings for the 2 inch scale Shand Mason Fire Engine. The large catalogue includes machines and tools as well as metal

and all the other ancillary items likely to be required by the model engineer.

P.J. RICH

66 Cwm Cwddry Drive, Rhiwderin, Gwent
Tel: 0633 893156

Drawings and castings for several locomotives of exceptionally high standard. All non-published designs. A fine example is their LMS Patriot in 5 inch gauge.

D.C. RICHARDS

PO Box 450, Parramatta, 2150, New South Wales, Australia

Tel: 02 633 4893

One of the leading suppliers in Australia. They stock drawings, castings, metal, screws, books, etc. Both British and Australian prototypes.

ROTAGRIP LTD.

16-20 Lodge Road, Hockley, Birmingham B37 7HT
Tel: 021 551 1566

Suppliers of a wide range of tools and equipment for the model and professional engineer. A speciality of the house is the supply of chuck spares. The catalogue, obtainable on receipt of a large s.a.e., is a useful item to have in the workshop filing system. Personal callers are welcome and mail orders are dealt with as quickly as possible.

SCOT URQUHART

371 Earlsfield Road, London SW18
Tel: 01 874 5708

Manufacturers of high quality tooling. Probably best known for their rotary and compound tables. Their products are stocked by many regular suppliers.

J. SIMBLE & SONS

The Broadway, Queens Road, Watford, Herts.
Tel: 0923 26052

One of the largest tool stockists in the home counties. Can meet most requirements of the model engineer from stock.

NATHAN SHESTOPAL LTD.

Unit 2, Sapcote Trading Centre, 374 High Road, Willesden NW10 2DH
Tel: 01 451 6188

Stockists of a wide variety of machine tools and accessories and principal source of supply for Primus Sievert gas equipment.

SKILLED CRAFTS LTD.

34 Bradford Road, Cleckheaton, W. Yorks.
Tel: 0274 872861

New and second-hand machine tool stockists with a large selection of equipment by quality manufacturers.

SMALL MACHINE TOOLS LTD.

Unit B3, Seadon Court, Gorse Lane Industrial Estate, Clacton-on-Sea, Essex
Tel: 0255 473629

Manufacturers of the Cowell range of small lathes, milling machines etc. The range is constantly being developed and includes some items suitable for clock making.

P.J.M. SOUTHWORTH

6 Kennet Vale, Brockwell, Chesterfield, Derby S40 4EW
Tel: 0246 79153

Publisher of "Some Early Robey Steam Engines", 43 pages including 54 photographs and drawings, £3.90 including postage and packing, £5.60 airmail.

NORMAN SPINK

52 Highfield Lane, Newbold, Chesterfield, S41 8AY
Tel: 0246 77010

A specialist in locomotive castings and drawings of which they stock a very wide range. Noted for high quality castings and prompt mail order despatch. They have several designs of their own including a 5 inch gauge Britannia, 5 inch gauge G.W.R. King and a 5 inch gauge British Railways 2-10-0, all of which are proving to be highly popular. Under the well known name of WARCO, the firm stocks a very wide range of machines of all sizes and types. The range goes through milling machines, lathes, drilling machines, grinders, power saws, etc. They have woodworking machinery as well. Of particular interest to modellers are their drilling machines and their 918 model engineer lathe as well as the popular range of drill mills. Also the firm stocks the Japanese TOYO range of machines which are proving popular with modellers.

STEAM AGE

19 Abingdon Road, Kensington High Street, London W8 6AH
Tel: 01 938 1982

Specialists in the purchase and supply of completed models. Suppliers of model engineering kits, castings, boiler fittings and books.

STANTON-THOMPSON (AGENCIES) LTD.

Lys Mill, Watlington, Oxon OX9 5EP
Tel: 0491 613515

Distributors of the Orkan range of high speed steel boring tools.

STUART MODELS LTD.

Sharpham Road, Cheddar, Somerset
World of Model Engineering 2

Makers of the famous range of Stuart Turner Models and also the Morewood model boilers. The range needs little introduction being famous the world over. Boilers can be made to order to any design or scale.

KEN SWAN

Dipwood Way, Rowlands Gill, Tyne-and-Wear NE39 1DH
Tel: 0207 542560

Specialist in 7 1/4" gauge prototypes and supplier of castings and materials for a range of models in this size.

SWINDON

29 Church Walk North, Swindon, Wilts SN2 3DH

Makers of copper boilers to order for stationary engines, locomotives, or traction engines.

T.E.E. PUBLISHING

The Edwards Centre, Regent Street, Hinckley, Leicestershire
Tel: 0455 637173

Publishers and suppliers of books on the hobby and a regular magazine for model engineers. A useful source for back issues of Model Engineer magazine.

A.G. THOMAS (BRADFORD) LTD.

Tompson House, Heaton Road, Bradford, West Yorks BD8 8RD
Tel: 0274 497171

A mail order tool catalogue for the model engineer, watchmaker and clockmaker, plus clock movements, clock ornaments and repair material.

ALEC TIRANTI LTD.

70 High Street, Theale, Reading, Berks. RG7 5AR
Tel: 0734 302775

Manufacturers and suppliers of the famous Centricast system for producing moulds in silicon rubber and white metal castings from those moulds. The firm also supply all related moulding equipment.

B & R TITE

17 Crescent Road, Colwall, Malvern, Worcester WR13 6QW
Tel: 0684 40177

Makers of a range of drawings and castings of stationary steam engines.

TOWN BENT ENGINEERING CO.

Chapel Works, Barnes Street, Clayton Le Moors, Accrington BB5 5PF
Tel: 0254 31505

This firm has recently taken over the production of the Sharp Milling Machine as well as the other Sharp products such as rotary tables, etc. A well-established engineering firm in their own right, they have considerably improved what was already a very fine milling machine in the first place, making it amongst the finest available for the home workshop. It is British made throughout, something of which the firm are very proud.

IAN THOMPSON PRECISION MODELS

3 John Street, Harrogate, N. Yorks.
Tel: Harrogate 66787

Mainly a supplier of completed models. Also specialises in high quality showcases for models as well as some fittings etc.

TURNER (PREC. ENG.) PRODUCTS

Braeside Works "H", Teevan Road, Croydon CR9 6DP
Tel: 01 656 7765

Precision mechanical engineers, specialising in CNC turned parts for the industry and makers of the Turner "Nibbler".

TOWNLEY TIMES

Windsor Road, Todmodern, Lancashire OL14 5JY
Tel: 070 681 4931

A range of tools and tooling too vast to be separately listed; send for a free copy of "Townley Times" for a list of bargains.

TRUE TO SCALE SERVICES

9 Lodge Road, Bromley, Kent BR1 3ND
Tel: 01 460 8126

Suppliers of a range of scale drawings of North American locomotives which have been prepared from the original erecting diagrams. Available from "O" gauge up to 7 1/4 in. gauge.

TRACY TOOLS LTD.

2 Mayors Avenue, Dartmouth, South Devon
Tel: 08043 3134

Suppliers of general model engineering tools; useful catalogues are available.

TURTON ENGINEERING LTD.

Moor Lane, Witton, Birmingham B6 7HH
Tel: 021 356 4777

Manufacturers of the useful "Crab clamp".

VARISCAL

9 Park Place, Clifton, Bristol BS8 1JP
Tel: 0272 277427

Can reduce or enlarge your plans, or part plans, to the exact size required for the next project.

PAUL WAINWRIGHT

Hayford Way, Staveley, Derbyshire S43 3JR
Tel: 0246 413115

Castings supplied for 3" and 6" Allchin traction engines, rolling stock components and drawings.

WARNERS MACHINERY CENTRE

Unit 10, Finedon Road, Irthlingborough, Northants.
Tel: 0933 651296

Stockist of secondhand machinery for the woodworker as well as the model engineer. There is always a good choice of lathes, milling machines etc. available.

WATO LOCO WORKS

PO Box 125, Como, West Australia

Specialising in a model 7 1/4 inch locomotive of American 2-4-0 design which it is claimed is designed particularly with ease of construction in mind.

