

1888-1918

The first Walker packing, Lion Block Semi-Metallic Packing, appeared in 1888. The block type of packing was made like a concertina, with endless folds, so steam, as it passed between the folds, created expansion under pressure. A key feature was the insertion of metal studs so that the moving piston or rod of the machinery would rub against the studs rather than the packing fabric, reducing wear and tear and making it more durable.

Walkers steadily extended the range. In 1895 waterproof Lion Automatic Packing, for hydraulic machinery, capable of withstanding high temperatures, was introduced, followed by elastic packing in 1900, Walker's Golden Walkerite, a form of sheet packing for general use which proved a bestseller, in 1907, spiral packing in 1910 and moulded fabric packing rings in 1913. All these products made a vital contribution to Britain's war effort from 1914 to 1918.

JAMES WALKER & Co., Ltd., "Lion" Works.

WALKER'S (PATENT) "KERKO" AMMONIA PACKINGS.



THIS extreme importance of satisfactory Packing for use in Ammonia-Plant is such that we have taken the utmost care to investigate, and to meet every possible requirement before offering "KERKO" (Patent) as a Packing that may be thoroughly relied upon by Refrigerating Engineers.

"KERKO" is made (as shown by the illustration, Fig. 143) in layers; one layer being a combination of White Metal and Fabric, and the alternate layer being composed of a specially prepared composition, in which the finest Fluka-Graphite is introduced. In the manufacture of this Composite Packing, we use only those High-grade Materials which experience has proved to be pre-eminently suitable for the work that is required from it.

For use in Ammonia Plant it is **unrivalled.**

Garford Street, West India Dock Rd., London, E.

One very essential feature in "KERKO" (Patent) Packing is that it is itself a Perfect Lubricant. The fluid working on the face of the composition layers, creates a glasslike surface, and will keep in splendid condition; while the amount of friction being reduced to the lowest possible minimum, very great efficiency in working is obtained.



We have recently introduced a new type of Ammonia Packing which we sell under the name of "Kerko" Cushion Packing. This is composed of high grade rubber with cotton fabric interwoven as shown in illustration Figure 144 and it is extremely resistant in use.

We recommend "Kerko" Cushion Packing to be used in conjunction with "Kerko" Block as shown in Fig. 145, and we can with confidence recommend this combination giving a perfect packing for refrigerating plant.


The "Kerko" Cushion Packing should always be used next to the boiler. It adapts itself to whatever level there might be, as shown in illustration Fig. 145.

In some instances a combination of "Kerko" Packing and Perforated Packing is preferred, and if this style of packing the stuffing box is used, we recommend alternate turns as shown in Figure 146.

PRICES.
 "Kerko" Cushion Packing, 4/- per lb.
 "Kerko" Ammonia Block Packing, 4/6 per lb.
 "Kerko" Ammonia Perforated Packing, 4/6 per lb.

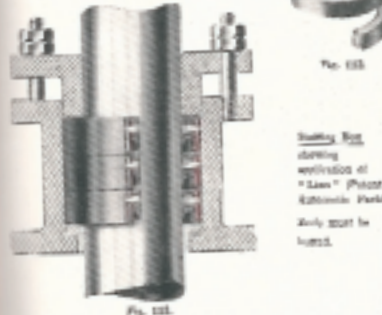
Either style of Packing supplied in 10-ft. lengths or made up into Rings.

Garford Street, West India Dock Rd., London, E.



"LION" (PATENT) PACKING IN AUTOMATIC SPIRAL FORM.

Fig. 147. Section of Lion Packing. This is the most efficient packing for use in steam engines, and is especially adapted for use in conjunction with the Lion Steam Hammer Packing.



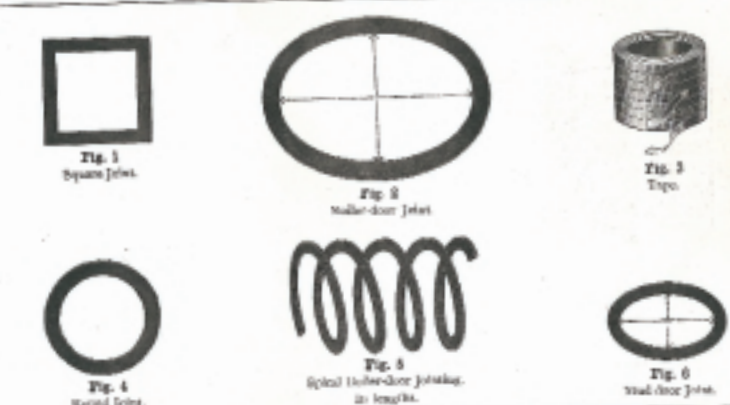
IMPORTANT TO ENGINEERS.

A "THIN RED LINE" which is fully patented by Copyright, and is shown in the Lion Steam Hammer Packing. Also shown in the Lion Steam Hammer Packing and Lion Steam Hammer Packing. Also shown in the Lion Steam Hammer Packing and Lion Steam Hammer Packing.

