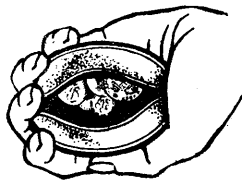


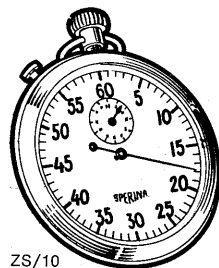
PURSES

ZP/100 MILREMO—"Poche" plastic money purse, Ideal for cyclists saving excessive wear on trouser pockets by loose change.



STOP WATCH

ZS/10 SPERINA—Swiss anti-magnetic stop watch. Full sweep minute hand timing up to an hour. Times accurately to one-tenth second.



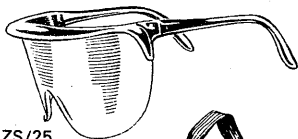
ZS/10

SUNGLASSES AND GOGGLES



ZS/24

ZS/23 REG—965 Sunglasses. Black frame colours as 964.



ZS/24 REG—963 Sports Goggles. Shield in hard plastic chrome frame. Colours: Translucent, Yellow and Green—with case.

ZS/25

ZS/25 REG—964 Sunglasses. Rhodoid shields. Colours: Translucent, Yellow, Blue, Green or Brown.



ZS/40

ZS/35 HIMALAYA—"Grand Sport" plastic racing.

ZS/36 HIMALAYA—"Super Universal" similar to above with side shields.

ZS/40 HIMALAYA—"Tour de France" side shields and elastic head band—these are the actual "Tour" issue.



ZS/35—Himalaya



ZM/10

MAP MAGNIFIER

ZM/10 "MILREMO", neat, simple and ultra light thin plastic magnifier, $3\frac{3}{4}'' \times 1\frac{1}{4}''$ in protecting plastic case.

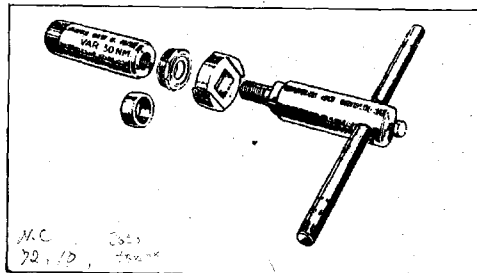
VAR WORKSHOP TOOLS



4

GIVE US THE TOOLS

by Harry Aspden



Harry Aspden is one of Britain's most knowledgeable cyclists. A keen tourist, a successful veteran racing man—all this plus his lifetime of experience and interest in everything technically connected with the cycling game make him a veritable store of knowledge and Ron Kitching is pleased to acknowledge here the help and advice which he has received from him on many occasions.

Even when we do get one national body controlling all forms of cycling, with perhaps one racing licence for amateurs and professionals alike, there will still be two kinds of cyclists—those who look after their bicycles and those who do not. If you belong to the former class you will like to own all the tools you can afford: if to the second, you will prefer your local repairer to have them.

But mechanically-minded or not, when out cycling your needs must carry a minimum of tools sufficient to enable you to remove and replace wheels (if not quick-release), adjust bars and saddle, tighten cotter-pin nuts, pedal spindles and mudguard bolts, and adjust brakes, cones and gear mechanisms. There used to be made a French machine which needed just one double-ended ring spanner for all the nuts, but there is generally such a multiplicity of sizes on a modern machine that any single spanner would need to be an adjustable one. The engineer prefers fixed-size spanners and perhaps a multi-hole type like the **TWF** plus a cone key would suffice, but good quality end-adjusting spanners are light and handy for cyclists. On Continental fittings the nuts will be sized in millimetres, and with quick-release wheels a selection from a **MILREMO Riparo** kit would be adequate. Popular among those French clubmen who favour a single "spanner" are 6 in. gland-nut pliers in chrome vanadium steel similar to the **VAR No. 27**. These will turn nuts up to 10 mm. with ease and can also be used on spoke nipples.

For short runs then, if using wired-on tyres, a repair outfit with two **MILREMO Riparo** levers (nobody should need three), a **TWF** or **VAR** multi-hole spanner or an adjustable one, with suitable **Riparo** keys for odd sizes. For touring, add a **FIFON** nipple key, a cone key and a short box spanner for the nuts holding hooded brake levers. Cotterless cranks call for the carrying of a "tightening" tool and here the **TA Criterium** set (using the best fixing method of all) scores again in needing only a light Allen key for fitting and removal. Allen screws can be a nuisance if many different sizes are used, and the Italian countersunk expander bolts need a stout, heavy key. The complete pessimist will take a chain rivet extractor, and both **VAR** and **FIFON** make suitably small models, but better as a lucky charm is a brand new chain.

