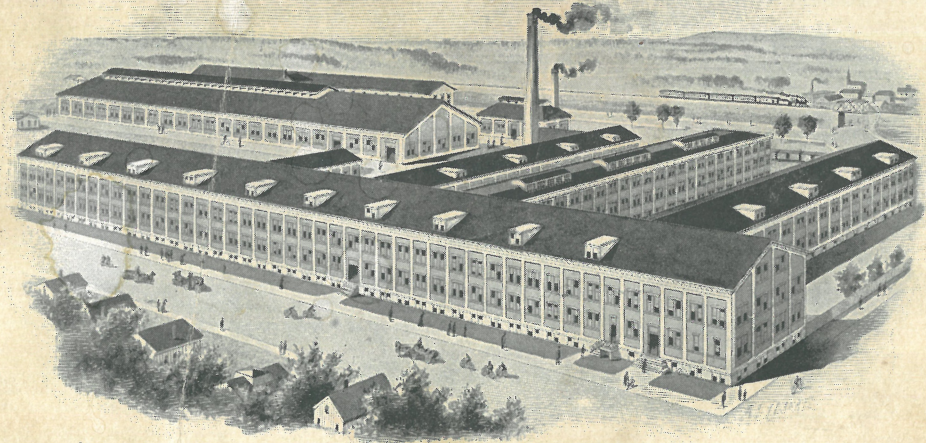




THE  
"DAYTON"  
1897.

MANUFACTURED BY THE  
DAVIS SEWING  
MACHINE CO.  
DAYTON, OHIO.  
U.S.A.



# DAYTON BICYCLES.

MANUFACTURED BY  
THE DAVIS SEWING MACHINE CO.  
DAYTON, OHIO, U.S.A.

## BRANCHES.

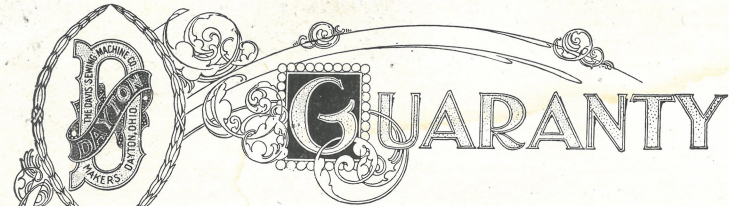
76 READE ST. NEW YORK.

159 TREMONT ST. BOSTON, MASS.

64 & 66 WABASH AVE CHICAGO, ILLS

24 ALDERSGATE ST. LONDON ENGLAND.





*We agree with the purchaser of each Dayton Bicycle to make good by repair or replacement, when delivered at our factory, transportation prepaid, any imperfection or defect in material or manufacture of such bicycle (pneumatic tires excepted) not caused by misuse or neglect; provided that the factory serial number shall be on such bicycle at the time claim is made, and that all imperfect or defective parts shall be referred to us before any claim for replacement or repair shall be allowed. This guaranty continues for six months from the date of the sale by the agent.*

*All tires used on our wheels are fully guaranteed by the makers, and tires claimed defective, or needing repairs, must be sent to the manufacturers direct.*

*The Davis Sewing Machine Co.*

## PREFACE.



HE conclusion of the season of 1896 finds the Dayton Bicycle in secure possession of an established position and recognized standing throughout the world. Its claim to embody the highest perfection of modern cycle construction, has been maintained before the highest tribunal—a critical and exacting public—and confirmed beyond appeal. That the Dayton for 1897 will not fall short of the achievements of the past, but will show even stronger proof of its title to the highest rank in popular favor, will be clearly demonstrated by a careful study of its new features and valuable improvements as set forth in the pages following.

