

THE "DAYTON"

· 1896 ·



Manufactured by
The DAVIS SEWING MACHINE CO.
DAYTON, OHIO. U.S.A.

CHAS. G. CURRAN. 98.

Was the Surprise of '95
❧ The Dayton ❧
Will be the Wonder of '96



Dayton Bicycles

Manufactured By

The Davis Sewing Machine Co.,
Dayton, Ohio, U. S. A.



❧ Branches: ❧

New York City,
76 Reade Street.

Boston, Mass.,
159 Tremont Street.



Chicago, Ill.,
338-340 Wabash Avenue.

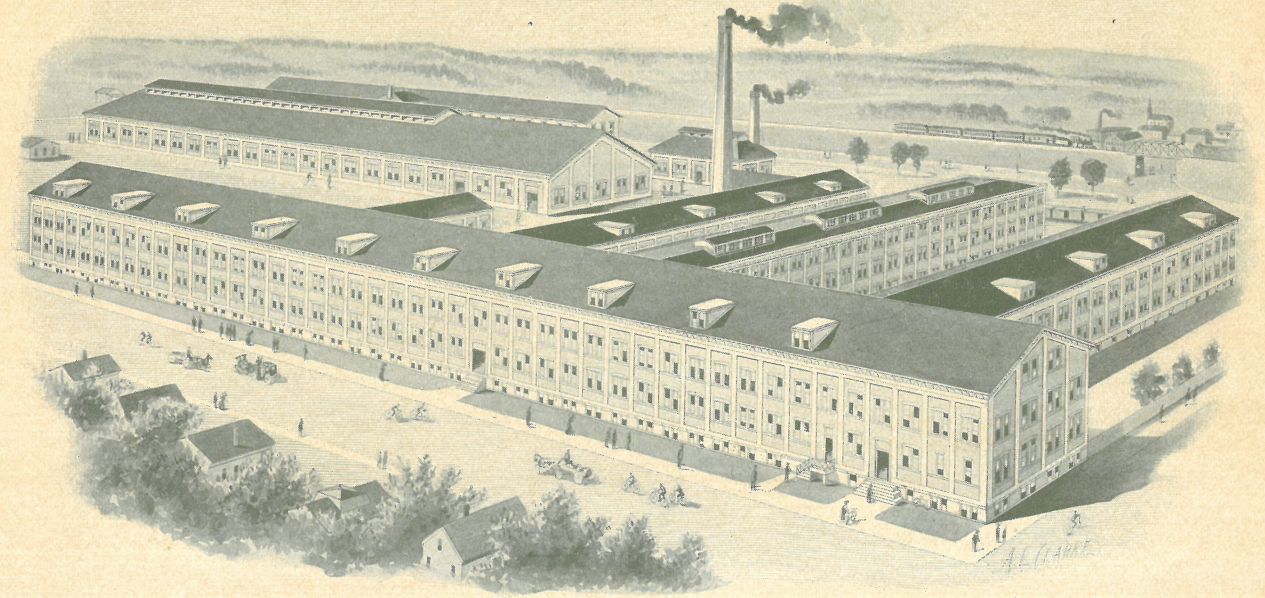
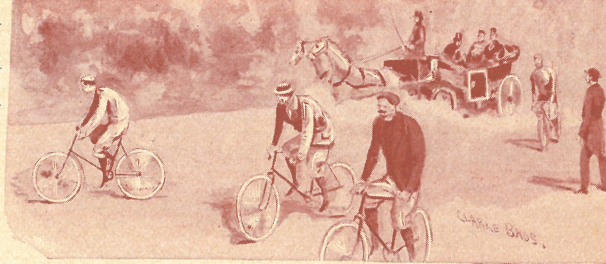
London, England,
24 Aldersgate Street.

INTRODUCTORY.



WHEN THE DAYTON BICYCLE was presented to public favor by its manufacturers, in the early part of the season of 1895, it was not offered as the product of a new and untried establishment, but as the result of a careful and comprehensive study of the requirements and most approved methods of bicycle construction by those having more than twenty-five years' experience in the manufacture of machinery of the highest grade and demanding the greatest attainment of modern mechanical skill.

All, who were in any degree familiar with the record of the Davis Sewing Machine Company, knew that its productions were acknowledged to occupy the highest position in excellence of material and in careful attention to detail shown in workmanship. There has been good cause for congratulation to this company that the public has been so ready to accept, without hesitation, the assurances given that such care and skill would be employed in the construction of the Dayton wheel as to insure it a foremost position among the best and most popular makes. That these assurances have been amply fulfilled will be attested by all who have come in contact with the Dayton during 1895; and the imitation of its leading feature, that will be apparent in the 1896 models of the most prominent high grade wheels, is acceptable evidence that the intention of the Dayton to be a leader in the trade is already appreciated. It should be remembered also that the work of design and construction has been supervised by expert skill and a thorough knowledge of the art and mechanical requisites of a perfect modern bicycle.



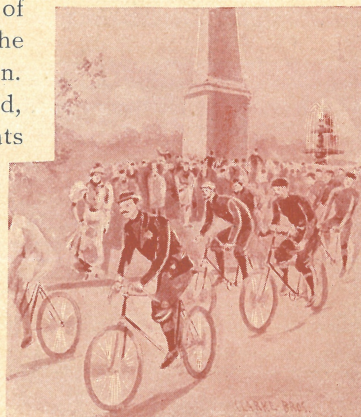
FACTORY AT DAYTON, OHIO, WHERE THE DAYTON BICYCLE IS BUILT.

THE DAYTON AND ITS CONSTRUCTION



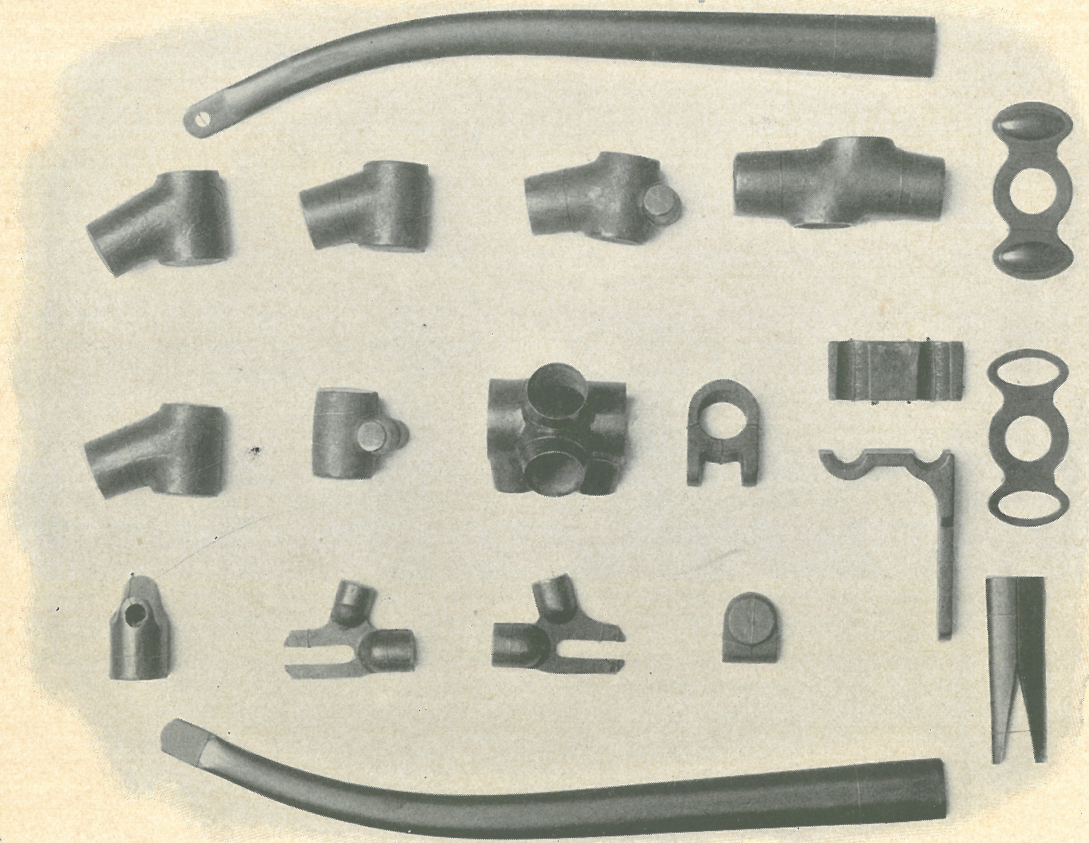
In the present era of enlightened knowledge, among intelligent wheelmen and women, of the vast differences in quality of material, careful attention to all processes of manufacture, painstaking accuracy in every detail of production and inspection, and the unsparing effort for absolute perfection of finish, which distinguish a bicycle as strictly entitled to the designation of "highest grade," a mere description of material and methods and the mechanical principles employed in the construction of the Dayton will be the most convincing argument in proof of its claim to represent the most modern ideas and the highest value of any bicycle yet offered. The Dayton of 1895 has been recognized by the trade and discriminating riders as the bicycle of the future—one in which the trend of popular opinion and demand has been cleverly anticipated and the lessons of the past skillfully applied. Because of this advanced position radical changes in design or general construction have been unnecessary, but many new ideas and valuable improvements in details have greatly enhanced its perfection and placed the Dayton for 1896 as far in advance of all other wheels as in its first season.

