MEDICAL AND SURGICAL APPLIANCES.

A Modification of Tuffier's Thoracotomy Retractor.

Mr. CECIL P. G. WAKELEY, F.R.C.S. (London), has found Tuffier's thoracotomy retractor unsatisfactory, the retraction obtainable being usually inadequate owing to difficulty in opening the blades by means of the thumb-screw. Attempts to do this have often resulted in torn gloves. De Quervain's retractor, although mechanically efficient—retraction being controlled by a ratchet or cross-handle—is, he considers, too unwieldy for general use. Messrs. Allen and Hanburys have made for Mr. Wakeley a modification of Tuffier's retractor fitted with a powerful ratchet screw; it is operated by a removable T-shaped key (see illustration). The instrument, he finds, has the advantage of being small and yet sufficiently powerful to give good retraction. Furthermore, the key can be removed and does not hamper the operator.

THE MOTOR SHOW.

FEATURES OF INTEREST TO MEDICAL MEN.

By H. MASSAC BUIST.

A FORECAST of the general mechanical and price tendencies to be revealed at the opening this week at Olympia, Kensington, of the nineteenth annual International Motor Car Exhibition, promoted by the Society of Motor Manufacturers and Traders, under the patronage of the King, appeared in these columns last week. A tour of the exhibition in the making proves that there is little to add to what was said then, save in matters of detail. For instance, the tendency to introduce middle-size, overhead valve, six-cylinder engined cars is further emphasized by the 2,613 c.cm. overhead camshaft, overhead valve, Austro-Daimler of nominal 19/70 h.p.; the construction of this is interesting in that the flywheel is so set as to lag behind the crankshaft and effectively to damp the development of any "period." This car has four speeds forward, cantilever rear springs, wire wheels, and four-wheel brakes. The number of six-cylinder engined cars of moderate size is also increased by the introduction of the £16 tax Waverley, with Meadows engine, Marles steering gear, and double quarter elliptic rear springs; and of the 3,583 c.cm. side-by-side valve engined, £23 tax Hupmobile, available as a four-seat open car at £425, or as a saloon for £25 more, this being supplementary to the "straight-eight," and the smallest of the multi-cylinder engined cars yet sent over from America. Again, in the interval all prices have had to be fixed and announced. Thus the new 14-h.p. side-valve engined £13 tax Hillman described last week will be on sale with four-seat touring body and complete all-weather equipment at £295; a "Special" version being available at £320; while the four-door saloon on this four-wheel braked chassis is listed at £345.

The Redesigned 18-h.p. Six-Cylinder Armstrong-Siddeley.

Among the firms making changes in the design of six-cylinder engined cars which have been on the market for some years, Armstrong-Siddeley adopts monobloc construction in the new 18-h.p. engine for the "Mark II" chassis, the R.A.C. rating being 19.8 h.p. and the cylinder volume 2,872 c.cm. This engine is installed in two types of chassis: one is the well known 18-h.p. type, the other follows the lines of the 14-h.p. machine, but is equipped with the V-fronted cooler common to all the 18-h.p. types. In both models four-wheel brakes are standard equipment, and the road springs have gaiters. The dynamo, the engine starter,

and the carburettor are notably accessible, all the units being placed high. A crankcase breather has been incorporated near the outer extremity of, and within, the offside rear engine bearer arm. A float type oil level indicates the amount of lubricant in the sump. The improved 30-h.p. engined car is shown for the first time, as well as the 14-h.p. type with frame of conventional construction, half-elliptic springs, and four-wheel brakes.

Common-sense Six-Cylinder Calcott Practice.

There is nothing experimental about Mr. Leo Shorter's design of the new (nominal 16/50-h.p.) 2,565 c.cm. inclined side-by-side valve, six-cylinder engined Calcott chassis. It is listed at £400 complete with four-wheel brakes, and characterized by an eminently common-sense use of well proved practice. This engine has B.H.B. type three-ring aluminium pistons with split skirts to prevent slap. Pressure lubrication is employed. Though using one jet only, nevertheless the carburettor achieves the effect of the twin type. A slipper type vibration damper is placed in the front end of the crankshaft, so that when vibration would tend to develop the clutchlike action of the spring-loaded flywheel allows it to move microscopically in relation to the crankshaft, thereby damping out any tendency to the reproduction of the reciprocal action of the shaft itself.

Points Concerning Singer Types.