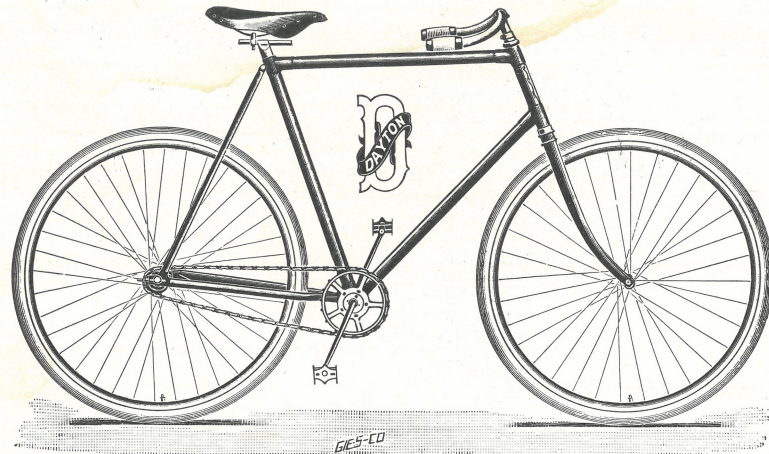
In the world of wheels the educational effects of the past season have been many and far reaching. Disastrous results have been witnessed of the mistaken beliefs that anybody could manufacture a bicycle, and that the public would blindly accept as high grade any wheel so represented by its makers. On the other hand, the lesson of quality has been learned by many riders only at the cost of unfortunate experience and pecuniary loss.

More widely and more keenly than ever before is now appreciated the degree of perfection in material, workmanship and inspection, which must be reached in this production of mechanical skill, the bicycle of to-day, so light in weight, so fragile in appearance, but of which marvellous tests of strength and endurance are demanded, and upon the stanchness of which the life and limb of the rider must be constantly hazarded.

In the manufacture of the Dayton, the question of cost has at all times been subservient to the main object in view, that of reaching the highest degree of perfection in results.

The 1897 Dayton is confidently presented as the highest type of this perfection in bicycle construction.





## The Dayton Roadster.

### MODEL A—Specifications.

**Height of Frame**—24 inches.

**Steering Head**—8 inches.

**Finish**—Carmine or black enamel.

**Wheel Base**—43 inches.

**Cranks**—6½-in. regular (6 or 7-inch on special orders).

**Tread**—5 inches.

**Chain**—⅝-inch.

**Rims**—Natural wood or mahogany stained.

**Handle Bar**—Adjustable or option of rigid bars (see page 19).

**Gear**—63, 66½, 68, 70, 72, 73½, 76, 77, 84 or 88.

**Saddles**—Gilliam, Sager, Mesinger, Hunt, Brown or Christy.

**Seat Post**—T, forward Γ, or direct.

**Pedals**—Record, Brandenburg or Janney.

**Tires**—Option of Vim, Palmer, Morgan & Wright or Dunlop. Either 1½, 1⅝ or 1¾ inches.

**Weight**—24 to 25 pounds, according to fittings.

**Price**—\$100.00.

### MODEL B—Specifications.

**Height of Frame**—22 inches.

**Steering Head**—7 inches.

Other equipment same as Model A.

### MODEL E—Specifications.

**Height of Frame**—26 inches.

**Steering Head**—10 inches.

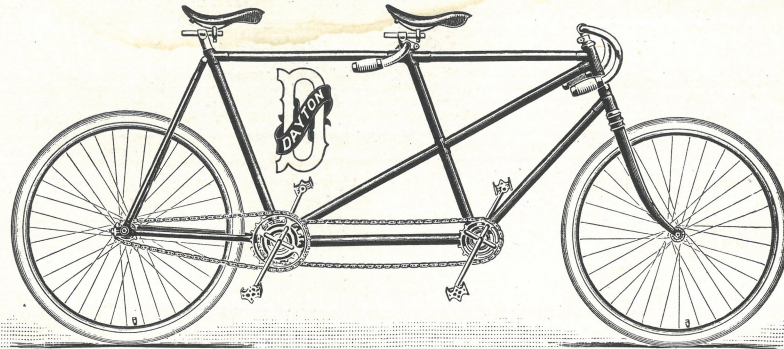
Other equipment same as Model A.

