May, 1997.

"K" and "K.C." Pattern Hubs.
also "C.C." Single Coaster.

STURMEY ARCHER



The Hub of the Universe.

STURMEY-ARCHER



S OME twenty years ago the first Sturmey-Archer 3-speed gear was fitted to a bicycle. The great benefit of this fitment was at once appreciated; To-day so popular has it become that a cyclist feels that his machine is incomplete without it.

The rider who uses a cycle for business finds that it saves time, exertion and money.

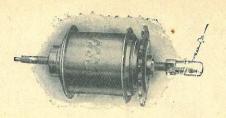
The rider who cycles for pleasure finds an added interest in riding and is able to cover longer distances with less fatigue.

The new Sturmey-Archer 3-speed gear, known as the "K" hub, is the latest development in cycle gears: it is the result of exhaustive experiments in gear construction and correct choice of steels.

It is light in weight, beautifully simple in construction, yet has tremendous strength and durability. It is in a marked degree superior to any variable gear yet made.

STURMEY - ARCHER
3 - SPEED GEAR
"Makes Cycling Easy."





DESCRIPTION.

The Gears, which are always in mesh, are dust proof and the entire mechanism runs in oil with that "silkiness" only to be found in the "Sturmey-Archer."

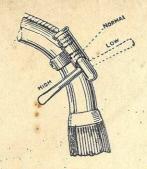
It is advisable to momentarily ease the pressure on the pedals when changing gear.

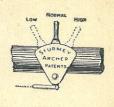
An automatic free-wheel, inside the hub acts on each of the three gears.

The gear can be easily fitted to any chain-driven bicycle, and is suitable for any width, between the back fork ends, down to $4\frac{1}{16}$ ".

ADAPTABILITY.

The Sturmey-Archer 3-Speed Gear is drilled for forty or thirty-six spoke-holes, while the hub sprocket has 16, 18 or 20 teeth for ½" roller chain, ½" or ½" wide; also 14 or 15 teeth for ½" pitch chain, ½" wide; and for any chain line between ½" and ½". The "chain line" dimension is controlled by the hub sprocket, and four different "chain lines" may be obtained by using the washer supplied and reversing the hub sprocket.





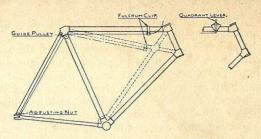
Control. The illustration on the left shows the handlebar control and that on the right the top tube control.

The middle notch gives the normal gear in both cases.

DURABILITY.

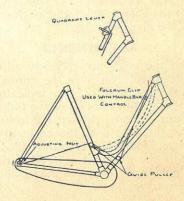
The limit of endurance of a Sturmey-Archer Gear has not yet been determined, as some of the first hubs ever fitted are still in use. The new "K" hub of to-day however possesses many improvements over anything yet made. It is actually somewhat smaller and even lighter in weight than its predecessor, yet it has been subjected to and withstood tests that even the old hubs would hardly come through successfully, and certainly many times more severe than could ever be made by a rider of a pedal cycle.

The rider therefore whose machine is fitted with a Sturmey-Archer may feel that he is perfectly equipped so far as his 3-Speed gear is concerned, which may reasonably be expected to last quite as long as the cycle itself.



DIRECTIONS FOR FITTING.

It is not necessary to take any part of the hub to pieces when building the wheel, as the spokes on the driving side can be inserted without removing the sprocket. Wheels must be built central with the outer cone faces and not with hub flanges. When built, the wheel should be set square in the back jaws and the bearings adjusted by means of the left hand cone in the ordinary manner. The right hand cone is a fixture, and must on no account be meddled with. After adjusting, see that the axle nuts are both well tightened, otherwise the axle will rotate and bind the bearings.



Having fitted the wheel, the change speed lever may be fixed, if on the handlebar, to the right or left, in a position convenient to the rider, most riders of course preferring the right hand side. The barrel should be so placed that the lever may be moved into the near position, and pushed over to the far position by the thumb. Fix the Bowden wire fulcrum clip to the top tube of the machine, leaving sufficient slack in the outer wire for the adjustment of the handlebar. Attach the pulley wheel to the diagonal tube of the machine and pass the actuating wire over it; screw the milled nipple on to the screw fixed on the end of the small chain. The mechanism is now ready for setting. The wire should be a little slack with the lever in the high gear notch. No Bowden wire is required for the Frame tube control.

Sharp bends in the cable must be avoided, as they make control operation very stiff.

