

The
BURMAN Gear Boxes
for Motor Cycles.

List No. 77.



Burman & Sons, Limited

Lee Bank Works, Ryland Road : : **Birmingham**
England

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The Burman Gears

Models E, L, H, F, J.

Patent No. 181958.21.

This range of Gears achieved a remarkable success during last season being fitted to a large number of well-known machines, and no alteration whatever is being made this year, except in the Controls which have been considerably improved.

In the Junior T.T. Races, 28 machines were fitted with Burman Gears, securing 6 awards out of 11 given. Over 40% of finishers in Junior Races were fitted with these Gears, and no trouble whatever was experienced.

The Gear positions being positively fixed inside the Box by our patented device, render a Gate with locking positions unnecessary. This does away with the complicated adjustments required under the old system, when the Gear Box is pushed back to take up Wear in Chain.

By our improved method, all Gears being in constant mesh, changing is made absolutely simple and fool proof, and damage to the Gear Box is almost impossible even in the hands of a novice.

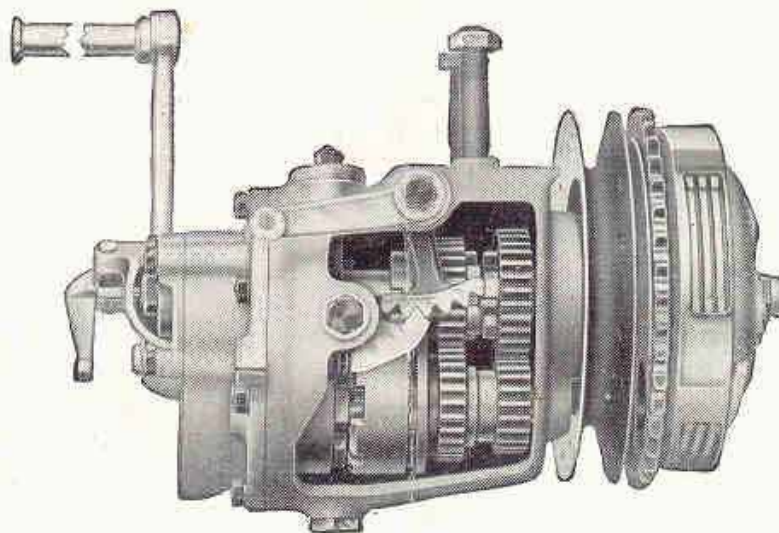
Sweetness in action has always been a characteristic of the Burman Clutch; the spring pressure is now reduced by nearly one half, thus still improving a much appreciated refinement.

Our Shock Absorber, for all Chain Drives, has also been remodelled, a greater range of action being obtained.

For Gear Operation a choice of Controls is provided, which can be fitted to Seat Pillar Tube or Tank Tube, as preferred.

The Burman Three-speed Gear.

MODELS E AND L.



SPECIFICATIONS.

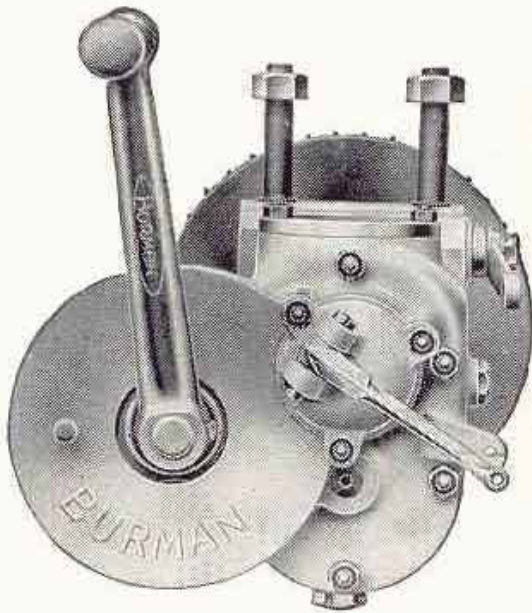
MODEL E for $2\frac{3}{4}$ H.P. Engines; 3 Plate Clutch, 2 Stud fitting. All Chain Drive, incorporating Burman Shock Absorber; or Belt Drive, for $\frac{3}{4}$ -in. or $\frac{7}{8}$ -in. Belt.
Rear Chain Line, $2\frac{3}{8}$ -in.; Belt Line, $2\frac{1}{8}$ -in.; Engine Chain Line, 3-in.
Gear Box Sprocket to Engine, 40 teeth, for Chain $\frac{1}{2}$ -in. pitch, $\frac{3}{16}$ -in. wide (.205) or $\frac{5}{16}$ -in. wide (.305).
Gear Box Sprocket to Rear Wheel, 18 teeth, for Chain $\frac{5}{8}$ -in. pitch, $\frac{1}{4}$ -in. wide, or 21 Teeth for Chain, $\frac{1}{2}$ -in. pitch, $\frac{5}{16}$ -in. (.305) wide

