

ETCHIN'S GUARANTEE that all Cycles and Tandems are built on our premises, and that all reasonable precautions have been taken to secure excellence of materials and workmanship. Should any defect occur during a period of five years, we undertake to repair or replace, free of charge, providing same is returned carriage paid.

We do not hold ourselves responsible for any consequential damage or any expense which may result from defective material or workmanship.

This Guarantee does not cover machines bought second-hand or where alterations and repairs have been made by other firms. Other firms specialities, such as Tyres, Brakes, Speed Gears, etc., are not covered by our guarantee, these are usually covered by their manufacturers and in such cases we undertake to give every assistance in obtaining satisfactory settlement.

This catalogue cancels all previous issues.

CASH ORDERS.

A deposit of 20/- or more is required with definite order. Balance of cash price is payable on completion of machine, when statement of account is submitted to customer.

TERMS.

If so desired terms can be arranged.

CARRIAGE.

Cycles, tandems and frames are sent carriage paid and packed free by passenger train to the nearest railway station, to any part of England, Scotland, Ireland or Wales. Customers should thoroughly inspect all machines before signing the Railway Company's receipt, and they should only sign unexamined. Should the machine be damaged in transit the station authorities must be notified immediately, also Hetchin's.

Prices subject to alteration without notice.

INTRODUCTION.

IN offering our latest catalogue and again introducing our products, we can definitely say they are the finest obtainable. As we do not have to pay for extensive advertising, our prices compare favourably with all others; and we incur no bad debts which you yourself would have to pay for in the long run.

Why this catalogue was made. Our business has always been conducted on the basis of personal attention. Owing however to the increased popularity of our Cycles and the pressing demand for an illustrated catalogue of the latest models, we feel sure that this catalogue will be well received.

The Cyclist. The wants of the genuine cyclist are faithfully considered and no specifications are incorporated without a guarantee of their utility.

Methods. We do not employ mass production and slip-shod methods, every cycle frame and all forks are individually built to the customers' own requirements.

Conscientious Work. Our men have a thorough and scientific knowledge of frame construction and take a real pride in their work. You can therefore be confident that all models given out are technically perfect.

Solely on merit. Our business has been built entirely on recommendation and the output shows a large percentage increase every season. We have built a reputation for fine craftsmanship and quality machines second to none.

Weight Reduction. In this sphere of cycle building, frames can only be built to a minimum weight and lugs turned down to a certain extent. Tubing of too light a gauge loses that rigidity and responsiveness which is so essential to the racing man. Although we can build down to any competitive weight, we only use materials of proven quality. For all that, our machines are made lighter by our own methods, and the World's finest riders have proved their reliability.

Hetchin's original Cut out Lug Work.

We cut out our lugs with a fancy design as a distinguishing mark, although any jagged cut with a hacksaw would serve the purpose.

But if you study the lugs on our Competition model, you will find that only the top and sides are cut away, and NOT the under side and backs which support the weight and "bind" the complete triangle. The cut-

away portion leaves the rest as two splines running along the tubes, which makes the lugs stronger. The more intricate the lug work, the higher the breaking point. The circumference of a plain lug at the point it meets the tube is approximately $3\frac{1}{8}$ inches, but at the point (taking the Top lug for example) where our competition model meets the tube it is approximately $5\frac{3}{4}$ inches, or theoretically equivalent to a plain lug on a $1\frac{3}{4}$ inch tube.

The severest strain on any lug joint is where the two tubes meet in a mitre under lug, and NOT where the tube emerges from the lug. Over this point the lug is NOT filed away, but is merely tapered to meet the tube, and as the weakest point is the actual angle



of the lug joint, and the lug is in NO way thinned at this point, no rigidity is lost whatsoever.

The greatest "enemy" of the cycleframe is NOT cut-away lugs but the extremely thin-gauge tubing now in demand to lessen weight.

The cut-out lug strengthens the frame.

A lug cut out as in our Competition Model,

acts as a cushion for the vibrations along the frame tubes, as they spread to the lugs, and the tapered lug in the "Brilliant" model has the same effect. This has the effect of retarding crystallization, which isinevitable.