Ladies' Machines and Spring Frames.—
If the gear is intended for a lady's machine, the fulcrum clip should be screwed to the down tube with the wire running under the guide pulley clipped to the bottom tube, thence over the guide pulley on the diagonal tube.

ADJUSTMENTS.

When the gears are correctly adjusted and the change speed lever is in the normal (middle) gear notch, the end of the indicator spindle should be level with the end of the hub axle. If the indicator projects, slacken the locking nut at the end of the wire near the chain at end with the thumb and forefinger, turn the milled adjusting nipple until the indicator is level with the end of the hub axle; then tighten the locking nut, and the adjustment is complete.

From time to time verify the adjustment of the gear, as it is possible the wire may stretch.

Another method to tighten the wire is by moving the clip on the top tube towards the head of the machine; to slacken, reverse the operation and secure the clip again. The indicator is only provided to show when the hub is correctly adjusted and on no account must this be screwed up or touched in any way.

It must be remembered that if the back wheel be moved when adjusting the cycle chain at any time, this will of course alter the tension of the wire and the gears should be adjusted as mentioned above.

See that the fulcrum clips which guide the wire on the cycle frame are firm also see that the nuts on both sides of the axle are perfectly tight.

All the bearings are adjusted simultaneously by turning the left hand cone, and if when free-wheeling, the hub rotates the pedals, the left-hand cone is too tight.

For convenience in wheel building, the right hand end, viz.: the chain and coupling shown at X3, may be unscrewed and removed; but care must be used when replacing same not to screw it up too tightly. Hold a screw-driver in notch of the indicator to prevent it moving, whilst rotating the chain at the other end; to the left to unscrew, and to the right when screwing up.

GEARS.—The following table shows the gears obtainable with 26 and 28in, wheels, and 16, 18 and 20 tooth hub sprockets:-

The gear ratios provided are high Gear 33% above the normal and the low Gear 25% below The normal gear is according to the number of teeth on the front chain wheel, as in a single speed machine.

 The following table shows gears obtainable with 28in. wheels, and 14 and 15 tooth §in. pitch hub sprockets.

| No. of | Teeth. | SUVE T | å-in. pitch | 1. |
|-----------------|------------|--------|-------------|-------|
| Chain Wheel. | on Cog. | Low. | Nor. | High. |
| 32 | 14 | 49 | 64 | 84 |
| 32 | 15 | 46 | 60 | 79 |
| 34 | 14 | 52 | 68 | 89 |
| 34 | 15 | 48 | 63 | 82 |
| 36 | 14 | 54 | 72 | 94 |
| 36 | 15 | 51 | 67 | 88 |
| 38 | 14 | 58 | 76 | 100 |
| 38 | 15 | 54 | 71 | 94 |
| 40 | 14 | 61 | 80 | 105 |
| 40 | 15 | 57 | 74 | 98 |
| 42 | 14 | 64 | 84 | 110 |
| 42 | 15 | 59 | 78 | 103 |
| 44 | 14 | 67 | 88 | 115 |
| 44 | 15 | 62 | 82 | 107 |
| 46 | 14 | 70 | 92 | 121 |
| 46 | . 15 | 65 | 86 | 113 |
| 48 | 14 | 73 | 96 | 126 |
| 48 | 15 | 68 | 90 | 116 |

The tables give list of gears obtainable with different sized sprockets.

ADJUSTMENTS OF BEARINGS.—All the bearings are adjusted simultaneously by turning the left-hand cone.

TO TAKE THE HUB APART.—Remove left cone. Then unscrew right hand ball ring (right hand thread), thus detaching the entire gear from the hub shell.

FREE WHEELING.—If when free wheeling the hub rotates the pedals, the left hand cone is too tight.

IMPORTANT.—Always give number and letters of hub, which will be found on the shell, when ordering parts for replacements. Complete wheels sent to Works for repair should be advised and described as "cycle wheels."

WHEN ORDERING be sure to give the following particulars:—

Chain Line. Width between Back Forks.

Width of Chain. Diameter of Frame Tube carrying Fulcrum or Ouadrant Clip.

Pitch of Chain. Diameter of Handlebar.

Size of Frame. Lady's or Gentleman's Machine.

Control. Handlebar or Top Tube.



