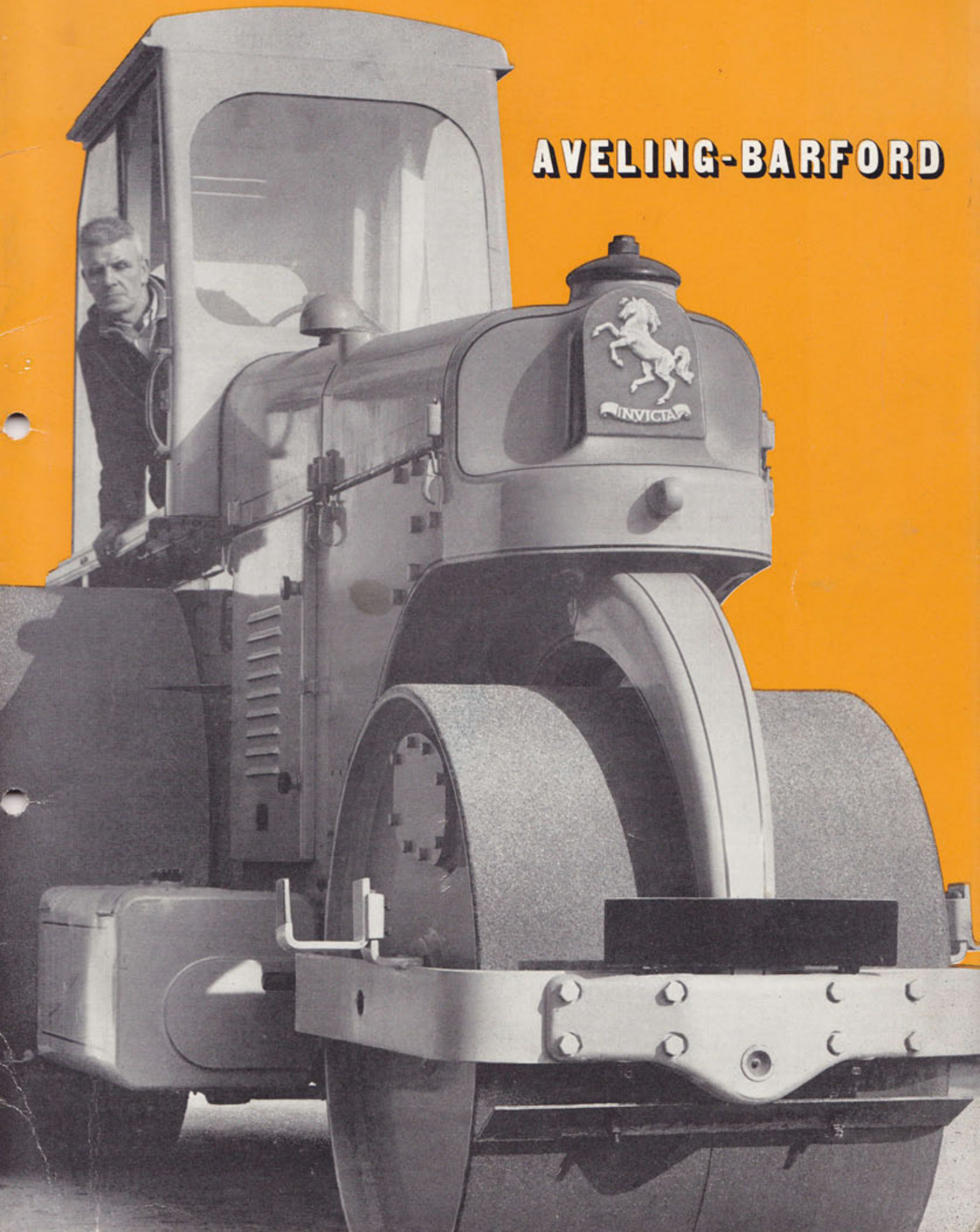
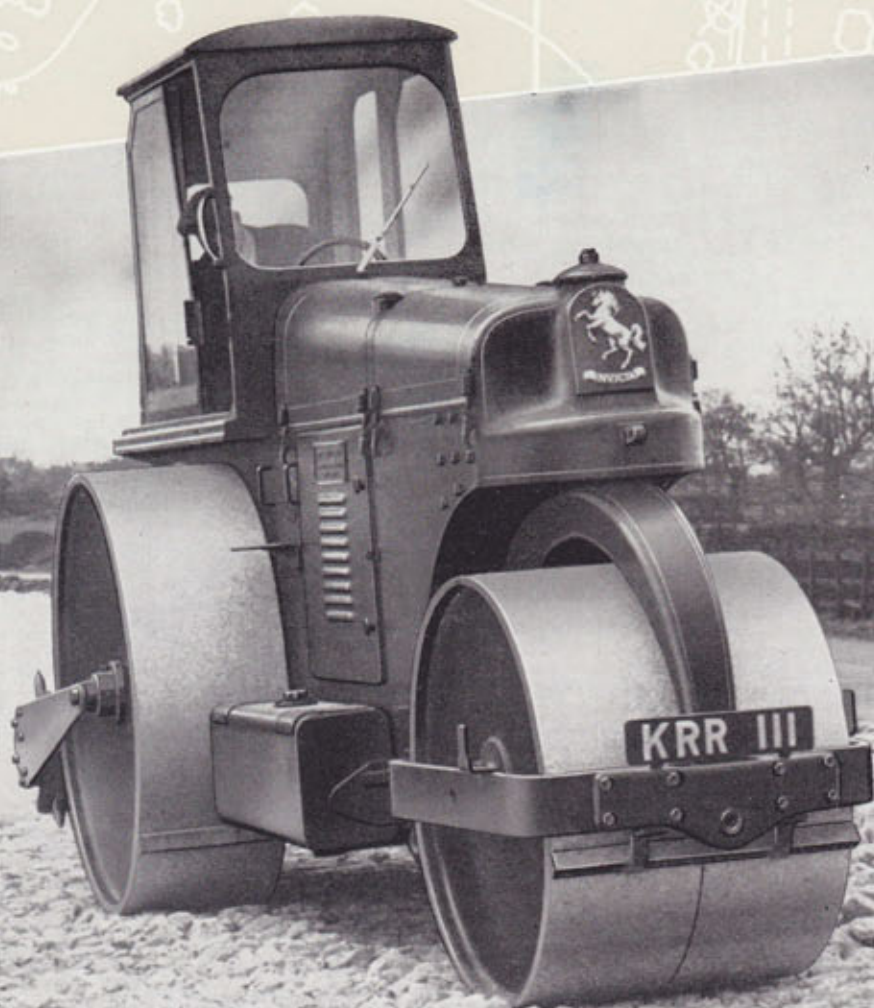


AVELING-BARFORD



right

from the start



AVELING-BARFORD

ROAD ROLLERS

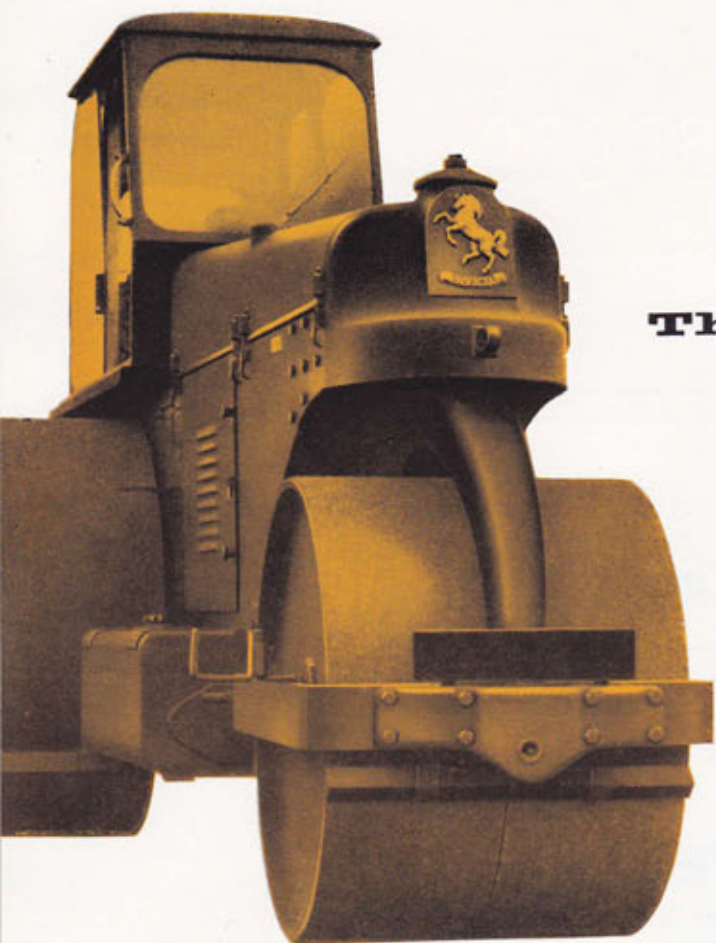
ONE TO SIXTEEN TONS

The Aveling-Barford contribution to highway development and construction is manifest in over 100 countries. Aveling-Barford Rollers by their versatility and dependability in all climates are helping to build better, less costly roads throughout the World.

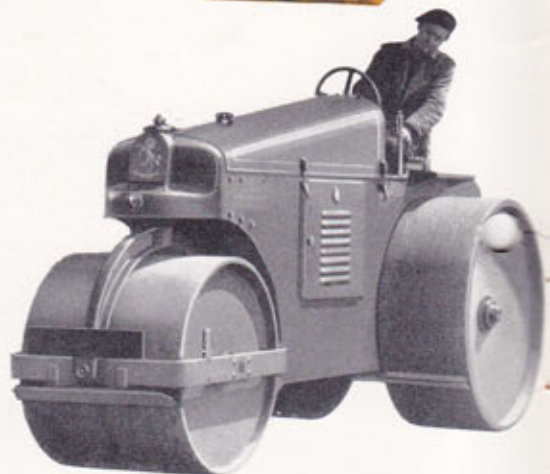
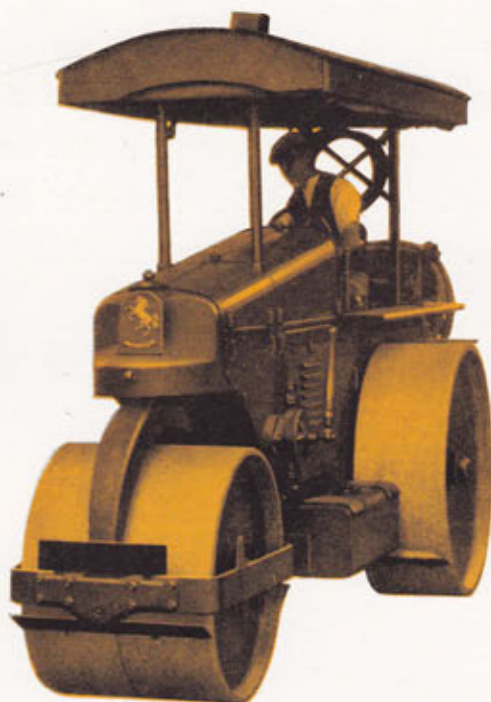
There is within the present range of Aveling rollers a machine to meet every rolling need. Built in weights from one to sixteen tons in three-wheel types and from three to eleven tons in tandem design, the range includes machines specially designed for footpath rolling, grass rolling, light and heavy road work, foundation consolidation and scarifying, as well as surface finishing.

This catalogue is devoted to the famous 'G' Series of three-wheel rollers and gives particulars with illustrations of the many features contributing to that outstanding performance, which has won for them the reputation of being the World's finest rollers.