H.S. WALSH & SONS LTD.

243 Beckenham Road, Beckenham, Kent BR3 4TS
Tel: 01 778 7061

Suppliers of horological and general model engineering machines, tools and sundries; a giant (320 pages) catalogue is available.

WERNER WIGGERS

Am Weibusch 1, D-4152, Kemper 1, West Germany
Tel: 02152 51484

WEXLER MACHINE TOOLS

Wellspring Farmhouse, Southrepps, Norwich NR11 8XA
Tel: 026 379 480

Suppliers of the popular Simat 101 lathe and its associated spare parts and accessories.

E. & J. WINTER

PO Box 126, Welland, 2287 NSW, Australia

Mainly supplying their own drawings and castings for Australian prototype locomotives, the firm also stock a large range of other goods of interest to the model engineer as well.

COLIN WALTON CLOCKS

Tunbeck Cottage, Alburgh, Harleston, Norfolk IP21 0BS
Tel: Homersfield 616

Clock parts and tools. The range of products includes a radius turning attachment, and a deepthing tool. Plus many other clock specialities.

WOKING PRECISION MODELS

10 New Street, Oundle, Peterborough PE8 4ER
Tel: 0832 72868

The only firm that specialises in internal combustion engines of which they have a large range of castings. Suitable for the novice to the more advanced modeller. They also have a good range of castings for workshop equipment. These include a Potts milling spindle which is ideal for anyone wishing to make their own milling machine or attachment for the lathe, and an interesting offering is a very neat boring and facing head. They also stock metal and some tools.

WARREN MACHINE TOOLS

Middle Street, Shere, Guildford, Surrey GU5 9HF
Tel: 048 641 3434

Also at

Adlington Court, Aisley Industrial Estate, Birchwood, Warrington WA3 5PL
Tel: 0925 821616

Under the well known name of WARCO the firm stocks a very wide range of machines of all sizes and types. The range goes through milling machines, lathes, drilling machines, grinders, power saws etc. They have woodworking machinery as well. Of particular interest to modellers are their drilling machines and their 918 model engineer lathe as well as the popular range of drill mills. Also the firm stocks the Japanese TOYO range of machines which are proving popular with modellers.

K.R. WHISTON LTD.

New Mills, Stockport SK12 4PT
Tel: 0663 42028

The famous Whiston "Cat" (their 46 page catalogue) covers literally thousands of bargains embracing mechanical and electrical items, materials, fastenings, etc.

WHITING MACHINE TOOLS

Unit 10, Moorbridge Road, Bingham Industrial Estate, Bingham, Nottingham NG13 8GG
Tel: 0949 39114

Stockists of a very wide range of lathes and other machinery both new and second-hand. In particular they specialise in the Myford range. All second-hand machines sold by them are thoroughly renovated. They will also renovate customers' own Myford lathes. A large number of machines are always kept in stock.

YALANGA PTY. LTD.

PO Box 141, 39 Orme Road, Buderim, Q. 4556, Australia

Suppliers of Lew Blackmore's book on building the quarter scale replica of the Bentley BR2 rotary aero engine. The book also contains a reprint from the official Air Ministry Manual which gives details of the full size engine.

YORKWIRE (LEEDS) LTD.

34 Lupton Street, Leeds LS10 2OW
Tel: 0532 777472

Specialist suppliers of wire, rod, tube and strip metals for model engineering applications.

DON YOUNG DESIGNS

Bardonella, Adgestone, Sandown, Isle of Wight PO36 0HN
Tel: 0983 406200

Well known for numerous locomotive designs for which drawings and castings are available as well as boiler fittings. The locomotives range from 2 1/2 inch gauge to 1 1/4 inch gauge and from easy designs for beginners to more advance models suitable for exhibitions as well as running.

W O R K EQUIP

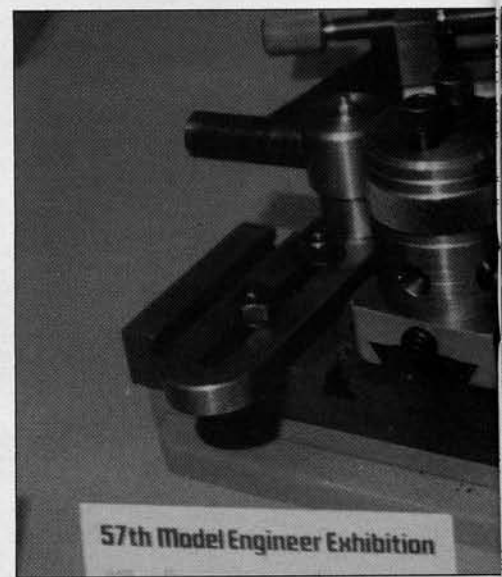
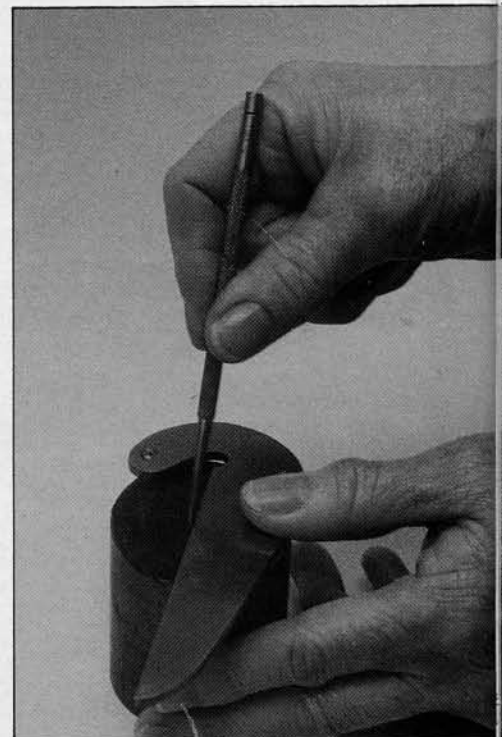
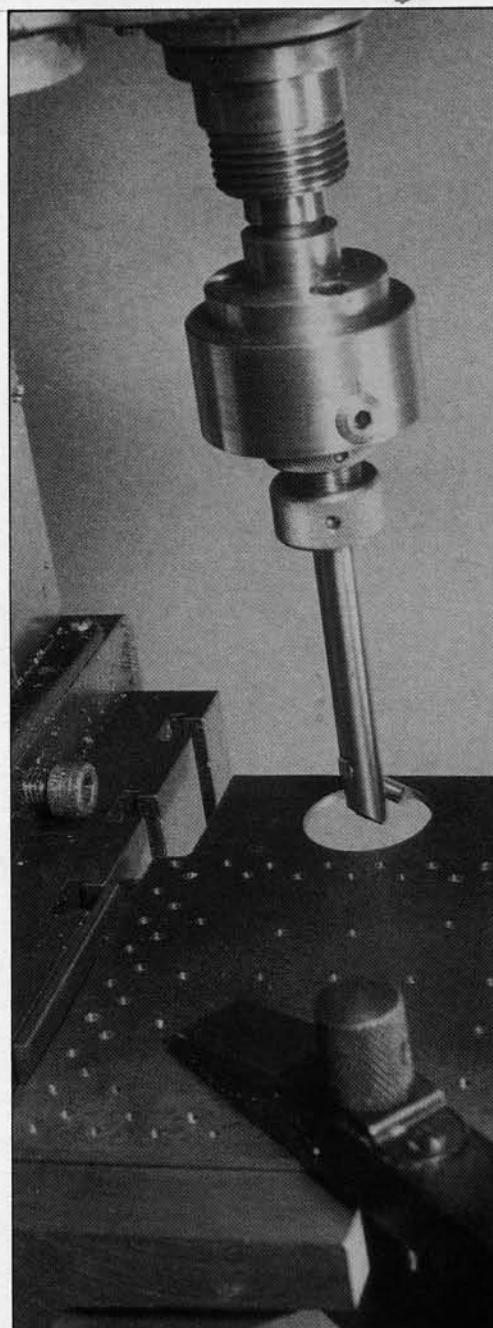
Making one's own workshop equipment can save a great deal of cash; it is also, in my opinion, a highly satisfactory side of the hobby. I make most of my own tools and equipment and never begrudge the time spent doing so. I know that there are a large number of model engineers who only ever make workshop equipment and just like to spend their time improving their workshop. As long as you get pleasure from what you do then you are getting satisfaction from the hobby and it is a case of each to his own.