The Frame The graceful lines and beautiful design of the Dayton, combining extreme strength with perfect symmetry, have been universally commented on and most highly praised. Any attempt at improvement in this particular has been deemed futile. The strength and rigidity of this frame has never been equaled in any light weight wheel. The best seamless steel tubing obtainable is selected for its construction. The diameter of tubing used for the entire main frame, including head, is $1\frac{1}{4}$ inches. The lower rear fork is of $\frac{7}{8}$ inch, and the uprights of $\frac{3}{4}$ inch tubing, reinforced and braced to provide requisite strength. The crank-hanger bracket and all frame connections, even including the rear fork ends, formed by stamping in many bicycles claimed to be high grade, are made from drop steel forgings of the highest quality, all carefully and accurately machined and finished. The tubing enters the forgings at all joints without



THE DAYTON AT THE NATIONAL SOLDIERS' HOME, DAYTON, OHIO.

reduction or swaging and the joints are so perfectly finished as to be almost indistinguishable, adding greatly to the beauty of outline and appearance. The internal reinforcing of the frame, at all points necessary, is made perfect by an entirely new method by which the pos-



sibility of acquired weakness from crystallization of the steel is completely removed. Especial pride is felt in the degree of perfection attained in the brazing of frame and forks and all parts of the wheel which are united by this process, demanding the highest quality of skill.



THE DAYTON AT NANTASKET BEACH.

The graceful and unique design of its front fork has been one of the most admired features of the Dayton. Its general form being retained, valuable improvements have been added for 1896, giving greater beauty and increased strength. The double fork crown is

The Front Fork.

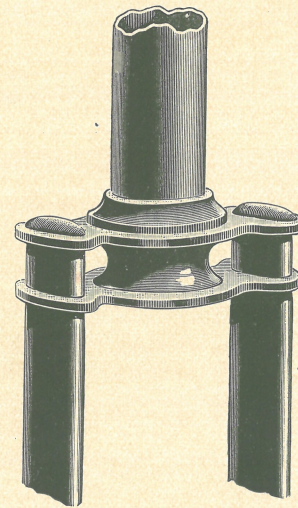
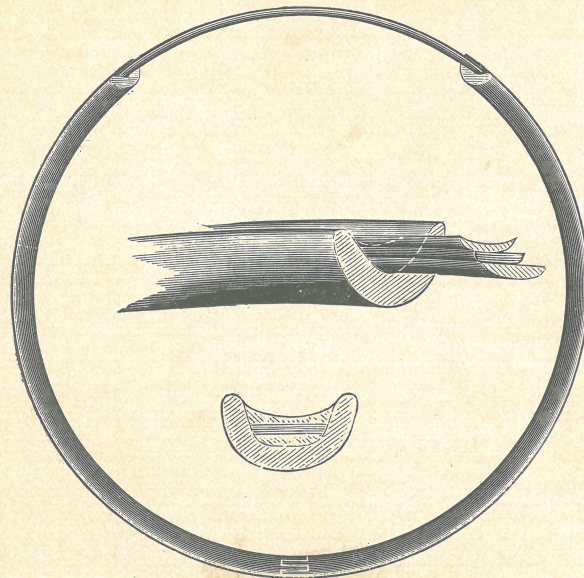
constructed of two plates of highest grade steel, separated $\frac{5}{8}$ of an inch by a ferrule turned from a solid steel bar, $1\frac{3}{8}$ inch in diameter at top and bottom and reduced in the middle to a true circle one inch in diameter, providing an arched external reinforcement to the crown plates and furnishing the maximum of strength. The top crown plate and its raised caps are of one solid piece, forming sockets for the ends of the fork sides and removing all possible weakness at this important point. The fork sides are of one inch seamless steel tubing, thoroughly reinforced and of original design.

The wheels of the Dayton of 1896 will be entirely adequate for the most extreme demand and can be relied on for the best possible

The Wheels.

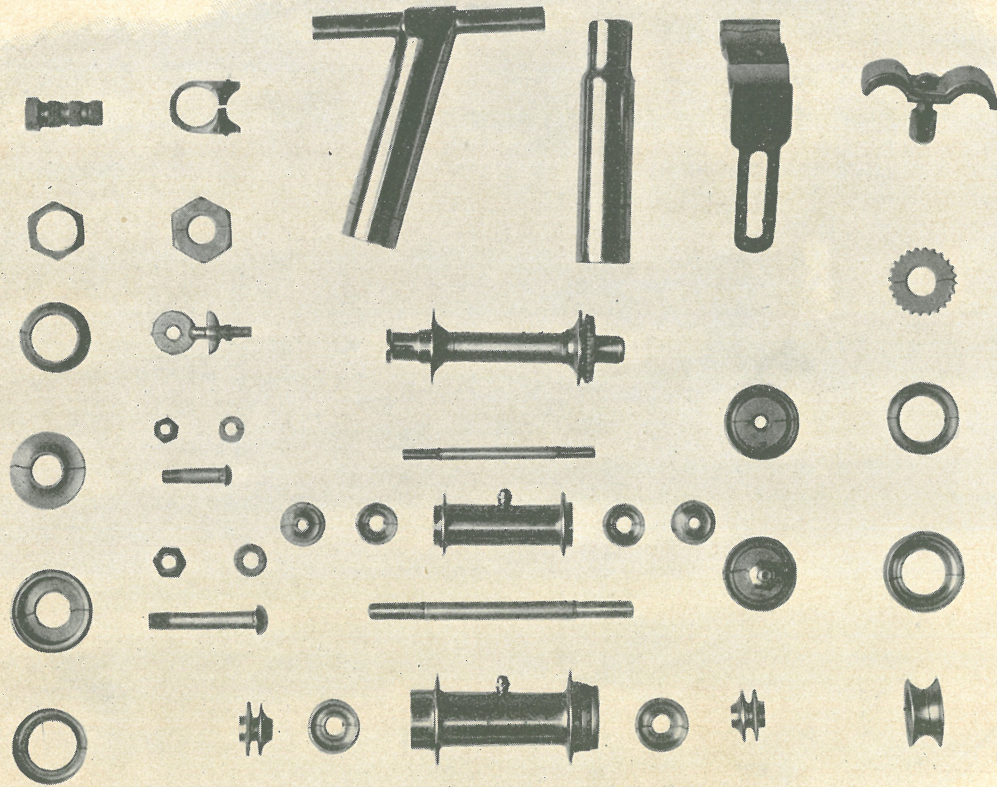
service. The liability of broken spokes has been reduced to the remotest possibility, and all danger or annoyance from defective rims is absolutely removed. The spokes used are of needle steel, cold drawn and swaged, and of that perfect quality furnishing necessary resistance to the most severe strain without that degree of hardness which would render them brittle; 32 spokes are used in front and 36 in rear wheel.