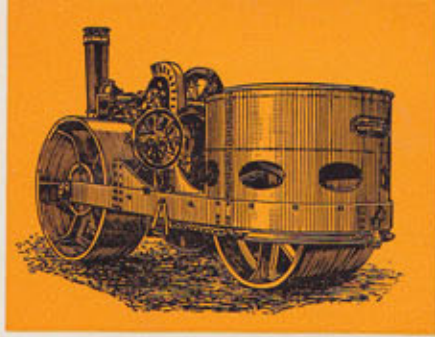




The World's finest rollers



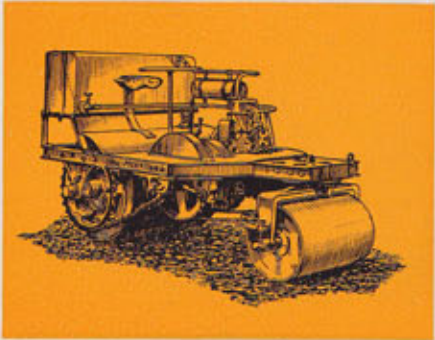
1867



In 1867, Thomas Aveling built the World's first steam roller. In 1904, Barford's built the World's first motor roller and in 1913 the first three-axle tandem. From the same line in 1927 came the first road roller to be powered by a high-speed diesel engine. And 1945 saw the introduction of the

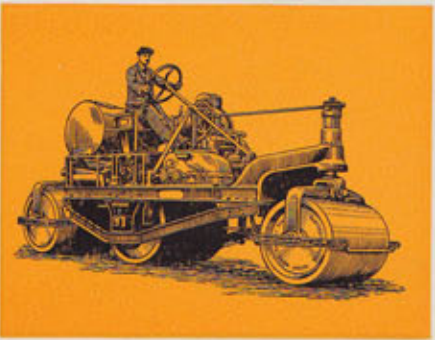
emanating from this unrivalled experience

1904



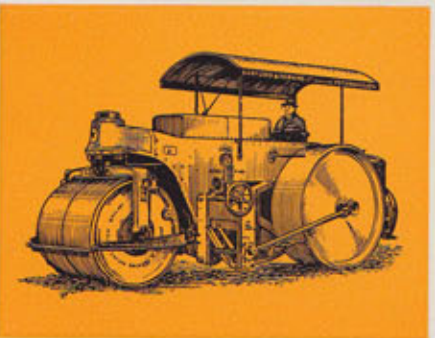
pressure balancing device, an exclusive feature of Aveling-Barford Rollers. From this wealth of achievement and experience has been developed the World's finest range of road rollers – the Aveling-Barford 'G' Series. This supremacy has long been recognized by highway engineers the World over – there being far more Aveling-Barford Rollers in use today than there are of any other make.

1913



Outstanding among the many features of the 'G' Series Rollers is the patent pressure balancing device. Fitted to all models of 5 tons and over, this device allows equal weight distribution over the three rolls or maximum loading on the rear rolls. This feature alone adds enormously to the scope and value of the roller. The one machine can be used with equal high efficiency for both surface finishing and foundation consolidation, thus eliminating the need for separate types of rollers for the two jobs. Another feature of importance is the precision-built gearbox of Aveling design and manufacture which provides a choice of four speeds in both forward and reverse. The clutch, also of Aveling's make, is designed to give the smooth drive engagement so essential to good rolling.

1927

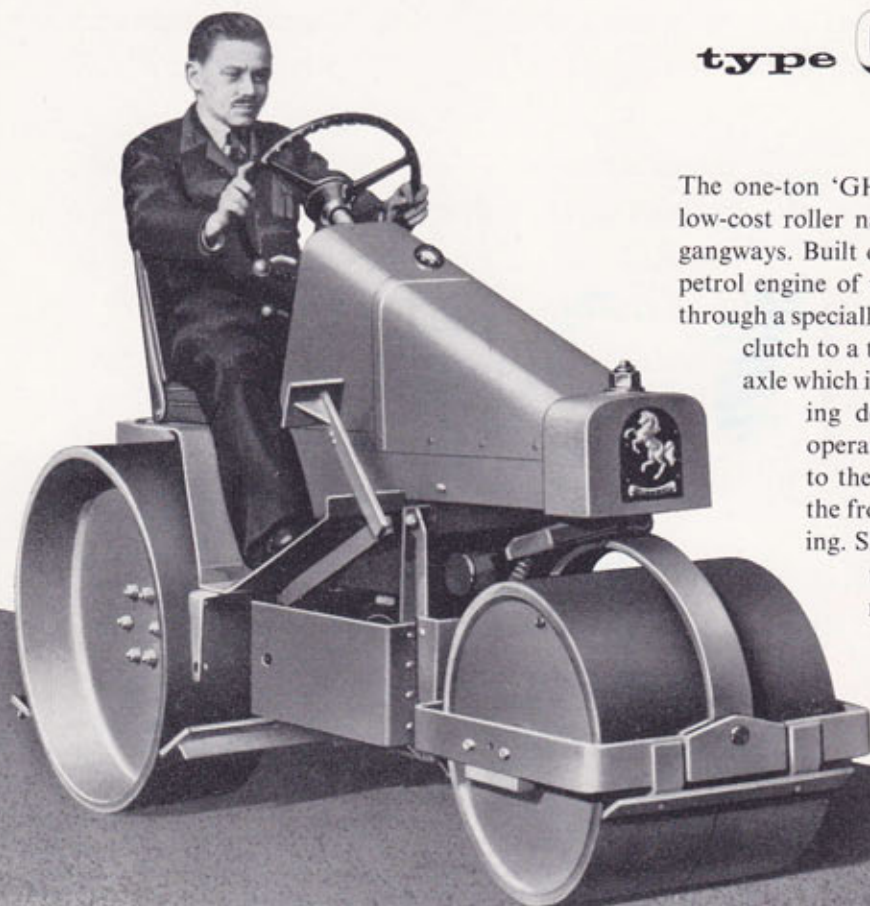


Aveling-Barford Rollers are built in modern, superbly equipped factories at Grantham and Newcastle by craftsmen proud of the high reputation their skill has won for the products they make.

AVELING-BARFORD

footpath rollers

type **GH**



The one-ton 'GH' Footpath Roller is a fast-operating, low-cost roller narrow enough to go through three-foot gangways. Built on the simplest lines, it is powered by a petrol engine of well-known make. Drive is transmitted through a specially-designed double-cone forward/reverse clutch to a two-speed gearbox and thence to the rear axle which incorporates a differential gear with locking device. Braking is by contracting-band operating on a transmission drum mounted to the gearbox. Rolls are of mild-steel plate, the front roll being suitable for water-ballasting. Sheet steel awning with four canvas curtains, water tank with sprinklers to each roll, and, for grass rolling, wide rear rolls (3 ft 7 in. - 1090 mm) are all available as extra equipment.

Weight Range - 1-1½ tons
Rolling Width - 2' 9" (840 mm)



'GH' Roller fitted with wide rear rolls for grass rolling.

'GH' Roller fitted with awning and curtains.



AVELING-BARFORD

type **GA**

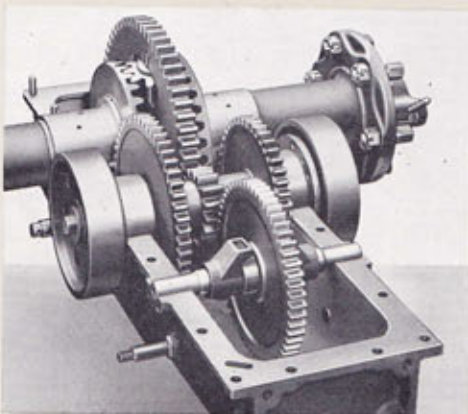
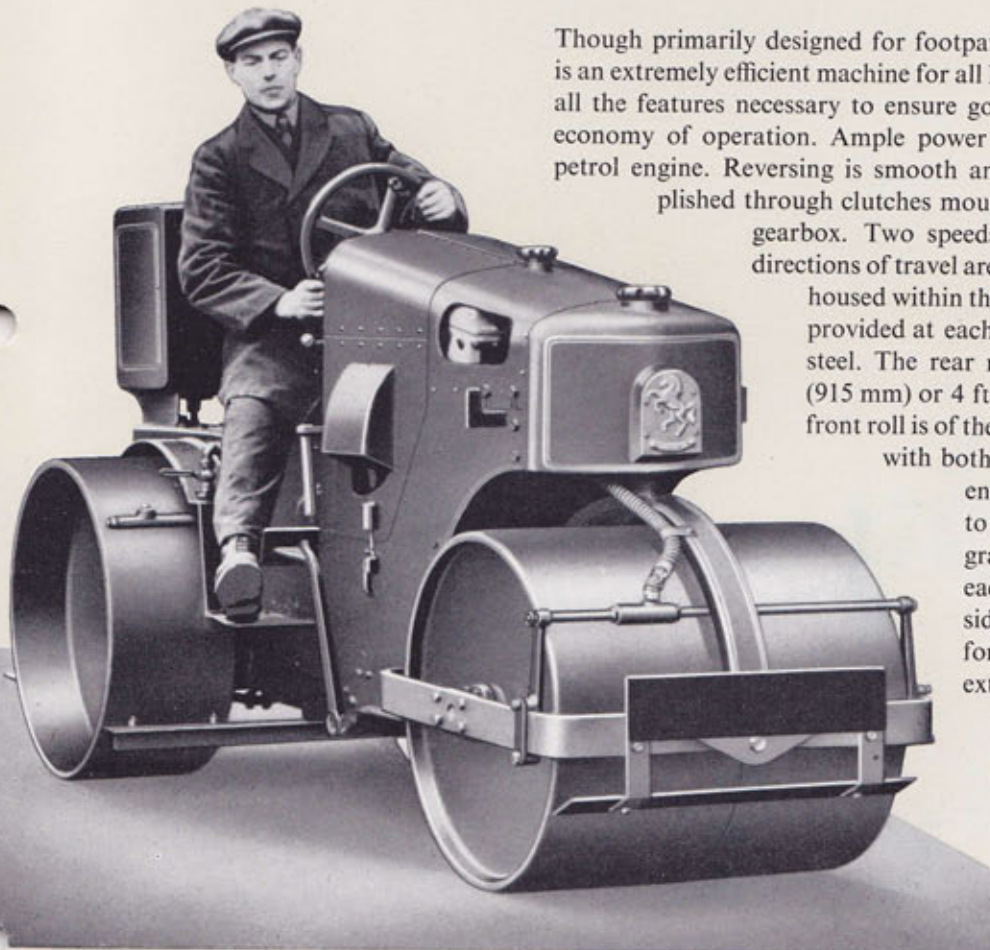
footpath rollers

Though primarily designed for footpath construction the 'GA' Roller is an extremely efficient machine for all kinds of light rolling. It possesses all the features necessary to ensure good performance, reliability and economy of operation. Ample power is provided by a four-cylinder petrol engine. Reversing is smooth and instantaneous and is accomplished through clutches mounted on an extended shaft of the gearbox.

Two speeds in both forward and reverse directions of travel are provided. Differential gears are housed within the gearbox and a locking device is provided at each rear roll. All rolls are of mild steel. The rear rolls are reversible to give 3 ft (915 mm) or 4 ft (1220 mm) rolling widths. The front roll is of the water ballast type. Clean design with both sides free of overhanging parts

enables the 'GA' to roll close-up to obstructions. Water tank with gravity feed to sprinkler pipes at each roll, sheet steel awning with side curtains, and wide rear rolls for grass rolling are available at extra cost.

Weight range - 1½-2 tons
Rolling width - 3' 0" (915 mm)
or 4' 0" (1220 mm)



Gearbox of 'GA' Roller.

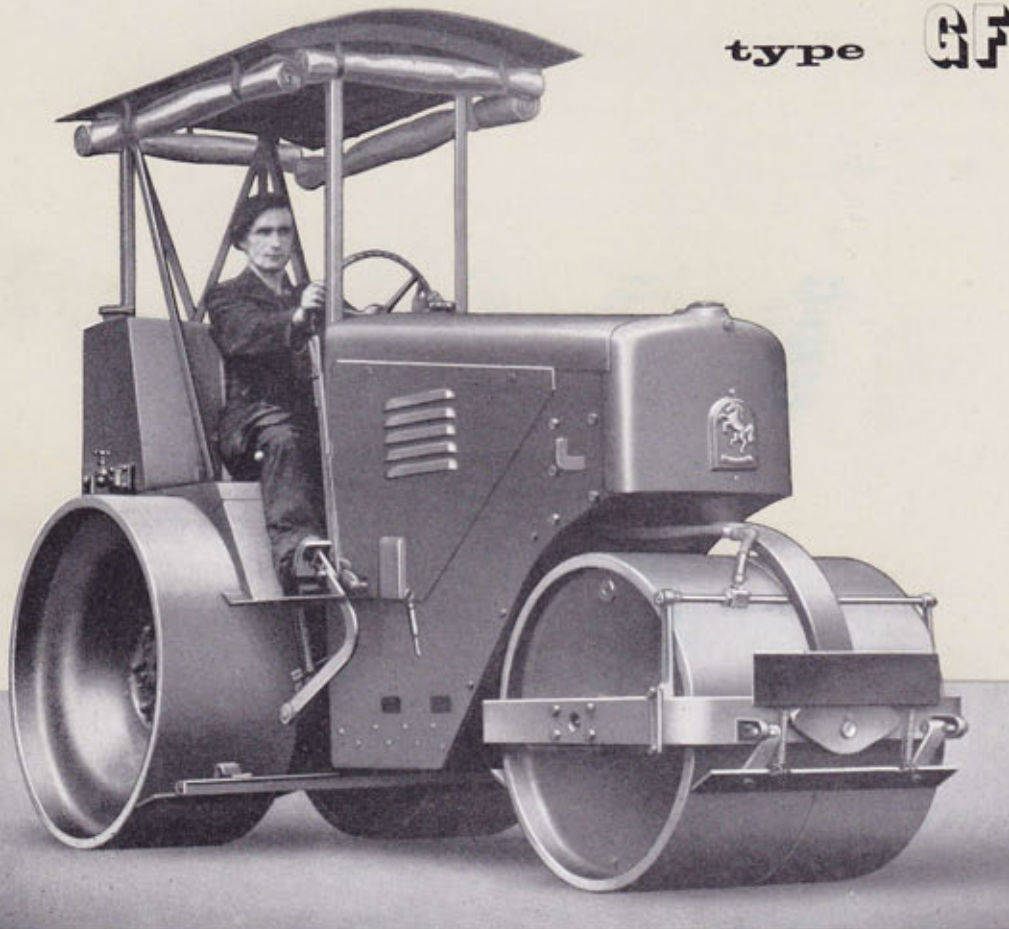
Equipped with wide rolls for grass work, the weight range is 1½-2½ tons. Reversible rolls give 5' 0" (1525 mm) or 6' 0" (1830 mm) rolling widths.