Many items that are needed can be fabricated while others will be more easily made if castings are used. There are many suppliers of castings and drawings for workshop equipment and the degree of difficulty in constructing an item varies according to the complexity of the subject. Skilled model engineers will not hesitate to construct such things as drilling and milling machines, and items like dividing heads which need a great deal of precision to construct.

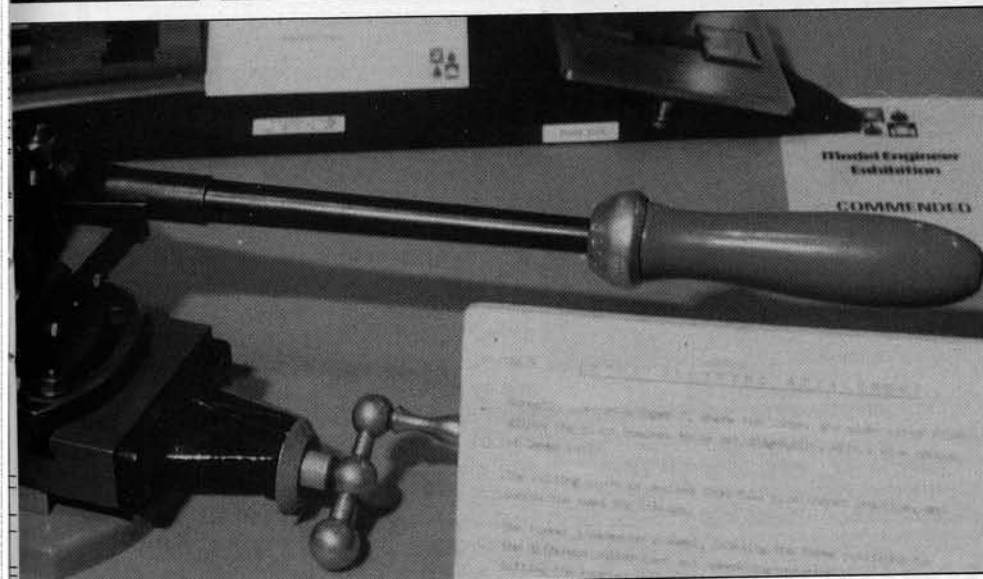
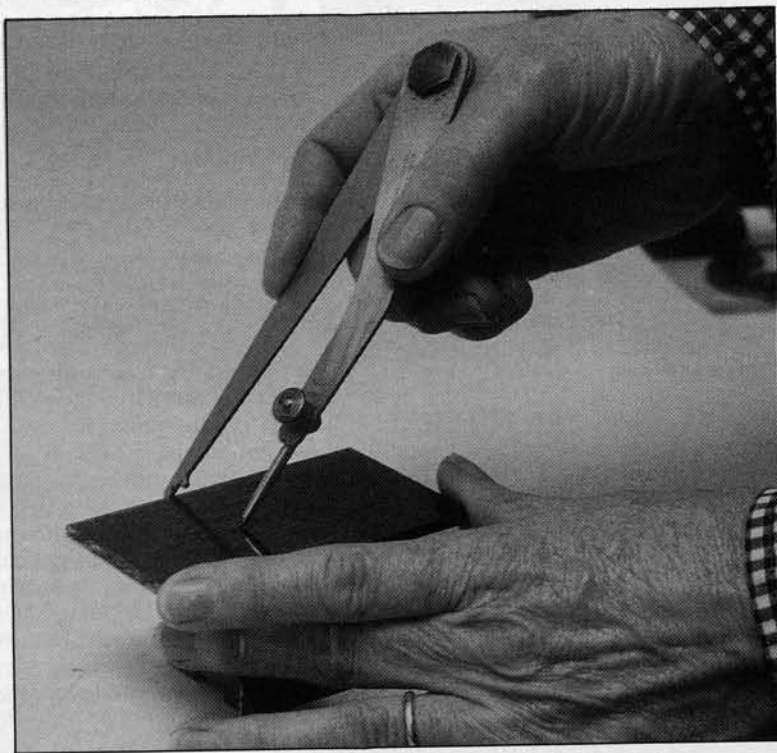
The beginner would be advised to start with simple items that will enhance the workshop but not tax his or her ability too much. There are many simple tools that are worthwhile making, such as 'D' bits, tap wrenches, die holders, etc. Probably the best thing to start with would be a tool height gauge for the lathe. This piece of equipment is really essential and making a gauge will repay the little time involved thousands of times over.

It is merely a gauge set absolutely at centre height which rests on the bed of the lathe and to which tool height can easily be adjusted. The simplest form is made from three pieces of metal, a fairly heavy piece for the base, a rod for a pillar to get the height and a cross-bar. The cross-bar can be filed to the exact height required and from then on will need no further adjustment.

When making tools it is frequently necessary to harden components which will be subject to wear. To do this special steel will be required. Such steel is usually available in rod form as silver steel and in bar as gauge plate. The two steels differ



S H O P MENT



somewhat in their form and silver steel will harden with the use of water but gauge plate will not.

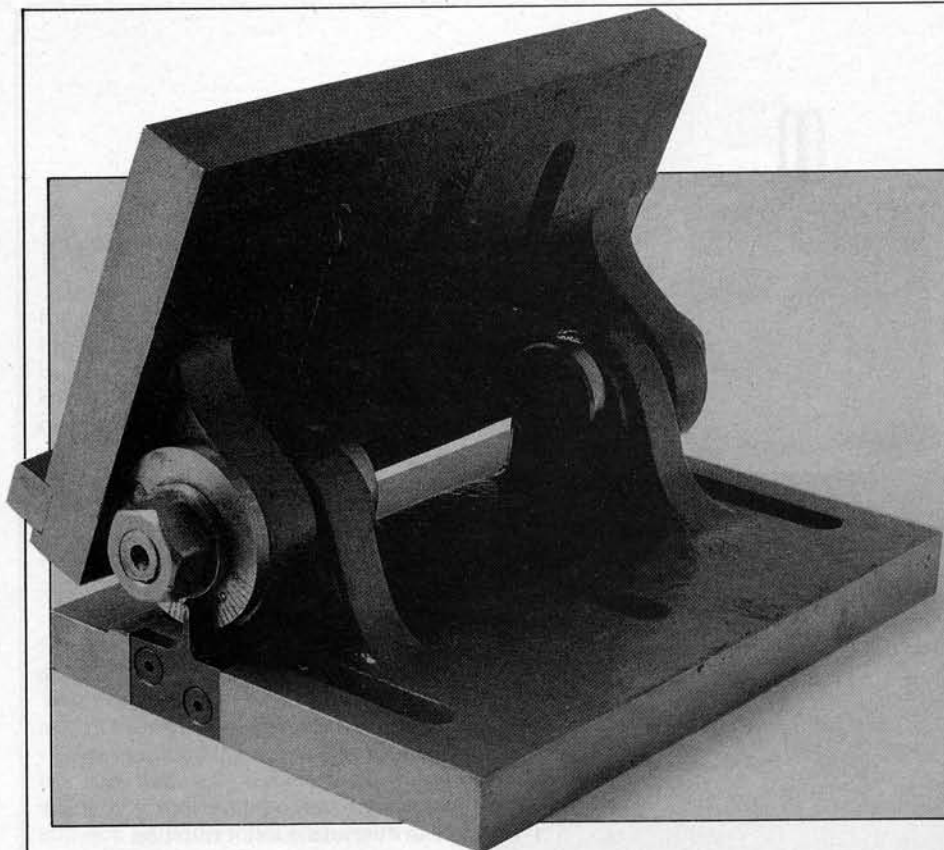
Hardening is a straightforward process. The steel is heated until red hot – in Britain I have always heard it described as heating until it becomes a cherry red colour. I find this somewhat disconcerting as cherries come in various varieties. For example, the tree in my garden has very dark, almost black ones! A better description is one I have heard from French friends; they say heat it until it becomes the colour of a boiled carrot.