On July 30th, 1908, Mr. Harry Green, riding a bicycle fitted with the

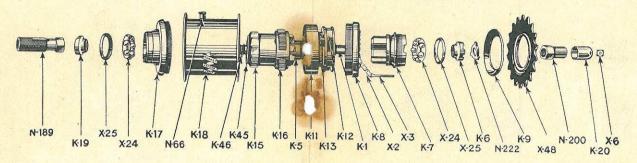
Sturmey-Archer Gear

Broke the END TO END RECORD

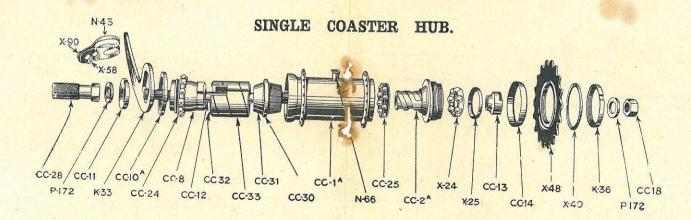
(LAND'S END TO JOHN O'GROATS)

by 2 hours 52 minutes.

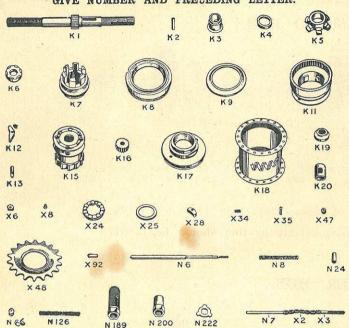
"K" PATTERN 3-SPEED HUB.



The illustrations indicate the correct way of assembling these types of Hubs. The parts follow one another in regular rotation, exactly as they should be fitted.



TO AVOID MISTAKES, WHEN ORDERING SPARES, GIVE NUMBER AND PRECEDING LETTER.



When sending a wheel for repair, put your name and address on the labels to indicate that you are the sender, and advise us on the date of despatch.

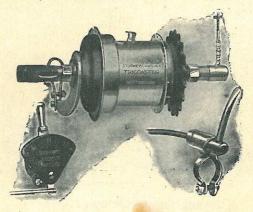
Enclose instructions in the parcel when sending internal parts by post.

MARK "K" PARTS.

| | | S. | d. 1 | | | s. | d. | |
|----------|----------------------|----|------|-----|-------------------------|----|----|--|
| K1 | Axle | 4 | 6 | K15 | Planet Cage | 5 | 0 | |
| K2 | Axle Key | 0 | 2 . | K16 | Planet Pinion | 0 | 9 | |
| K3 | Axle Sleeve | 0 | 8 | K17 | Left Hand Ball Cup | 5 | 0 | |
| K4 | Sleeve Nut | 0 | 3 | K17 | Left Hand Ball Cup fit- | | | |
| K5 K6 | Sliding Clutch | 2 | 0 | | ted with 2 Pawls X28, | | | |
| K6 | Right Hand Cone | 1 | 4 | | 2 Pawl Springs X34, | | | |
| K7 K8 | Driver | 5 | 0 | | and 2 Pawl Pins X92 | 6 | 0 | |
| K8 | Right Hand Ball Ring | 4 | 6 | K18 | Hub Shell | 5 | 0 | |
| K9 | Right Hand Dust Cap | 0 | 3 | K19 | Left Hand Cone | 1 | 3 | |
| K11 | Gear Ring | 5 | 6 | K20 | Chain Protector | 0 | 3 | |
| K12 | Gear Ring Pawl | 0 | 5 | X6 | Screwed Connection | | | |
| K13 | Pawl Pin | 0 | 1 | | Lock Nut | 0 | 1 | |

| N6 Indicator Screw 0 7 | 0 0 0 0 0 0 pring 0 | 32339 892773311 |
|---|---------------------------------------|---|
| К51— | 2 | K52 |
| X109 X78 XIII X66 K50 K53 X90 N235 X90 N234 XIII K5 | 2 | N 179 X 6 J X 6 Z |
| HANDLE BAR CONTROL PARTS. | | |
| X116 Fulcrum Clip, complete S. d. X69 Clip Bolt S. d. X90 Pulley, Fulcrum and Quadrant Clip Bolt 0 1 N234 Half Clip N235 Handlebar Lever N236 Handlebar Lever N237 Handlebar Lever N238 Handlebar Lever N238 Handlebar Lever Outer Cable, Black S. d. N236 Handlebar Lever Outer Cable, Black S. d. N236 Handlebar Lever Outer Cable, Green N237 Handlebar Lever Outer Cable, Green N238 Handlebar Lever Outer Cable, Black S. d. N236 Handlebar Lever Outer Cable, Green Inner Cable, Green Outer Cable, | 1 ete 7 | 1 9 9 9 0 6 6 9 0 0 6 6 9 0 0 0 0 0 0 0 0 |
| TOP TUBE CONTROL PARTS. | | s. d. |
| K55 Quadrant Lever 0 9 X62 Quadrant Connection X90 Pulley and Quadrant Quadrant Connection 0 1 X105 Wire Nipple (not trated) pr. X111 Clip Nut Clip Nut Lever Spring (not illustrated) (not illustrated) not illustrated) 0 1 Cable, Black, and Connect Pringer (cable, Green, and Connect Pringer (not trated) pr. X61 Quadrant Connection 0 1 Top Tube Control Complete | doz. 0 illus- doz. 0 tion 1 tion 1 | 5 |
| Quadrant only Complete comprising: K51 Quadrant Back Plate, Quadrant Front Plate, K53 Quadrant Clip Back, K54 Quadrant Front, K55 Quadrant Lever, X90 Quadrant Clip Bolt, X111 Clip N179 Quadrant Lever Stud, N120 Quadrant Lever Spring, X61 Qua Connection, X62 Quadrant Connection Pin | K52 Clip Nut, drant | 2 6 |