Singer does some striking things in the matter of price—for instance, the introduction of a pushrod and rocker operated 1,776 c.cm. six-cylinder monobloc engined nominal 14/34-h.p. chassis with Rubury front-wheel brakes and saloon body at £375, the tax being £150. The design is notably clean, the crankshaft has three main bearings, a hot-spot is provided, and mechanical lubrication is employed; balloon tyres are furnished. In regard to the well known smaller four-cylinder 10/26-h.p. engined model, the design of the bonnet has been modified and the petrol filler position been made more convenient. Front-wheel brakes have been standardized on the Alford and Alder pattern manufactured under Rubury patents. In this design the cam-spindle is at the bottom of the drum and is universally jointed to an actuating rod carried on the axle. The location of the joint and the angle of the rod are such that when cornering a differential braking effect is obtained automatically. The front axle and kindred details have been redesigned in conformity with the requirements of the braking system.

A Four-wheel Braked 14-h.p. Crossley Coach.

The 14-h.p. and the 19.6-h.p. side-by-side valve four-cylinder engined Crossley cars now have four-wheel brakes, the lesser machine being available in standard form as an enclosed carriage of the coach type at £455, being in its line a new standard in values for British-built machines. An outstanding novelty presented this year, too, is the departure by this firm from four-cylinder to six-cylinder practice, thereby entering a new market with an overhead valve 2,692 c.cm. 18/50-h.p. six-cylinder engined chassis. This is shown in stripped condition, and incorporates well proved up-to-date constructional practice as the result of searching tests over a long period. It is designed to have a range of travel from walking speed to over a mile a minute on the direct drive, with silent and smooth functioning, also moderate fuel consumption and low taxation rating. It is listed complete with five-seat touring body and all-weather equipment at £675 only.

Fiat's Wide Range.

Though having a factory at Turin with a frontage over a kilometre long, nevertheless the Fiat company has built entirely separate works for the production of its £8 tax, 7-h.p., 990.05 c.cm., overhead valve, four-cylinder engined, centrally controlled, three-speed, £185 chassis with 8 ft. 4 in. wheelbase and low-pressure tyres. This is its chief novelty this year. At the opposite extreme the company displays a £1,250 Berlina on the £27 tax, six-cylinder, overhead valve, 40-h.p. engined chassis of very distinctive design, which is also shown as a torpedo. Of course, the 10/15-h.p.

side valve and the 15/20-h.p. four-cylinder engined types and the 20/30-h.p., side-by-side valve, six-cylinder engined types are continued. Chief interest, undoubtedly, centres in the entirely new hydraulically controlled four-wheel brake, 7-h.p. chassis that is sold with a two-seat coupé body and dickey painted grey and upholstered in red leather at £315.

Standard Developments.

Standard makes progress in two directions—in offering, on the one hand, cars at still more attractive prices, and, on the other, in presenting them in appreciably developed condition, notably as regards coachwork. Thus the "Coventry" two-seat and the "Knowle" four-seat types on the 11-h.p. chassis are available each at £225; the "Piccadilly" saloon on the same chassis costing £30 more; while the "Charlecot" coupé and the "Stratford" five-seater are listed each at £365 and the "Pall Mall" saloon at £450. The larger chassis is fitted with four-wheel brakes, shock-absorbers fore and aft, and improved steering gear. Drop windows with mechanical regulators are available on the new 14-h.p. open bodywork, and the two-seater is now really a coupé with glass windows. On the lesser chassis the valve gear is now enclosed, a higher and more imposing radiator is furnished, there is a petrol filler orifice underneath the bonnet, and the front springs are stronger. Likewise the bodies have been redesigned and provided with wider seating and higher sides. The equipment is comprehensive, and most ingenious use has been made of mechanical lifters for adjusting the side-screens on these cars, which have smarter lines.

Swift's Rapid Progress.

During the last twelve months Swift of Coventry has made extraordinarily rapid progress, Mr. Mark Wild being now works manager. The design has been advanced appreciably, but confined wholly to the application of sound practice. Thus all chassis are now listed with large diameter four-wheel brakes, and the engines have detachable cylinder heads and aluminium pistons. A wholly new chassis now added to this firm's range is the 1,956 c.cm., side-by-side cobalt-chrome steel valve four-cylinder engined 12/35-h.p. machine, the latter figure being the power developed by each unit before it is placed in a car frame. Here the crankshaft is driven by helical gears. The gear box is controlled by the driver's right hand and provides four speeds forward. This new car is shown as a bare chassis, also as a five-seat tourer with four doors and as a four/five-seat saloon.

Wolseley's Popular Appeal.