When the steel has reached the required colour it must be quenched as quickly as possible, preferably in oil which does not tend to make it crack as water sometimes will.

The steel will now have become very hard and, in fact, somewhat brittle; it needs to be tempered to ease this brittleness. First it must be brought back to its nice bright colour as our hardening will have made it go black. It can be cleaned up with emery paper. A little tip here is that, if before it is heated to the required temperature for hardening, it is covered in washing-up liquid it will be easier to restore to its original brightness.

When the steel is bright again it must be re-heated until it changes colour as required. The colour will depend on what the material is being asked to do. It is then quenched again. Small items should be put in a tin containing some fine sand and the tin heated. This will ensure the temperature is raised slowly and evenly. In the case of larger pieces, the heat should be applied some distance from the area to be tempered and the colour allowed to run along the metal until it is correct, and then quenched.

Far left, a boring head for use in either a lathe or a milling machine; this example was made from castings and drawings by Woking Precision Models. Left, this slotting attachment has to be scratchbuilt – it cannot be bought commercially – but is well worth the effort as it adds considerably to the versatility of the model engineer's workshop. Above centre, a simple home-made centre square which can be made even quicker than the time it would take you to go out and buy one! Above left, odd leg calipers such as these are cheap and simple to make; this means that you can make up several pairs, which is useful since you can leave them set at specific measurements when marking out, rather than having to continuously alter a single tool.

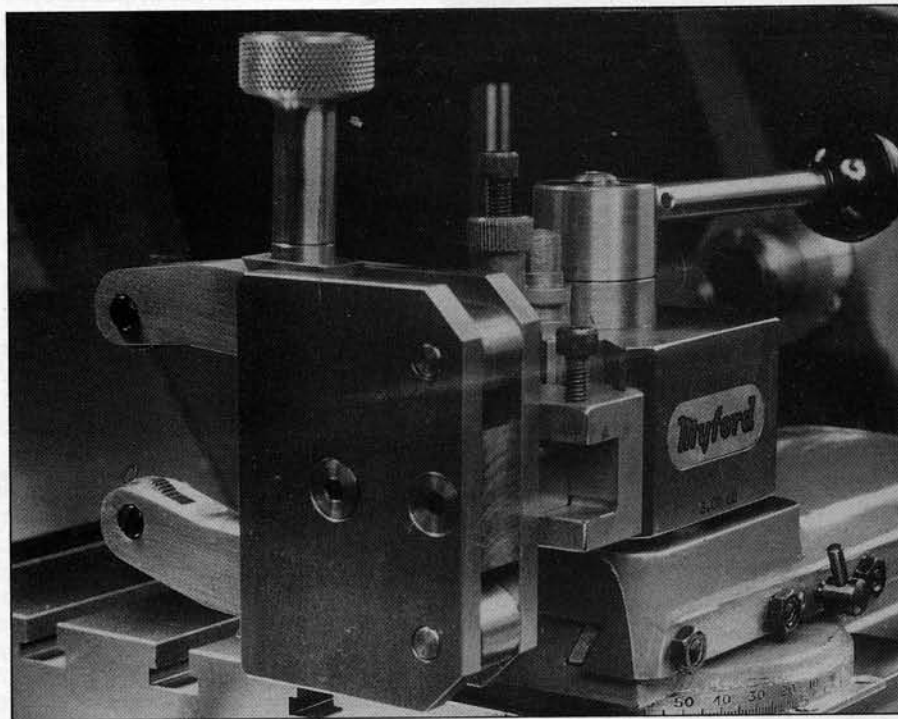


I have pointed out that only steel with a high carbon content can be hardened – mild steel does not have sufficient carbon to allow the process. However, it can be 'case-hardened'. The process involves putting a thin coating of carbon in the outer layers of the steel. The steel is heated to the boiled carrot colour and then covered completely in case-hardening compound which can be obtained in a variety of brand names. Basically it is carbon and will stick to the metal which should be heated for several minutes with the carbon adhering to it. It can be put back in the compound and again heated and then quenched, water being effective in this case. Unfortunately, the surface will be discoloured and it will be almost impossible to return it to its original colour, but at least the outer casing will be hard.

Case-hardened metal cannot be tempered and free cutting mild steel which we often buy these days in bar form for machining will not case-harden. Special case-hardening quality steels can be obtained if required.

Some enthusiasts who make their own tools will want to get castings for devices that cannot be obtained from any of the regular dealers, although the range available from the dealers is very large indeed. Simple wooden patterns can be made and these can be taken to a foundry for casting. Some advice is given on pattern-making elsewhere and this is worth heeding. A properly made pattern makes life fairly easy for the founder and so less time has to be paid for when the casting is made. Simple pattern-making, nevertheless, is not difficult and although it was something I had never tried I found that, with a little commonsense, there was no great problem.

Tools can be finished by highly polishing the metal or by colouring it either with the use of paint or by a chemical process. Various chemicals are available and the result is a nice matt black even finish. A similar finish can be obtained by heating the metal slightly and rubbing it with an oily rag whilst hot. Don't attempt to do it in the kitchen though, and make sure the neighbours are out as it is a smelly process!



Top, a not-too-difficult piece of workshop equipment is a variable angle plate; College Engineering supply castings for this one. Above, a knurling tool made from a kit of parts supplied with drawings by Hemingway; a great deal of money can be saved by making up such items for oneself.

In industry these processes, both hardening and tempering, are carried out in properly designed ovens. It is unlikely that such equipment will be available at home and so the metal for hardening should be enclosed with bricks while heating takes place.

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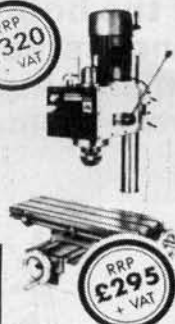
- * 3 jaw chuck * rotating centre
- * drill chuck * angle plate
- * machine vice * chuck guard
- * set of changewheels * leadscrew clutch

Optional extra tooling which is available,
includes vertical milling and drilling
attachment, 4 jaw chuck, slow-speed kit,
face-plate and collet sets.

Brief Specification Centre Height 65mm
Distance between centres 300mm
Speed Range 250/500/1000/2000
Electrics 240v/50Hz single phase motor,
1/2 H.P., continuously rated 0.25kw

The Hobbymat MD65 is a screw-cutting centre lathe with machining capability, which will meet the needs of the experienced user, whilst the simplicity of its operation will enable the beginner quickly to appreciate its versatility. The Hobbymat MD65 and its motor form a self-contained unit, weighing approximately 45Kg. The machine bed is continuously cast and is ground. A precision leadscrew is standard equipment. Adjustable precision taper roller bearings carry the headstock spindle. The changewheels supplied with the Hobbymat enable the user to select either imperial or metric pitches and provide a choice of feed rates when using the power feed.

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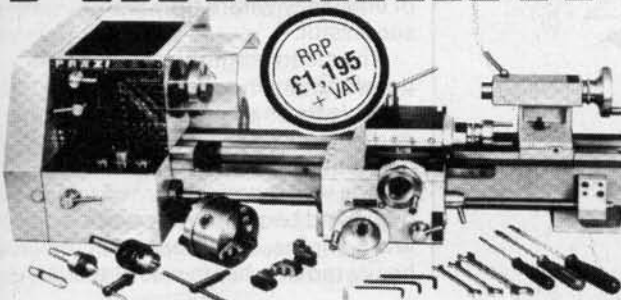


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The latest addition to the well-known Hobbymat range, this advanced lathe provides the power and versatility demanded by the more advanced model engineer. Incorporating many of the features necessary for the more substantial model engineering task, this lathe is ideal for the enthusiast working in a larger format.