ALL our lugs are cut away and filed to a taper BEFORE brazing, and we find that for the head lug alone at least 15 seconds less is required to braze the joint, saving valuable minutes under the flame as compared with the plain lug machine, and lessening any possibility of "burning" the tubing.

Hence we claim that ALL our frames, built on these principles, MUST be superior since there is less temper taken from the tubing.

Page Two

Hetchin's Competition Road or Path Model.

Weight from 16½ lbs.

FRAME. Built of Chater-Lea Lugs and Fittings, Reynolds 531 Tubing, Chater-Lea Chain Wheel and Cranks, fluted or to order. Frame size, Wheelbase and angles to Order.

FORKS. As desired.

WHEELS. Constrictor Conloy with Airlite Hubs. Tied and soldered.

TYRES. Dunlop Cotton Tubulars. File or smooth band.

BARS. Brazed up, cut away to match Frame Lugs, or "A.V.A." Alloy Bars and Stem.

SADDLE. New Brooks Conloy Frame or B17 range.

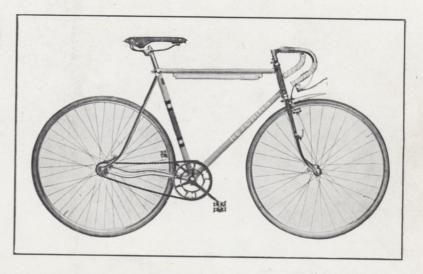
BRAKE. Alloy "Gloria" front or rear.

CHAIN. Elite ½-in. x ½-in.

PEDALS. B.O.A. or Continental Solid Centre.

FINISH. Chrome all over or as desired.

EQUIPMENT. Pump and Reflector, Tecalemit Oil Gun and Spear Point front extention.



Never before has such exquisite and unique workmanship been displayed in Cycle construction,

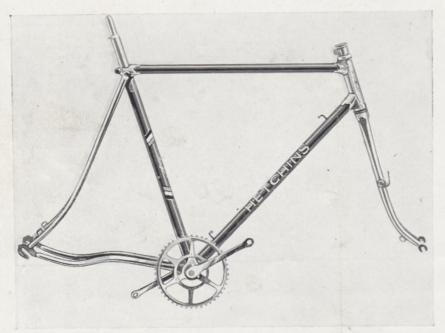
Cash Price, Chater Lea fittings

£15/7/6

With High Pressures and Airlite Hubs and Ultralight Guards £13/19/6

Hetchin's Super Brilliant.

Weight from 8½ lbs.



The Brilliant has been designed solely for the racing man, a semi-upright Model allowing full scope for position and fitted with our Rear Vibrant Triangle (Patent No. 443454). The vibratory action caused when riding over uneven surfaces lessens the retarding force on rear wheel, resulting in less loss of speed.

The test made regarding rigidity on the Chain Stays showed that owing to the rake in Stays, the resistence put up was a fraction over 4 per cent. more than straight stays of same gauge tubing. The triangle is not intended to spring, only to vibrate at rear ends and take off all dead shock from the apex.

BUILT OF REYNOLDS 531 TUBING AND SPECIAL CHATER-LEA LUGS.

WHEELBASE $40\frac{1}{2}$ -in. BRACKET HEIGHT $10\frac{3}{4}$ -in. HEAD $74\frac{1}{2}$ deg. SEAT 72 deg.

This Model can also be built entirely to your own design at no extra charge.

FINISH. Chromium Plated Rear Triangle, including Seat Lug, Head and Forks all over. Rest any colour enamel or lustre finish.

CASH PRICE as illustrated, with C1000 Chain Wheel Set and H.M. Seat Pin £6/4/6.

With Chater-Lea Fittings throughout, including Chain Wheel and Fluted Cranks £7/2/0. Chrome Plated all over, or bright flamboyant finish 5/- extra.

Hetchin's Super Brilliant Model.

Weight from 224 lbs.

FRAME. Built of Reynolds 531 Tubing. Size to Order. Either Semi-upright or Ordinary. Special Chater-Lea Lugs cut out to a unique design and filed to safety limits. Bracket height 10¾-in., Wheelbase 40½-in., Head 74 deg., Seat 72 deg.