The wood rims used on the Dayton are of carefully selected second growth stock and are built on an entirely new principle, making warping, splitting or pulling apart at the joint simply impossible. As shown in the illustration, the outer section or rim proper is connected by a perfect fitting finger or "dovetail" joint and is strengthened by a triplicate reinforcement which passes entirely around the outer section and has a lapped joint opposite the main joint of the rim. Of the three layers of wood forming the reinforcement the grain of the middle strip is transverse. Special mention may be made of



THE DAYTON ON FIFTH AVENUE, NEW YORK CITY.

the finish of these rims which, in appearance and durability, is far superior to that of any wood rim ever before used on a bicycle. These rims are finished in natural wood or they are handsomely stained. On all models 28 inch wheels are used and the wheel base is 42 inches.



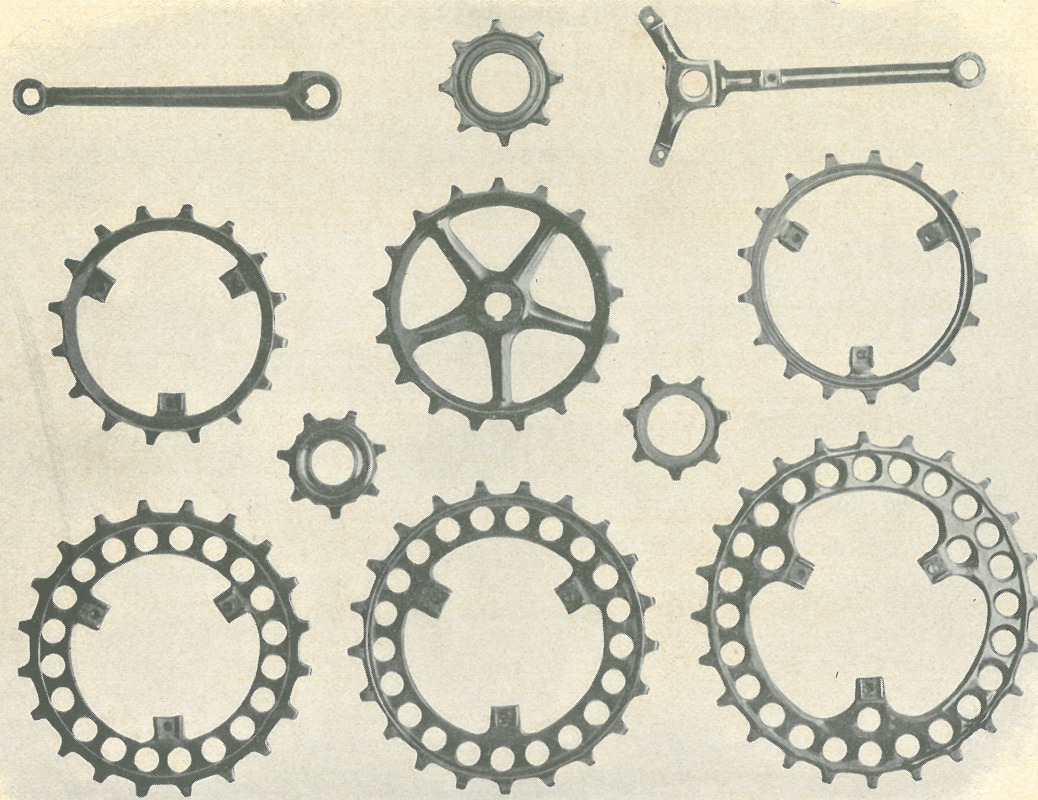
Parts Small but Important.

The vital importance of perfection in small details is scarcely appreciated by the majority of riders nor is it given due prominence in the manufacture of many wheels claiming a high standard of excellence. All cones, ball cups,

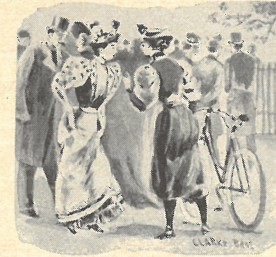


THE DAYTON IN LINCOLN PARK, CHICAGO.

ball races, and parts of bearings in the Dayton are turned by special automatic machinery from a solid bar of steel of the best quality obtainable, and carefully hardened by the most approved and most thoroughly tested modern methods. The balls used in the Dayton are



of the best standard make and of perfect spherical shape, size and quality. The size of the balls in steering head and front hub is $\frac{3}{16}$, in rear hub $\frac{1}{4}$ and in crank axle bearings $\frac{1}{8}$ inch, conforming to the accepted ideas of leading experts based on practical experience and



scientific research. All bearings are of the most approved construction providing three points of contact to the balls and reducing thereby all friction to the minimum.

It is common to claim for all bicycles the distinction of being lightest running, but that the Dayton is justly entitled to that honor will not be disputed by any rider who has put it to a practical test.

In the Dayton chain are combined the utmost strength and longest wear, each chain being subjected to the most rigid inspection and thorough tests. On all road wheels $\frac{1}{4}$ inch chains are used; while on the track racers only, a $\frac{3}{16}$ inch chain is used. The rear axle and chain adjustment is direct, simple and secure. The handle bar clamp is of the finest steel, spring tempered and can not be drawn out of its proper shape. The saddle post, $1\frac{1}{8}$ inches in diameter and of original design, is highly ornamental in appearance and extremely rigid. The horizontal tube of the T saddle post is specially reinforced. Spring ball oil cups are used on each side of the crank bracket and on both front and rear hubs. An ornamental mounting step is furnished when desired which can be attached to the rear axle as a substitute for the nut.

Finish.

Dayton road wheels are furnished regularly enameled in black or maroon and racing wheels in carmine. With the most perfect facilities for enameling and long experience in this work it has been possible to obtain a degree of lustre and a lasting finish of the highest order. All bright parts are copper plated and buffed before nickle plating and in the nickeling the superior results, produced by years of study and an unsurpassed equipment, are particularly noticeable. No chemicals or acids are employed in any part of the cleaning or construction.

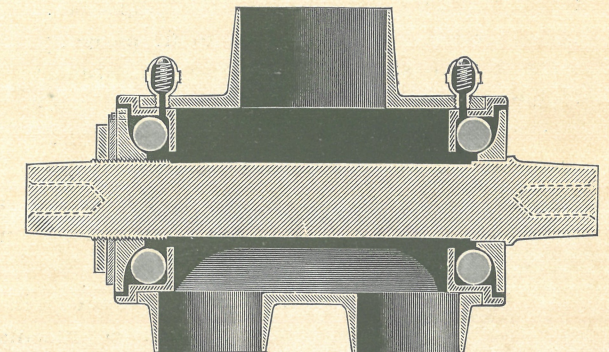
Weights.

The weight of the Dayton for 1896 has been increased only by the additional weights of tires. Usefulness and satisfactory service having been duly considered in its designing and construction, no strength had been sacrificed at important points in the effort to obtain extreme light weights and no errors have called for correction.

The ingenious construction of the driving mechanism of the Dayton is clearly shown in detail in

The Crank Hanger.

the sectional view, and the method of providing adjustment is simple and original.



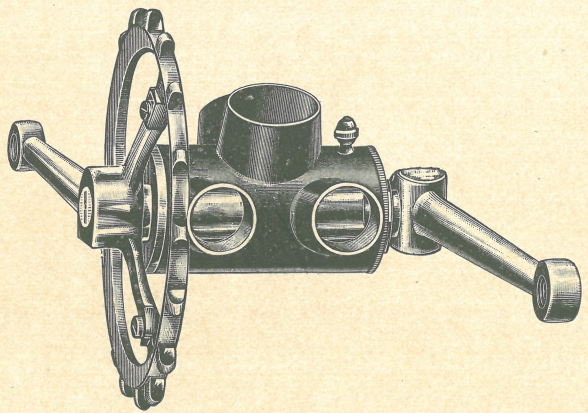


A ball cup is pressed into each end of the bracket and the crank axle is fitted with two cones, the cone on the sprocket side being stationary on the shaft, and the one opposite adjustable. The adjusting cone is locked by means of a pin fixed in the cone, and a notched washer and a jam nut. The hole in the washer fits two flattened sides milled on the axle preventing the washer from turning when in position. The fixed pin in the cone

engages in the notches in the edge of washer and the jam nut holds the washer securely in place. The pin in the cone and the graduated notches in the washer serve as a guide to provide absolute certainty in regulating the adjustment of the bearings when required. The width of tread is $5\frac{1}{4}$ inches, which is obtained without reducing the distance between the bearings in either crank hanger or hub, thereby retaining the strength of wider treads and in proper correspondence with a perfectly proportioned saddle contributing greatest comfort and ease. It will be noticed that the oil cups are so placed that the oil is applied direct to the bearings.