The DLZ 200 x 500 combines the latest in German technology with the well-known Hobbymat quality. The impressive specification including powered cross-feed and 3-jaw chuck is complimented by a full tool kit supplied as standard.

Technical Data	
Centre height	100mm
Distance between centres	500mm
Turning diam. over bed	200mm
Spindle passage	20mm
— Internal taper MT 3	
Tailstock — effective sleeve stroke	60mm
— Internal taper MT 2	
Spindle speeds range	63/125/250/400/800/1600
with special accessories also	1250/2000 rpm
Rated motor output	0.55KW
Thread cutting with complete change gear set	
28 metric pitches	0.1 to 5mm
34 imperial pitches	7-144tpi
Space requirements length x width	1060 x 580mm
Weight	120Kg

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M O D E L BOATS

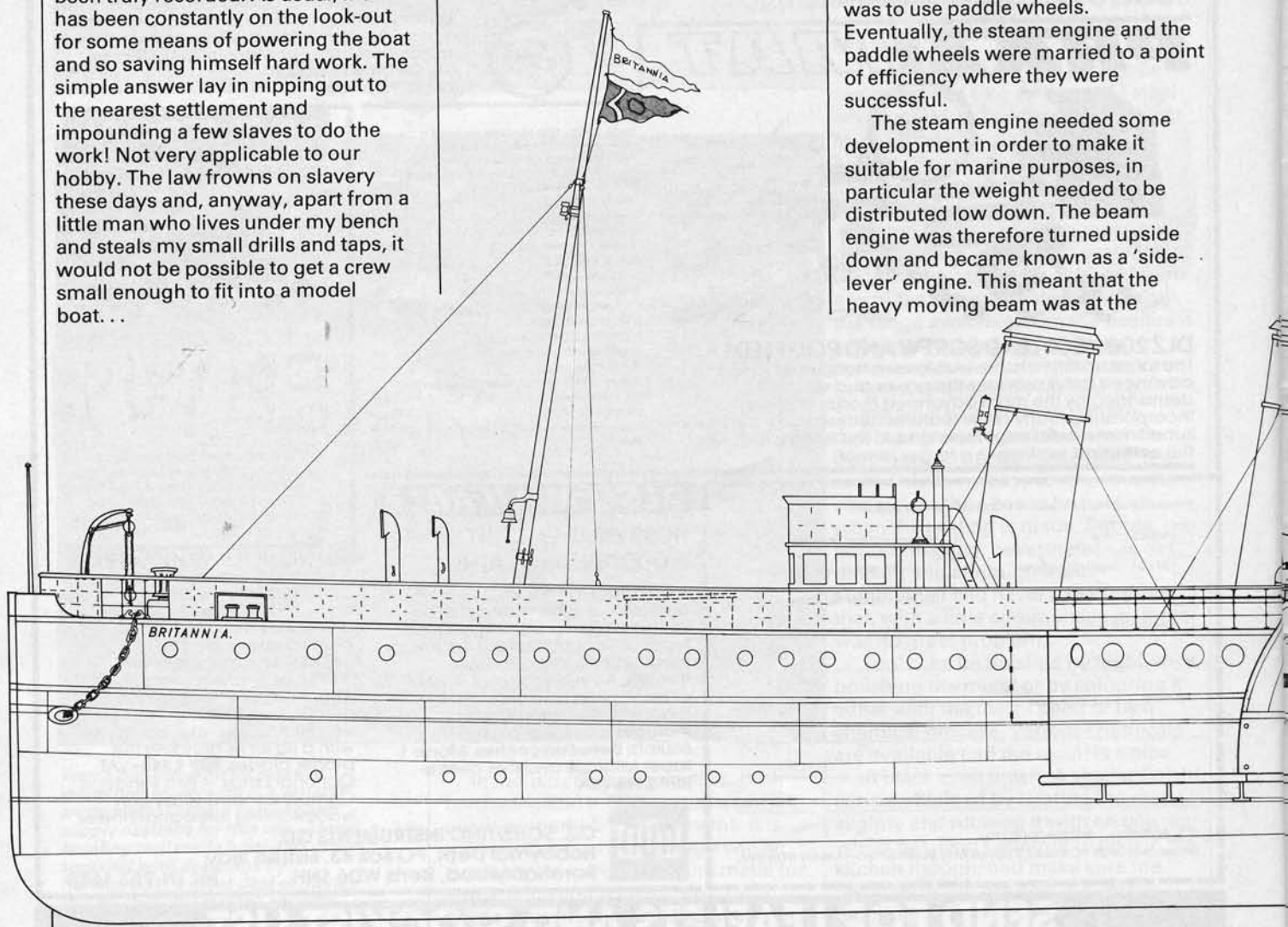
As far as model engineering is concerned, the side of model boats that is most interesting lies in the power plant. Once again, I feel that we will need to look at the real thing as an aid to how to go about things in our modelling.

Boats of various sorts have formed part of life for longer than life itself has been truly recorded. As usual, man has been constantly on the look-out for some means of powering the boat and so saving himself hard work. The simple answer lay in nipping out to the nearest settlement and impounding a few slaves to do the work! Not very applicable to our hobby. The law frowns on slavery these days and, anyway, apart from a little man who lives under my bench and steals my small drills and taps, it would not be possible to get a crew small enough to fit into a model boat. . .

A fascinating branch of the hobby where model steam plants can be employed in prototypical fashion.

When the steam engine started to be used in industry attention was naturally turned to the idea of using it to power boats. The early steam engines were far too large and it was not until there had been some development that the first attempts were made to fit one into a hull. The propeller had not been thought of at that stage and so the logical thing was to use paddle wheels. Eventually, the steam engine and the paddle wheels were married to a point of efficiency where they were successful.

The steam engine needed some development in order to make it suitable for marine purposes, in particular the weight needed to be distributed low down. The beam engine was therefore turned upside down and became known as a 'side-lever' engine. This meant that the heavy moving beam was at the



bottom of the boat and not at the top where it would have been unstable.

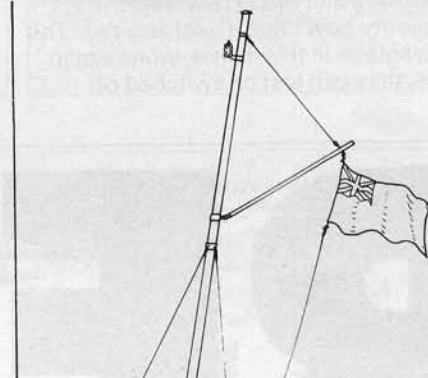
One form of boat did, for a while, have beam engines powering it. This was the American Stern Wheeler. Most readers will have seen pictures of these magnificent craft which were used on the rivers of the United States and, indeed, which are still used in some parts of Africa and Asia where the stern paddle wheels have advantages. The original American versions had two beam engines and the rotary motion was gained via cranks direct from the beams. Fortunately, the weight being high was not so important on the comparative calm of a river as it was on the sea. It was not long, though, before the system changed and the paddle wheels were operated by engines slung low down in the rear.

Paddle boats are still in use and have their uses in shallow waters where the propeller would foul the bottom. They have, apart from some preserved examples, disappeared from general use.