## The Dayton Diamond Frame Tandems.

### MODEL M—Single Steering.

### MODEL N—Double Steering.

#### Specifications.



**Frame**—Double-diamond. Height, 24 inches.

**Steering Head**—8 inches.

**Finish**—Carmine enamel.

**Wheel Base**—68 inches.

**Cranks**—6½-inch.

**Tread**—5 inches front, 5½ inches rear.

**Chains**—¼-inch.

**Rims**—Mahogany stained.

**Gear**—70, 76½, 84, 93 or 105.

**Handle Bars.**—Front, No. 3 or optional (see page 19); rear, raised or drop (2-inch raise or drop); width, 16 inches.

**Saddles**—Gilliam, Sager, Brown, Hunt or Mesinger.

**Seat Post**—T, or direct.

**Pedals**—Record, Brandenburg or Janney.

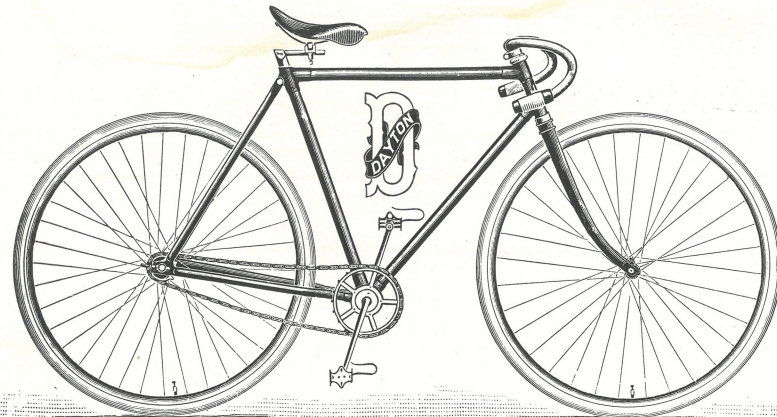
**Tires**—Vim, Palmer or Morgan & Wright tandem tires.

**Weight**—46 pounds and upwards, according to fittings.

**Price**—\$150.00.

Dayton Tandems stand in a class by themselves. The Dayton Model M is the original single steering tandem, and has never been approached for stiffness of frame, strength and satisfactory service. The design of frame for 1897 is entirely new, and its beautiful lines will attract instant admiration. The front chain adjustment, by means of an eccentric in the front crank bracket, is an important improvement. The crank construction is also new and original. The right crank, sprocket arms and crank shaft, are made from a single steel forging. The left crank is detachable, and its fastening is the same as described on single wheels, except that a nut is used on end of axle instead of the finishing screw. The sprocket is attached at four points upon threaded studs, which are of one piece with the crank forging, and is held in place by jam nuts. In response to the demand for large sprockets, all 1897 tandems (except the Model L) will be equipped with a 30-tooth front sprocket, change of gears being effected by means of rear sprockets ranging from 8 to 12 teeth.





GIES-CC.BFD.

## The Dayton Racer.

### MODEL H—Specifications.

**Height of Frame**—22 or 24 inches.

**Steering Head**—6 and 8 inches.

**Finish**—Carmine enamel.

**Wheel Base**—42 inches.

**Cranks**—6½-inch.

**Tread**—4¾ inches.

**Chain**—⅝-inch.

**Rims**—Mahogany stained.

**Handle Bar**—Option of racing bars (see page 19).

**Gear**—73½, 77, 80, 84 or 88.

**Saddle**—Brown.

**Seat Post**—Forward 7 or direct.

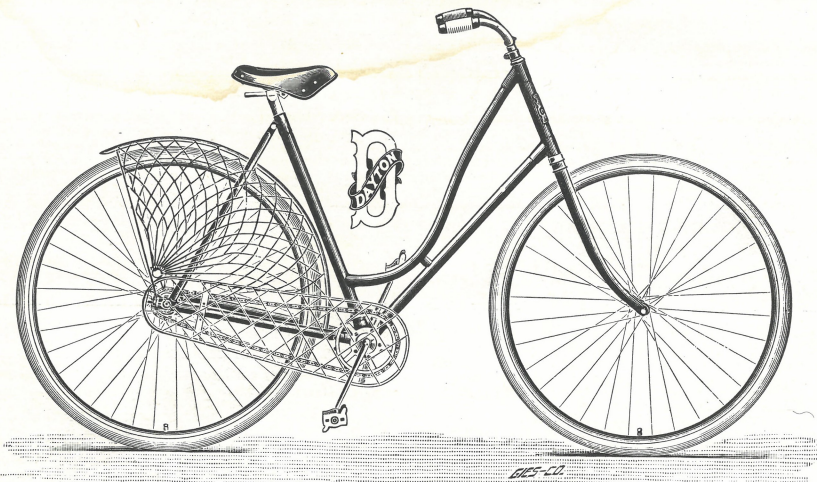
**Pedals**—Brandenburg or Janney.