At home base the first essential is a good vice with at least 3½ in. jaws—and somewhere to mount it. Then with the appropriate vice-held remover freewheels can be whipped off as easily as fixed cogs. With one of the three types of **VAR** freewheel vice and a **VAR** sprocket remover, cog changing is an easy chore, and if you like messing about with internals, treat yourself to a **VAR "Energic"** jig, also for use in the vice. But perhaps the second essential is a long, thin pedal spanner of best quality steel (**VAR**) and next a pair of cone spanners and there are none better than **VAR** again. Add a ¼ in. × ⅝ in. ring spanner for track nuts, a long box key for chainwheel screws, a good adjustable and the usual screwdrivers, pliers, etcetera, and you should be able to take care of most jobs. But **VAR** can make life still easier. The "**Dogue**" (mastiff) pliers, for instance, clamp on head and bracket locking rings with two tempered steel teeth and give 10 in. of unslipping leverage that no "C" spanner can approach: you do not, of course, use hammer and punch on these parts. "**Python**" pliers do the same thing but with a squeeze rather than a bite, on screwed head races and are essential for the adjustment of nylon head fittings. **VAR** cutters leave the ends of brake and gear cables neat and unfrayed, thanks to their special blades and **VAR "Serrax"** hub spindle clamps when used in the vice hold spindles without damage to the threads. Chain pliers by **VAR** and **Gian Robert** punch out and replace chain rivets like magic and for the race mechanic are a "must", and a "must" for the meticulous is a gauge to check that rims are central over hub locknuts: the handyman can make one from suitable bits of timber, but **VAR** sell the genuine article and being easiest to use. Most gear and brake manufacturers sell spanners to suit their products. **Campagnolo** have a complete range of beautifully-made tools and the two **Weinmann** brake spanners are excellent value. **Zeus** have now introduced a competitive range of tools for their own accessories, as have **TA** for the quick dismantling and refitting of their crank sets.

Just where you stop in the amassing of tools is entirely your own affair and so far there is nothing in the Regulations to govern the matter. And if some of us get almost as much pleasure out of messing about with bicycles as we do out of riding them, we also suffer at times at the sight of mangled and maladjusted bicycles that are crying out for the skilful application of a few good tools.

We are proud to be distributors of **VAR** tools and unquestionably this firm's products are unrivalled in design, quality of materials and range. There is a **VAR** tool for every need. Due to shortage of space we are able to list only part of their tremendous tool range, so if the tool you require is not listed here please ask us—it will almost certainly be available.

illustrated description

(see later pages for U.K. suggested retail prices)
(VAR produce a fully illustrated catalogue and this is available to bona fide cycle dealers upon application.)

FREEWHEEL REMOVERS

01 For all freewheels from 1 to 5 speeds on ordinary (A) or quick-release (B) hubs. Fitted with replaceable pegs. Weight 28 ozs. Length 22 in.

TWO MODELS:

01/1—"SPECIAL CYCLE". For ordinary or quick-release hubs **Campagnolo-Atom-Normandy-Milremo-Simplex**.

Replacement pieces:

01/3—Peg, double-ended.

01/4—Locking sleeve for ordinary axles 5/16 or French size (to order) and **Campagnolo** quick-release hubs.

01/5—Locking sleeve for **Atom-Normandy-Milremo-Simplex** quick-release hubs.

186 For 4, 5 and 6 speeds **Atom-Maillard-Milremo** freewheels on ordinary hubs. Nickel-Chrome steel. Weight 4 ozs.

186/B For **Atom-Maillard-Milremo** freewheels on quick-release hubs. Nickel-Chrome steel. Weight 5 ozs.

THREE MODELS:

186/BC—For **Campagnolo** quick-release hubs.

186/BR—For **Atom-Normandy-Milremo** quick-release hubs.

189 Spanner for freewheel removers N° 186-186/B-188-188/B.

Spanner for freewheel removers N° 187-187/B.

190 Length 12 in. Weight 12 ozs.

188 For 4, 5 and 6 speeds **Regina-Moyne-Cyclo** freewheels on ordinary hubs. Treated steel. Weight 4 ozs.

188/B For **Regina-Moyne-Cyclo** freewheels on quick-release hubs. Treated steel. Weight 5 ozs.

THREE MODELS:

188/BC—For **Campagnolo** quick-release hubs.

188/BA—For **Atom-Normandy-Milremo** quick-release hubs.

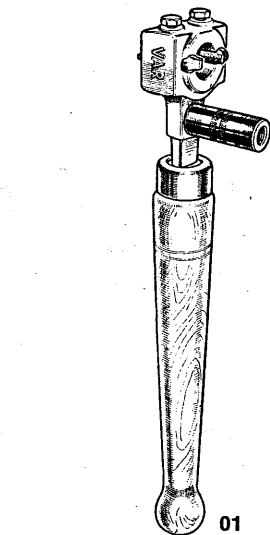
187 For all single freewheels. Recommended for **Mobylette**. Treated steel. Weight 5 ozs.

FREEWHEEL & CHAINWHEEL VICES

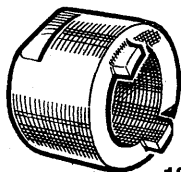
365 "PROFESSIONAL" FREEWHEEL VICE. Enables all sprockets to be removed without damage to teeth if used with sprocket removers N° 266 or 252. Adopted by all race mechanics. Weight 23 ozs.