FORKS. 531 Butted $\frac{7}{8}$ -in. to $\frac{5}{8}$ -in. round. Hetchin's special Rake or to Order.

WHEELS. Dunlop High Pressure Rims. Solite Hubs. Dunlop Tyres, either pattern.

BARS. Any popular bend with Hetchin's own make Chater-Lea $1\frac{7}{8}$ -in. Stem cut out to match Frame.

TRANSMISSION. Elite Chain C1000 Chain Wheel Set. **SADDLE.** B17 range.

BRAKE. "Gloria" or Bowden Steel.

PEDALS. B.O.A. Webb or Continental Solid Centre.

GUARDS. Bluemels Ultralight, Black or White. Separate spear point extension if desired.

STANDARD FINISH. Enamelled any colour with Chrome Rear Triangle including Seat Lug, Head and Forks all over. International Chevrons.

EQUIPMENT. Pump, Reflector and Tecalemit Oil Gun.



Super Brilliant. Hetchins Special fittings, Standard finish, Cash Price £10/19/6
Super Brilliant. With Chater-Lea fittings, including Chain,

Wheel and fluted Cranks, Standard finish Cash Price £11/19/6

All Chrome, or Bright Flamboyant finish, either Model 5/- extra.

Extra for Constrictor first choice Sprint Rims & Dunlop Cotton Tubulars (smooth or file bands) on either Model £1/12/6

WITH "VIBRANT" or ORDINARY REAR TRIANGLE.

Hetchin's Brilliant No. 3.

Weight from 224 lbs.

FRAME. Built of Reynolds 531 Tubing size to Order, either semi-upright or Ordinary, special Chater-Lea Lugs cut out to a unique design and filed to safety limits. Bracket height $10\frac{3}{4}$ -in. Wheelbase $40\frac{1}{2}$ -in.

FORKS. 531 Butted $\frac{7}{8}$ -in. to $\frac{5}{8}$ -in. round, Hetchin's special rake or to Order.

WHEELS. Dunlop High Pressure Rims. Sivada or B.W. Hubs fitted Dunlop Tyres, either pattern.

BARS. Any popular bends, with H.M. Stem.

TRANSMISSION. C1000 Chain Wheel Set, Elite Chain.

SADDLE. Ormond or B17 range.

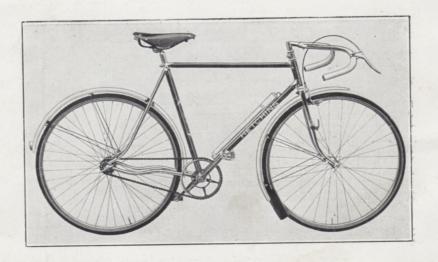
BRAKE. "Gloria" Ambra Superga or Bowden Steel, front or rear.

PEDALS. Webb Solid Centre.

GUARDS. Bluemels Ultralight, Black or White, separate spear point extension if desired.

EQUIPMENT. Pump, Reflector and Tecalemit Oil Gun.

FINISH. In two colour enamel. Double lined with Chrome Crown front and rear ends, or Chrome Head and Forks all over, and rear ends. Rest any colour enamel or lustre finish.



Brilliant No. 3. Hetchins special fittings. Cash Price £9/19/6

With Chrome Head and Forks, (all over) and rear Triangle including Seat Lug, rest enamel or lustre.

£10/10/0

All Chrome

£10/15/0

Hetchin's Brilliant No. 1.

Weight from 24½ lbs.

FRAME. Built of 531 Butted Tubing, size to Order, either Semi-upright or upright. Brampton fittings. Lugs cut out to a unique design and filed to safety limits. Bracket height $10\frac{3}{4}$ -in., Wheelbase $40\frac{1}{2}$ -in.

FORKS. 531 Butted $\frac{7}{8}$ -in. to $\frac{5}{8}$ -in. round, Hetchin's rake.

WHEELS. Endrick 23 gauge rims. Sivada or B.W. Hubs.

TYRES. Sprites or Pixie.

BARS. Any popular pattern.

TRANSMISSION. C1000 Chain Wheel Set, Coventry Chain.