The cranks are attached to the axle by a tapered fit and are kept in line by a straight key which is parallel to the axle and has its seat in the axle and crank, divided equally. A finished screw, flush with the outer surface of the crank, holds the key in place, and completes a device which displaces the objectionable cotter pin and absolutely prevents any loosening of cranks in back pedaling.

The cranks of the Dayton have $6\frac{1}{2}$ inch throw and are made from steel drop forgings. The sprocket crank has two arms, which, together with a lug on the crank arm, form the supporting points for the driving sprocket. The arms and lug are milled to fit perfectly into milled seats in the sprocket wheels which are strictly interchangeable. The driving sprocket is attached to the crank with three screws having lock nuts. This construction brings no strain upon the screws and gives the crank and sprocket the strength of one solid piece. Any size of sprocket from 15 tooth to 25 tooth can be used, allowing the widest range of gear.



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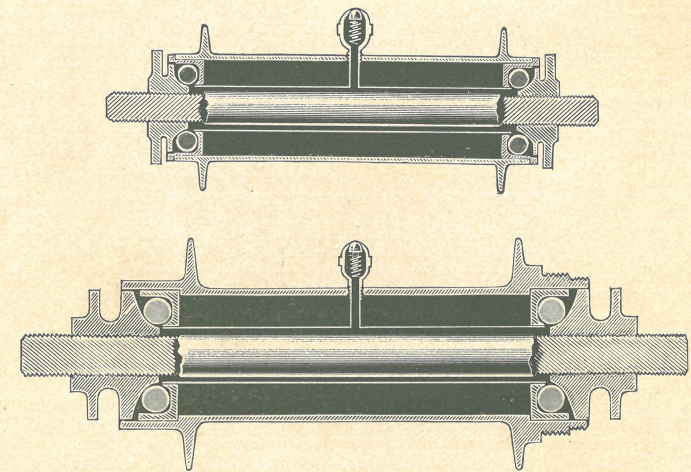
Brakes.

A convenient and reliable hand brake will be supplied with ladies' wheels when so specified in the order.

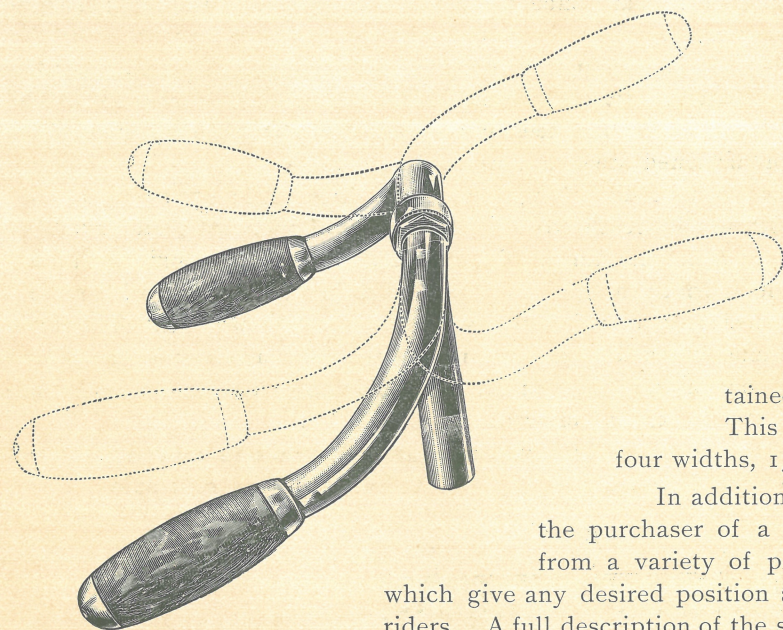
The accompanying cuts will give a clear conception of the form and internal construction of the hubs of the 1896 Dayton, showing, in detail, the position and accuracy of the bearings and the simple methods by which the most desirable results

The Hubs and Their Bearings.

have been attained. Both front and rear hubs are of barrel form and are turned from solid bar steel by special automatic machinery. The ball cups of hardened steel are pressed into the hubs and a ball retainer permits the removal of the cones without disturbing the balls. The oil is conveyed into an inner oil tube by which it is distributed directly to the bearings, without waste, and avoiding any accumulation of dust and gum within the hubs. The rear axle has two flat surfaces milled on each end and is, therefore, held firmly in the rear forks, allowing the cones to be readily adjusted without the annoying necessity of using two wrenches for the purpose. The same result is obtained on the front axle which has one end milled with flat sides and an opening of the same shape, provided in one of the front fork sides, holds the axle stationary for adjustment of the cones. The rear sprocket is screwed on the hub with a right-hand thread and is held in place by a left-hand threaded lock nut, making it easy to be removed and absolutely secure. The diameter of the front axle is $\frac{1}{4}$ inch and that of the rear axle $\frac{1}{8}$ inch.



The perfection of the bearings on which the wheels rotate is a most important factor in securing the light and easy running qualities which have brought the Dayton universal admiration and praise. This construction provides a close and accurate adjustment and allows the balls no possible chance for play or friction.



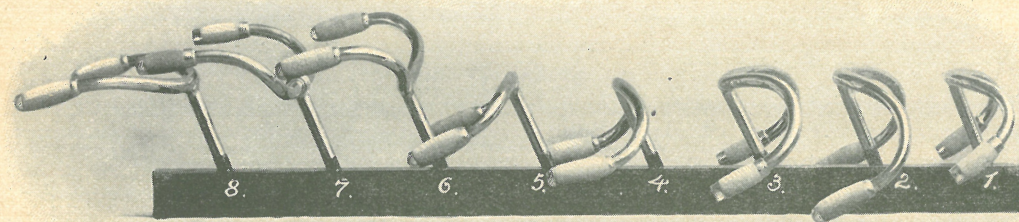
The Adjustable Handle Bar.



The Dayton is furnished with a perfect adjustable handle bar which has given universal satisfaction, and will be found further perfected in 1896. It is not only adjustable to a drop or raised bar, but the variety of positions that may be obtained is practically unlimited.

This handle bar is furnished in four widths, 15, 16, 17 and 18 inches.

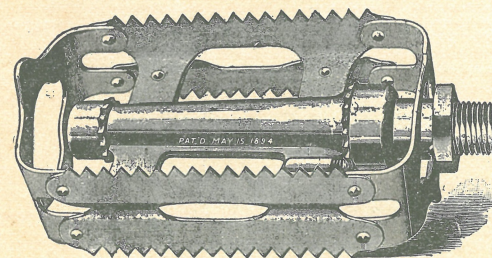
In addition to the adjustable handle bar, the purchaser of a Dayton is allowed selection from a variety of popular styles as shown below, which give any desired position and will suit the tastes of all riders. A full description of the styles illustrated is given below.



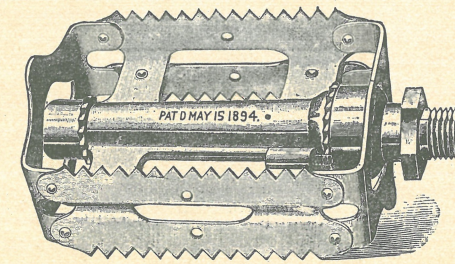
1. Racing Handle Bar, width 16 inches.
2. Racing Handle Bar, 6 inch drop, width 16 inches.
3. Forward Racing Handle Bar, width 16 inches.
4. Rams Horn Drop Handle Bar.
5. Square Drop Handle Bar.
6. Rams Horn Raised Handle Bar.
7. Adjustable Handle Bar (showing highest position).
8. Plain Raised Handle Bar.

PEDALS

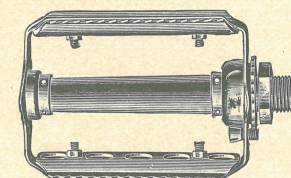
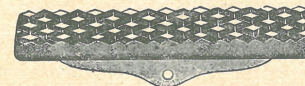
The Dayton for 1896 will be fitted with either the Grothe or Brandenburg pedals. The different styles of these two leading and popular makes are here illustrated, and the varying types admit of a selection to suit all tastes.