210 "AMATEUR" FREEWHEEL VICE. Weight 7 ozs.

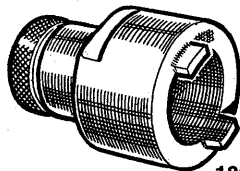
03 FREEWHEEL AND CHAINWHEEL VICE. Useful for chainwheel assembling. Weight 46 ozs.



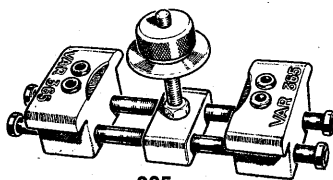
01



186



186/B



365

CYCLE CHAIN RIVET EXTRACTORS

06 WORKSHOP CYCLE CHAIN RIVET EXTRACTOR. For $\frac{3}{32}$ and $\frac{1}{8}$ chains. Weight 25 ozs.

06/1—Replacement peg.

06/2— — nut.

06/3— — die.

06/4— — screw complete.

303 CHAIN RIVET EXTRACTING PLIERS for $\frac{3}{32}$ and $\frac{1}{8}$ chains; quick acting. Weight 18 ozs. Length 10 in.

303/1—Replacement peg.

218 "AMATEUR" CHAIN RIVET EXTRACTOR. Bronze aluminium. With screw punch in treated steel. Indispensable for use on the road. Weight 2 ozs.

218/1—Replacement screw punch.

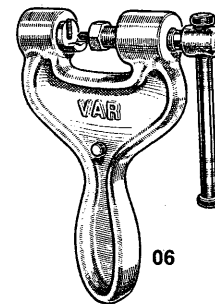
56/B WORKSHOP MOPED CHAIN RIVET EXTRACTOR for $\frac{1}{2}$ and $\frac{3}{8}$ chains. Forged steel. Weight 27 ozs.

56B/1—Replacement peg.

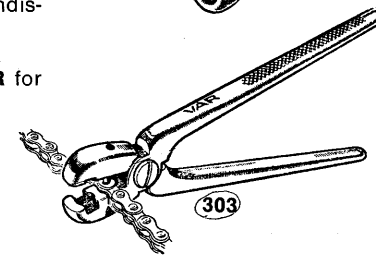
56B/2— — nut.

56B/3— — die.

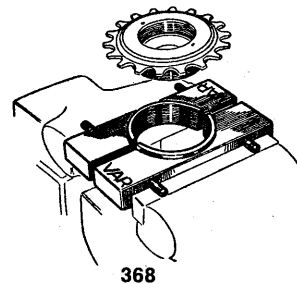
56B/4— — screw complete.



06



303



368



266

SPROCKET REMOVERS

12 "ENERGIC" FREEWHEEL HOLDER. Used in a vice to hold a freewheel body without damage to the threads. Used with peg spanner N° 13 (page 10). Weight 18 ozs.

368 VICE-CLAMP for Atom-Milremo-Regina FREEWHEELS. A useful tool for removing the last sprocket without damage. Use together with N° 266. Weight 18 ozs.

252 SPROCKET REMOVER. Range from 12 to 28 teeth. Length 14 in. Weight 14 ozs.

266 CHAIN-TYPE SPROCKET REMOVER. For removing fixed cogs and freewheel sprockets without damage to teeth. Weight 13 ozs. Length 12 in.

TWO MODELS:

266/1—With chain $\frac{3}{32}$ ".

266/2— — $\frac{1}{8}$ ".

HUB TOOLS

14 "SERRAX" THREADED CLAMPS for holding hub spindles without damage. For axles English sizes $\frac{3}{8}$ to $\frac{1}{2}$ or for French sizes 7 to 14 mm (to order). Weight 21 ozs.

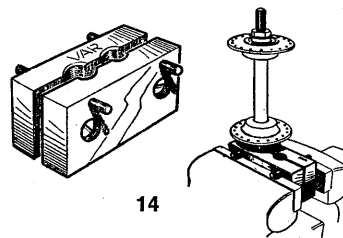
20 DOUBLE-ENDED CRANKED CONE SPANNERS. Forged chrome-molybdenum steel. Length 7 in. Weight $3\frac{1}{2}$ ozs. each.

20 —Set of three sizes: .512-.551 in (13-14 mm), .591-630 in (15-16 mm), .669-709 in (17-18 mm).

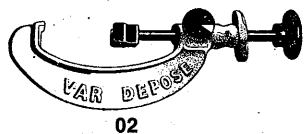
20/1—only .512-.551 in (13-14 mm).

20/2—only .591-.630 in (15-16 mm).

20/3—only .669-709 in (17-18 mm).