SADDLE. Ormond or B17 range.

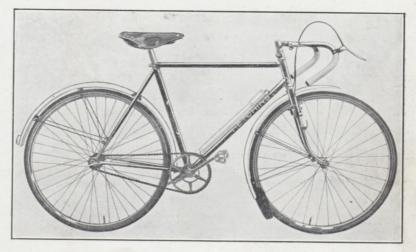
BRAKE. Special light steel.

PEDALS. Webb Solid Centre.

GUARDS. Bluemels Ultralight, Black or White.

FINISH. Black or colour, including lustres, with Chrome Crown front and rear ends.

EQUIPMENT. Pump, Reflector and Tecalemit Oil Gun.



Cash Price Brilliant No. 1. Brampton Fittings.

£8/19/6

BRILLIANT No. 2. With Chater-Lea Lugs and High Pressure wheels and tyres. £9/10/0
A Specially designed, short wheelbase, diamond frame Ladies Model.

Specifications as above can be supplied at same prices.

THIS "CONTINENTAL" CRAZE

The last two years have seen the adoption by the trade as well as the racing and club rider of continental ideas, both in fittings and "gadgets" and lately in frame design. Dealers have even imported complete machines by crack continental makers for use in this country and now we find them using mass-produced lugs, imported from abroad, for the building of their "Continental" machines, already cut out and ready for assembly into the machine.

We are justly proud of our reputation for the finest lug-work in the trade, without exception, and we have no desire to depart from our usual practice of using the finest English lugs, cut out scientifically and artistically by our own craftsmen, and hand-filed before brazing. We have proved this method to be the best, and we do not wish to depart from this practice, although it demands skill, care and time which these imported lugs would save, thereby reducing costs considerably.

But to suit any of our customers who may require a machine built with these lugs, we offer one of our new "Tour de France" models incorporating them, and this will be found in this list.

On the question of design, we pride ourselves on keeping ahead and abreast of the times, but we would point out that the slavish copying of Continental design is of NO use to riders in this country. The genuine Continental built machine is built for the purpose of racing over Continental roads—the notorious pavè—which is like our cobblestones, only worse! To this end, most of the machines used by the Continental cracks have long wheelbases ($43\frac{1}{2}$ inches is about the average) and are definitely NOT "upright" in design. For their purpose they are perfect, but of no more use in England than the normal English machine abroad.

Our "Continental" machines have therefore been designed to embody the best Continental practice, modified to suit English conditions, and are definitely the finest machines of this type offered to the present day rider.

Hetchin's 'Anglo Continental'

Based on the best Continental practice, modified to suit English Road conditions.



FRAME. Built of special Chater-Lea Lugs and Reynolds 531 Butted Tubing. 74 deg. Head, 71 deg. Seat. Special Wheel clearance in Chain Stays, Seat bridge reinforced to take bolt on Brake.

FORKS. Special double plate fork crown with oval to round fork Blades, special Continental pattern.

WHEELS. Constrictor first choice Sprint Rims, 26-in. or 27-in. Built with Solite Hubs, Double butted spokes, Tied and soldered. (Unit rear Hub if desired.)

TUBULARS. Dunlop Cotton 26-in. or 27-in. smooth or file bands.

BARS. Continental type with any length extension built up with lugs cut to match Frame, or "A.V.A." Alloy.

SADDLE. Brooks B17 range, or to Order.

BRAKES. Two "Gloria" or Bowden steel bolt on.

TRANSMISSION. Continental Durax with fluted cranks.

PEDALS. B.O.A. or Continental Solid Centres.

GEAR. Conloy Osgear (Simplex Professional 5s. 0d. extra).

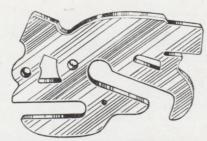
FINISH. Special Continental colours, panelled and lined by hand, and International Chevrons, and Chrome Plated Front and rear ends. Head Lugs Chrome also if desired at no extra charge.

EQUIPMENT. Pump, Reflector and Tecalemit Oil Gun.