MODEL L for 4 H.P. Single Cylinder or $\frac{5}{6}$ H.P. Twin Engines, 4 Plate Clutch, 4 Stud fitting.
All Chain Drive, incorporating Burman Shock Absorber; or Belt Drive, for $\frac{3}{4}$ -in. or $\frac{7}{8}$ -in. Belt.
Rear Chain Line, $2\frac{7}{16}$ -in.; Belt Line, $2\frac{3}{8}$ -in.; Engine Chain Line, $3\frac{7}{16}$ -in.
Gear Box Sprocket to Engine, 40 Teeth, for Chain $\frac{1}{2}$ -in. pitch, $\frac{5}{16}$ -in. (.305) wide, or $\frac{5}{8}$ -in. pitch, $\frac{1}{4}$ -in. or $\frac{3}{8}$ -in. wide.
Gear Box Sprocket to Rear Wheel, 18 teeth for Chain, $\frac{5}{8}$ -in. pitch, $\frac{1}{4}$ -in. or $\frac{3}{8}$ -in. wide, or 21 teeth, $\frac{1}{2}$ -in. pitch, $\frac{5}{16}$ -in. (.305) wide.
Gear Ratios: Standard High, 6 - $8\frac{3}{4}$ - 12 to 1.
Low, 6 - $9\frac{1}{2}$ - $16\frac{3}{4}$ to 1.

Both Models can be supplied less Kick-Starter, for Sports Models.
Weight 20-lbs.

The Burman Two-speed Gears.

MODELS H & F.



Model H

Clutch and Kick Starter.

Weight, 17-lbs.

For Chain or Belt Drive.



Model F

Plain Two-speed.

Weight, 11-lbs.

SPECIFICATION.

Two-speed up to $2\frac{3}{4}$ H P.

Belt Drive, for $\frac{7}{8}$ -in. or $\frac{3}{4}$ -in Belt. Pulley, $6\frac{3}{8}$ -in. diameter.

Gears always in mesh.

Gear Positions locked positively inside Box.

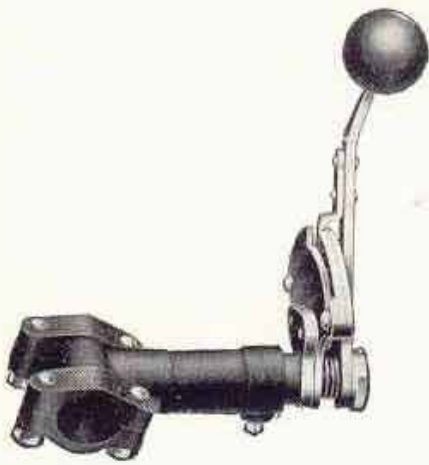
Improved cork inset Clutch.

Belt Line, $2\frac{1}{8}$ -in.; Engine Chain Line, 3 in.