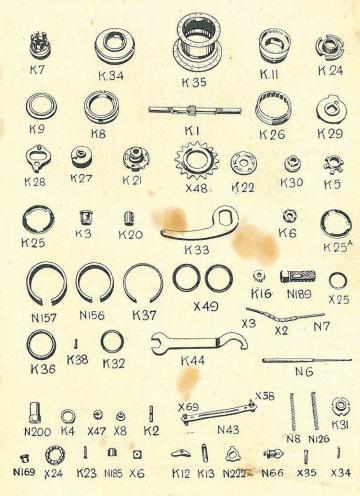
STURMEY-ARCHER TRICOASTER



THIS latest improvement in tricoasters, the "K.C.," embodies several distinctly new features which are seen to advantage when comparing it with other types. THE GEARS AND BRAKE ARE TOTALLY ENCLOSED, dust proof and water proof. The Brake Band requires no special oiling and operates with a silkiness unequalled. The Hub has an attractive well finished exterior, making it a handsome and extremely useful addition to any machine.

All enquiries and orders should be addressed to STURMEY - ARCHER GEARS, LTD., LENTON, NOTTINGHAM, ENGLAND.

TO AVOID MISTAKES, WHEN ORDERING SPARES, GIVE NUMBER AND PRECEDING LETTER.



TO AVOID MISTAKES, WHEN ORDERING SPARES, GIVE NUMBER AND PRECEDING LETTER.

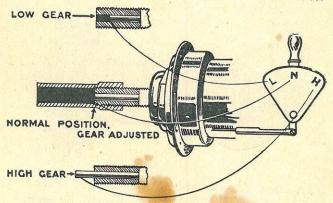
3-SPEED "TRICOASTER" HUB (MARK "K.C.") PARTS.