**Tires**—Vim, Palmer or Morgan & Wright racing tires.

**Weight**—20 to 21 pounds (with lightest racing equipment).

**Price**—\$100.00.

The Model H for 1897 has been designed to meet the demands of racing men for the fastest possible track wheel, and is more exclusively than heretofore a wheel built solely for racing purposes. The crank hanger is dropped three inches below the wheel centers. The front fork is shorter and narrower at the crown, and the rear fork is also made narrower, so that no tire can be used larger than 1½ inches in diameter. For general riding and all-round use the regular Dayton road models, described on the preceding pages, are recommended, and will be found calculated to give the best service and most complete satisfaction. They are as light in weight as is consistent with perfect safety to the rider, and the difference in weight is due almost entirely to the heavier tires and rims, and all other equipments of a road wheel.



## The Ladies' Dayton.

### MODEL D—Specifications.

**Frame**—Curved drop. Height, 20 or 22 inches.

**Steering Head**—9 inches.

**Finish**—Carmine or black enamel.

**Wheel Base**—43 inches.

**Cranks**—6-inch.

**Tread**—5¼ inches.

**Chain**—⅜-inch.

**Rims**—Natural wood or mahogany stained.

**Handle Bar**—Adjustable, or optional (see page 19).

**Gear**—59½, 63 or 66½.

**Saddles**—Gilliam, Sager, Mesinger or Hunt.

**Seat Post**—T.

**Guards**—Natural wood or mahogany stained. Chain guard continuous, completely encircling the chain and rear sprocket. Lacing on mud guard easily detached for cleaning. Front mud guard supplied when especially ordered.

**Pedals**—Record, Brandenburg or Janney.

**Tires**—Option of Vim, Palmer, Morgan & Wright or Dunlop.

**Weight**—25 to 26 pounds, according to fittings.

**Price**—\$100.00.

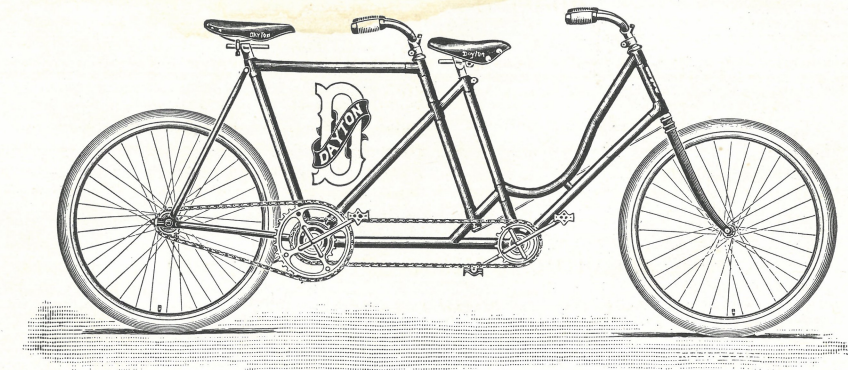
### MODEL C—Specifications.

**Frame**—Straight drop.

**Height**—20 or 22 inches.

Other specifications and equipment same as Model D.





## The Dayton Combination Tandem.

### MODEL O—Specifications.

**Frame**—Front curved drop. Height, 24 inches rear, 22 inches front.

**Steering Head**—9 inches.

**Finish**—Carmine enamel.

**Wheel Base**—68 inches.

**Cranks**—6½-inch.

**Tread**—5 inches front, 5½ inches rear.

**Chains**—¼-inch.

**Rims and Chain Guard**—Mahogany stained.

**Handle Bars**—Adjustable or optional (see page 19).

**Gear**—70 or 76½.

**Saddles**—Gilliam, Sager, Mesinger or Hunt.

**Pedals**—Record, Brandenburg or Janney.

**Tires**—Vim, Palmer or Morgan & Wright tandem tires.

**Weight**—50 pounds or upwards, according to fittings.

**Price**—\$150.00.

## The Dayton Double Drop Tandem.

### MODEL L.

The Dayton Model L is the first tandem for two ladies ever shown. While made only on special order, the call for this model during 1896, far exceeded the ability to supply it, and indicates a considerable demand for a tandem of this type. Special effort will be made during 1897 to give attention to such orders with reasonable promptness. This tandem will be made with frame 22 inches front and rear, and specifications are practically the same as Model O above. Because of the rear chain guard, the driving sprocket cannot be larger than twenty tooth. Price—\$175.00.