Cash Price as Specification

£14/12/6

as above but with High Pressures and Conloy Osgear £12/19/6



THE HETCHIN'S UNIVERSAL REAR FORK-END. **PATENT No. 19643.**

THREE REQUIREMENTS IN ONE.

In common with other cycle builders, we have attempted to produce an "All-purpose" cycle for some time now, and we have in our new "TRIO" model evolved the cycle for every purpose that the clubman can desire.

The use of our Universal Forkend (Patent No. 19643) has solved the problem, as it is adaptable as:-

(1) A forward opening, for single or multiple gear, as desired.

(2) A rear opening for track racing.

Note also that there is provision in the fork-end plate for fixing a derailleur gear without interfering with the drop-out.

By incorporating our Patent Seat Tube, we are able to give you 27-inch wheels WITH MUDGUARDS and vet AMPLE WHEEL-CLEARANCE.

With each machine we can supply a pair of forks, built and finished to match the TRIO model, at a fixed charge of £1 2s. 6d. per pair, and by changing these the TRIO model gives:-

(1) A TRACK cycle, with 39½-in. wheelbase.

machine for short distance time-trials.

TRIO. Three Require



For Track use.

(3) With the longer raked forks, using the forward opening, a correctly fitted long distance time trial machine, or "Massed Start." Wheelbase 40½-in. With Constrictor first choice

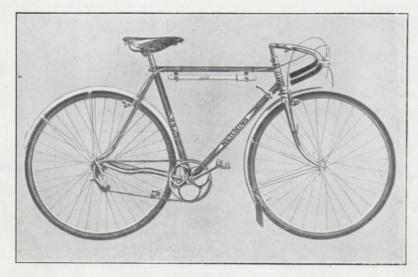
The addition of mudguards to No. 3 makes the TRIO into a perfect light touring mount.

You will note that the arrangement of the slots in the (2) With the rear wheel in the forward opening, and fork-end automatically lifts the bottom bracket by &-in. track forks, a super fast 38½-in. wheelbase to 11¾-in., and the track forks will keep the top-tube parallel.

Same Model

Page Ten

ments In One. 'TRIO'



For "Massed Start."

Cash Price as Specification

Rims and Dunlop Cotton Tubulars as illustrated on Page 10. (as Page 10) but with High Pressures, one brake, either fork.

Extra pair of forks. £1/2/6.

TH "VIBRANT" or ORDINARY REAR TRIANGLE.

Weight from 244 lbs. fully equipped.

FRAME. Built of Chater-Lea lugs and Reynolds 531 butted tubing, 76 deg. Head, 72 deg. Seat tube. Patent fluted seat tube, giving ample wheel clearance in chain stays. Wheelbase varying from 38½, 39½ or 40½. Seat bridge re-inforced to take bolt on brake. Patent "Universal" Forkend.

FORKS. Special double plate fork crown, with oval to round special Continental rake blades, Reynolds 531.

WHEELS. Dunlop 27-in. (or 26-in.) High Pressure rims. "Solite" Hubs, Double butted spokes, tied and soldered. High pressure tyres and tubes.

BARS. "A.V.A." Alloy bend and stem.

SADDLE. Brooks B.17 range. Hiduminium Seat pillar.

BRAKES. "Gloria" front and rear steel.

TRANSMISSION. Durax Chainwheel and fluted cranks.

PEDALS. Continental solid centre "Faucheux."

GEAR. Simplex "Champion du Monde."

£13/19/6

MUDGUARDS. Bluemels "Ultralight" Separate alloy extension.

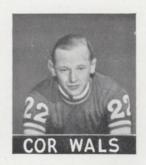
FINISH. Chrome head lugs, crown, front and rear ends. Enamelled any colour, with special ivory panels and double lined (as illustration).

£13/10/0 EQUIPMENT. Pump, reflector and Tecalemit oilgun. £11/19/6

23 23 VAN KEMPEN

Hetchin's Six Day

Evolved from the Cycles designed and ridden by the World's most famous riders at the Wembley Six Day Race. Van Kempen, Wals, Rodman, O'Brien, Pecqueuse, Guimbretiere, Depawe, proved the speed and reliability of this Model in the World's most gruelling race. Ridden by champions all over the world.