| | | - | | | | | - |
|-------|-------------------------|----|--------------|---------|---|-----|-------|
| | | s. | d. | | | S. | d. |
| 270 | Chain | 0 | 7 | K13 | Pawl Pin | 0 | 1 |
| X2 | Screwed Connection | ŏ | 3 | K16 | Planet Pinion | 0 | 9 |
| X3 | Screwed Connection | Ö | ĭ | K20 | Chain Protector | 0 | 3 |
| X6 | Main Spring Collar | | i | K21 | Planet Cage | 4 | Õ |
| X8 | Main Spring Collar | 0 | | K22 | Cage End Plate | î | 6 |
| X24 | III. diam. Dan Retainer | 0 | 4 | | Cage Elid Flate | 1 | U |
| X25 | Ball Race Cap | 0 | 1 | K23 | " Pinion Retainer | 0 | 8 |
| X34 | Pawl Spring per doz. | 0 | 6 | 1000000 | Rivet per doz. | 0 | |
| X35 | Split Pin ,, | 0 | 6 | K24 | Clutch Nut | 4 | 0 |
| X47 | Spring Nut | 0 | 1 | K24 | Clutch Nut fitted with | | |
| X48 | Sprocket | 2 | 0 | | 3 Pawls N185, 1 | | |
| X49 | Washer | 0 | 2 | | Spring K37, Left Hand | | |
| X58 | Brake Arm Clip Nut | Ö | ĩ | | Pawl Retainer Inner | | |
| | Bolt | ŏ | î | | K25, Left Hand Pawl | | |
| X69 | | ŏ | 7 | Same 1 | Retainer Outer K25A | | |
| N6 | Indicator Screw | ŏ | 7 | | 3 Left Hand Pawl Re- | | |
| N7 | Coupling Spindle | | 3 | | tainer Rivets, K38 | 5 | 3 |
| N8 | Axle Spring | 0 | | K25 | L.H. Pawl Retainer | | 0.000 |
| N43 | Clip for Brake Arm | 0 | 4 | KZO | 19 | 0 | 9 |
| N66 | Lubricator | 0 | 3 | 7707 6 | (Outer) | ő | 2 9 |
| N126 | Indicator Spring | 0 | 3 | K25A | | 2 | ő |
| N156 | Steel Brake Band | 1 | 3 | K26 | " Ratchet Ring | 2 | 0 |
| N157 | Bronze Brake Band | 2 | 0 | K27 | Brake Cone | 2 | |
| N169 | Brass Rivet for Brake | | | K28 | " Lever, with 2 pegs | 1 | 0 |
| 14100 | Ring per doz. | 0 | 6 | K28a | ,, ,, with 1 peg | | |
| N185 | L.H. Pawl | 0 | 3 | | (Latest Type) | 1 | 0 |
| N189 | Step | 0 | 9 | K29 | Centre Plate, with | | |
| N190 | L.H. Nut (Lady's) | 0 | 8 | | Hole for Peg | 1 | 6 |
| | R.H. Nut | 0 | g - | K29a | Brake Centre Plate, with | | |
| N200 | Star Washer | ŏ | 9 | ALOUG | Peg (Latest Type) | 1 | 6 |
| N222 | | 4 | 9 2 6 | K30 | L.H. Cone | 1 | 6 |
| K1 | Axle | Ô | 0 | K31 | " Lock Nut | ñ | 10 |
| K2 | " Key " | | 2 8 | K32 | " Dust Cap | 0 | 2 |
| K3 | Sleeve | 0 | 3 | | | ĭ | 6 |
| K4 | ", ", Nut | 0 | | K33 | | 3 | 6 |
| K5 | Sliding Clutch | 2 | 0 | K34 | | 5 | ŏ |
| K6 | R.H. Cone | 1 | 4 | K35 | Hub Shell | | 6 |
| K7 | Driver | 5 | 0 | K36 | Sprocket Lock Nut | 0 | |
| K8 | R.H. Ball Ring | 4 | 6 | K37 | L.H. Pawl Spring | 0 | 2 |
| K9 | R.H. Dust Cap | 0 | | K38 | " Pawl Retainer | 2 | |
| K11 | Gear Ring | 5 | 6 | | Rivet per doz. | 0 | |
| K12 | Dougl | | | K44 | Spanner | 1 | 0 |
| VIC | " " rawi | | The state of | | NUMBER OF THE RESIDENCE OF THE PARTY OF THE | | |
| | | | | | エルー() 2000() () () () () () () () () (| No. | |

| Assembled Parts for "K" and "K.C." Pattern Hu | ıbs. | |
|--|------|---|
| | s. d | |
| Axle K1, Key K2, Sleeve K3, Nut K4, Axle Spring N8, Axle Spring Nut X47, Main Spring Collar X8 | 5 8 | 9 |
| Axle K1, Key K2, Sleeve K3, Nut K4, Main Spring N8, Axle Spring Nut X47, Main Spring Collar X8, with Indicator Screw N6, Coupling Spindle N7, Chain X2, Screwed Connection X3, Lock Nut X6, and Indicator Spring N126 Indicating Spindle Complete comprising: Indicator Screw N6, Coupling Complete Comprising: Indicator Screw N6, Coupling Indicating Spindle Complete Comprising: Indicator Screw N6, Coupling Indicator Screw N6, | 8 (| 0 |
| C 1 11. M7 Chain NIE Screwed Connection A5, LOCK NUL A0, dilu | 2 1 | 3 |

IMPORTANT

KEEP THE GEAR CONTROL CORRECTLY ADJUSTED OIL FREELY, & YOUR HUB WILL ALWAYS BE O. K.



ADJUSTMENTS for

K PATTERN HUB. K C PATTERN TRICOASTER.

To adjust Gear place Control Lever in Normal position, unscrew Locknut and adjust knurled connection until indicator is level with the end of the axle as shewn, then tighten Locknut.

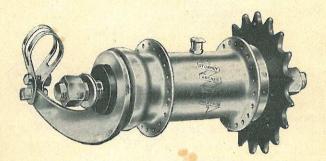
NOTE.—The correct method of dismantling hub is to remove Brake Parts first.