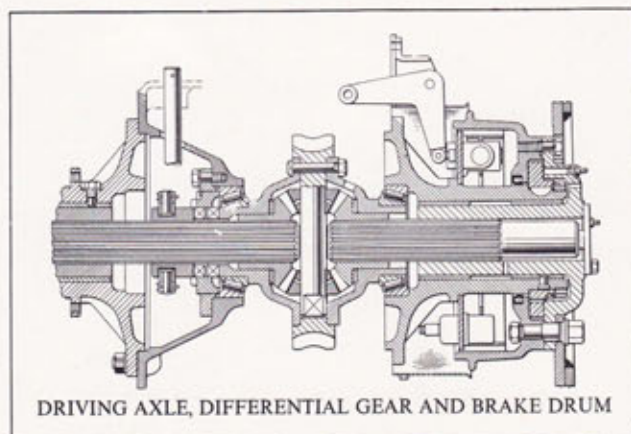
AVELING-BARFORD

light rollers

type **GF**



Suitable for most forms of light road work, 'GF' Rollers are made in two weights. The power unit is a 10-h.p. diesel engine of popular make. Forward and reverse travel is controlled by a dry-plate, fabric-lined, quick-reverse clutch which gives the smooth drive engagement necessary to good rolling. The gearbox of simple design and immense strength provides two speeds in both directions of travel. A differential that can be locked from the operator's station is provided to give increased traction when working on steep slopes or slippery surfaces. Worm and wheel final drive to 'live' rear axle ensures long gear life and quiet running. Brakes are internal-expanding two-shoe type operating on twelve-inch brake drums fitted to each rear roll. The brakes are operated by foot or hand controls, provision being made for their use as parking brakes. Steering, effected through double reduction bevel gears and quadrant, calls for but little effort, whilst a short wheelbase permits a small turning circle and the maximum manoeuvrability. All rolls are of steel plate and of the water ballast type. Extra fittings available include: enclosed cab; awning and curtains; water tank with gravity feed to sprinkler pipes at each roll; electric starting and electric lighting.

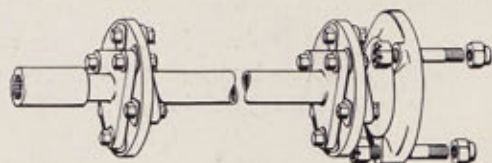
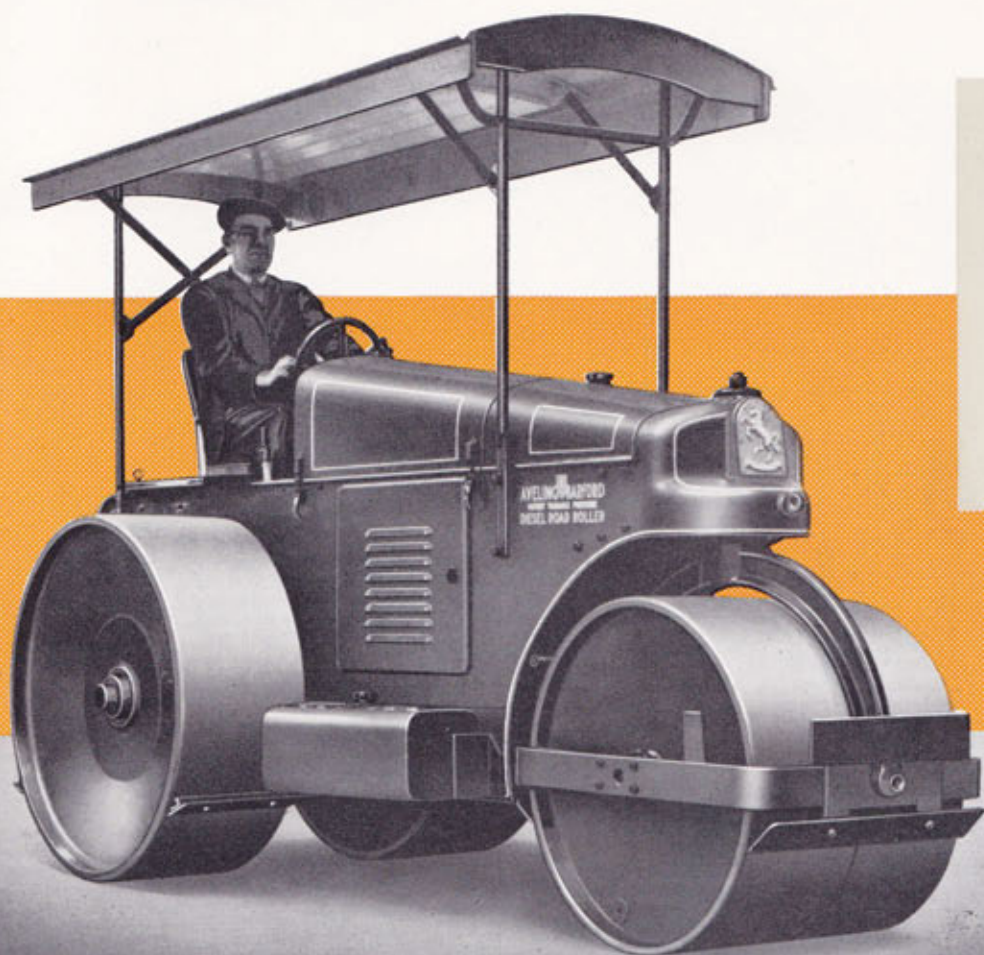


Weight range - 2½-4 tons

*Rolling widths - 3' 9" (1140 mm)
and 4' 4" (1320 mm)*

AVELING-BARFORD

type GBV light rollers



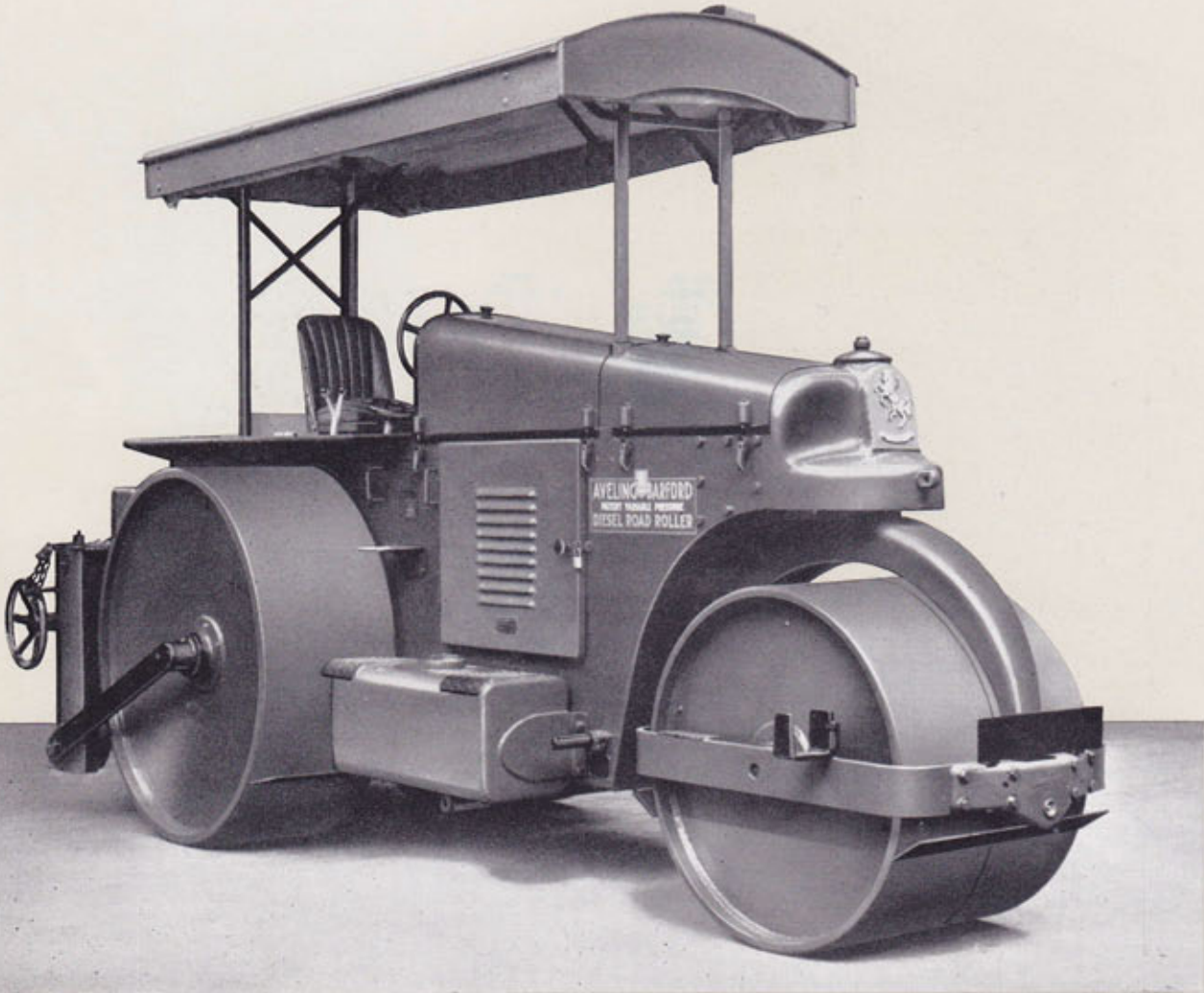
Direct drive through to gearbox by propeller shaft fitted with flexible couplings which ensure a smooth drive.

The largest of the light rollers, the type 'GBV' incorporates the patent pressure balancing device giving it a wide operational scope. Power is provided by a 17-b.h.p. diesel engine. The clutch is of the dry-plate, quick-reverse type with twin single plates controlling forward and reverse travel. Change of direction is smooth and immediate. Of Aveling design, the gearbox is a heavy, rectangular-section one-piece casting. Two speeds in both forward and reverse are provided. The differential, enclosed in the gearbox, can be locked from the driver's seat. Each rear roll is separately gear-driven by a pinion of the final drive shaft which engages with a cast steel internal gear ring bolted to the inner face of the roll. This drive is enclosed. The frame is of deep section steel channels with steel side and saddle plates. Steering is by car-type wheel operating through worm and wheel reducing gear to a pinion and segment movement. Rolls are of steel plate, electrically welded and of the water ballast type. Hubs are fitted with renewable bushes. Extra fittings include: enclosed cab; awning and curtains; water tanks and sprinklers, water being fed to the sprayers by pump; electric starting and electric lighting.