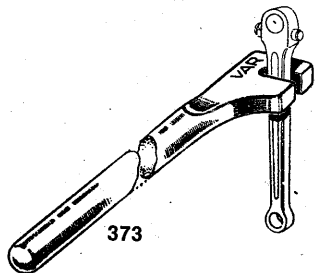


14



BRAKE TOOLS

02 "THE THIRD HAND" Caliper brake shoe clamps, will hold the shoes in position leaving both hands free for cable adjustment. Very useful tool. Weight 7 ozs.



BOTTOM BRACKET TOOLS

07 "CONSTRUCTOR" COTTER PIN PRESS. Eliminates the need for a hammer and possible damage to the cotter pin and bottom bracket cups. Quickly adjustable. Weight 90 ozs.

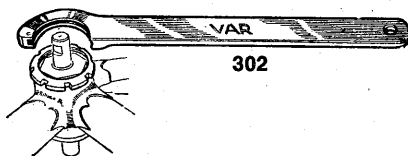
371 COTTER-PIN VICE CLAMP. Makes filing quick and easy. Indispensable in all workshops. Weight 14 ozs.

10 "COSTO" COTTERED CRANK-DRAWING TOOL. Reinforced claw-arms. Weight 18 ozs.

373 CRANK STRAIGHTENING TOOL. 24 in handle gives ample leverage. Forged steel. Weight 90 ozs.

16 "DOGUE" LOCK-RING pliers for head and bracket. Two-position pivot. Drop forged steel. Length 11 in. Weight 16 ozs.

16/1—Replacement pegs.
16/2— pivot bolt and nut.



302 "C" SPANNER. for bracket lockrings diameter from 1-535 to 1-890. Length 11 in. Weight 11 ozs.

19 "COBRA" DOUBLE ENDED VERY THIN SPANNERS for adjustable bracket cup. Chrome molybdenum steel. Length 10 in. Weight 6½ ozs.

19 —Set of two sizes .866-.945 in (22-24 mm) and 1-024-1-102 in (26-28 mm).

19/1—Size .866-.945 in (22-24 mm) only.

19/2—Size 1-024-1-102 in (26-28 mm) only.

18 DOUBLE ENDED PEDAL SPANNER. Chrome-molybdenum steel. Length 13 in. Size .600-.640 (15,25-16,25 mm).

144 ADJUSTABLE BRACKET CUP FITTING-TOOL. Quick and handy. Indispensable for the assembler.

144 —Tool complete supplied with two jaws to choice. Weight 14 ozs.

144/1—Jaw size .787-.968 (20-24,6 mm) (Maillard cups).

144/2—Jaw size .866-.945 (22-24 mm).

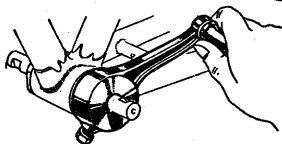
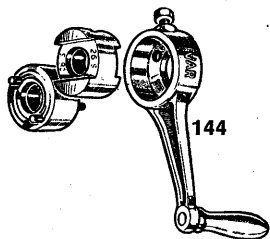
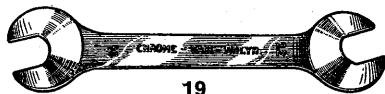
144/3—Jaw size .980-.980 (24,9-24,9 mm) (Verot cups).

144/4—Jaw size 1-024-1-102 (26-28 mm).

144/5—Jaw with pegs for Bayliss cups.

144/6—Jaw with pegs for T.A. cups.

144/7—Jaw with pegs for Campagnolo cups.



30 "EFFICIENT" BOTTOM BRACKET CUP ASSEMBLING TOOL for flanged cups. Supplied with one jaw to choice. Weight 95 ozs.

30/1—Jaw Standard A=1-386. B=1-425 in (A=35,2. =B=36,2 mm).

30/2—Jaw for Verot-Stronglight A=1-512. B=1-500 in (A=38,4. B=38,1 mm).

30/3—Jaw for Maillard A=1-437. B=1-453 in (A=36,5. B=36,9 mm).

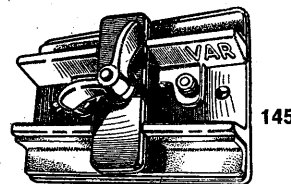
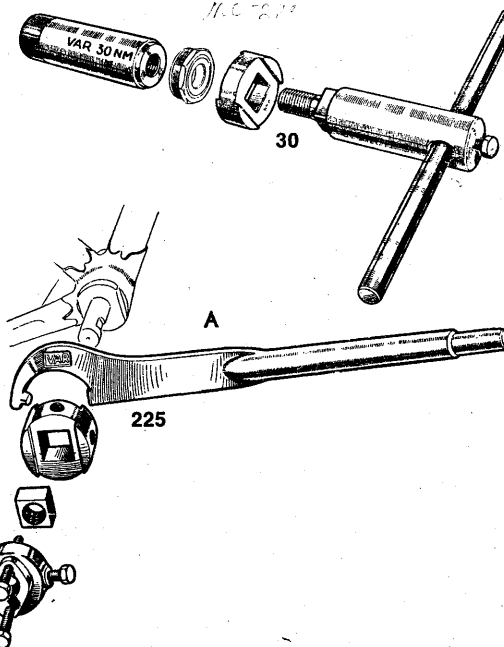
225 FIXED-CUP TIGHTENING TOOL. Enables a fixed-cup to be tightened without dismantling the bottom bracket. With one jaw to choice. Weight 53 ozs.