GROTHE.

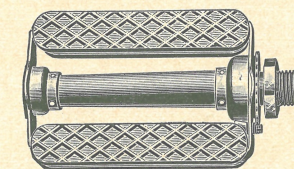


GROTHE



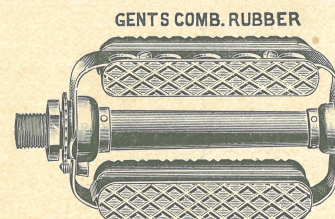
LADIES MOUSE-TRAP.

BRANDENBURG.



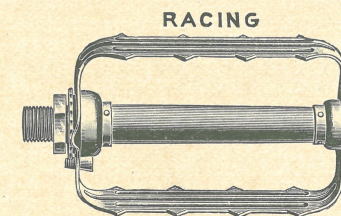
LADIES RUBBER

BRANDENBURG.



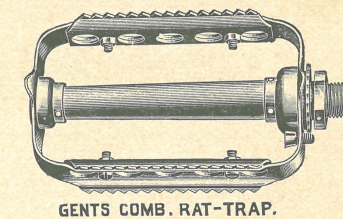
GENTS COMB. RUBBER

BRANDENBURG.



RACING

BRANDENBURG.



GENTS COMB. RAT-TRAP.

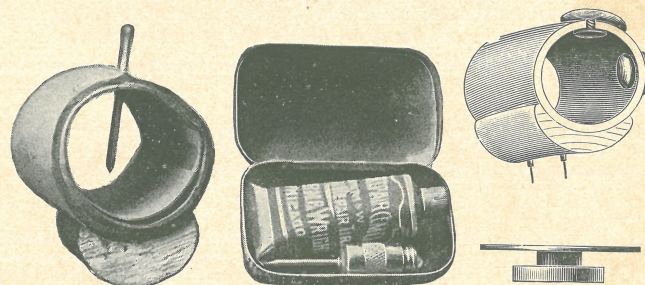
BRANDENBURG.

Saddles. Dayton saddles with T or direct seat-post, either Sager or Garford styles, as desired.



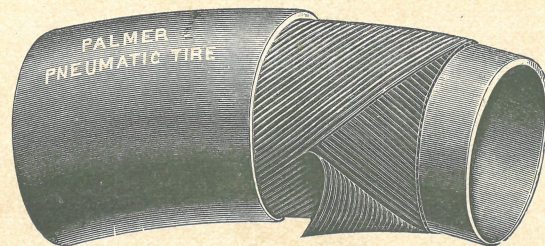
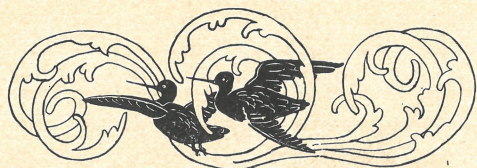
TIRES.

After the most thorough tests and the most careful study of results, the selection of tires to be supplied on the Dayton for 1896 has been made to include the popular and serviceable Morgan & Wright Quick Repair inner tube tire and the three most satisfactory single tube tires, namely: Vim, Straus, and Palmer. These makes are too well known to require any extended description, and riders will be able to consult their preference and especial requirements in the range of selection furnished.



MORGAN & WRIGHT QUICK REPAIR.

STRAUS.



MANUFACTURERS' GUARANTIES ON TIRES

We shall continue in 1896 our custom of repairing all tires of our manufacture free of charge. We shall replace defective parts **when, in our judgment**, the defect is from our fault. **In no case**

Guaranty on

Morgan & Wright Tires.

will we replace when worn out in service or injured by accident. **Make your request direct to us, and not through the makers of your wheel.** Express charges on tires must be **prepaid in every instance.** If return by mail is desired, postage at the rate of one cent per ounce must come with request for repairs. Do not send the wheel with the tire.

See that every package sent has **your address securely fastened to the package.**

MORGAN & WRIGHT, 331 to 339 Lake Street, Chicago, Ills.

We guarantee all our tires to be of perfect manufacture.

We guarantee to repair all 1896 Vim tires free at any of our repair departments during the season, but express charges must be prepaid. Tires sent by mail

Guaranty on Vim Tires.

are at the owner's risk, and postage at one cent per ounce must be sent for return mailing. To save time, send the tire direct to our nearest repair department, not to the bicycle manufacturer. See that your address is properly attached to the bundle. We do not receive tires from express companies unless the name of the sender is on them. Write us a letter under separate cover stating how the tire is sent.

BOSTON WOVEN ROSE AND RUBBER CO., 275 Devonshire Street, Boston.

63 Reade Street, New York.

205 Lake Street, Chicago.

10 South Water Street, Cleveland.

14 Fremont Street, San Francisco.

We warrant our tires to be perfect in material and construction, and will replace, without charge, any tire, or parts thereof, which prove defective within twelve months of purchase.

Guaranty on Straus Tires.

Punctured tires of our make, when sent to us express prepaid, will be repaired without charge, or, if the puncture proves unrepairable and is not of an unusual nature, we will replace the tire without charge.

Cement your tire on Rim Perfectly and Ride Inflated Hard. A tire ridden soft (or flat) will cut on rim. We will not replace a tire cut out on the rim.

THE NEWTON RUBBER WORKS, Newton Upper Falls, Mass.

We guarantee the Palmer tires against defects in material and workmanship, and will repair, free of charge, every tire that can be repaired, no matter how the injury may have been caused,

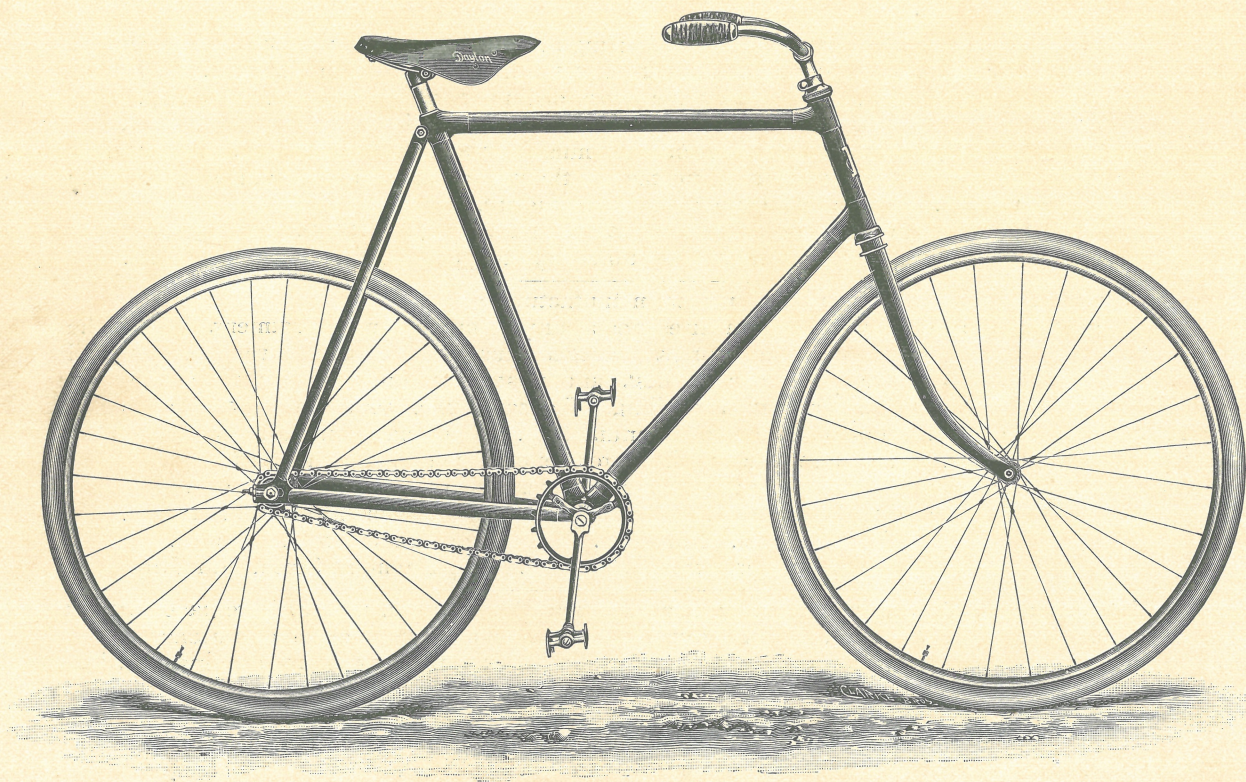
Guaranty on Palmer Tires.

if delivered at 65 Reade Street, New York City, or 733 South Clinton Street, Chicago, transportation charges prepaid. We will replace all tires that cannot be repaired, if on examination we find material or workmanship defective. We will not replace or credit tires that have become unserviceable from any cause for which we are not responsible.