Weight range - 5-6½ tons Rolling width - 4' 10" (1475 mm)

AVELING-BARFORD

heavy rollers type GC

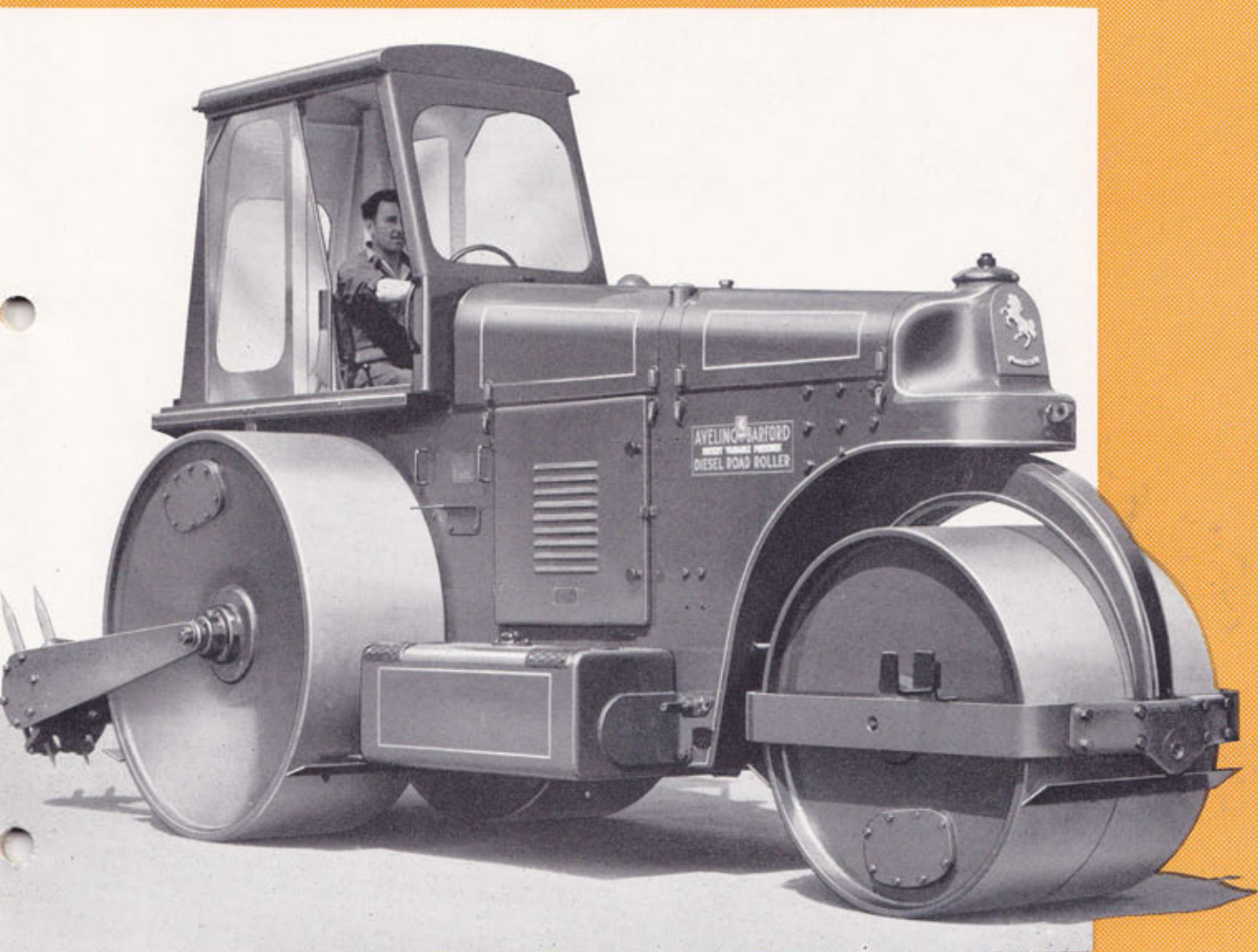


Built in three sizes, 'GC' Rollers are medium-heavy machines able to undertake all forms of road work, including scarifying. Each model possesses the same unique combination of features, outstanding among which is the patent pressure balancing device (*see page 14*). The standard engine is a four-cylinder diesel unit developing 35 b.h.p. but an alternative make of diesel engine is available for all models. From engine to clutch the drive is direct by a propeller shaft fitted with flexible couplings. The clutch is of the dry-plate, quick-reverse type with twin plates controlling forward and reverse travel, giving velvet-smooth drive engagement. The gears, housed in a cast-iron box of great strength, provide four speeds in both forward and reverse travel. All gears, including final drive pinion, are of heat-treated steel with machine-cut teeth. Shafts are of high-tensile steel and mounted in ball or roller bearings. All rolls are of mild steel plate and are fitted with renewable bushes. Provision is made for both water and sand ballasting. Optional extra fittings include: enclosed cab, awning and curtains; water sprinkler system; hydraulic coupling; power or power-assisted steering gear; hydraulic or resilient scarifier, and hand pump and hose.

Weight range - 6½-11 tons Rolling widths - 5' 0" (1525 mm) and 5' 6" (1675 mm)

AVELING-BARFORD

type **GD** heavy rollers



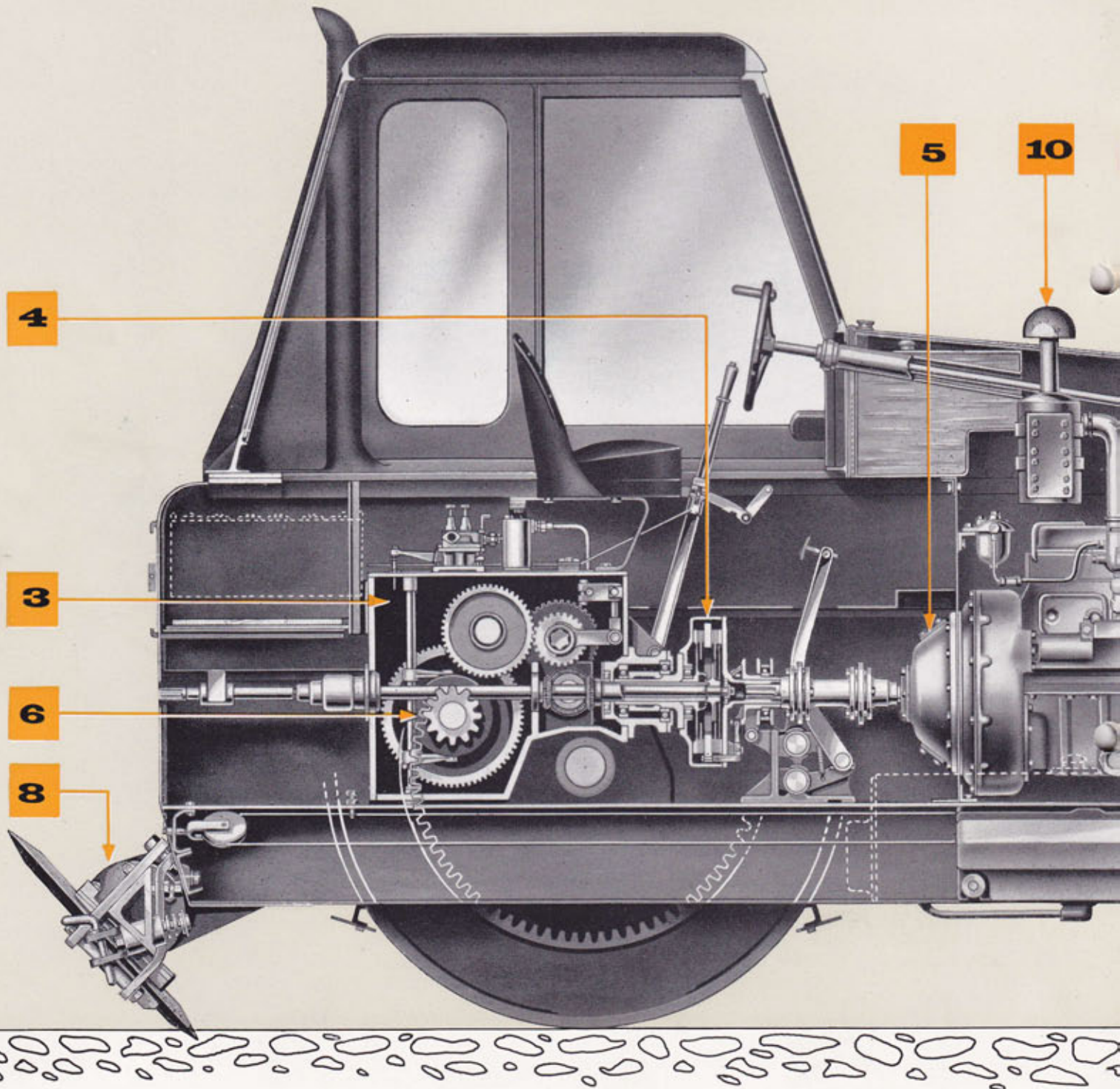
With its superb design and outstanding performance, the Aveling-Barford 'GD' Roller is the recognized aristocrat of the roller world, its possession is a source of pride and satisfaction to every owner. Made in four sizes, each incorporates the same unmatched combination of features. The standard power unit is a four-cylinder diesel engine of world-renowned make developing 48 b.h.p. Alternative engines are offered for all four models. On the following two pages is shown a sectional drawing of the 'GD' Roller with succeeding pages describing its outstanding design features.

Like the major components, the smallest details have received meticulous design care. The driver's seat is adjustable to suit his stature, and all controls are within easy reach ensuring comfortable, fatigue-free working. The adjustable scrapers are set at an angle to impart a cutting action to material adhering to the rolls. Accessibility for maintenance too has been carefully considered and all parts are easily reached.

Weight range - 9-16 tons Rolling width - 6' 2" (1880 mm)