225/1—Standard A=1-386. B=1-425 in (A=35,2. B=36,2 mm).

225/2—Verot-Stronglight A=1-512 in. B=1-500 in (A=38,4. B=38,1 mm).

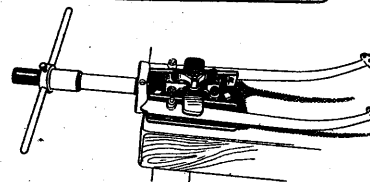
225/3—Maillard A=1-347. B=1-453 in (A=36,5. B=36,9 mm).

Spares:
225/4—C-spanner only (A).
225/5—Locking piece only (B).
225/6—Adapter only (C).



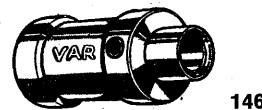
STEERING HEAD TOOLS

145 "TIGER" FORK VICE for holding the fork firmly permitting every kind of operation to be executed. Enamel is protected by rubber. Suitable all sizes. Weight 60 ozs.



370 "BELIER" HEAD RACE REMOVER. Weight 42 ozs. Length 13 in.

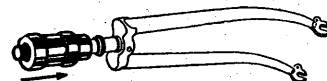
34 HEAD RACE PRESS TOOL for correct setting of head races. Ultra-rapid adjustment by patented system. Weight 74 ozs.



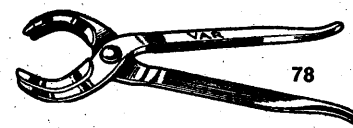
146 CROWN RACE DRIVER with replaceable brass ring. Weight 42 ozs.

146/1—For fork tube dia 25 mm (French size).

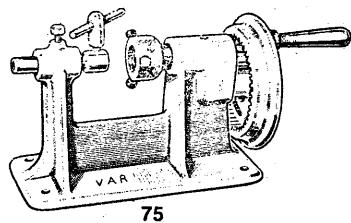
146/2—For fork tube dia 1" (English size).



65 "MULTIPANS" double ended head lock-nut spanner. Hexagon and octagon of 1-260 in (32 mm). Weight 18 ozs. Length 10 in. Treated steel.



78 "PYTHON" HEAD-RACE PLIERS. Milled jaws. Forged steel. Weight 11 ozs. Length 10 in.

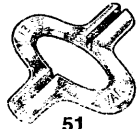


75

WHEEL ASSEMBLING TOOLS

75 SPOKE SCREWING MACHINE. Two speeds: Fast for cycle spokes, slow for motorcycle spokes. Very precise very robust. Weight 166 ozs.

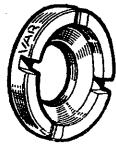
51 "PROFESSIONAL" NIPPLE KEY. Tempered forged steel. Machined slots. French gauge: 13-15-16-17 to choice. English gauge 14 swg, 13 swg, 12 swg, 11 swg. Please specify gauge required.



51

207 SPOKE CUTTING TOOL. Cuts spokes to exact length before threading. Weight 26 ozs.

255 ROUND NIPPLE KEY. Treated steel. Dia. 1-3/78 in. 255/1 —French gauge 13 and 15 (14 and 13 swg).



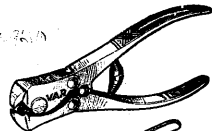
255

74 "ATOMIC" Wheel truing stand of new exclusive design; provided with adjustable pointers for testing side-to-side movement, and with plate for concentricity tests. Spindles to accommodate every kind of solid or hollow axle. Even a beginner will build true wheels. Weight 15 lbs.

17 "COUPE-RAS" END CUTTER. Will trim off spoke ends to the level of the nipple head. Replaceable studs. Weight 18 ozs. Length 11 in.

17/A—Cutting stud.
17/B—Anvil stud.

230 TOGGLE ACTION MOPED AND MOTORCYCLE SPOKE CUTTER. Narrow jaws. Weight 25 ozs. Length 8 in. Best quality.

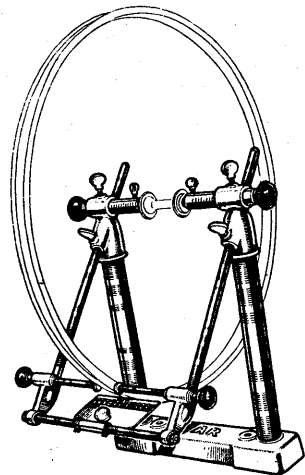
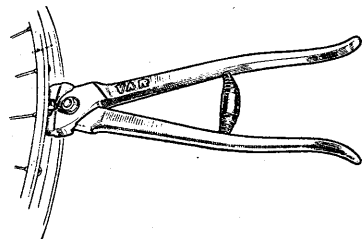
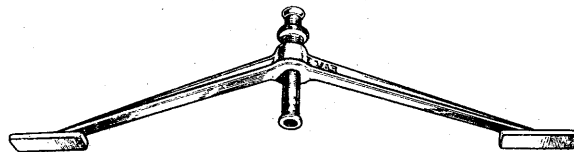


230

143 "EXACT" Wheel gauge for centring the hub in relation to the rim, a "must" for dishing wheels. Instant setting of pointer, one hand only required. For use on rims of all types and diameters. Weight 28 ozs.