65 Reade Street, New York.

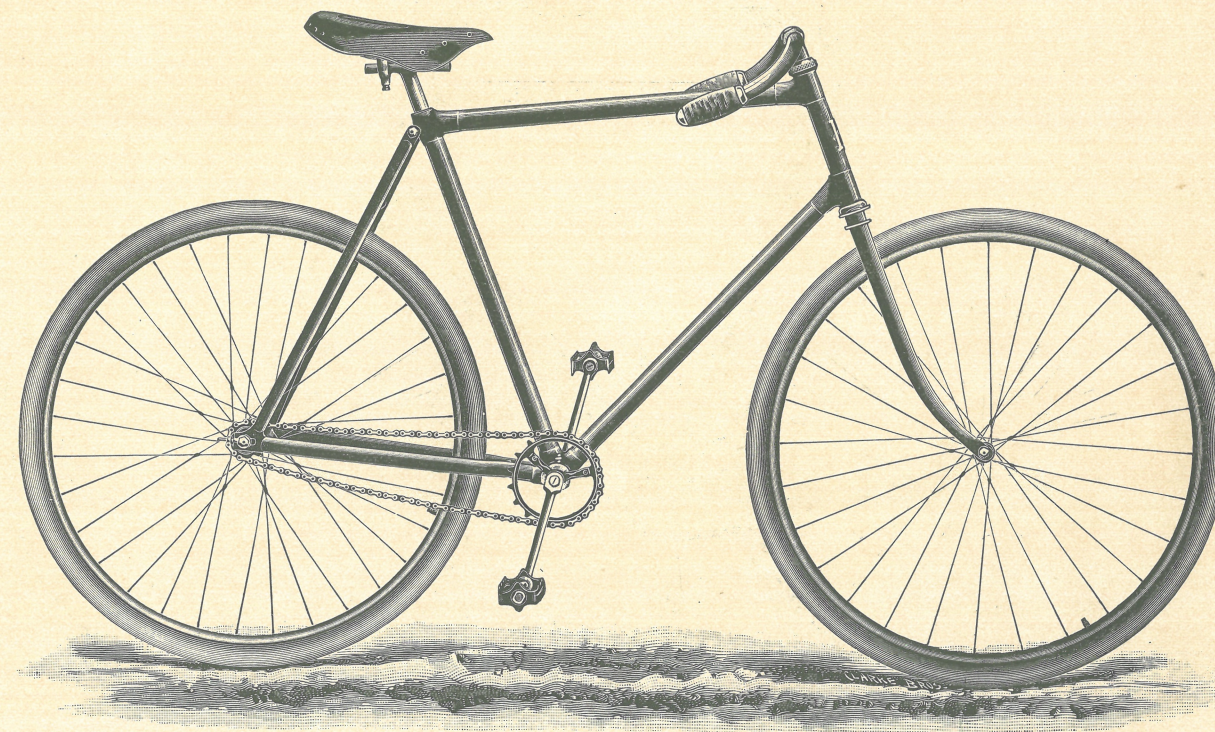
PALMER PNEUMATIC TIRE CO.,

733 South Clinton Street, Chicago.



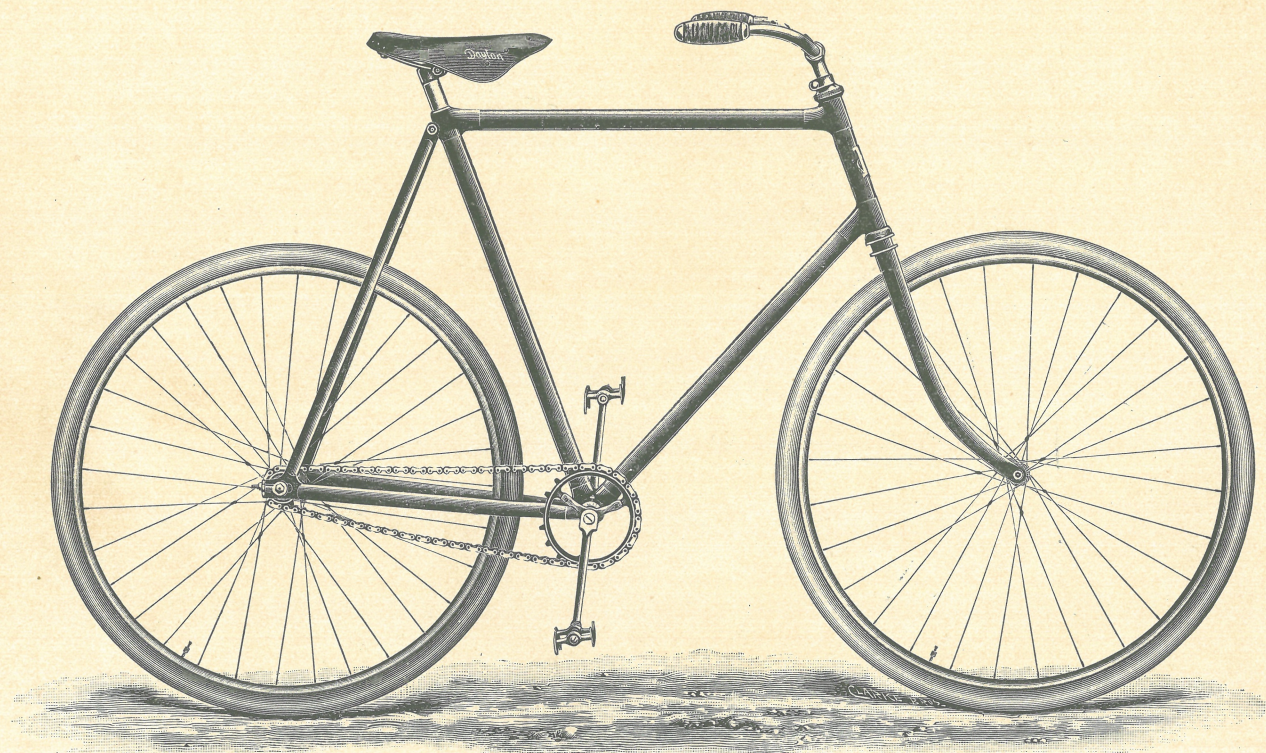
MODEL A-ROADSTER. PRICE \$100.

Frame 25 inch. **Gear:** 64, 68, 72 or 76. Choice of Saddles, Pedals and Tires described.
Weight 23 to 25 lbs.