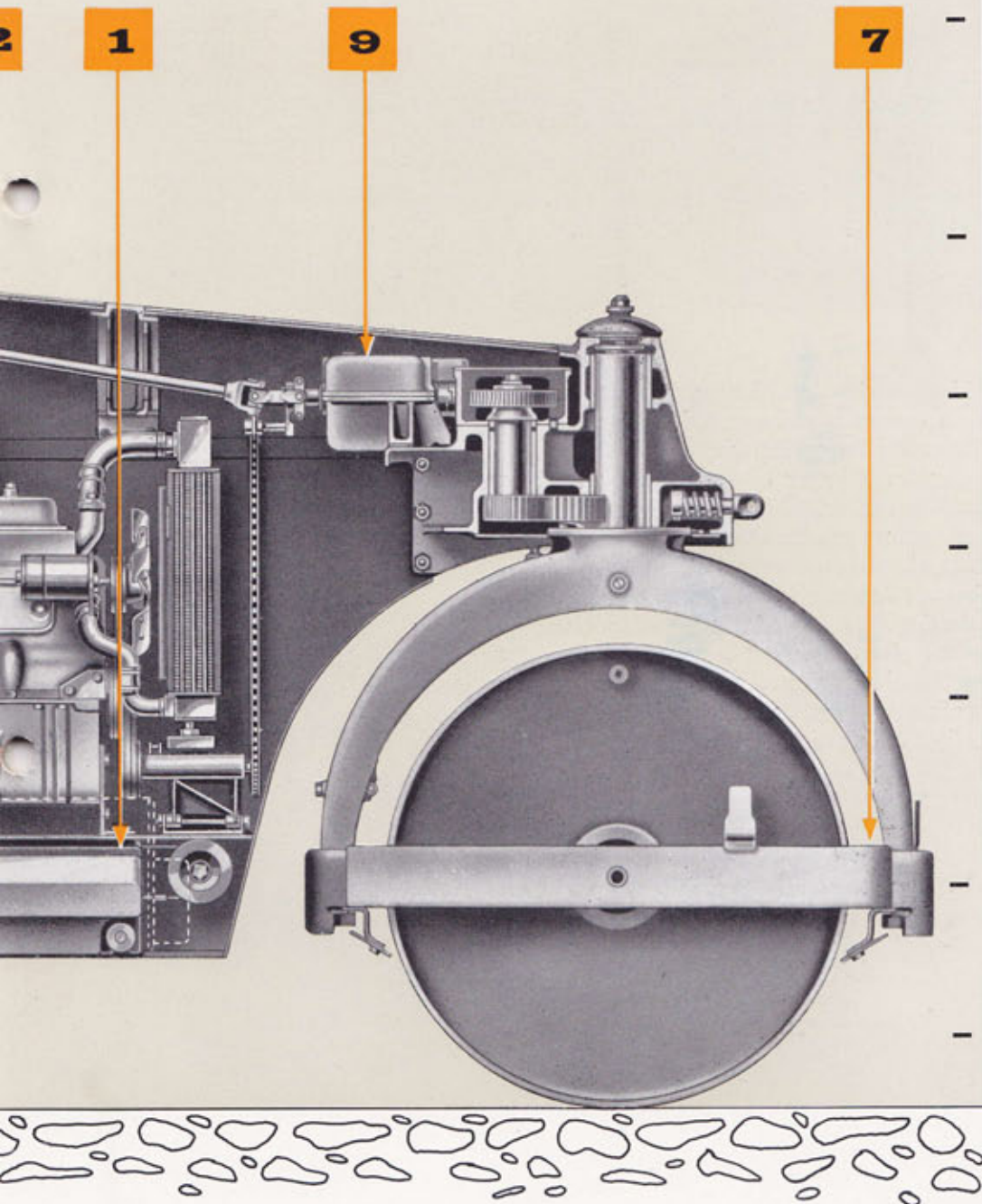
AVELING-BARFORD

RO



SUPREME IN DESIGN - PERF

AD ROLLERS



PRESSURE BALANCING
DEVICE

1

MULTI-CYLINDER
DIESEL ENGINE

2

TOTALLY-ENCLOSED
GEARBOX

3

QUICK-REVERSE
CLUTCH

4

FLUIDRIVE
COUPLING

5

GEAR DRIVE
TO EACH REAR ROLL

6

UNDERSLUNG
FORECARRIAGE

7

HYDRAULIC
SCARIFIER

8

POWER
STEERING

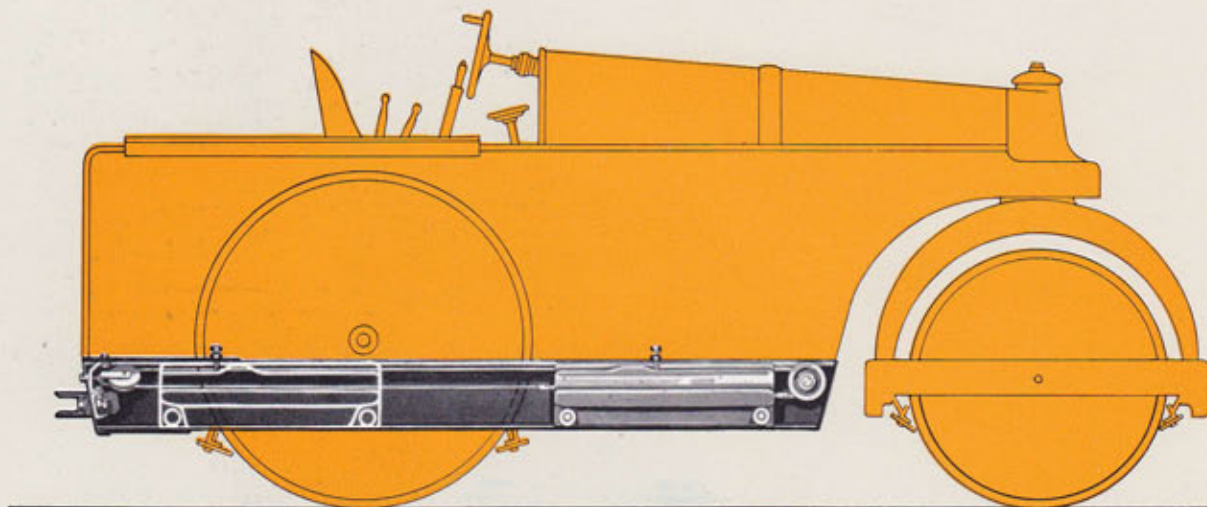
9

HEAVY-DUTY
AIR CLEANER

10

PERFORMANCE - STYLING

pressure balancing device



This device enables one machine to undertake with equal high performance every form of road work. It comprises a heavy, trolley-borne weight movable along the length of the main frame. With the weight in the forward position and appropriate quantities of ballast in the rolls, front and rear rolling pressures are equalized for surface finishing. For foundation compaction, scarifying and climbing steep gradients when maximum pressure on the hind rolls is important, the weight is moved to the rear position. The duties of general purpose and finishing rollers can thus be performed by one machine. However, the three-wheel roller, no matter how evenly its weight is distributed, does not give the speedy coverage suited to the rolling of machine-laid hot bituminous carpets. For maximum output, experience suggests the use of an Aveling-Barford Tandem Roller for hot fine mixes, which need only light rolling to seal them.

for a
perfect job
of
**CONSOLIDATING
FINISHING
SCARIFYING**

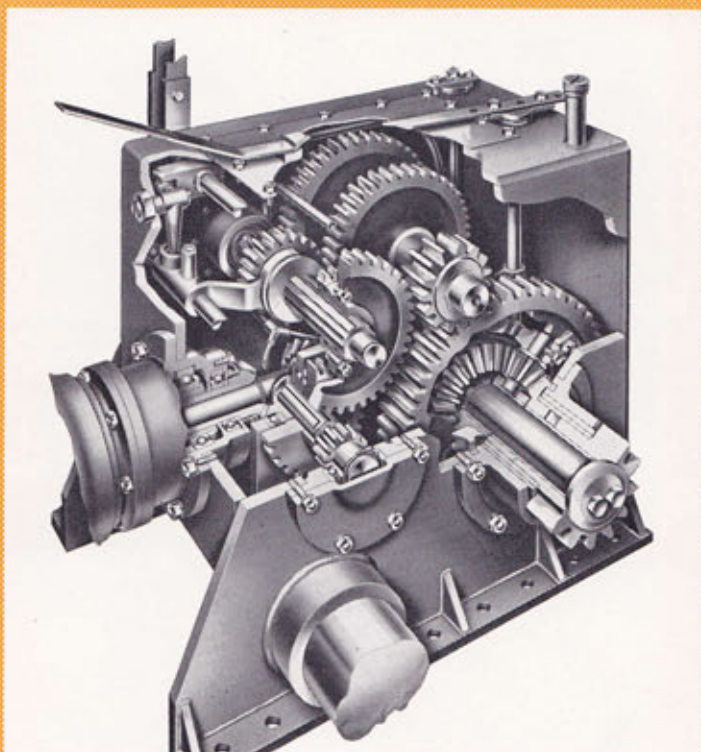


GEARBOX

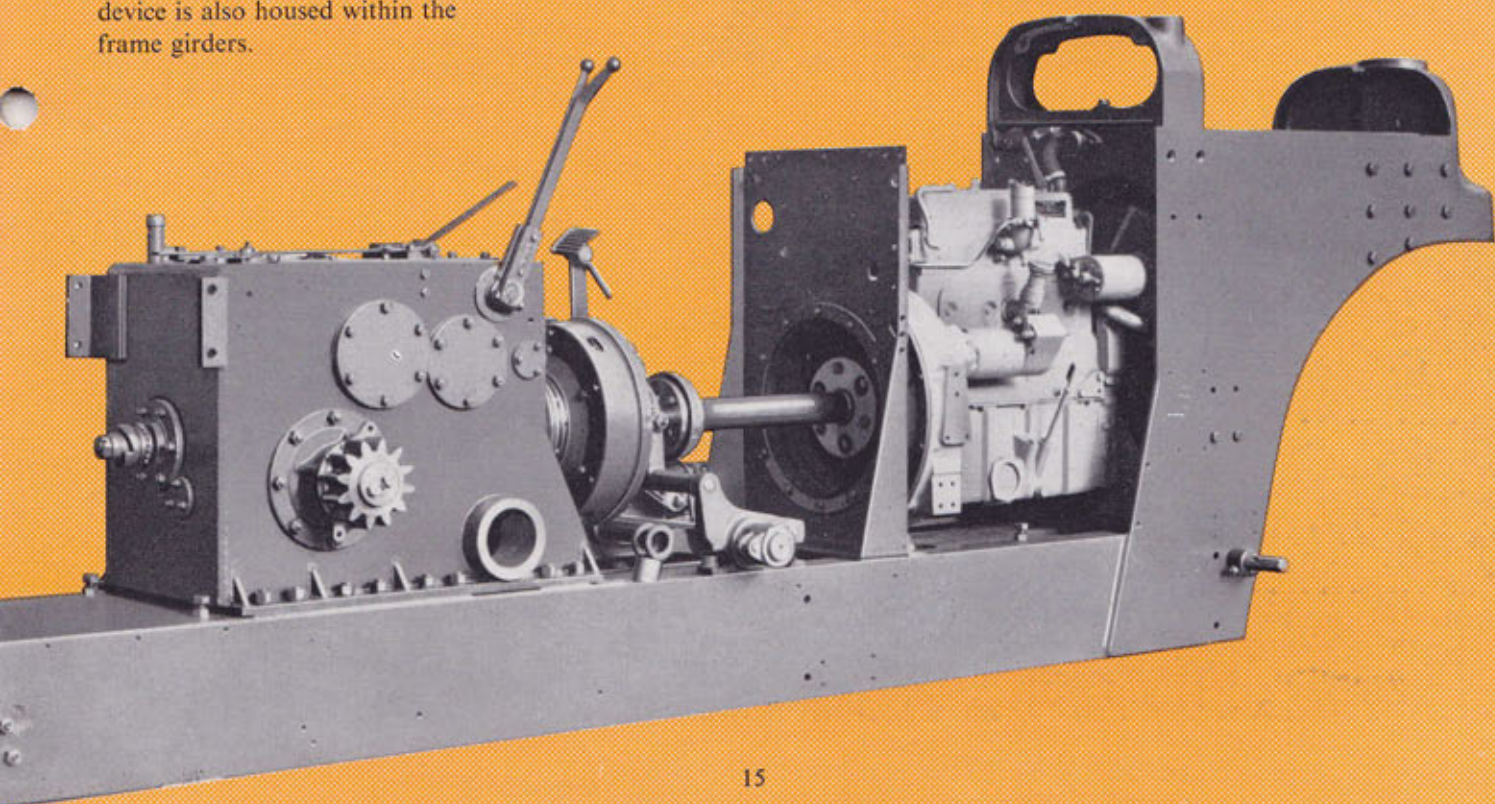
This most important item is entirely of Aveling-Barford design and manufacture. The 'GD' Roller box, illustrated, is fabricated from stout steel plate giving it great strength and rigidity whilst ensuring an oil-tight casing. Drive is transmitted from the clutch through bevel gears to the change-speed, sliding mesh gears on cross-shafts, giving four speeds. The arrangement of the bevels is such that all four speeds are available in both forward and reverse travel. From the third cross-shaft, the drive passes through a bevel type differential to two final drive pinions. All gears are of heat-treated steel with machine-cut teeth. Shafts are of high-tensile steel and mounted in ball or roller bearings. A cam-driven pump circulates oil to all essential points with resulting extra long gear life.

MAIN FRAME

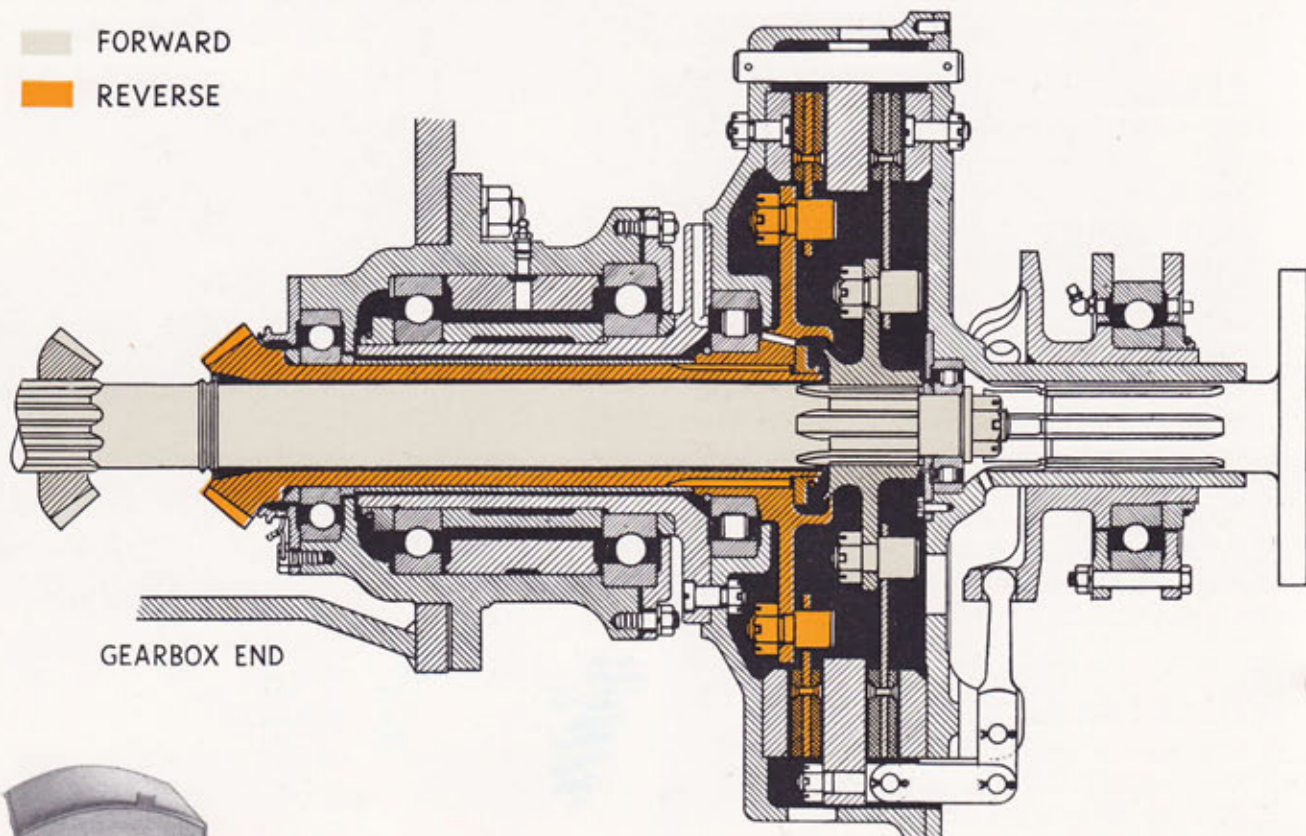
Stripped of superstructure, the inner construction of Aveling-Barford heavy rollers reveals the emphasis placed on strength. Forming the frame are two straight, deep section, rolled-steel channels, cross-braced and stayed to form a rigid unit which ensures perfect alignment of the engine and transmission throughout the lifetime of the roller. Welded to the forward end are two steel-plate members carrying the steering head and radiator, whilst at the rear end is the gearbox, which, in addition to housing the change speed, reverse and differential gears, also carries the rear axle. Thus all main working parts are carried on the main frame and not attached to the superstructure. The pressure balancing device is also housed within the frame girders.