263 RATCHET SCREWDRIVER FOR NIPPLES. Replaceable blade. Weight 14 ozs. 263/1—Replacement blade.

263



CYCLE ASSEMBLY STAND

800 Great stability assured by hemispherical base holding nearly 4 gallons (38 lbs) of water.

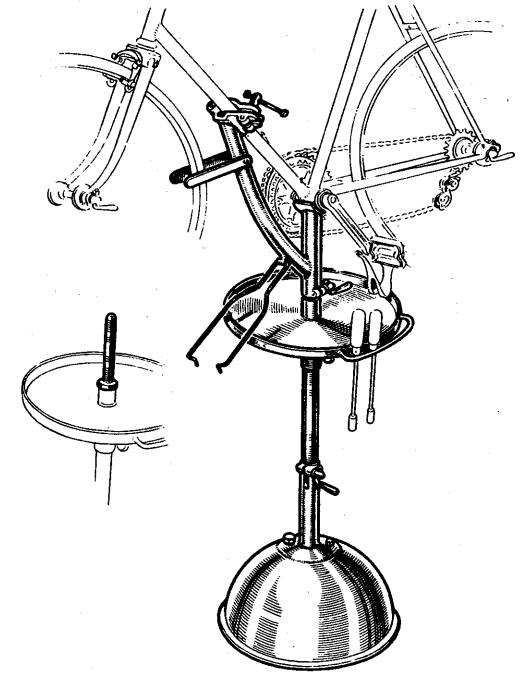
Height adjustable between 20" to 28", ground to bottom bracket, by quick-acting clamp.

Pivoting controlled by quick-acting clamp.

Instant positioning of machine or frame.

Quick and secure hold by specially designed clamp which leaves gear and dynamo cables free. Rubber pads on all parts in contact with frame. No damage to finishes. Tubular steel construction throughout. Weight empty 24 lbs.

If the hollow base is not required, the stand can be supplied with a long tubular foot for setting into the workshop floor. Ref. 800/SE.



SPECIAL PLIERS

84 CABLE CUTTERS. The patented triangular jaws ensure clean cutting of cycle or motorcycle cables without flattening or fraying. Special hardened steel. Length 8 in. Weight 9 ozs.

84/1—Completely nickel plated.
84/2—Black finish.

13 "CAIMAN" PEG SPANNER for adjusting locking rings, washer dust caps, freewheel locking-plates. Fitted interchangeable two-way cylindrical pegs. Weight 18 ozs. 13/1—Replacement peg (in packets of 10).

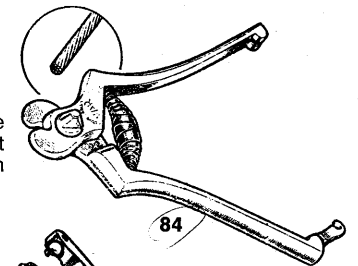
15 "PERFO" MUDGUARD PUNCH. Useful for quickly making holes in mudguards, for reflectors, stay eyebolts etc. Supplied in dia. .118 (3 mm), .157 (4 mm) and .197 (5 mm). Please specify required diameter. Weight 21 ozs. Length 11 in.

15/1—Replacement punch
15/2— — die } specify diameter.

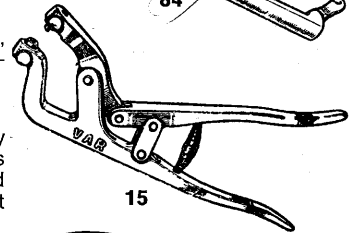
231 NUT PLIERS. Very handy for gripping all nuts. Either by end or side. Length 7". Weight 11 ozs.

224 SELF-GRIP PLIERS. Length 8 in. Weight 14 ozs.

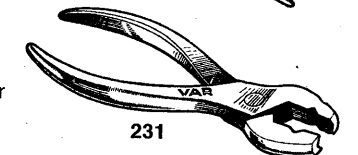
27 "MULTIPRISES" Slip joint gland-nut pliers. First quality, vanadium steel. 27/2—Length 10 in.



84



15



231

SPECIAL SPANNERS

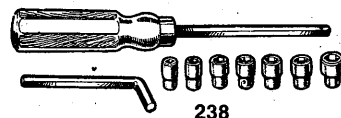
238 SOCKET SET with one straight handle, one right-angle handle and 7 sockets. Treated steel. Weight 14 ozs.

238 —The complete set.

238/1—Straight handle.

238/2—Right-angle handle.