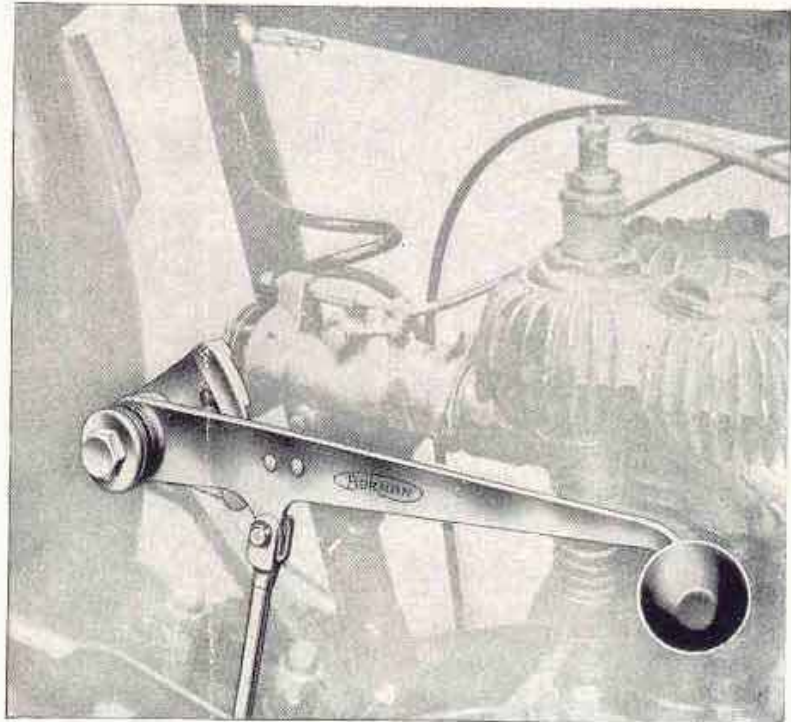
Gear Box Sprocket to Engine, 40 teeth, for Chain $\frac{1}{2}$ -in pitch.
 $\frac{5}{16}$ -in. (.305) wide or $\frac{3}{16}$ -in. (.205) wide. Model F Gear Box
Sprocket, 32 teeth.

Gear Ratios: Standard, 6.74 and 12 to 1.

The Burman Gear Boxes

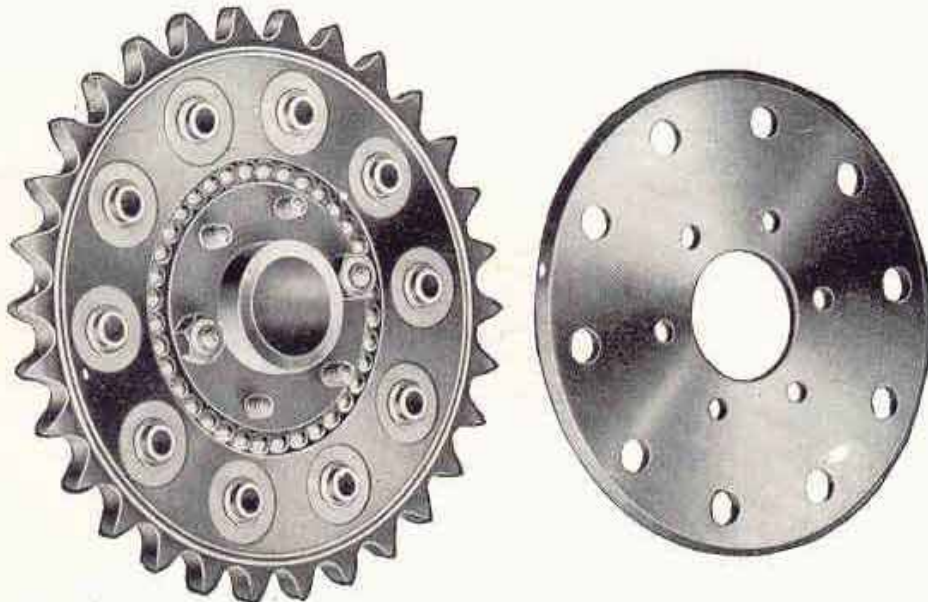


Gear Control, T Type,
to fit on Tank Tube.



Gear Control, S Type, to fit on Seat Tube.

Either of the above Controls can be supplied to Models E, L, H & F.