STRENGTH and POWER



FORWARD
 REVERSE

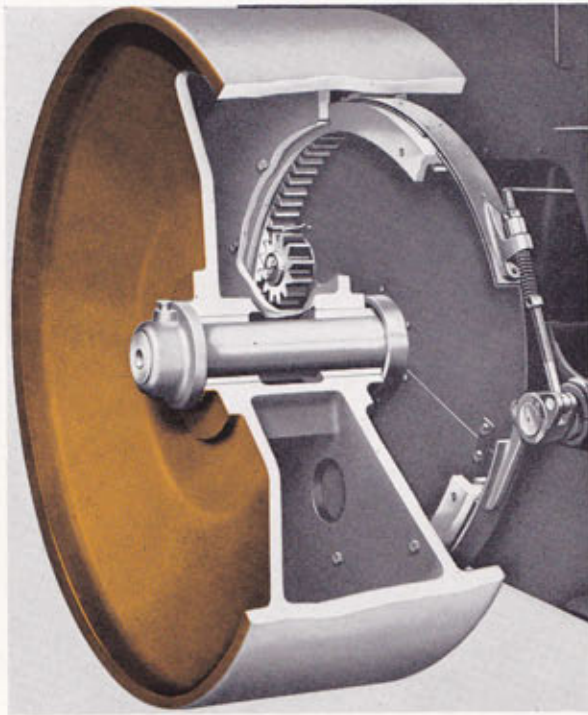


quick-reverse clutch

Looking for signs of a 'snatch' officer? Then you should be made aware that the clutch fitted to Aveling-Barford Rollers is not guilty of 'snatch' or 'dwell'. The evidence is before your eyes, a perfect mark-free asphalt carpet.

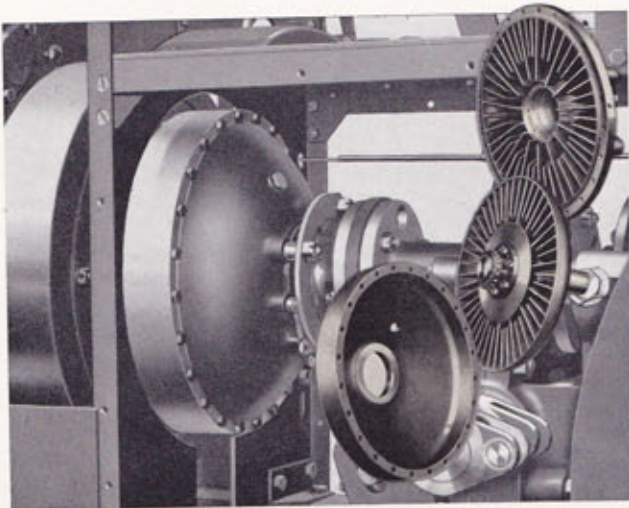
Types 'GF', 'GBV', 'GC' and 'GD' Rollers are all fitted with a single clutch unit. Varying only in size, the design is the same on all four types. This clutch is designed – not adapted – specifically for operation in road rollers. It is of the heavy automotive double-acting single-plate type controlled by a single hand lever. A forward or rearward movement of the lever gives a corresponding direction of travel to the roller in any gear setting. The spring-load applied to the clutch through a ball-bearing throw-over mechanism gives the drive a perfectly smooth take-up.

A PERFECT MARK-FREE FINISH



gear drive

On the heavier types of rollers each rear roll is positively driven by spur gearing mounted on the differential shaft. This ensures balanced traction with equal wear on each roll. The gears, fully protected, are lubricated by a controlled piped oil feed. With the rear axle passing right through the gearbox, positive alignment and full constant engagement of final drive pinions with the driving rings bolted to each rear roll is assured. Fully self-wrapping, external contracting, band type brakes, hand or foot operated, act on the machined outer surfaces of the driving rings.

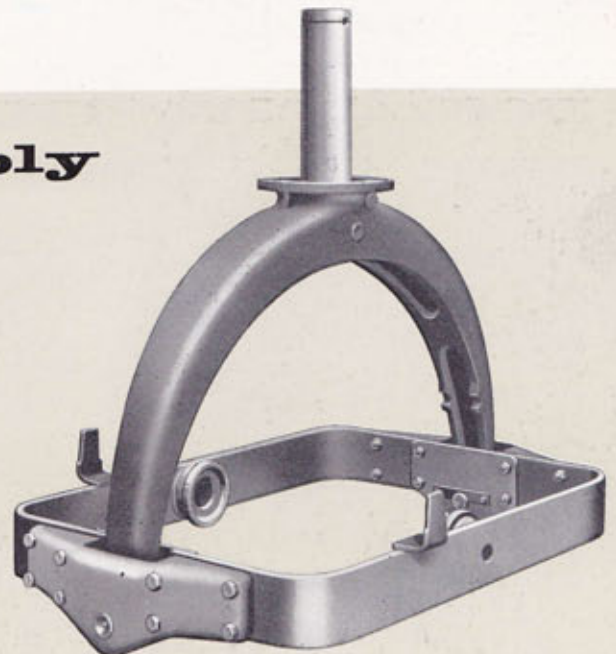


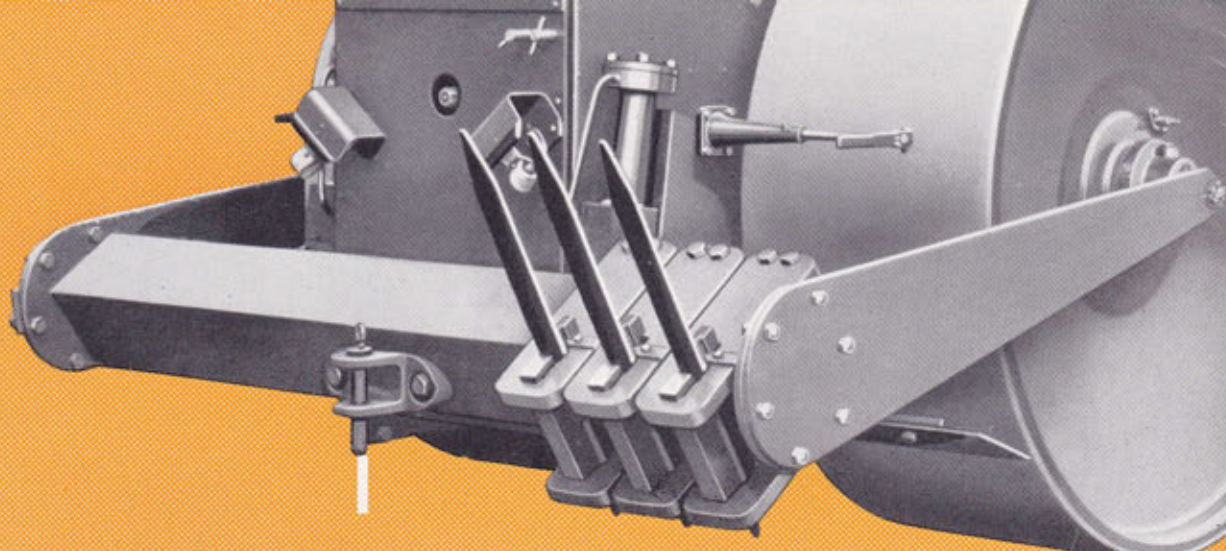
hydraulic coupling

The Vulcan-Sinclair Fluidrive Coupling is an optional extra available for fitting to 'GC' and 'GD' Rollers. For particularly heavy work and for scarifying, it is an invaluable supplement to the flexible coupling in absorbing shocks and ensuring the smoothest possible take-up of the drive at starting. With this coupling it is almost impossible to stall the engine. A spiral of oil provides a cushioned drive lengthening the life of both engine and transmission by protecting them from shocks.

forecarriage assembly

The arrangement of steering fork and forecarriage adopted on all types of 'G' Series Rollers ensures uniform pressure over the full width of the front roll. Spanning the roll longitudinally, the bridge carries the forecarriage by steel trunnion pins, thereby allowing the front roll to accommodate itself to the road surface without disturbing the stability of the machine.

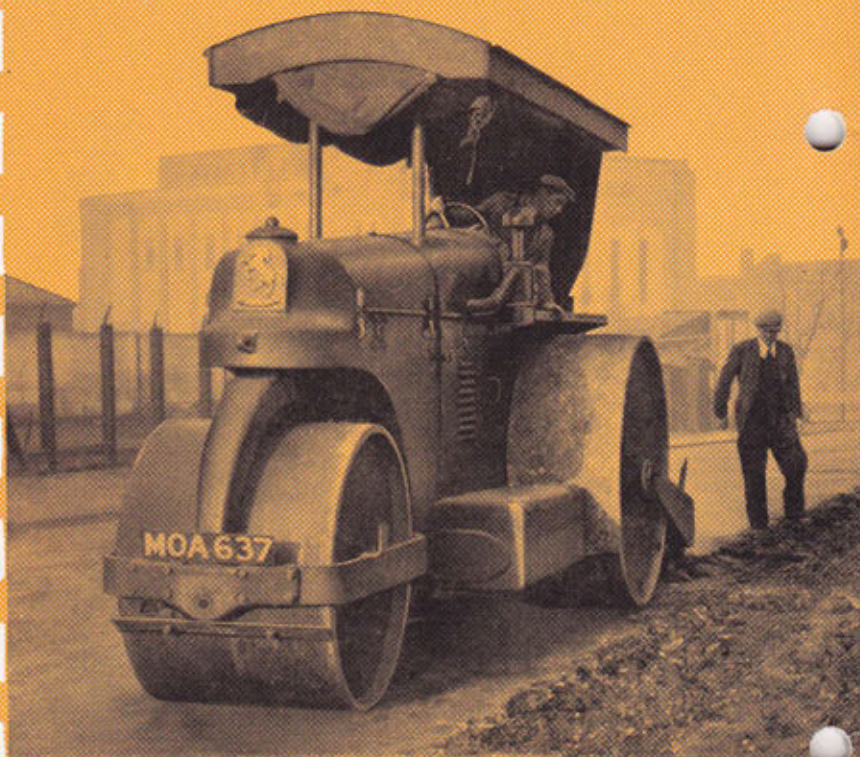




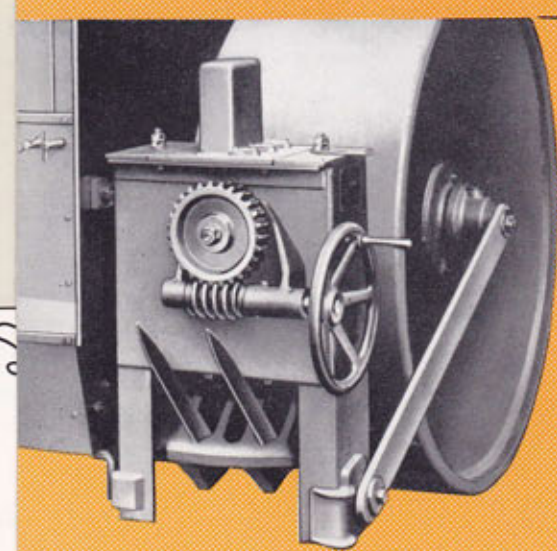
triple-control

hydraulic scarifier

Easy to control, this highly-efficient scarifier is built for the really tough road jobs. The powerful rams ensure quick penetration of the tines, provide a tenacious holding-in force, and a rapid lift for the avoidance of manhole covers or other obstructions in the road. Provided with triple control, the scarifier can be operated by the driver from his seat, or by a man from either side of the roller. Tines are made from high grade, square steel bar, specially treated to resist abrasion. They are removed simply by knocking out the wedge-shaped cotters that hold them in the clamps. Tines can be mounted either side of the beam. The standard unit carries two tines, but for type 'GD' Rollers a three-tine unit, as illustrated, can be supplied.