Everybody who witnessed the 1938 Wembley Six Day Cycle Race knows of the amazing performances put up by the riders of Hetchin's Cycles. When the sprints were the fastest, and the "jams" were the fiercest, Hetchin's were to the fore.

This new model is an adaptation of the bicycles we built for the Six Day Kings, and it is modified to produce a super fast ROAD OR PATH Model. The general design of the Frame is similar to that used at Wembley, but it is essentially a cycle for the clubman who wants maximum speed for the minimum of effort.

It incorporates our patent seat tube, which enables us to build a bicycle with 27-INCH Wheels, a short wheelbase of $39\frac{1}{2}$ INCHES, yet with ample wheel clearance, WITH MUDGUARDS. Never before has this been possible, and Hetchin's are the first to offer this to the clubman.

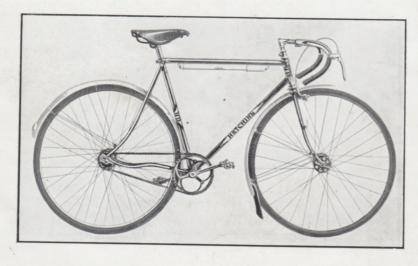
The fortunate rider who becomes the proud possessor of a Hetchin's "Six Day" Model, will be amazed at the life and speed which are inherent in the design, and we feel that we have produced something which we are proud to offer.

We are certain that the rider of a "Six Day" Model will prove in the best way possible, by actual riding experience, that with the excellent roads to befound in this Country a short wheelbase bicycle properly designed, is a great asset.

This cycle caused a great sensation at the Cycle Show, 1938, for its unique workmanship and design. We are certain that every rider of a Hetchin's "Six Day" will be proud of his cycle.

'SIX-DAY' Road or Path Model.

Weight from 21½ lbs.



FRAME. Built of Chater-Lea lugs and Hetchin's special fittings. Reynolds 531 double butted tubing. Lugs cut to a unique design, and filed to safety limits. Angles 75 deg. Head, 72 deg. Seat. Wheelbase 39½-in. Bottom bracket height 11½-in. with 27-in. Wheels. Fluted patent seat tube gives ample wheel clearance with guards. Top tube 22¾-in.

FORKS. Genuine "Bastide" double plate crown $\frac{7}{8}$ to $\frac{5}{8}$ round blades. Special "Van Kempen" rake, $1\frac{1}{8}$ -in.

WHEELS. Dunlop High Pressures, 27-in. rims, "Solite" Hubs. fitted Dunlop High Pressure tyres and tubes.

BARS. "A.V.A." Alloy Stem and bend.

TRANSMISSION. Continental Durax Chain Wheel and fluted cranks, "Elite" Chain.

SADDLE. Brooks Flyweight or B.17 range, with Hidum-inium seat pillar.

BRAKE. "Gloria" Steel.

PEDALS. Continental solid centres, "Faucheux" or B.O.A.

GUARDS. Bluemels Ultralight separate spear point.
Alloy extension.

FINISH. All Chrome Six Day panelling or as desired.

EQUIPMENT. Pump, Reflector and Tecalemit Oilgun.

Cash Price With Vibrant or ordinary Rear Triangle. £12/12/0

Or, as illustrated with Continental Airlite Hubs. £13/5/0

The "Tour De France"

FOR THE "CONTINENTAL-MINDED" CLUBMAN.

FRAME. Built of genuine "Aerts" lugs and fork ends. Components mainly Continental. Head 74½ deg., Seat 72 deg. Bracket 10¾-in., Wheelbase 41¾-in. or to Order.

FORKS. Genuine "Aerts" Crown. Correct oval or round Fork Blades, special rake.

WHEELS. High Pressure 26-in. or 27-in. Special light Hubs.

TYRES. Dunlop High Pressure, 26-in. or 27-in. either pattern.

BARS. Continental type bend, any length extension, built up with lugs to match frame.

SADDLE. Brooks B17 range or to Order. BRAKES. Two special light steel bolt-on.

TRANSMISSION. Durax Chain Wheel and fluted Cranks.

PEDALS. Continental solid centre.