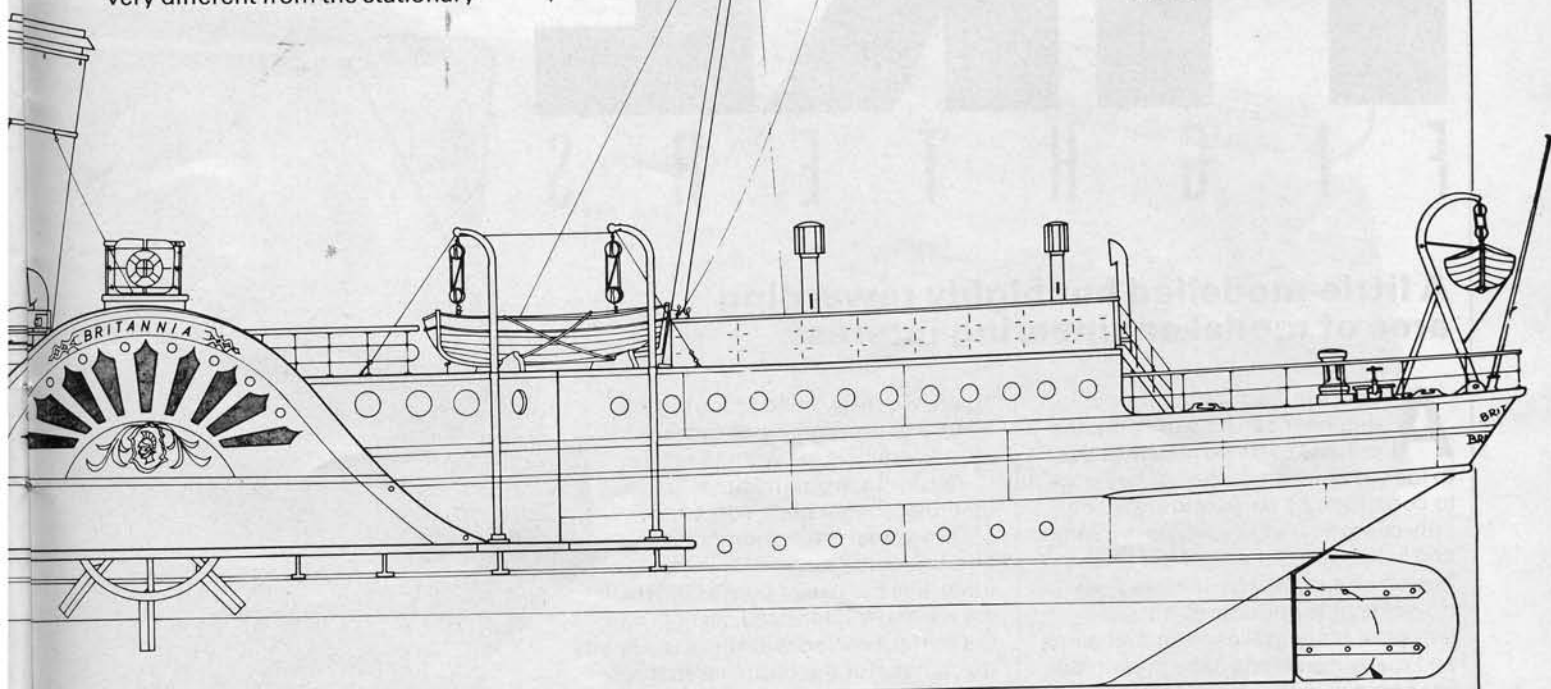
With the development of the propeller the type of steam engine required for ships changed and compounds and triple expansions became the rule. Many of the large liners would have two or more sets of these in order to give them sufficient power. These engines were not so very different from the stationary



Modern tugs such as this model above lend themselves to being diesel-powered with, perhaps, a small home-made four-cylinder engine.



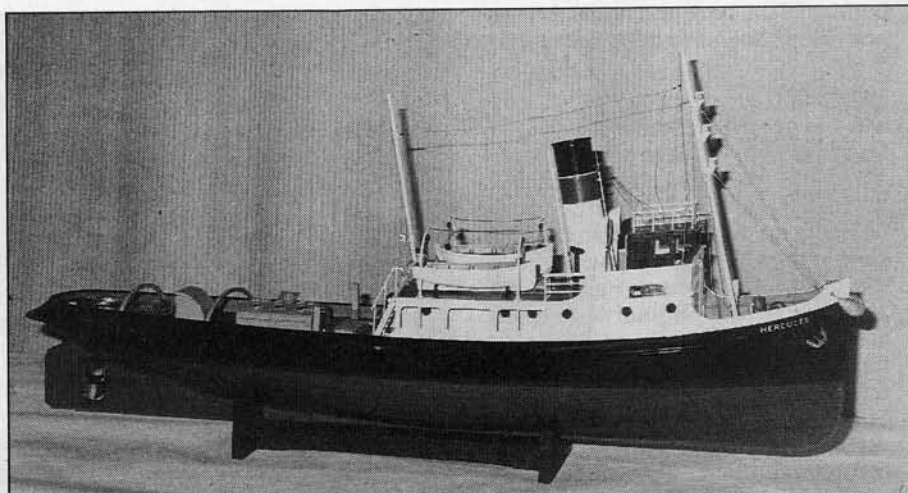
This splendid side-view depicts the paddle steamer "Britannia", just a section of the ASP plan for a 1/64 scale working model of the vessel. It would make an ideal subject for all-metal hull construction and steam power. Plan is MM1336 and the price is £5.30.



engines used in factories and mines. From these the turbine developed. This consists of a series of small fans where steam is used to blow these round. The result is a much quieter and faster-revolving engine which has none of the hammering type of movement caused by reciprocating engines. The turbine is still in use today; the power is still steam although it is not obtained by the old method of massive boilers with men throwing coal or feeding oil into the furnaces but rather by atomic means of heat generation.

This gives instant heat to a small quantity of water and so can be used more efficiently than the old type boiler. Whilst it is possible to make a steam turbine, the heat supply for the modeller would have to be gained from a gas jet using low pressure gas and heating coiled copper tube which contained the water. This would give the instant steam effect and is known as a 'flash steam' system.

Whilst ships went to turbines and



This model tug is fitted with a steam plant – an ideal and authentic power source for such a model.

whilst with a steam engine the boiler some are still run in this way, the majority now have diesel engines. The advantage in this is that, when not in use, they can just be switched off

has to be kept in steam ready for use. They are also far cleaner and the passengers no longer get covered with soot when sunning themselves on deck!

FIRE

F I G H T E R S

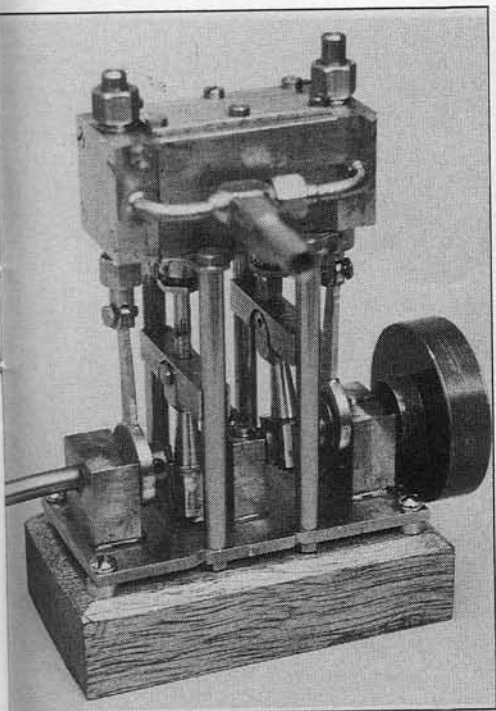
A little-modelled but highly rewarding area of model engineering interest.

A good subject for the model engineer can be a fire engine; models of these are attractive to look at and sometimes a challenge to construct. As far as is known, the only commercially available drawings and castings are those of the Shand Mason as supplied by Messrs Reeves. However, it is possible to obtain details of other makes from museums and many museums have preserved fire engines in their collections. Once

again, we really need to look at the history of fire-fighting in order to see what it is we want to model.