When hub is dismantled from Driving Side Clutch Nut K.24 must not be Reassembled on Axle, but placed in position in Ratchet Ring K.26. (care being taken that all three pawls are in action), before body of hub is screwed in.

On no account move Star Washer N.222 or Right Hand Cone K.6. These Parts are Fixtures.

STURMEY-ARCHER

POSITIVE DRIVE.



A new coaster hub that possesses several distinctive features. As will be seen, the Hub is particularly neat, and pleasing in appearance. It is also the lightest coaster hub yet produced, being fully half a pound lighter than some well known makes.

Fitted to a machine in place of the ordinary stirrup pattern brake, the coaster hub actually adds nothing to the net weight of the cycle.

Better than insuring against cycle accidents is to fit a Sturmey-Archer coaster hub and prevent them.

STURMEY-ARCHER

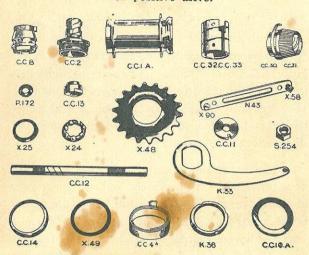
THIS Hub is of the positive drive type, the clutchnut having teeth formed on it (see illustration
C.C. 31) to engage with corresponding teeth in the
Hub Shell, so that when the two are engaged it is
impossible for the drive to slip. When driving the
Hub is entirely free from friction, while a light trailer
spring is provided to ensure the engagement of
drive or brake as desired.

Another salient feature is the large braking area provided. This greatly adds to the power of the brake, as well as ensuring longer life in the brake-band. The brake-band is of rolled bronze—brake drum of hardened steel. The brake is entirely enclosed, and perfectly protected against grit and water.

The brake is *positive* and powerful in action, yet beautifully sweet, taking up the load, and responding exactly to the pressure at the pedal, at the same time giving the rider the confidence that he has still reserve braking power left for an emergency.

The hub is simple in construction (as will be seen from the list of parts), is reasonable in price, consistent with the use of the highest grade materials and workmanship throughout.

To distinguish the two Hubs when ordering Spares, the early pattern Hubs are marked with a patent number on the shell. This has been omitted on those Hubs fitted with positive drive.



SINGLE COASTER. Positive Drive.

| DATACITY | OUTSIE | · rusitive Drive. | |
|--|----------|--|---|
| C.C. 1A Hub Shell C.C. 2 Driver C.C. 7 Brake Band Rivet C.C. 8 Left Hand Cone C.C. 10 Left Hand Lock Ni C.C. 12 Axle C.C. 13 Right Hand Cone C.C. 14 Right Hand Dust N C.C. 12 Axle Nut (intercha with S254 illustra C.C. 24 Left Hand Ball Cag C.C. 25 Right Hand Ball Cag C.C. 28 Step C.C. 38 Trailer Spring Table Step T | s. d | C.C. 31 Brake Cone or Clutch Nut C.C. 32 Steel Brake Band C.C. 33 Bronze Brake Band K 33 Brake Arm K 36 Sprocket Lock Nut N 43 Brake Arm Clip N 66 Lubricator X 24 Ball Cage X 25 Dust Cap | s. d. 2 0 2 11 1 6 0 6 0 4 0 4 0 1 0 1 0 1 |
| Old moldows | R:11 7 1 | The state of the s | |

Old pattern parts fitted to early Single Coaster Hubs, 1922 to May, 1924.

| C.C. 1 C.C. 3 C.C. 44 | Hub Shell Brake Cone or Clutch Nut Brake Cone Spring | s. d. 4 6 2 0 2 | C.C. 6 S 254 | Steel Brake Band Bronze Brake Band Axle Nut (This and C.C. 18 are interchangeable) | , 2 11 0 3 | |
|-----------------------------|--|--------------------------|-----------------|--|------------------|--|
|-----------------------------|--|--------------------------|-----------------|--|------------------|--|



LUBRICATION.

Oil the gear about every 100 miles using a good oil of medium consistency for the hub and grease for the inner cable and small chain.

Keep the gears ("K." and "K.C.") correctly adjusted and your Hub will be "O.K."

LIGHTEST AND STRONGEST OF ALL THREE SPEED GEARS.

Taking the weight of an ordinary freewheel and hub at 1 lb. 5 ozs., the adoption of the Sturmey-Archer three speed hub will add approximately only 1 lb. to the machine.





STURMEY ARCHER GEAR

"Makes Cycling Easy."

STURMEY-ARCHER

" Makes Cycling Easy and Safe.