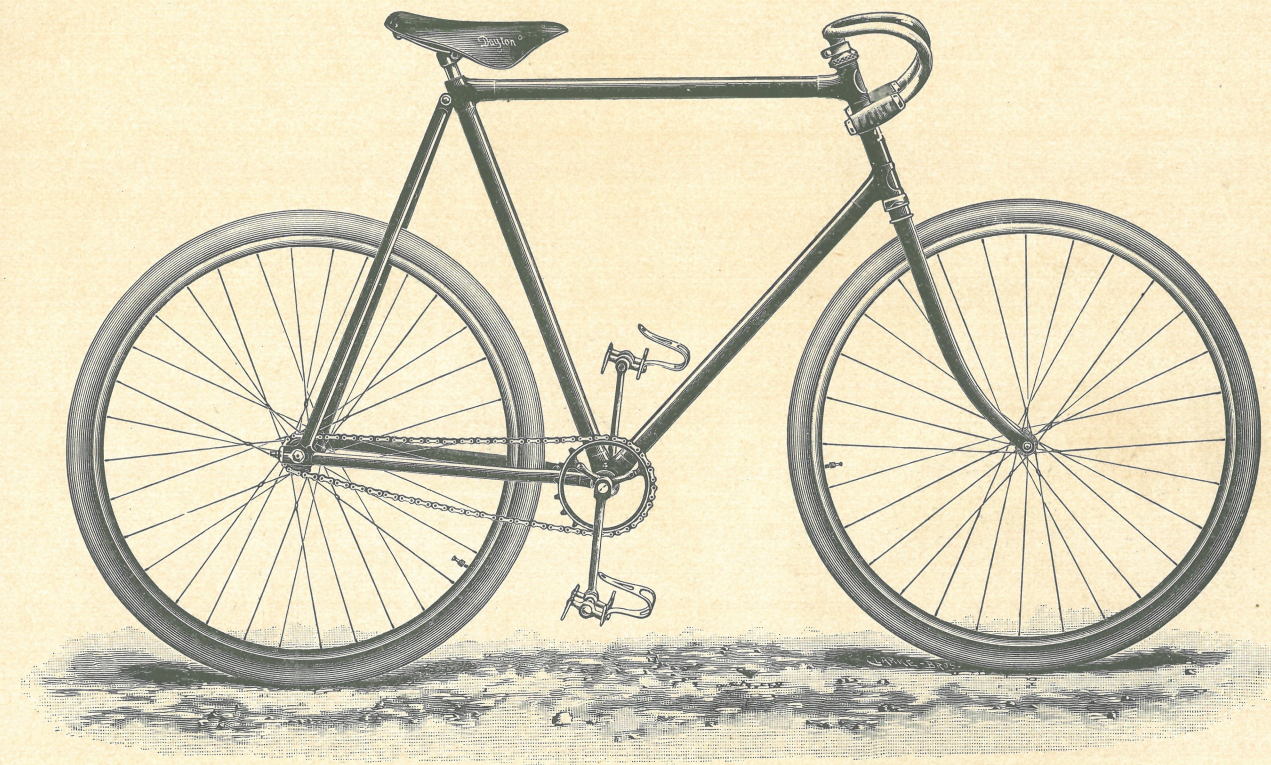
MODEL B-ROADSTER. PRICE \$100.

Frame 23 inch. **Gear:** 64, 68, 72 or 76. Choice of Saddles, Pedals and Tires described elsewhere. Weight 23 to 25 lbs.



MODEL E-ROADSTER. PRICE \$100.

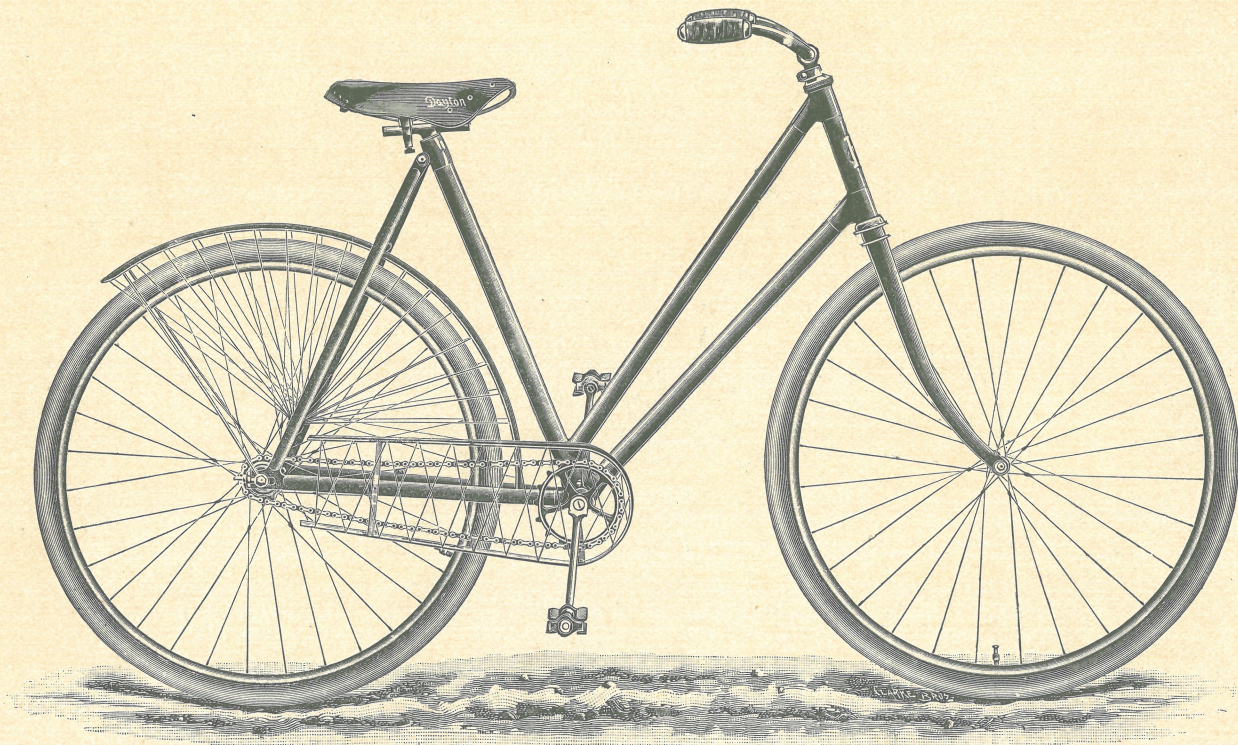
Frame 26 inch. **Gear:** 64, 68, 72 or 76. Choice of Saddles, Tires and Pedals described in catalogue. Weight 23 to 25 lbs.



MODEL H-TRACK RACER PRICE \$100.

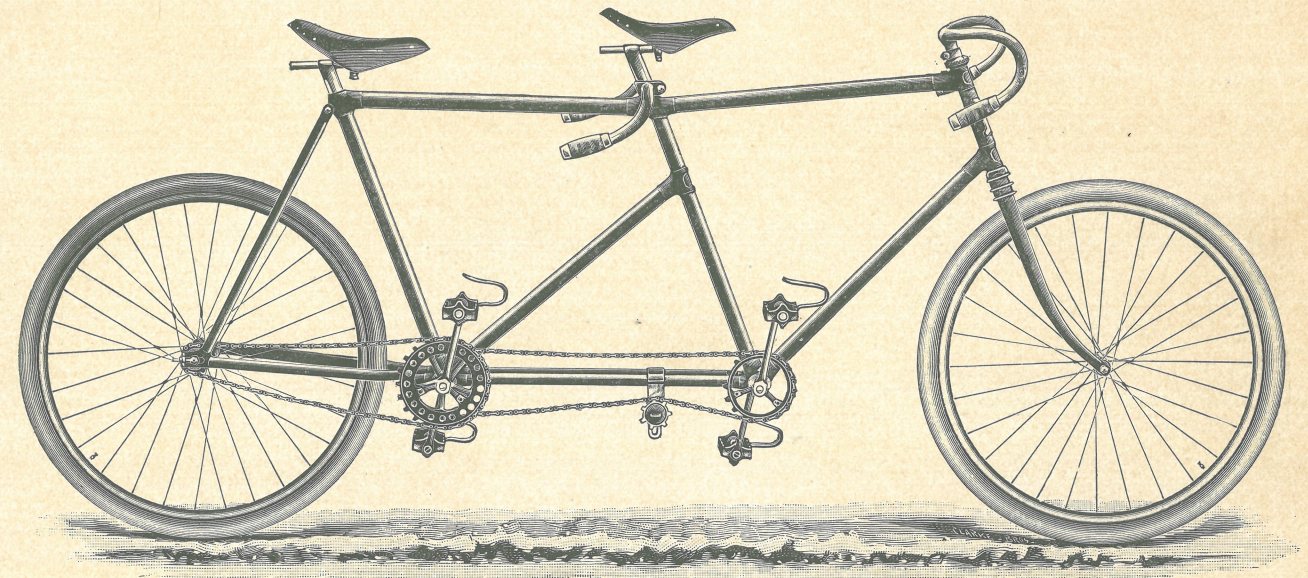
The most rigid racing wheel on earth, absolutely no give under the hardest sprint. This wheel is not guaranteed for road riding, but is intended for track use only.