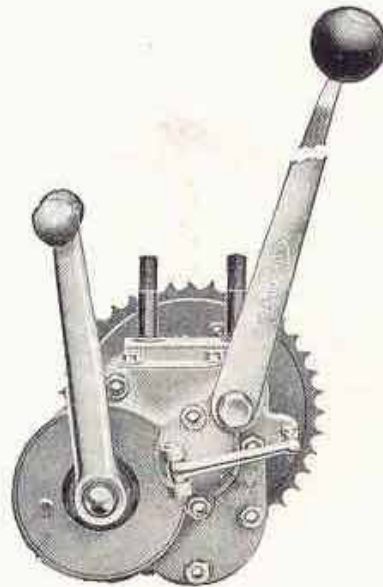
The Burman Shock Absorber.

For "All Chain" Drive—all Models.

This device has proved completely efficient in severe tests on active service during the war. The Rubber Rings take the whole Shock from the Engine and revolve whilst in action, the Sprocket being mounted on Balls.

The Burman Two-Speed Lightweight Gear.

MODEL J.



Model J. Two-Speed.

This is a New Model, specially light in weight, in which Gear Positions are locked positively inside the Box, operated by single outside Lever. Easily fitted to all Lightweight Machines. No Gear adjustment required.

SPECIFICATION.

For Two Stroke and $2\frac{1}{4}$ H.P. Engines.

Weight, 14-lbs.

All Chain Drive, incorporating Burman Shock Absorber, or Belt Drive, $\frac{3}{4}$ -in. Pulley, $6\frac{3}{8}$ -in diameter.

Gears always in mesh. Improved cork inset Clutch.

Gear positions locked positively inside the Box.

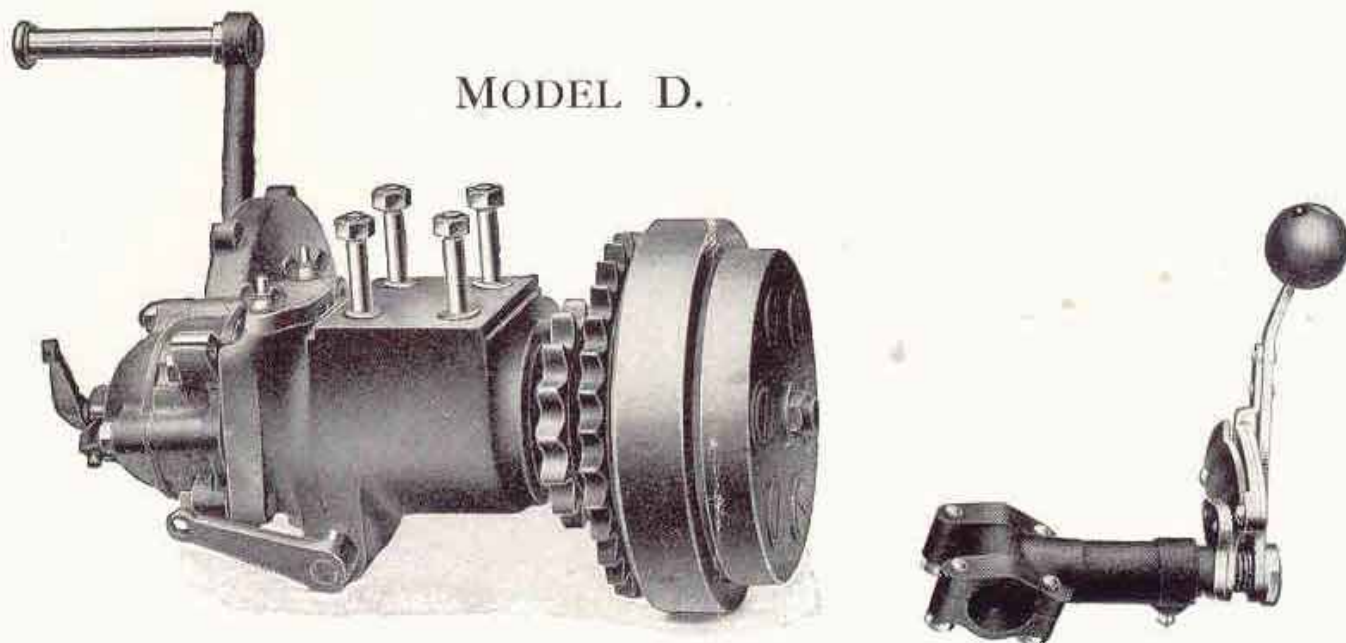
Belt Line, $2\frac{1}{8}$ -in. Engine Chain Line, 3-in. Rear Chain Line, $2\frac{3}{16}$ -in.