## The Dayton Frame.

THE construction of the entire main frame, including the steering head, of  $1\frac{1}{4}$ -inch tubing, without reduction or swaging at the joints, had its origin in the first models of the Dayton wheel, and has always been its distinguishing feature. The increased strength, rigidity and beauty obtained by this construction have been demonstrated so conclusively by practical experience, that its adoption on many other wheels, including not a few whose manufacturers were first to condemn and ridicule the innovation, has already taken place, until it can now almost be considered as the accepted standard. For the symmetry and mechanical correctness of its lines, the Dayton has been accorded the unqualified approval of all well-informed and unbiased critics. These approved designs have been practically retained in the 1897 models, while brought even nearer perfection by slight changes which few but the expert will detect.

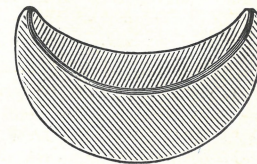
The diameter of tubing in the rear fork is  $\frac{7}{8}$  inch, and in the rear uprights  $\frac{3}{4}$  inch. Only the highest quality of seamless steel tubing is used, and all points in the frame requiring extra strength are adequately reinforced, this reinforcing being made perfect by a special method, by which is banished all possibility of acquired weakness from crystallization of the steel.

Malleable iron or stampings have never been used in a Dayton frame, and will not be so long as steel drop forgings are better. All joints of the frame, the crank hanger bracket, and even the rear fork ends, are forged of steel, and machined and drilled with the utmost accuracy. In the brazing of the joints the highest degree of perfection is obtained by employing the most modern processes and expert skill. For strength and durability the Dayton frame has never been equalled.

## The Front Fork and the Wheels.

FURTHER improvement in the Dayton fork has been found possible only in minute details of construction. Its grace and beauty have been universally admired, its strength fully demonstrated. The double fork crown is composed of two plates of finest steel, separated  $\frac{5}{8}$  inch by a ferrule turned from solid bar steel and brazed upon the steering tube. This ferrule or separator provides an arched external reinforcement for the crown plates, being  $1\frac{3}{8}$  inches in diameter at top and bottom, and reduced at the middle to a diameter of 1 inch. The convex ovals which surmount the crown are of one piece with upper crown plate, and provide sockets in which the ends of the fork sides are securely brazed. This method affords the strongest fork crown construction obtainable. The fork sides are of 1-inch seamless steel tubing, gracefully curved and tapered, and of a special design. The tubing of fork sides is of tapered gauge, having extreme thickness at the crown, where greatest strength is demanded, and decreasing gradually as the diameter of the tube diminishes. The strength of the fork stem or steering tube has been materially increased.

All Dayton riders will testify that its wheels were perfect in 1896. Broken spokes, split or imperfect rims, were unheard of. Stronger they cannot be made. The wheels for 1897 have barrel hubs of practically the same design, and turned from solid bar steel. The same needle steel spokes are used, and the Dayton reinforced and laminated wood rim, which has amply proven its superiority to any wood rim made. All wheels are 28 inches in diameter and have 32 spokes in front and 36 in rear wheels.



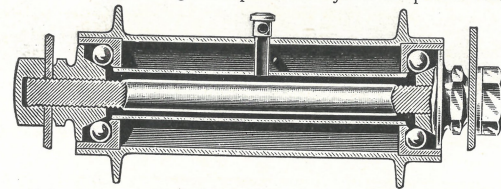


## The Dayton Bearings.

**N**O BICYCLE, however graceful its lines and superb its finish, will give any lasting satisfaction to the rider unless the ball bearings are easy running and durable. To obtain the maximum propelling power from the minimum expenditure of energy, these bearings must be not only scientifically correct in form and construction, but of the finest material, accurately manufactured and skillfully treated. Years of scientific research and exhaustive experiments, by leading technicians and practical mechanical experts, have resulted in the general acceptance of the fact that the only practical and perfect bearing for a bicycle is that providing three points of contact for the balls. This bearing, when correctly designed and properly made, produces the minimum amount of friction and eliminates the wedging of the balls encountered in all two-point bearings. The bearings in the Dayton for 1897 are absolutely "three-point," both theoretically and practically. It has been conclusively demonstrated that the use in a three-point bearing of a cone having a *curved bearing surface*, is the attempted application of an impractical theory, and in reality operates to destroy the most important advantages contained in that form of bearing. It can be readily seen that any variation in the size of a concave cone, however slight, changes the angle of the bearing, alters the intended distribution of the load, and must result in increased friction and destructive wear. The cones used in the 1897 Dayton having a *straight bearing surface* at the proper angle, determined by indisputable tests, the load is perfectly distributed so that each of the three points of the bearing sustains its proper share, and no wedging effect is possible. On this cone the point of contact with the ball will always be at the same place, and at the correct angle, independent of any slight variation in the size of the cone.