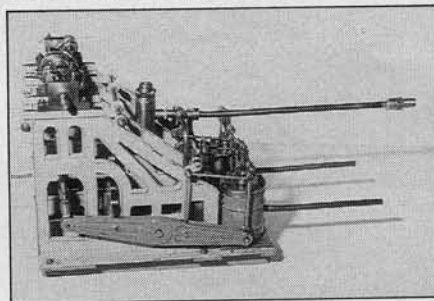
No doubt, from the time that towns were built, some form of communal fire-fighting arrangements were in force. It is the use of pumps in which we are really interested, as not until the pump evolved was there really any machinery for the modeller to make use of. The principle of the pump has,





There is no reason why a model boat should not be run on a model diesel engine, apart from the fact that some local authorities will not allow them on their lakes. The reason for this is twofold. Firstly the noise level is often too high and secondly the water gets polluted with fuel. The objections have mainly come from the use of high speed boats with internal

Left, a neat two-cylinder marine steam engine ideal for model boat use. Below, to lower the c.g. for marine use, the beam engine was turned upside down and called a 'side-lever' engine.



combustion engines which do create a lot of noise. A two-cylinder, slow revving diesel engine fitted with a good silencer and in a large boat would probably not create a nuisance and a trawler or some such type would both look and sound very authentic powered in this way.

I do not propose to go into the construction of an internal combustion engine as it is too complicated for a volume such as this. A small steam engine suitable for driving a boat is a comparatively simple matter however and can be made without the use of a lathe if care is taken, although obviously, if a lathe is available, a far better job can be made. The oscillating engine was used for many years in full-sized practice and so is not out of place in a boat, and the beginner to this side of the hobby may like to follow the instructions given in the chapter on the subject. ■



Shape of the future; fire engines have come a long way since the days of steam!

of course, been known for centuries and, no doubt, used for fire-fighting for equally as long. The first type of machinery that would probably interest the modeller is the hand-pump on wheels which, in fact, was in

use in rural communities for many years. Mainly of wooden construction, such an item would probably be more of interest to those building horse-drawn and similar vehicles.

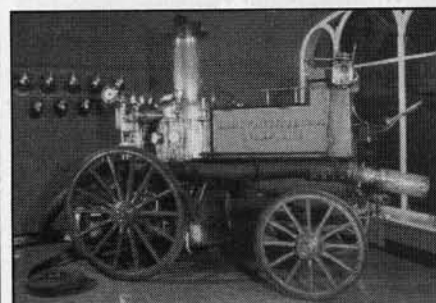
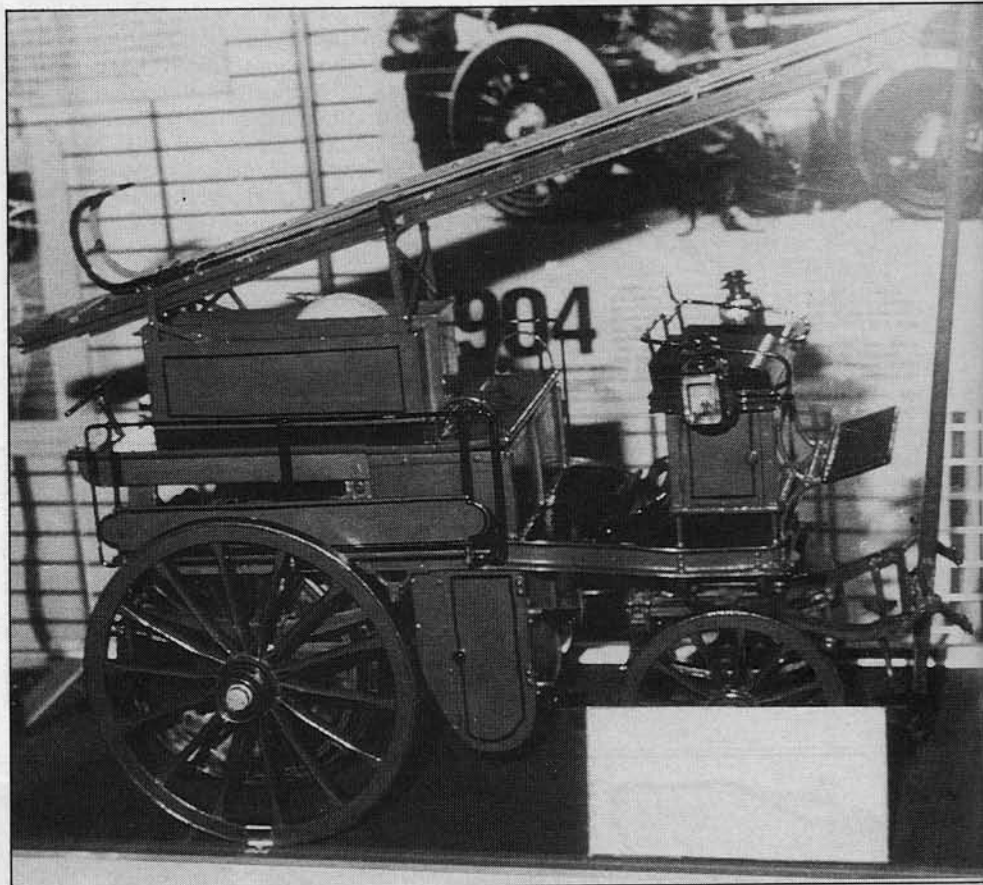
As far as the model engineer is



concerned it will probably be the horse-drawn steam pumps of the Shand Mason era that will be of most interest. These involve the use of wood as well as metal and, when completed, can be very attractive indeed. The frame would sometimes be of wood, sometimes of metal. The wheels were invariably constructed from wood in the same way as were the wheels of all horse-drawn vehicles. Making such wheels can, in itself, be an art as, when they are made correctly, numerous small wooden joints are required.

On top of the chassis would be a small boiler and a small steam pump. The pump would invariably consist of a single cylinder steam engine of basic design and a single cylinder pump. Possibly both would share the same casting. The engine would be horse-drawn.

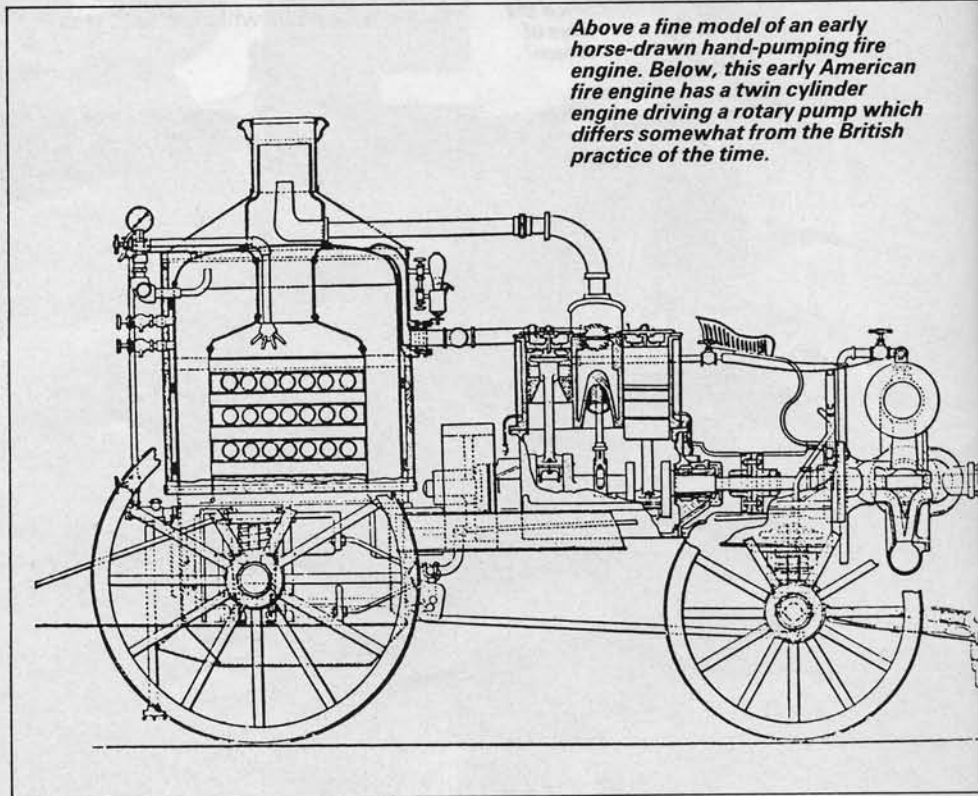
From this early arrangement, the engines became motorised; after all, the time taken harnessing horses could be vital when fighting a fire. However, the pumping apparatus on some was still steam-operated, later changing to petrol or diesel fuel. I have never seen any photographs of steam-driven fire engines; when one comes to think about it, at a fire call it