resilient scarifier

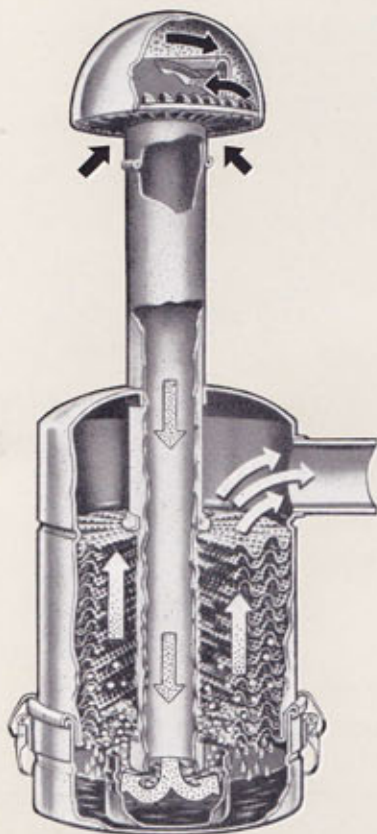


This self-contained unit is attached to the right-hand side of the roller behind the rear roll. Load is applied manually by a large hand wheel operating through a worm and wheel to a spur pinion in mesh with a vertical rack. The tine holders are resiliently mounted to the lower end of this rack through a heavy spring shock absorber. Each tine holder carries a cotter box which is removable to facilitate withdrawing damaged tines. One, two or three tine models are available, the latter being suitable for heavy type 'GD' Rollers only. Tines are as those used in the Hydraulic Scarifier.

air cleaner

This fitment ensures almost complete protection against the entry of dust into the engine cylinders. Impurities are extracted in three ways – by reversal of air flow, by oil turbulence, and by oil saturated screening elements. The cut-away drawing below shows clearly the passage of air through the various cleaning processes. This type of air cleaner is equally effective when the roller is negotiating steep gradients.

➡ DUSTY AIR
 ➡ PRE-CLEANED AIR
 ➡ CLEAN AIR



steering

In an unsprung vehicle like a roller, the whole of the road shocks are transmitted to the steering mechanism. Aveling-Barford have, therefore, ensured that the gears and bearings are as robust as possible, while yet allowing that light and rapid control essential for successful surfacing operations. On the left is shown the steering head of the heavy rollers.

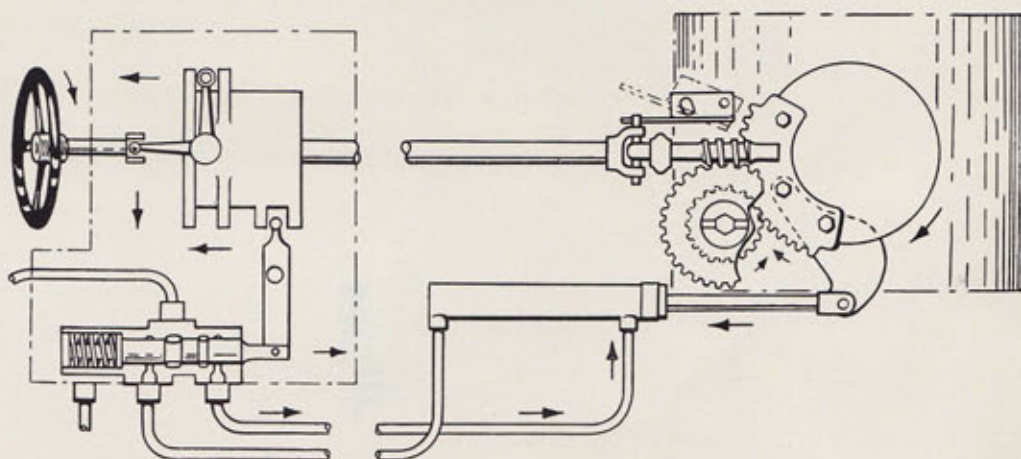
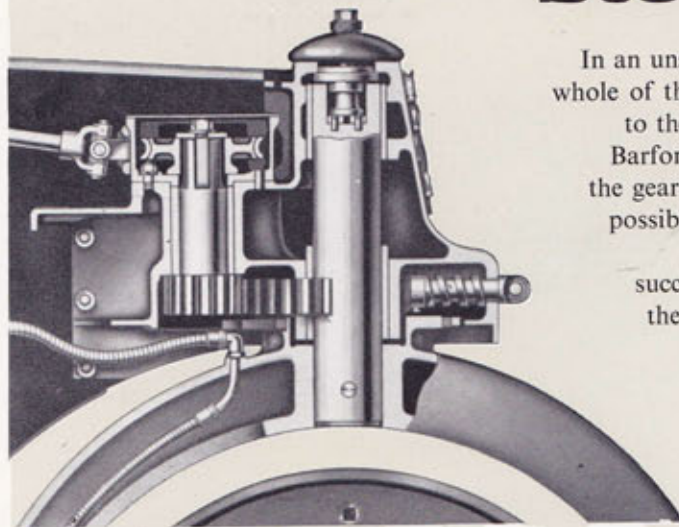


Diagram of hydraulic power steering – an optional extra fitting for 'GC' Rollers. A simple adjustment brings power-assisted steering into use. With the hydraulic system out of action, the roller can still be steered by ordinary hand steering.

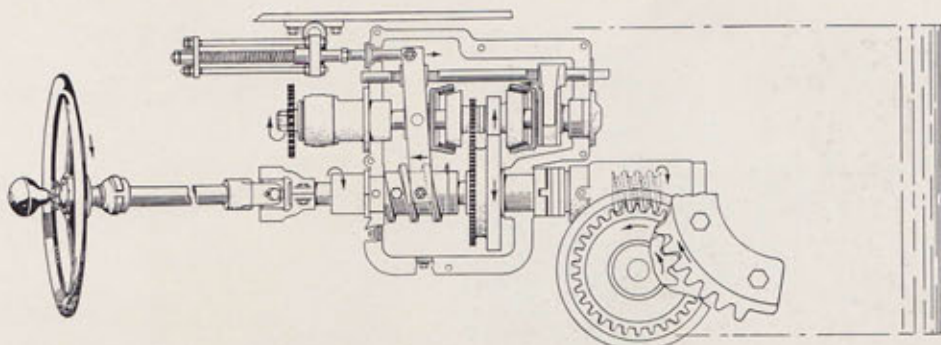
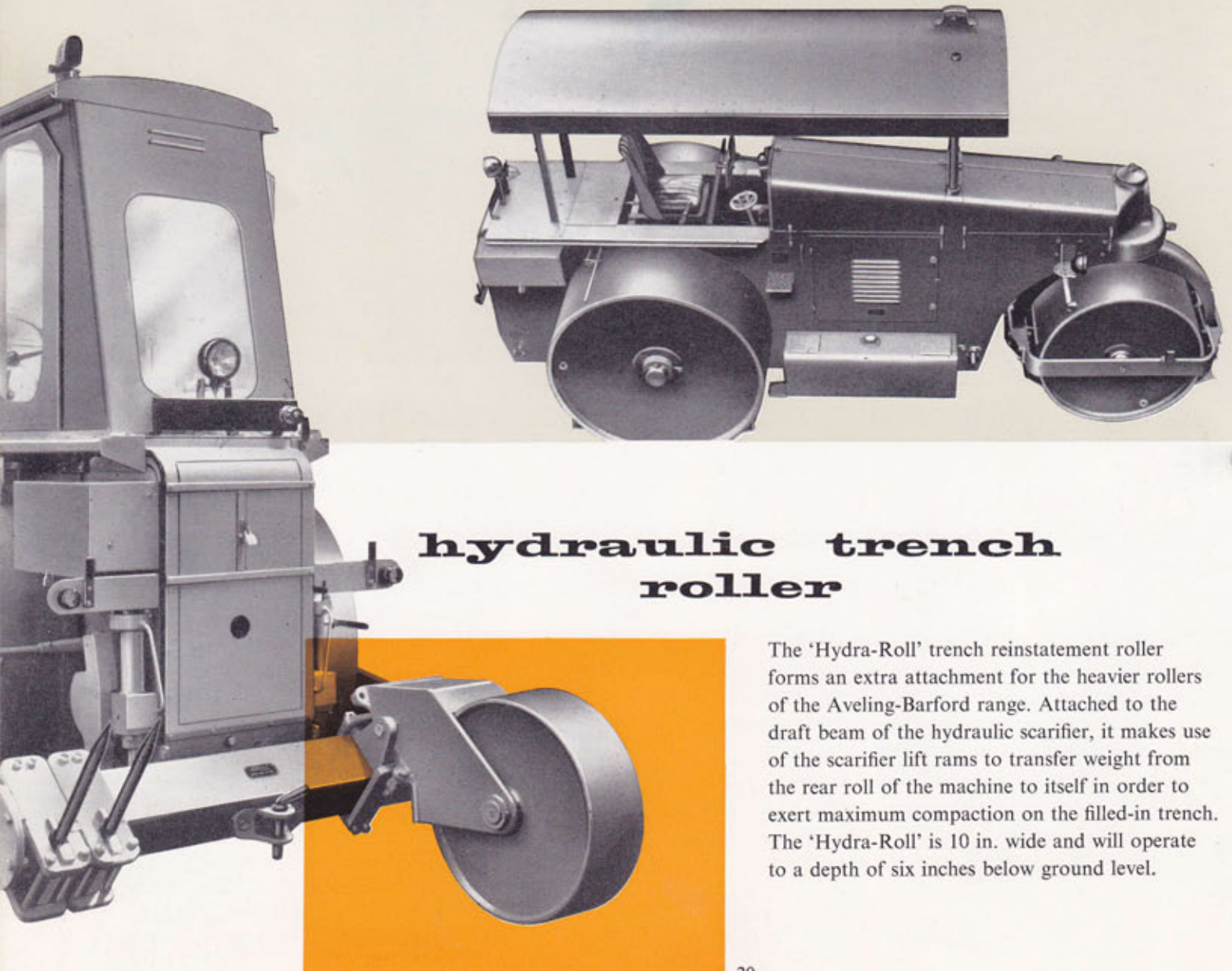


Diagram of mechanical power steering – an optional extra fitting for 'GD' Rollers. Power is derived from the engine by chain drive from the crankshaft. The power steering unit can be disconnected and hand steering reinstated quite simply.



lighting

When rollers are fitted with an electric starter, electric lighting can be supplied at small extra cost. The standard lighting set comprises, at the front, two small side or parking lights and two headlamps, and at the rear, another headlamp together with two red tail lamps, a registration plate light and two reflectors (conforms with U.K. 1954 Lighting Regulations). The side lights are mounted on extensible arms so that when in use they indicate the full width of the roller. For night rolling work a pair of floodlights fitted to the top of the awning or cab can be supplied. They can be directed either downwards to illuminate the road when working or forwards when travelling.



hydraulic trench roller

The 'Hydra-Roll' trench reinstatement roller forms an extra attachment for the heavier rollers of the Aveling-Barford range. Attached to the draft beam of the hydraulic scarifier, it makes use of the scarifier lift rams to transfer weight from the rear roll of the machine to itself in order to exert maximum compaction on the filled-in trench. The 'Hydra-Roll' is 10 in. wide and will operate to a depth of six inches below ground level.

EXTRA FITTINGS

AWNING. Available for all models. Sheet steel with rot-proofed canvas side and end curtains.

CAB. (Not available for types 'GH' and 'GA' Rollers.) Totally-enclosed. Glazed to give all-round visibility.

WATER TANKS AND SPRINKLERS. Tanks are of sheet steel plate. For type 'GBV', 'GC' and 'GD' Rollers water is fed to the sprinklers by pump. Sprinklers can be operated independently. For types 'GH', 'GA' and 'GF' rollers there is gravity feed to sprinklers. On heavy roller, sprinkler pipes are reversible for easy cleaning.

HAND PUMP AND HOSE. Semi-rotary pump with armoured suction and delivery hoses. Four brackets with leather straps are fixed on the back of the roller for storing hoses when not in use.