With a bearing scientifically perfect in construction, the element of durability, equally important with easy running, becomes simply a question of quality of material, skillful workmanship and careful inspection.

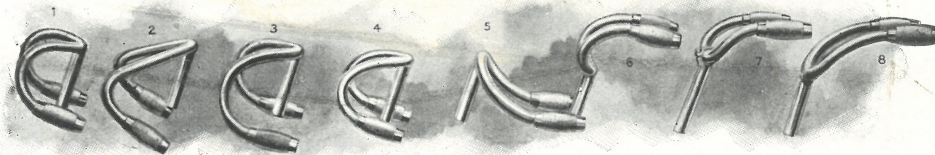
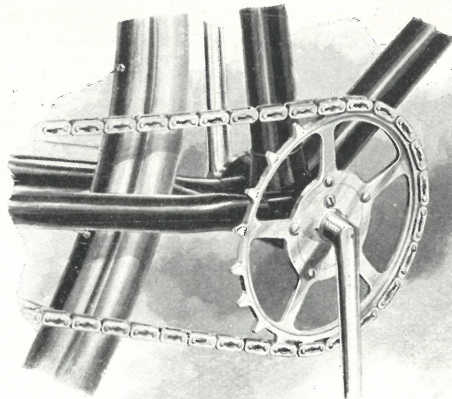
All cups and cones in the 1897 Dayton are made from the *best tool steel*; not from soft, easy-to-work bessemer, nor any of the so-called "special" steels, but such tool steel as is used for the finest machine tools. These cones and cups are carefully hardened and drawn to the proper temper, after which they are ground perfectly true on special machines of our own construction and polished to a glazed surface. At each stage a rigid inspection rejects all pieces showing the slightest imperfection.



Three-eighths inch balls are used in crank hanger bearings,  $\frac{1}{4}$ -inch in the rear hub and  $\frac{3}{8}$ -inch in front hub, each bearing having eleven balls on each side. The number of balls used in the hubs admits the use of larger and stronger front and rear axles, and at the same time provides a sufficient *thickness of metal between the ball track on the cone, and the axle hole in the cone*, so that the cone can be made very hard, and yet be positively proof against *breaking or crumbling on the bearing line*. The large ( $\frac{3}{8}$ -inch) balls used in the crank axle bearings add greatly to the easy running qualities, and render that most important bearing proof against the severe strains to which it is subjected. These ball bearings have been adopted only after the most exhaustive experiments and practical tests. Models of these wheels have been in actual use for months, and after covering many thousand miles have not developed the slightest indication of wear. In comparative trials of light running, by coasting, and every manner of practical test that could be devised, the 1897 Dayton has invariably proven its superiority.

## The Dayton Crank Hanger.

**A**MONG the most important improvements in the 1897 Dayton are those contained in the driving mechanism. The right crank, crank shaft and sprocket flange are forged in one piece from the best spring steel. The shafts, cone seats and sprocket flange being turned and machined on the same centers, are absolutely true with each other. The left crank is attached by a tapered fit on the shaft, being kept in line by a straight key which is held by a screw flush with outside of crank. This device has given complete satisfaction on the 1896 Dayton, and is perfected by a nut back of the crank which operates both as a lock nut for adjusting cone and a draw nut for removing the crank. The sprocket flange is recessed to fit closely over a flange on ball cup, making the bearing dust-proof. A valuable feature is the provision for oiling, cleaning and flushing the bearings without disturbing the adjustment or removing any of the parts. The driving sprocket is secured to its flange on the crank shaft by five screws with jam nuts. Both sprockets are reversible in case of wear on the teeth. On all single wheels  $\frac{1}{8}$ -inch chains are used.



## Handle Bars and Brakes.

The adjustable handle bar furnished with the Dayton for 1897 is much improved, being lighter in weight, neater in design and more readily adjusted. With it an unlimited variety of positions of either a drop or raised bar can be obtained, and it is strong, rigid and safe. For those preferring a fixed bar, selection is afforded from seven different styles illustrated herewith and described in detail below.