Wolseley incorporates a four-speed gearbox and a single dry-plate clutch in the 16/35-h.p. side-by-side valve four-cylinder engined type. The crankshaft engine is now equipped with bob weights to balance each crank-pin individually. The 11/22-h.p. overhead valve four-cylinder engined chassis (altogether a larger car) is presented with radiator, bonnet, and scuttle of more ambitious and improved appearance. For the rest, Vickers's motor manufacturing concern develops the chassis of its three-model programme in minor details only, and makes full use of its very ample resources to provide even better coachwork than formerly. Thus the saloon-limousine on the 24/55-h.p. six-cylinder engined chassis, the dearest vehicle on the list, is priced at £1,300. Four-wheel brakes are fitted as standard to this and to the 16/35-h.p. model; whereas they are available at £12 10s. more on the 11/22-h.p. type, which last named is offered with four-seat body at £235 complete, *plus* the cost of four-wheel brakes.

The New 9/20-h.p. Humber Light Car.

Humber makes a serious bid to enter the light car market by superseding its 8-h.p. type by an overhead inlet, side-by-side exhaust valved 1,056 c.cm. four-cylinder monobloc 9/20-h.p. engined chassis. This car takes full scale four-seat four-door bodywork with sloping windscreen and celluloid all-weather side-panelling equipment. The

right-hand controlled gearbox gives three speeds forward. The pedal leverage of the large diameter contracting band transmission brake at rear of the gearbox is variable at will. Contracting band brakes are also furnished to the drums of the rear wheels. Hartford shock-absorbers are fitted behind. Enots greasegun system of lubrication is employed throughout the chassis, which has a wheelbase of 8½ feet. It is listed with four-seat touring body at £260 and as a four-seat saloon at £315. A four-door touring body is available on the 12/25-h.p. chassis, which is now equipped with a wider cone clutch of greater diameter, and which can be furnished with front-wheel brakes at an extra charge of £25; whereas "f.w.b." are standardized on the 15/40-h.p. chassis.

De Dion Bouton Coachwork Schemes.

The £10 tax, side valve four-cylinder 10/20-h.p. engined De Dion Bouton chassis with four-wheel brakes and Rudge-Whitworth detachable wire wheels, which was described in these columns last week, is shown with a standard four-seat touring body with an adjustable front seat, five lamps, a speedometer, and electrical bulb-horn, a toolbox, and a combined foot rest to the rear seats, together with a hood envelope, price £295. Another of these chassis is shown with London-built "H.H.H." two-seat, three-quarter type coupé-cabriolet with double sunk dickey, two doors, the windows being fitted with automatic raising and lowering devices. The leather hood folds, and there is an oval window in the back. The equipment is very complete and the price £395. In regard to larger De Dion Bouton models, the £13 tax 12/28-h.p. overhead valve four-cylinder engined type also has Rudge-Whitworth wire wheels and a London-built "H.H.H." two/four-interior seated all-enclosed coupé-cabriolet body of a registered design, with two adjustable front seats, two occasional seats, and two exceptionally wide doors. The windscreen is of the V-type, the hood of folding leather, cloth lined. The windows are fitted with mechanical raising and lowering devices, and there is an interior electric light as well as ample accommodation for luggage. The price, complete with all equipment, is £695. Another of these chassis is shown with "H.H.H." London-built four-door saloon, with double adjustable front seats, and three windows each side, price £715. The remaining exhibit is a 15/43-h.p. overhead valve four-cylinder engined £16 tax model with London-built "H.H.H." six-seat Pullman-landaulette with four wide doors and three windows, mechanically controlled, on each side, the price being £907 as shown. The cost of the chassis is £495.

The New 13-h.p. Clyno.

The new 13-h.p. four-wheel braked Clyno car, to which reference was made in these columns last week, has a side-by-side valve 1,496 c.cm. four-cylinder engine with a three-bearing crankshaft and adjustable tappets. The gearbox, which gives three speeds forward, is mounted on the front end of the torque tube. The particular form of spiral bevel gear employed in the back axle has been evolved by the manufacturers. The front suspension is by half-elliptic springs, a form rendered necessary on account of the equipment of front-wheel brakes. This car is marketed in very complete form as regards accessories at £298 as a four-door saloon, and at £30 less as a four-seater, with adjustable front seats in both cases. The folding-head type coupé costs £285, and the two-seater £40 less.

Ford cars are, of course, ineligible for display at this exhibition.

Accessories.

As usual, the accessories section is almost bewildering in its variety. Those who do not understand how to handle tyres may be interested to know that the way to fit and to take off Dunlop balloon tyres of the wire type is being demonstrated by experts on Stand No. 504. These men are competent to answer any questions concerning tyre or wheel equipment problems. The exhibit is a very comprehensive one, and includes some efficient, non-skid Fort Dunlop made "Warwick" tyres of low selling price.