SCARIFIERS. For 'GC' and 'GD' Rollers only. Choice of hydraulic or resilient, each carrying one or two tines for 'GC' and up to three for 'GD' Rollers.

POWER STEERING. For 'GC' Rollers - hydraulic, giving full power or power-assisted operation.

For 'GD' Rollers - mechanical, with drive taken from engine shaft.

Both types are operated by the normal steering wheel.

HYDRAULIC COUPLING. For 'GC' and 'GD' Rollers only. Heavy-duty type Vulcan-Sinclair Fluid-drive Coupling.

ELECTRIC STARTING. For standard engines powering 'GF' and 'GBV' Rollers and for alternative engines of 'GC' and 'GD' Rollers.

ELECTRIC LIGHTING. Not available for types 'GH' and 'GA' Rollers. Can be fitted when roller is equipped with electric starting. 12-volt system.

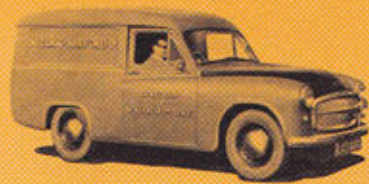
FLOODLIGHTING. As electric lighting but with headlamps mounted on Cab or Awning.

LAMPS. Oil burning, as alternative to electric lighting and to provide parking lights.

'HYDRA-ROLL' TRENCH ROLLER. For fitting to Hydraulic Scarifier beam of 'GC' and 'GD' Rollers.

SPRING DRAWBAR. For types 'GBV', 'GC' and 'GD' Rollers only. Absorbs shocks when roller is used to haul other items of equipment.

SPARES AND SERVICE



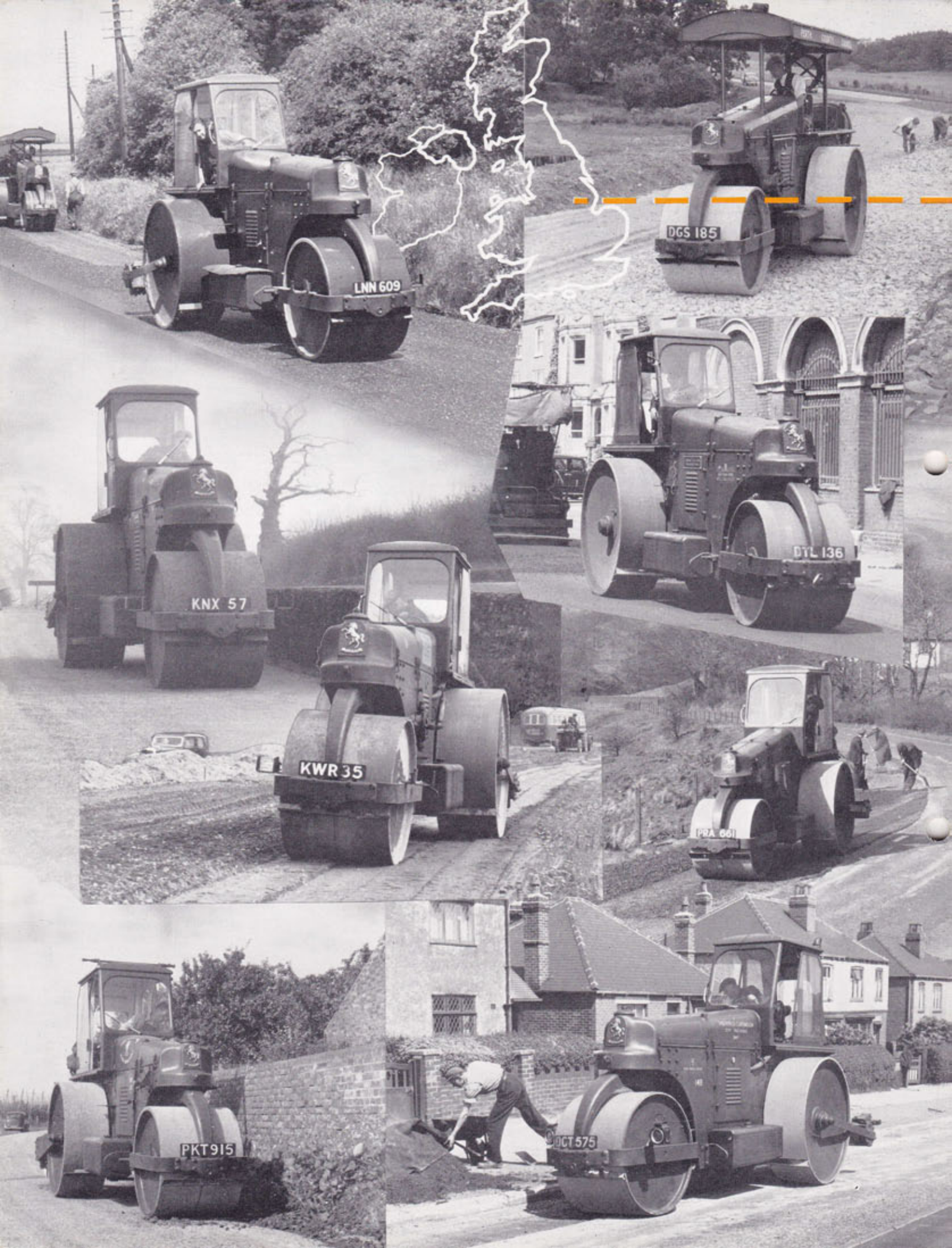
In Britain, one of the fleet of Service vans ready to answer any call for help.

Every part of an Aveling-Barford roller is precision built . . . materials used are of the finest available . . . the skill and workmanship which goes into each machine is the result of sound training and long experience allied to pride of achievement. All this is reflected in the trouble-free operation and long life associated with Aveling-Barford rollers. Even so, the time must come when replacement parts are needed - and probably needed quickly. When that time comes owners find the Aveling-Barford Spares and Service organizations geared to give immediate attention to their requirements. In Britain, in addition to the main Spares and Service Department at Grantham, there are strategically-placed Depots ready to help with both replacement parts and service. Overseas, more than 100 distributors carry stocks of first-line spares and have, on their staffs, company-trained service engineers.

Wherever an Aveling-Barford roller operates it is backed by a service that assures the long life for which it is designed.

In Australia, Aveling-Barford state distributor provides same service.





IN 10 YEARS, OVER

**540 PUBLIC AUTHORITIES
IN THE UNITED KINGDOM**


INCLUDING 95 OUT OF THE 101 COUNTY COUNCILS

HAVE ORDERED

LEVELING - BARFORD ROLLERS

**AND THROUGHOUT
THE WORLD**

**THEY HAVE BEEN DELIVERED TO MORE THAN
100 COUNTRIES**



Aden
Algeria
Angola
Antigua
Argentina
Australia
Austria
Bahamas
Bahrain
Barbados
Belgium
Belgian Congo
Bermuda
Borneo
Brazil
British Cameroons
British Guiana
British Honduras
British North Borneo
Burma
Canada
Ceylon
Chile
Colombia
Costa Rica
Cuba

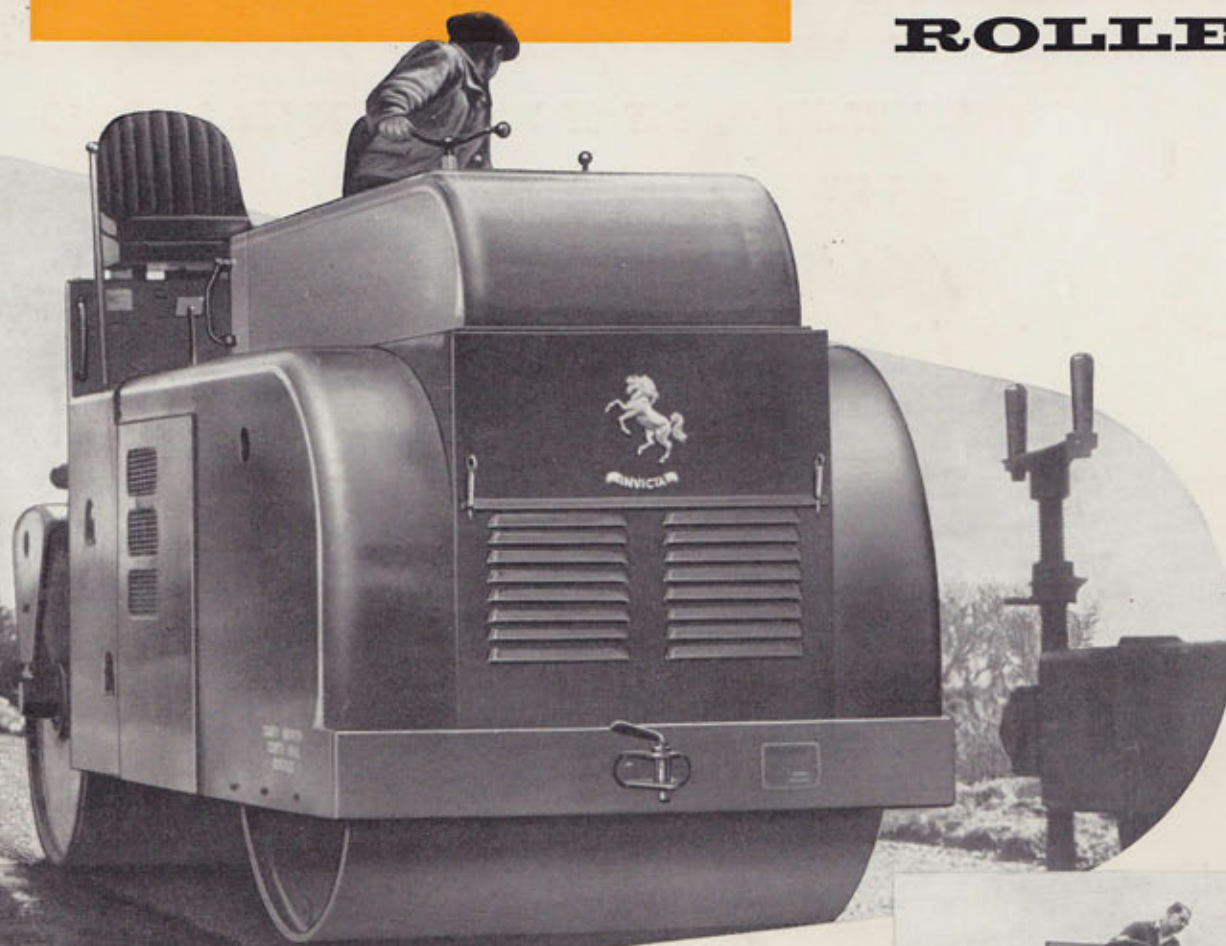
Cyprus
Cyrenaica
Denmark
Dominica
Dominican Republic
Dutch W. Indies
Dutch New Guinea
Egypt
Falkland Isles
Fiji
Finland
France
French Eq. Africa
Gambia
Ghana
Greece
Grenada
Guatemala
Holland
Hong Kong
India
Indonesia
Iran
Iraq
Italy

Jamaica
Jordan
Kenya
Kuwait
Lebanon
Luxembourg
Malaya
Malta
Mauritius
Mexico
Montserrat
Morocco
Mozambique
Newfoundland
New Zealand
Nicaragua
Nigeria
Norway
Nyasaland
Pakistan
Paraguay
Peru
Philippines
Poland
Portugal

Qatar
Rhodesia
Salvador
Sarawak
Saudi Arabia
Seychelles
Siam
Sierra Leone
South Africa
Spain
Spanish Guinea
St. Kitts
St. Lucia
St. Vincent
Sudan
Sweden
Switzerland
Syria
Tanganyika
Trinidad
Tunisia
Turkey
Uganda
Uruguay
Venezuela
Yugoslavia

AVELING-BARFORD

TANDEM ROLLERS



These machines, designed expressly for surface finishing, are available in four variable weight models ranging from 3 to 11 tons.

The larger machines – Type 'TR', 5½–9 and 7½–11 tons – are for road work and have a rolling width of 4 ft 4 in. (1320 mm), whilst the two smaller machines – Type 'TP' 3–5 and 4–6 tons – with a rolling width of 3 ft 2 in. (965 mm) are ideal for footpaths, drives and general light road repairs.

Full particulars of this range of rollers are available on request.



Type 'TP' Tandem Rollers can be equipped with pneumatically-tyred transporter gear.



AVELING - BARFORD LIMITED

TELEPHONE: GRANTHAM 1091-9

TELEGRAMS: INVICTA, GRANTHAM, TELEX

GRANTHAM

ENGLAND