Gear Box Sprocket to Engine, 40 teeth, for Chain $\frac{1}{2}$ -in. pitch, $\frac{3}{16}$ -in. (.205) or $\frac{5}{16}$ -in. (.305) wide.

Gear Box Sprocket to Rear Wheel, 18 teeth for $\frac{5}{8}$ -in. pitch, $\frac{1}{4}$ -in. wide, or 21 teeth, $\frac{1}{2}$ -in. pitch, $\frac{5}{16}$ -in. (.305) wide.

Gear Ratios: Standard, 6 and $10\frac{3}{4}$.

The BURMAN Three-speed Heavyweight Gear.



MODEL D.

The Burman Model D Three-speed Gear, fitted with Shock Absorber.

For Motor Cycles 4 H.P. Single
Cylinder to 8 H.P. Twin Engines.

This Gear is without a rival for all Chain-driven
Heavyweight Combinations

WEIGHT, 30 lbs. HEIGHT, 7 in. LENGTH, 10 $\frac{1}{4}$ in.
WIDTH, 13 $\frac{1}{4}$ in. GEAR RATIO, 15 TOOTH SPROCKET, 4'S, 8'6, 12'8.

Chain Line, 2 $\frac{3}{16}$ inches. Belt Line, 2 $\frac{7}{16}$ inches. Engine Chain Line, 3 $\frac{9}{16}$ inches.

Control Bracket for Tank Tube, 1 $\frac{1}{8}$ inch diameter.

Gear Box Chain Wheel to Engine, 30 Teeth, for Chain $\frac{5}{8}$ inch pitch,
 $\frac{3}{8}$ inch wide.

Belt Pulley, 7 $\frac{3}{4}$ inch diameter for 1 inch Belt.

For Chain drive to back wheel, Gear Box Sprocket, 15 Teeth, $\frac{3}{4}$ inch pitch,
 $\frac{7}{8}$ inch wide, 16 or 17 Teeth, $\frac{5}{8}$ inch pitch, $\frac{3}{8}$ inch wide.

BURMAN GEARS

IN THE T.T. 1922.

REMARKABLE SUCCESS IN SUPREME TEST.

28 Machines were fitted with Burman Gears in Junior Races and no gear trouble whatever was experienced.

GO BY RESULTS.

LIGHTWEIGHT RACE.

2. D. Young	Rex-Acme	Second Prize
4. L. Padley	Sheffield-Henderson	Gold Medal
6. J. C. North	O.K. Junior	Gold Medal
7. N. Hall	O.K. Junior	
9. L. Nicholson	Coulson B.	
14. O. Wade	Diamond	

THREE AWARDS OUT OF SIX GIVEN.

JUNIOR RACE.

3. J. Thomas	Sheffield-Henderson	Third Prize
4. R. Lucas	Coulson B.	Gold Medal
5. S. Woods	Cotton	Gold Medal
8. G. W. Shepherd	Edmund	
9. J. Bance	O.E.C. Blackburne	
11. H. F. Brockbank	Cotton	
15. F. G. Morgan	Cotton	

THREE AWARDS OUT OF FIVE GIVEN.

Over 40% of finishers in Junior Races were fitted with **Burman Gears.**

All Lightweight Lap Records were beaten by Handley on O.K. Junior.

Time: 44 mins., 24 secs.—over 51 miles per hour.

A COMPLIMENT FOR THE BURMAN GEAR.

At the request of the Board of Education we have supplied a Burman Three-speed Gear Box for exhibition at the Science Museum, South Kensington.

This typical example of the best Modern British Design in Motor Cycle Gears is now on view.

Burman & Sons, Ltd. LEE BANK WORKS, ::
BIRMINGHAM.