Frame 25 inch. **Gear:** 68, 72 or 76, (higher gears at an additional price.) Weight 20 to 21 lbs.



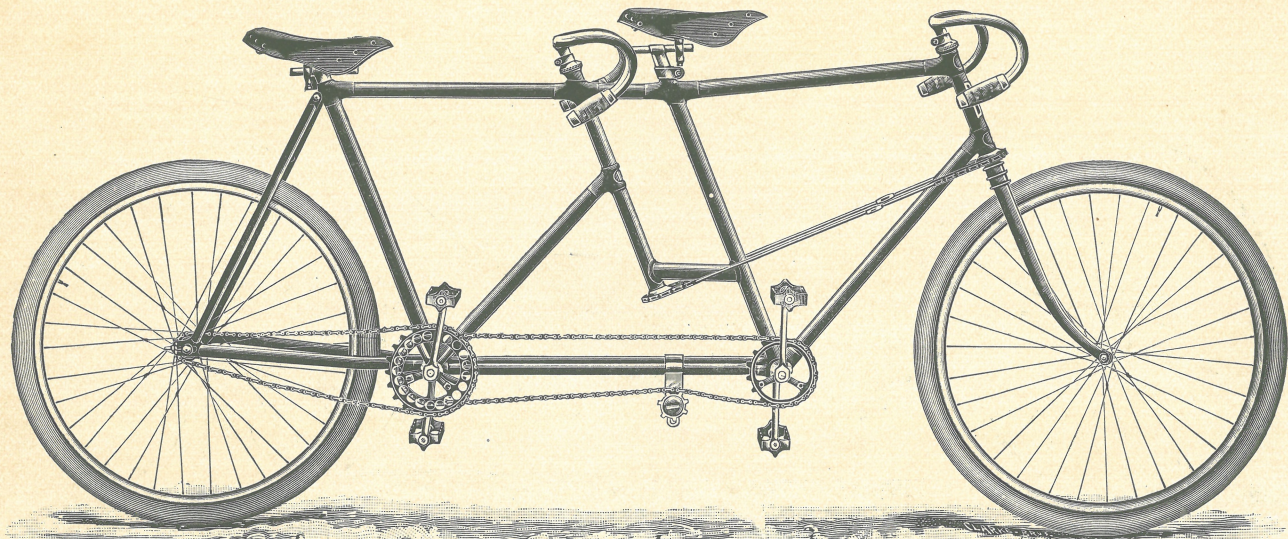
MODEL C-LADIES'. PRICE \$100.

Frame 20, 22 or 24 inch. **Gear:** 56, 59½ or 64. Choice of Saddles, Tires and Pedals described elsewhere in catalogue. Weight 23 to 25 lbs.



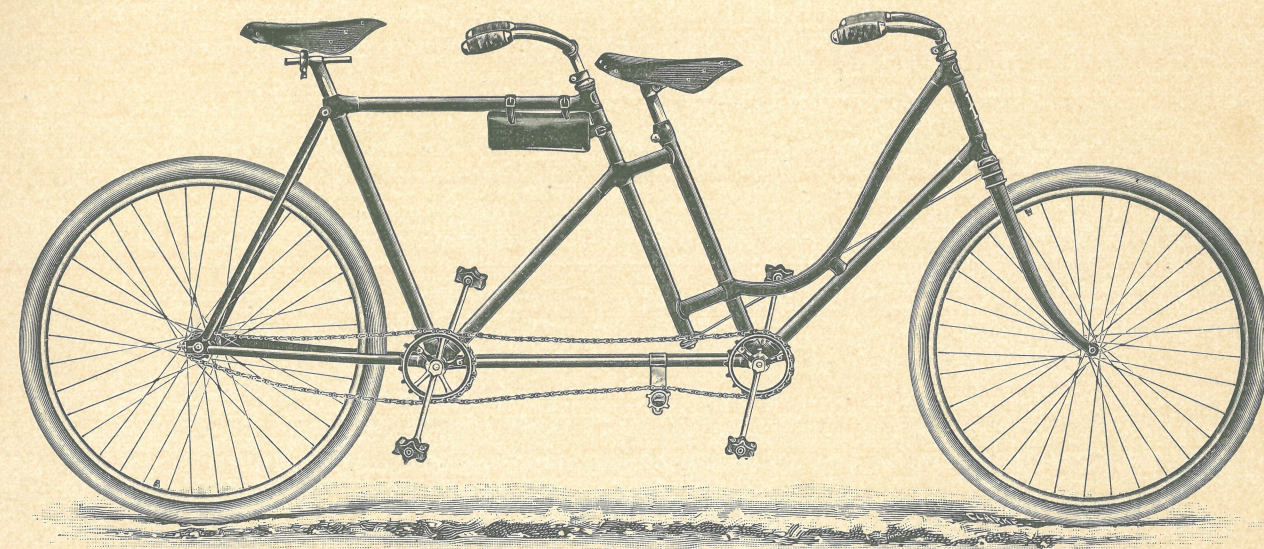
MODEL M-SINGLE-STEERING TANDEM. PRICE \$150.

Frame 23 to 25 inch. (High frame shown on page 26.) **Gear:** 72, 76 or 84, and higher if desired. Weight 40 lbs.



MODEL N—DOUBLE-STEERING TANDEM. PRICE \$150.

Frame 23 or 25 inch. **Gear :** 72, 76 or 84, and higher if desired. Weight 42 lbs.



MODEL O—COMBINATION TANDEM. PRICE \$150.

Frame 23 inch. **Gear :** 72 or 76, and higher if desired. Weight 42 lbs.



Our Guaranty.

EVERY DAYTON BICYCLE IS GUARANTEED to be free from imperfections in material or workmanship, (pneumatic tires excepted) and we will make good, at our factory at any time within one

year from date of purchase, any defect not caused by accident, misuse or neglect. All parts must be returned to us, transportation charges prepaid, before any claim will be allowed.

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

Our guaranty accompanies every Dayton wheel; if not found in the tool bag ask the dealer for it.



TABLE OF GEARS FOR 28 INCH WHEELS.

REAR SPROCKET.	DRIVING SPROCKET.	GEAR IN INCHES.	REAR SPROCKET.	DRIVING SPROCKET.	GEAR IN INCHES.
7	16	64	8	16	56
7	17	68	8	17	59½
7	18	72	8	18	63
7	19	76	8	19	66½
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
7	25	100	8	25	87½
7	26	104	8	26	91
7	27	108	8	27	94½
7	28	112	8	28	98
7	29	116	8	29	101½
7	30	120	8	30	105



THE MANUFACTURERS OF THE DAYTON cordially endorse the League of American Wheelmen, the great wheelmen's organization of America. From the time of its organization the League has spent \$120,000 to advance the cause of road improvement. It publishes road books, tour books, and road maps for the use of its members, who also enjoy the benefit of reduced rates at many hotels. Through its efforts laws have been passed in many States, declaring the bicycle to be entitled to the same rights on public highways as other vehicles, and many suits at law have been successfully prosecuted to establish the rights of wheelmen. The membership of the League now numbers about forty thousand and is rapidly increasing. Every white cyclist of the age of 18 years or over may become a member. The fees are \$2.00 for the first year and \$1.00 for each subsequent year. Prepare an application like the following and send with membership fee to the secretary of the L. A. W. at address given. You will become a member in about three weeks and will receive your membership ticket direct from the secretary in Boston.

APPLICATION FOR MEMBERSHIP IN THE L. A. W.

ABBOT BASSETT, Secretary L. A. W., 12 Pearl Street, Boston, Mass.

Dear Sir: Enclosed you will find \$2.00 for Initiation Fee, Subscription to the L. A. W. Bulletin and one year's Dues in the League of American Wheelmen, for one year next ensuing. I Hereby Certify that I am eligible to Membership in the L. A. W., under the provisions of the Constitution. I refer to the three citizens named below.

NAME.....

STREET OR BOX.....

TOWN AND STATE.....

REFERENCES.....

WRITE PLAINLY. AUTOGRAPH SIGNATURE NOT REQUIRED. PRINTING PREFERRED, OR SEND PERSONAL CARD.



THE PRIZE WINNER.



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