GEAR. Conloy Osgear. (Simplex Professional 5/- extra.)
FINISH. Special Continental colours, light blue and dark blue or light green and dark green, shaded lustre finish, with special design Continental panelling and International bands.

EQUIPMENT. Pump, and Tecalemit Oil Gun.

ORDINARY SEAT STAYS ONLY.



Cash Price as Specification £11/15/0

HETCHINS TOUR DE FRANCE. Specification as Anglo Continental, with finest Chater Lea Lugs, our own unique cut away design, Simplex Professional Gear. Finish as above, but with Chrome Plated Head Lugs, Crown and front and rear fork ends. ... £12/19/6

"Toni Merkens" Model



FRAME. Reynolds 531 tubing, Chater-Lea Lugs and fittings, 75 deg. Head, 72 deg. Seat, $39\frac{1}{2}$ -in. Wheelbase. Frame size to Order. Track rear ends.

FORKS. Hetchin's special Path Rake, 531 tubing.

WHEELS. Constrictor Conloy Rims. 27-in. Airlite-Hubs. Double butted spokes, tied and soldered.

TUBULARS. Dunlop Path or to Order.

SADDLE. Brooks Sprinter or to Order.

BARS. Hetchin's special "Toni Merkens" Stem, or Barsand Stem to Order.

PEDALS. B.O.A. or Continental solid centre.

TRANSMISSION. Chater-Lea Chainwheel and Fluted-Cranks, 1-in. pitch.

CHAIN. 1-in. pitch block chain, $\frac{1}{8}$ or $\frac{3}{16}$ -in.

FINISH. As required. All Chrome no extra charge.

Cash Price £14/19/6 Super Sprinter Model

Specification as above, but with Constrictor first choice rims and Super Sprinter Frame, Chater-Lea throughout.

Cash Price £13/19/6

HETCHIN'S COMPETITION SHORT WHEEL-BASE TANDEM.

Patent No. 19430/37.

After many years of experiment, we have produced an Ultra-short Wheelbase Tandem, which reduces the wheelbase to a reasonable minimum, but still retains an ample length top tube for both riders, allowing full scope for position without in any way cramping either. At the same time it has not been necessary to resort to curved tubes, or any freakish fittings.

This machine has a $2\frac{3}{4}$ -inch shorter wheelbase than hitherto possible with all straight tubes.

The rear seat tube and chain stays are Hetchin's patents, and exclusive to this machine, and are a real engineering job, without copying any other design of Tandem on the market. The seat tube is gradually fluted at the last $7\frac{1}{2}$ inches from a point $\frac{1}{2}$ -inch from the bracket shell, and allows a considerable shortening of the chain stays, and a closer fitting rear mudguard than previously possible.

This portion of the seat tube has been heavily butted, thus strengthening it at a very vital part. Owing to its scientifically designed section, it acts as a girder, resisting side-play.

The patent chain stays which have solid mild steel insets, are specially made for us. Being of mild steel, they are definitely unbreakable compared with castings, and are much less prone to crystalization, which if it occurs, takes a very much greater period of time. Owing to their special shape, there is ample clearance for a tyre of $1\frac{3}{8}$ -inch Tandem section, not only when wheel is in place, but when fitted or withdrawn.

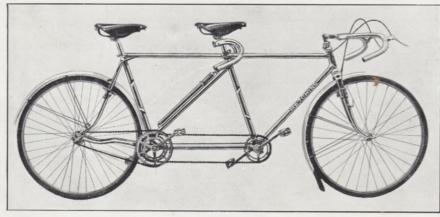
The angles of this Model are 73 deg., both seat tubes and the head being parallel. The top tube has $21\frac{3}{4}$ -inch centres, both front and rear, which gives ample room to both riders, allowing the use of normal shaped bars, and without the need of freakishly long extensions.

Compared with a tandem of 67 deg. angles, with the full play of saddle adjustment, there is a gain of approximately 2 inches in adjustment, or the equivalent of a $23\frac{3}{4}$ -inch top tube.

We have incorporated in this machine our Patent "Vibrant" Rear Triangle (Pat. No. 448454) but if desired Ordinary Straight Seat and Chain Stays can be used.