- No. 1. Narrow Racing Bar**—14 in. wide; 4-inch drop.
- No. 2. V-Shaped Racing Bar**—16 inches wide; 7-inch drop.
- No. 3. Wide Racing Bar**—16 inches wide; 6-inch drop.
- No. 4. Ram's Horn Drop Bar.** 16 inches wide; 5-inch drop.

- No. 5. Plain Drop Bar**—16 inches wide; 4-inch drop.
- No. 6. Ram's Horn Raised Bar.** 18 inches wide; 5-inch raise.
- No. 7. Adjustable Bar**—16 or 18 inches wide.
- No. 8. Plain Raised Bar**—16 inches wide.

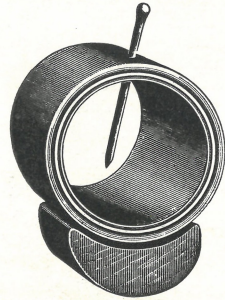
A hand brake, light but reliable and of neat appearance, will be supplied when specified in order. This brake can be fitted only to handle bars Nos. 5, 7 and 8.



## Tires.

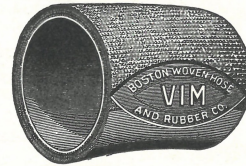
ALL RIDERS cannot be suited with a single make nor the same type of tire. Varying demands for double tube or hose pipe, cemented or detachable tires arise from diverse local conditions, and individual preferences and prejudices. Dayton riders during 1897 will

have ample opportunity to consult their special requirements and tastes in the four different makes offered for their selection.



MORGAN & WRIGHT.

The Vim single tube tire has the pebble tread, preventing side slipping, and is a strong, fast tire which is not easily punctured, but can be readily and cleanly mended with "Vimoid," which accompanies each pair of tires. The Palmer tire, also a single tube, is too well known to require description. The Morgan and Wright quick-repair inner tube is undoubtedly the best and most popular tire of its class. The American Dunlop detachable tire is offered for riders demanding an uncemented tire. This tire is held on the rim by inflation, making the inner tube readily accessible for repairs.



VIM.

## Tire Manufacturers' 1897 Guaranty.

WE AGREE with the purchaser of each tire to make good by repair or replacement, when delivered to us, transportation prepaid, any imperfection or defect in material or manufacture of such tire, not caused by misuse or neglect, provided such tire is accompanied by a signed statement of the owner, giving the date on which the tire was purchased by him, together with the name and the number of the wheel on which it was used, and that all imperfect or defective tires shall be referred to us before any claim for repairs or replacement shall be allowed. We agree to repair free of charge any tire that can be repaired, providing such tire is delivered to us transportation prepaid.

This guaranty continues for six months from the date of sale by the agent, but expires in any event on May 1, 1898.

This agreement does not apply to tires into which any so-called anti-leak preparation has been introduced.

Defective or damaged tires must always be sent direct to the manufacturers, and not to the makers of the wheel. The addresses of the different tire manufacturers, together with their repair departments throughout the country, are given below:

### **Boston Woven Hose & Rubber Co.**

275 Devonshire St., BOSTON, MASS.  
63 Reade St., NEW YORK CITY.  
102 Superior St., CLEVELAND, O.  
205 Lake St. CHICAGO, ILL.  
709 North 4th St., ST. LOUIS, MO.  
1730 Arapahoe St., DENVER, COL.

14 Fremont St.,  
SAN FRANCISCO, CAL.  
Powner & Co., NEW ORLEANS.  
19 and 20 Holborn Viaduct,  
LONDON, E. C.

### **Morgan & Wright.**

331 Lake St., CHICAGO, ILL.

### **Palmer Pneumatic Tire Co.**

133 South Clinton St., CHICAGO, ILL.  
65 Reade St., NEW YORK.

### **American Dunlop Tire Co.**

506 West 14th St., NEW YORK.  
134 Lake St., CHICAGO, ILL.

## Pedals.

THREE leading and popular makes of pedals have been selected for use on Dayton wheels for 1897. The illustration of the Record pedal on this page shows its new adjustable feature which fits and holds the foot firmly in position. This style of pedal is intended by the manufacturers for both men's and ladies' wheels, but a ladies' rubber pedal of this make can also be supplied. The Brandenburg pedals are furnished in different styles, men's convertible saw tooth or rubber, rat-trap racing and ladies' convertible rubber. The Janney pedal is made in either rat-trap or rubber form for men's use and rubber for ladies' wheels.