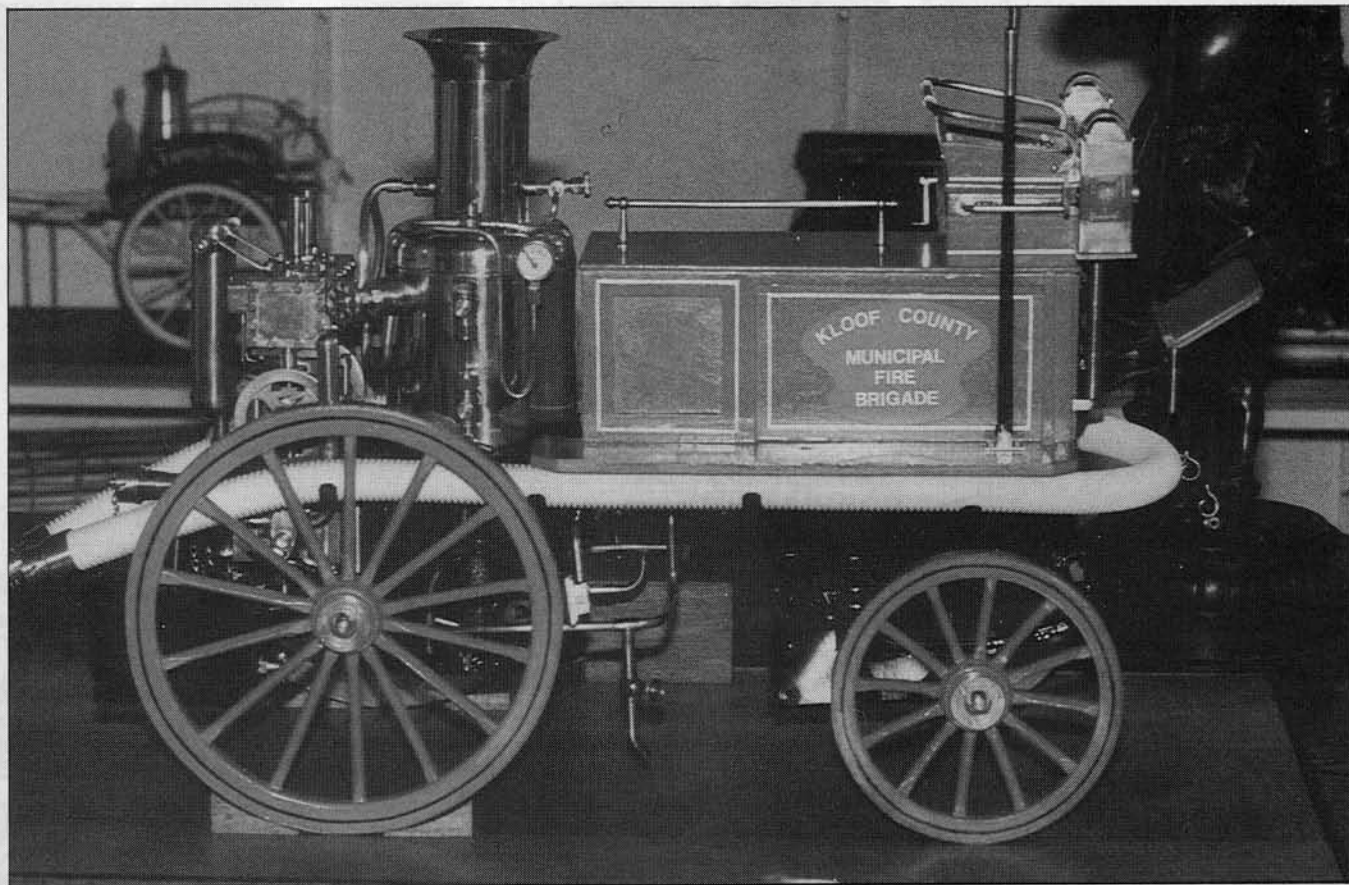
This Shand Mason fire engine is preserved in Norwich; compare with model pic at top right. Photo: Norfolk Museums Service.

would be quicker to harness horses than to raise steam on the vehicle. Nevertheless, an old-time engine of this type would still prove an attractive model.

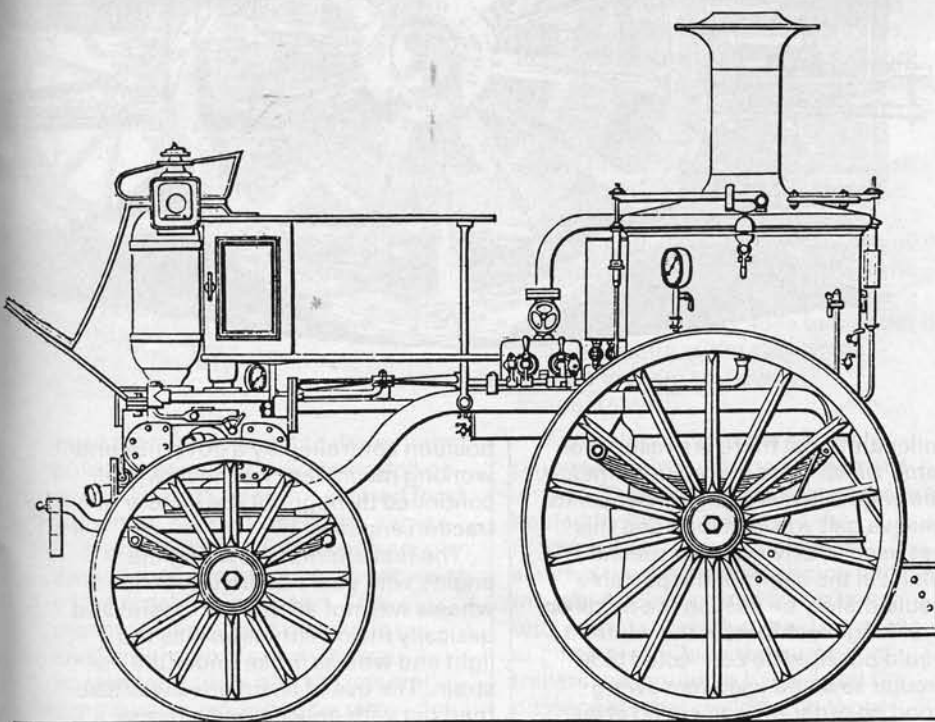
Over the years the engines changed steadily, evolving into our modern fire-fighting appliances which now include high technology equipment and various types of foam for fire-fighting. There are still two types of appliances in use, as there were many years ago – the pump which, of course, pumps water or foam at the fire, and the escape which,



Above a fine model of an early horse-drawn hand-pumping fire engine. Below, this early American fire engine has a twin cylinder engine driving a rotary pump which differs somewhat from the British practice of the time.



Above, a model Shand Mason engine by modeller Michael Woolgar. Left, for many years the mainstay of British fire-fighting, the famous Merryweather engine offers a straightforward subject for a model.



although it may include a pump, basically consists of very long ladders and various equipment for the rescue of persons and property. Pumps also sometimes have a ladder.

Old-time fire engines were particularly noted for their highly polished brass and paintwork which is why they make such attractive models. This continued right up until world war two when things changed; before that the firemen always wore highly polished brass hats and had polished brass buttons on their tunics as well as all the brass on the engine being bright. Now it is considered more efficient to use materials such as stainless steel and plastic which do not require polishing!

Modern fire engines would also make attractive models for those who do not want to build old-time models. There is a wide range of prototypes available and appliances differ considerably from country to country.