Beware of Imitations.

Lion Metallic Packing and Jointing was how James Walker made his name. Before the First World War he had to add a thin red line to demonstrate their authenticity, so frequently were they imitated. By then the company was also developing products for specific applications, such as Kerko for ammonia plant, and Golden Walkerite for high temperatures and pressures.

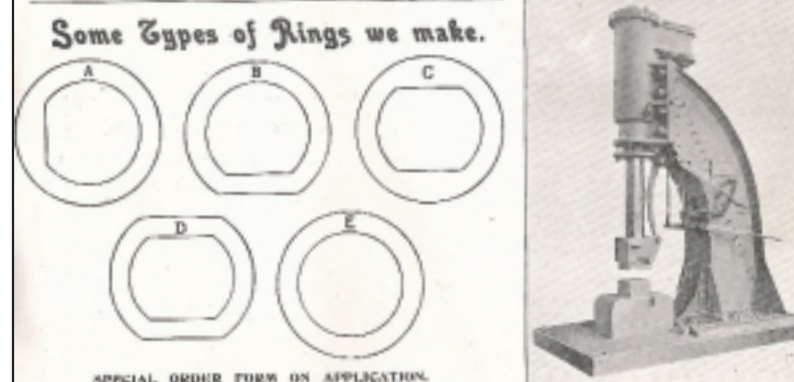
A bad Boiler-door Joint is not only troublesome—it is dangerous.



JAMES WALKER & CO., LION WORKS, GARFORD ST., WEST INDIA DOCK ROAD, LONDON, E.

Prevents water dropping on the Forging.

Some Types of Rings we make.



SPECIAL ORDER FORM ON APPLICATION.

JAMES WALKER & CO., LION WORKS, GARFORD ST., WEST INDIA DOCK ROAD, LONDON, E.

Durability is the true Economy.

The Patent "Lion" Steam Hammer Packing.

ONE of the great difficulties experienced in obtaining a satisfactory packing for steam hammers, was led to direct attention to the manufacture of a packing specially for this purpose, and as the result we are able to offer this type of "Lion" Packing as a distinct departure from what has been hitherto done in the direction of packing for Steam Hammers.

Most hammers have one or two flat sides on the rod or bar, and it is very evident that having an unequal packing upon a Packing that fits one side will not fit the other. In our Patent Packing, we mould the rings to suit the flat and box exactly, so that a perfect fit is obtained and a right gland secured.

Besides this, the Packing has a metallic wearing surface, and it will be found a source of relief to those who have hitherto been troubled with steam hammer packing. We have packed some of the largest hammers in the Kingdom, and can furnish references regarding efficiency to anyone who will communicate with us.

LARGELY USED IN FORGES AND ENGINEERING WORKS.

Price 4/6 per lb.

JAMES WALKER & CO., LION WORKS, GARFORD ST., WEST INDIA DOCK ROAD, LONDON, E.

7 James Walker Products, Technology & Innovation

The Walker's packings and jointings seen in these advertisements from the 1930s were displayed with a full range of products at the 1938 Glasgow Empire Exhibition.

1918-1945

Between the wars the pattern of production remained largely unchanged, albeit with minor innovations. Under the Golden Walkerite name, a type of compressed asbestos fibre for high pressure steam and water joints was developed and fitted to both the 'Queens', the *Queen Elizabeth* and the *Queen Mary*, as they were being built on Clydeside in the 1930s. One of the magnificent but ultimately ill-fated airships, the *R100*, also used Lion packing. The range also included Sentinel oil packing, Kerko packing for application on ammonia plant, Star packing for intermediate steam pressures and Overlap jointing for pump work. In fact, wherever power was used, from railways and motorcars to aircraft and shipping, Lion packings and joints could be found.

It was the stimulus of another war, from 1939, that led to a renewed flow of new products. Among them were fabricated synthetic rubber sealing rings for flame-throwers, leak-proof oil fuel valves for submarines, and special rubberised fabric jointing for torpedo gyro frames.



1945-1969

Many wartime products had peacetime potential. Lion Chevron Packing, devised for tank suspension units, was used by the motor industry with shock absorbers. Nebar, a synthetic rubber bonded cork, with advanced sealing qualities, used extensively as jointing by the Air Ministry, found a market in the electrical and allied trades, in shoe manufacturing and above all with the railways.

Nebar proved ideal for use as anti-vibration rail track pads, supporting the concrete sleepers the railways had been compelled to introduce in place of timber sleepers during a wartime shortage of timber. Traditional rail pads, made from bitumen and cowhair, were not up to the job so Flexible Cork applied the Walker ability to find effective solutions for specific problems. Approached by Southern Railways, Flexible Cork devised a special bonded cork. Known as FC2, this, with its successors in the series, was widely used. The company continued to work closely with UK railways to develop improved rail track pads and by the late 1960s supplied some two million pads each year.