238/3—Ea. socket sizes .276 (7 mm) square and .276 (7 mm) .315 (8 mm), .354 (9 mm), .394 (10 mm), .472 (12 mm) and .351 in (14 mm) hexagon.

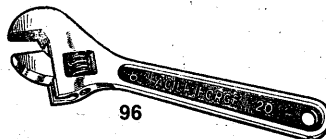


238

246 10-IN-1 DUMBELL SPANNER. Hardened zinc alloy. Length 4 in. Weight 3 ozs. Useful on the road.

96 ADJUSTABLE SPANNER. Drop forged chrome-molybdenum steel. Chromium plated.

96/4—Length 4 in—96/6. Length 6 in—96/8. Length 8 in—96/10. Length 10 in.



96

DIES AND DIE STOCKS

39 CAST STEEL DIES.

Outside dia 1 in (25,4 right cutting. All French or English sizes. left cutting.

39/B SPOKE DIES. CAST STEEL.

Outside dia .984. All French gauges. Usable on spoke screwing machine N° 75

40/B Fork column die stocks with interchangeable guide (dia 1 in and French sizes .905 (23 mm), .984 (25 mm), 1.102 in (28 mm) (to order).

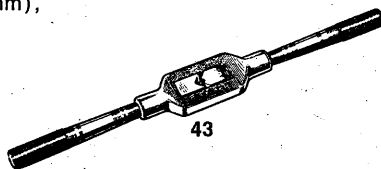
40/BG—Replacement guide (dia to order).



TAPS & TAP WRENCHES

43 ADJUSTABLE TAP WRENCH.

43/3— — — 197 (5) to .630 (16) — 12 1/2 in.



43

41 TAPS. All French and English sizes in stock.

41/MA—Cast steel crank taps. Set of two: LH and RH. French size 14x125 (.551x20,32 tpi). English size 9/16x20 tpi.

42 BOTTOM BRACKET TAP

Length 1.102. All French and English sizes. R and L

H.S.S. Inside diameter .709 in. 1 1/8 x 24 tpi.

42/B BOTTOM BRACKET TAP

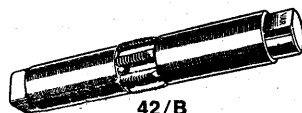
WRENCH with pilot (Without tap) to be used with N° 42 tap.



41



42



42/B

"MONDIALE" VAR

77 The only machine tool that will do economically and quickly, all precision cutting and threading jobs on frames. Because of its low price the "Mondiale" VAR 77 is available to all craftsmen. A "must" for all manufacturers.

STEERING HEAD & BOTTOM BRACKET CUTTERS & CUTTER HOLDERS

32 HAND CUTTER HOLDER. Quick adjustment. To be used for reaming and dressing head lugs and for dressing bracket shell. Supplied as follows:

32/C—Complete tool with N° 37AF (dia to choice) and N° 37CF or N° 37DF (to choice).

32/N—Without cutters.

35 STEERING HEAD CHUCK supplied as follows:

35/AFC—N° 2 Morse taper shank, threaded. With cutters 37/AF and 37/DF.

35/BFC—Round shank, threaded. With cutters 37/AF and 37/DF.

37 H.S.S. HEAD REAMING CUTTERS.

37/AF—Threading 12x175 drawing F.

Sizes to choose:

N° 3—Diameter 1.173 in (29,8 mm) for cups diameter 1.181 in (30 mm).

N° 5—Diameter 1.015 in (25,8 mm) for cups diameter 1.023 in (26 mm).

N° 6—Diameter 1.094 in (27,8 mm) for cups diameter 1.102 in (28 mm).

N° 7—Diameter 1.188 in (30,2 mm) for cups diameter 1.196 in (30,4 mm).

All other sizes on request.

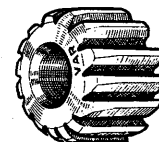
37/C H.S.S. CHAMFERING CUTTERS. Outside diameter 1.653 in (42 mm) 22° angle.

37/CF—Threaded 12x175

37/D H.S.S. HEAD AND BOTTOM BRACKET DRESSING CUTTERS. Outside dia 1.653 in (42 mm).

37/DF —Threaded 12x175.

37/DL2—Special for tool 380,



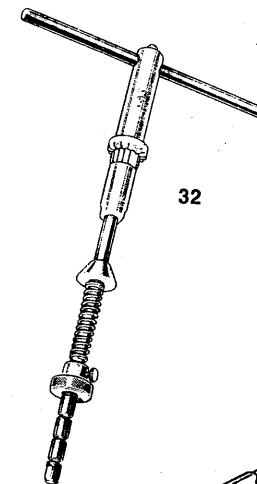
37



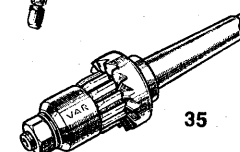
37/C



37/D



32



35

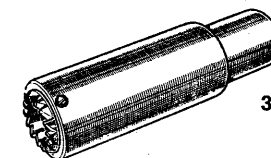
FORK CROWN CUTTERS & CUTTER HOLDERS

33 FORK CROWN RACE HAND CUTTER.

Supplied with reversible N° 38/D cutter. Please specify size required.