Hetchin's Competition Short Wheel-base Tandem Model

Weight from 41 lbs.



FRAME. Reynolds 531 butted Tubing Chater-Lea Lugs. Double Diamond or Central Tube design. Size to Order. Wheelbase 59\frac{3}{4}-in.

FORKS. Hetchin's special Rake or to Order.

WHEELS. Endrick Rims All Chrome, Solite Tandem Hubs.

TYRES. Dunlop Tandem, Speed, Sprite, or toorder.

SADDLES. Brooks B.17 Champion Range or toorder.

BARS. Optional.

BRAKES. Resilion A Chrome Front and Rear.

PEDALS. B.O.A. or Webb solid centre.

GUARDS. Bluemels Ultralight.

FINISH. Any colour, Chrome rear ends. Head and Forks all over.

EQUIPMENT. Pump and Reflector, Tecalemit Oil Gun.

Patent No. 19430/37.

Cash Price Chater fittings £21/10/0

with Brampton-Chater fittings £20 / 0 /0

Chrome all over, or bright Flamboyant £1/10/0 extra.

Any speed Gear can be fitted to the Competition Tandem Model at Manufacturers Catalogue prices.

WITH "VIBRANT" or ORDINARY REAR TRIANGLE.

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Hetchin's Brilliant Upright Model

Brampton-Chater.

Weight from 44 lbs.



FRAME. Reynolds 531 Butted Tubing Double Diamond Tube or central design. Size to Order. Wheelbase 62-in. Brampton fittings. Chater-Lea. Lugs.

FORKS. Reynolds 531, special rake to order.

WHEELS. Endrick Rims.

TYRES. Dunlop Tandem, Speed or Sprite.

SADDLES. Brooks B17 Champion, or to order.

BARS. Optional.

TRANSMISSION. Williams best Tandem sets.

BRAKES. Sturmey Archer hub brakes.

PEDALS. Webb solid centre.

GUARDS. Bluemels Ultralight.

FINISH. Any colour with Chrome rear ends Head and Forks Chrome all over.

EQUIPMENT. Pump and reflector. Tecalemit Oil Gun.

Cash Price

Brampton-Chater

£16/16/0

With Cyclo Super Hub Brakes and Cyclo 3 Speed Gear £18/14/6

Chrome all over or bright flamboyant £1/10/0 extra.

Any Speed Gear can be fitted to the Brilliant Tandem Model at Manufacturers' Catalogue prices.

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Chain- wheel No. of Teeth	Cog No of Teeth	Diam, of Wheel		Chain- wheel	Cogs	Diam. of Wheel	
		26 in.	27 In.	No. of Teeth	No. of Teeth	26 In.	27 in.
42	12 13 14 15 16 17 18 19 20	91.0 84.0 78.0 72.8 68.2 64.3 60.6 57.5 54.6	94.1 87.4 81.0 75.7 70.8 66.7 63.0 59.6 56.7	48	12 13 14 15 16 17 18 19 20	104.0 96.0 89.1 83.2 78.0 73.4 69.3 65.7 62.4	108.0 99.7 92.5 86.4 81.0 76.2 72.0 68.2 64.8
44	12 13 14 15 16 17 18 19 20	95.3 88.0 81.7 76.2 71.5 67.2 63.5 60.2 57.2	99.0 91.3 84.8 79.2 74.2 69.8 66.0 62.5 59.4	50	12 13 14 15 16 17 18 19 20	108.3 100.0 92.4 86.6 81.2 76.4 72.2 63.4 65.0	112.5 103.8 96.4 90.0 84.3 79.4 75.0 71.3 67.5
46	12 13 14 15 16 17 18 19	99.6 92.0 85.4 79.7 74.7 70.3 66.4 63.0 59.8	103.5 95.5 88.7 82.1 77.6 73.0 69.0 65.4 62.0	52	12 13 14 15 16 17 18 19 20	112,6 104.0 96.5 90.1 84.5 78.5 76.1 71.2 67.6	117.0 108.0 100.2 93.6 87.7 82.3 78.0 74.0 70.2

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