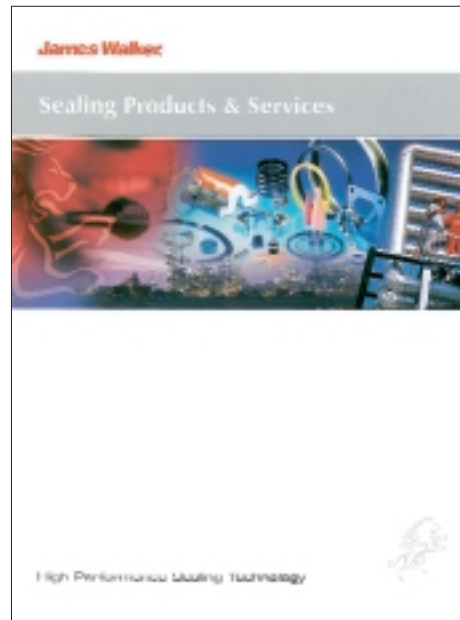
Continuing peacetime links with the Admiralty stimulated the design and development of a new edge-wound gasket, known as Metaflex, through the Surrey Grinding Company, formed in Woking in 1948. This turned out to be very successful, once again finding wider application throughout industry. It was extremely effective, for instance, in sealing acidic gases at high temperature under difficult conditions.

By 1963, Walker products covered a huge range of applications, for steam, water, oil and light hydrocarbons, acids and alkalis, air, refrigerants and other specialities, with various types of packings, jointings, gaskets and related products. There were proofed fabric, plaited or braided lubricated yarn, chrome leather lubricated, metallic, rubber and plastic packings; bonded cork, rubber, proofed fabric and compressed asbestos fibre jointings; plus gaskets, seals, valves and rings; and, among specialities, bonded rail pads, crane rail strips, Lion fabric foundation pads, Twilstele bellows, Tico bellows and machinery mounting pads and Treadmaster industrial safety mats.



A series of advertisements from 1953 under the slogan 'A Tradition of Service'.





1969-1993

The increasing use of new materials was a feature of product development and by the mid-1970s materials included metals and alloys, yarns and fabrics, synthetic and natural rubbers, asbestos, graphite, polyurethane and other plastics. PTFE, or Fluon, became a standard engineering material.

One innovation which was a major departure for the company was Rotabolt, acquired in 1983. By accurately indicating the correct setting tension, Rotabolt made a huge contribution towards improved safety and reliability in countless applications. A completely unrelated innovation from the same period, the Rota-Lion non-contacting rotary shaft seal, made a major impact in the fluid sealing sector.

The rail business steadily expanded with the development of the Corkelast embedded rail system (with the rail embedded in a pourable elastomeric cork compound, eliminating the need for fastenings and tie bars, and improving the environment) for specific areas of tram track in Holland, Belgium and Switzerland. For the Ministry of Defence during the 1980s, Walkers helped to ensure production of the new Challenger tanks by designing and developing the durable and resilient seals needed for the tanks' hydra-gas suspension. The company later used this experience to develop seals for high-speed suspensions. To the booming oil industry, Walkers supplied a range of Tico pipe clamping products, and in the early 1990s developed a product, Elasto-O-Lion, for wellheads and petro-chemical plants in arctic environments, effective for valve seal duties at low temperatures.

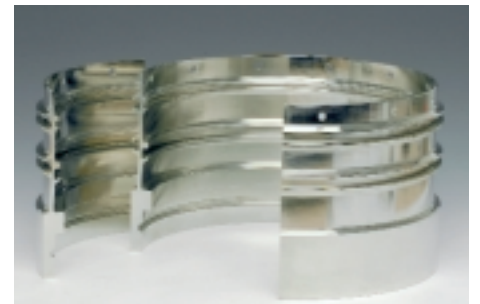


A range of Walker packings, jointings and seals from the 1970s.

1993-

By the mid-1990s the James Walker Group made a huge range of products. Sealing components included industry leading products such as rotary sealing cartridges, used in power stations worldwide. Plastic seals for use in the food and drink, ceramics and sewage industries, were produced by Flemings, and metallic static seals for the oil and gas industries by Moorside. These were complemented by the wide range of polymer-based products from Tiflex, encompassing anti-vibration materials, non-slip flooring, and jointing materials.

The versatility of the group has been demonstrated by the many new products launched in recent years. Covering a wide range of areas, many of them are pioneering and innovative, often developed in association with customers. They are designed for extreme operating conditions, for low maintenance and a long life, using the latest materials technology, Comflex flexible expansion joints, for instance, are capable of handling turbine or exhaust fumes of up to 750 degrees C, with lighter versions for general industrial and marine duties; while the Halo manlid seal can be used with all bulk liquids at temperatures from -50 to 150 degrees C. The HydroSele innovative shaft cartridge seal, for use with water turbines in



The diverse range of products from Tiflex.