33/AC— — — ø 1 in (English size) 25,4 mm) with cutter.

33/AN— — — ø 1 in (English size) (25,4 mm) without cutter.



36

36 FORK CROWN RACE MILLING CUTTER FOR USE IN LATHE CHUCK.

Supplied with reversible N° 38/D cutter. Please specify size required.

36/AC— — — ø 1 in (English size) (25,4 mm) with cutter.

36/AN— — — ø 1 in (English size) (25,4 mm) without cutter.

38/D H.S.S. FORK CROWN REVERSIBLE CUTTERS. Outside diameter 1.496 in for cutter holders N° 33 and N° 36.

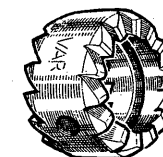
N° 4 —A= .988 (25,1)—B= .992 in (25,2).

N° 4/B—A=1.047 (26,6)—B=1.066 in (27,1).

N° 4/C—A=1.047 (26,6)—B=1.047 in (26,6).

N° 4/D—A=1.066 (27,1)—B=1.066 in (27,1).

All other sizes on request.



38/D

PRECIRAY WHEEL TRUEING STAND
Patent No.672210

**Awarded the Gold Medal of the
Inventor's Exhibition, 1966**

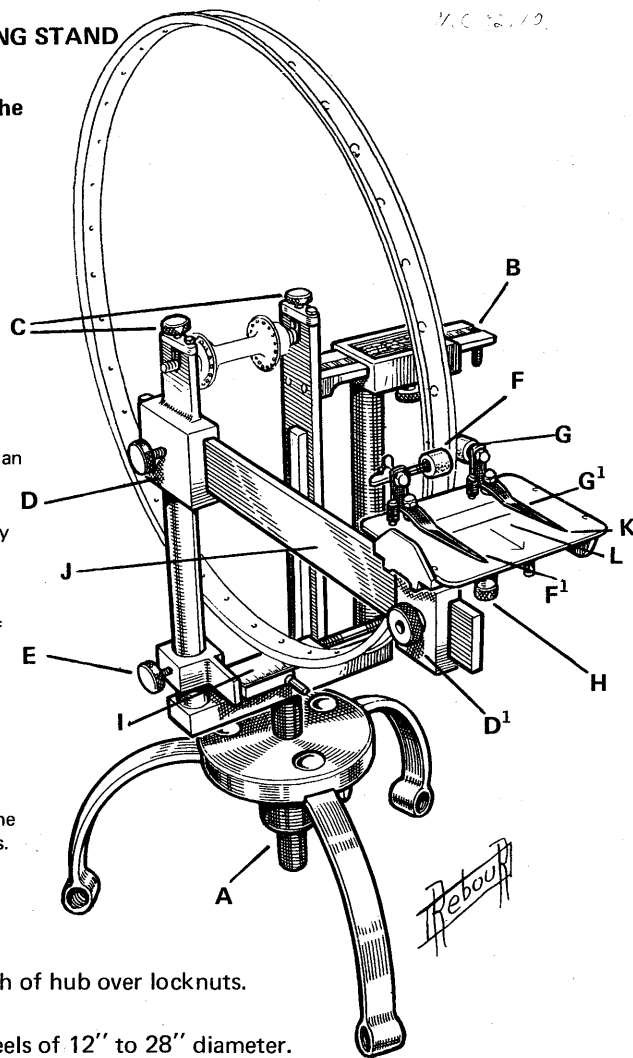
PRECIRAY

The wheel trueing stand that allows a **non specialist** to correct any variation of a wheel in less than **5 minutes**.

The direct reading of the faults (amplified 3 times) overcomes any error of judgement and a **non qualified** worker knows exactly on which nipple he must work.

Preciray accommodates wheels of all diameters, rims of all widths, hubs of any size from juvenile to moped. Quantities of one type of wheel can be trued with only one setting.

Preciray is constructed entirely in steel, is robust and perfectly rigid and is guaranteed to save time and expense for all wheel builders.



- A Height adjusting nut.
- B Indicator showing width of hub over locknuts.
- C Wheel-fixing screws.
- D Adjustable arm for wheels of 12" to 28" diameter.
- D¹ Setting screw for indicator table and eccentricity indicator F¹
- E Adjuster for setting centering indicator close to rim.
- F Nylon roller in contact with top of rim.
- F¹ Eccentricity indicator – amplified.
- G Nylon roller in contact with side of rim.
- G¹ Lateral truth indicator – amplified.
- H Setting screw for lateral adjustment of indicator table and indicator G¹
- I Rule for control of centring.
- J Sliding arm for diameter.
- K Indicator line for centre.
- L Dial plate.

Any up-and-down or side-to-side movement of the rim is shown on the indicator table and even an unskilled workman knows at once which nipples need adjustment and how much.

**FRAMES
AND
CYCLES**



5