In cases where repairs or replacements of pedal parts are necessary, dealers or riders will avoid delays by ordering direct from the pedal manufacturers, whose addresses are given below.

**G. G. BRANDENBURG,**

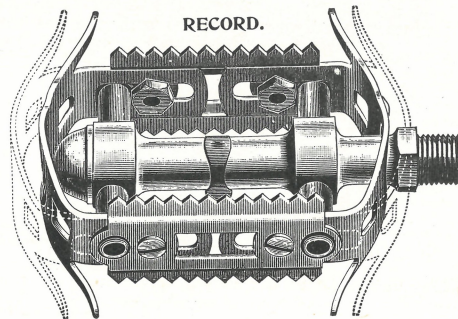
*Otsego Street, ROCHESTER, N. Y.*

**RECORD PEDAL MFG. COMPANY,**

*239 Columbus Avenue, BOSTON, MASS.*

**CYCLE IMPROVEMENT COMPANY,**

*WESTBORO, MASS.*



## Gears.

The following tables contain a complete list of gears which can be furnished on Dayton single wheels and tandems for 1897. The use of combinations containing the 8-tooth rear sprocket on single wheels is strongly recommended, and these should be adopted in every case where the gear desired by the rider can be so obtained.

**TABLE OF GEARS FOR 28-INCH WHEELS.**

**TANDEM GEARS.**

| Rear Sprocket | Driving Sprocket | Gear in Inches | Rear Sprocket | Driving Sprocket | Gear in Inches | Rear Sprocket | Driving Sprocket | Gear in Inches | Rear Sprocket | Driving Sprocket | Gear in Inches |
|---------------|------------------|----------------|---------------|------------------|----------------|---------------|------------------|----------------|---------------|------------------|----------------|
| 7             | 17               | 68             | 8             | 17               | 59½            | 12            | 30               | 70             | 9             | 30               | 93             |
| 7             | 18               | 72             | 8             | 18               | 63             | 11            | 30               | 76½            | 8             | 30               | 105            |
| 7             | 19               | 76             | 8             | 19               | 66½            | 10            | 30               | 84             | 7             | 30               | 120            |
| 7             | 20               | 80             | 8             | 20               | 70             |               |                  |                |               |                  |                |
| 7             | 21               | 84             | 8             | 21               | 73½            |               |                  |                |               |                  |                |
| 7             | 22               | 88             | 8             | 22               | 77             |               |                  |                |               |                  |                |
| 7             | 23               | 92             | 8             | 23               | 80½            |               |                  |                |               |                  |                |
| 7             | 24               | 96             | 8             | 24               | 84             |               |                  |                |               |                  |                |

## THE LEAGUE OF AMERICAN WHEELMEN

**Stands for Wheelmen's Rights and Highway Improvement.**

Bicycle riders secure many advantages by a membership in this great organization. The cost to join is \$2.00. The annual dues after first year, \$1.00. All interested in cycling are necessarily interested in the success of the L. A. W. Full information from the Secretary, ABBOT BASSETT, 12 Pearl Street, BOSTON, MASS.



## General Directions.

*Orders for Parts.*—Cash must accompany all orders for parts or sundries unless from a regular dealer having an account with us. Remittance with order will insure prompt attention, and possibly avoid holding order until money is received. Always explain clearly just what is wanted and give number of wheel on seat post forging, to prevent mistakes. If goods are ordered by mail include a sufficient amount to cover postage. We are not responsible for loss of parts sent by mail.

*Cranks*—All cranks used on 1897 Dayton's are numbered on inside of pedal eye. This number must always be given when ordering a new crank, to insure receiving a duplicate part.

*Shipments for Repairs.*—When returning wheels or parts for repairs, transportation charges must be prepaid. This is imperative and must not be overlooked. Goods must be tagged or marked plainly with your full name and address, for identification. Always send a letter by mail at the same time, stating what you have sent, how shipped, and explaining fully what you want done. When these instructions are followed, we can promise prompt attention; otherwise, delays are unavoidable.

*Discounts.*—We make no discounts on bicycles except to regularly appointed agents with whom we have contracts. Our responsibility for goods ends when shipments have been delivered to transportation companies in good order and carefully packed.