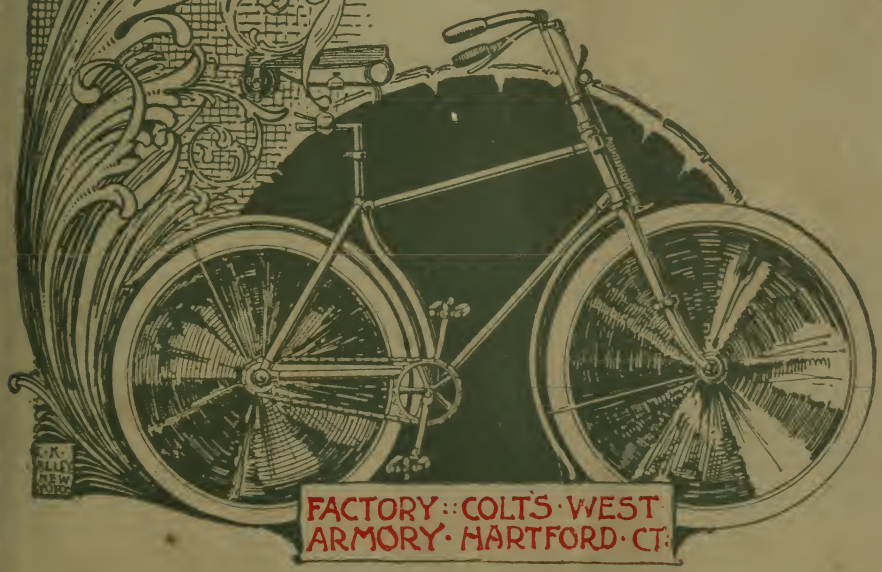
TOURIST CYCLES

GEO. R. BIDWELL CYCLE CO. MAKERS

TAYLOR CYCLE CO.
GENERAL
WESTERN AGENTS
270-272 WABASH AVE
CHICAGO - ILL



FACTORY :: COLTS WEST
ARMORY · HARTFORD · CT.

A CATALOGUE OF SAFETY BICYCLES AND ACCESSORIES MANUFACTURED AND SOLD BY GEO. R. BIDWELL CYCLE CO., NEW YORK AND CHICAGO

1892

CHICAGO
270-272 Wabash Avenue

NEW YORK
306-310 West 59th Street

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By way of Preface.

Among the new wheels placed before the cycling public in 1891 was "The Tourist," a bicycle of the Safety pattern brought out by this Company, which won for itself at once an enviable success. Ten years of experience in the selling, renting and repairing of bicycles, and a careful observation of the wants of riders had shown us that no existing make of wheel contained all the good qualities essential to a perfect bicycle; the merits of the best were marred by some defect.

It was our aim in designing "The Tourist" to combine as many as possible of the good points of other wheels, with such improvements as our experience had shown to be desirable, and to reduce to a minimum the acknowledged deficiencies of the safety pattern of bicycle. That its material and workmanship should be the best possible, we contracted for its construction with one of the most widely known and best equipped bicycle manufacturers of England, Wm. Bown, of Birmingham, maker of the Æolus bicycles and of the Æolus ball bearings — whose bearings are universal in all high-grade bicycles.

The result was a wheel which for beauty of outline, simplicity of construction, strength, lightness, ease of running and excellence of material and workmanship left little to be desired. Agents found its attractive appearance made it an easy selling wheel, and purchasers had only words of commendation for it.

We were entirely satisfied with its success but studied carefully where further improvements might be made. The results have been embodied in "The Tourist" for 1892 and will be found noted in the description of the wheel.

The most important change differentiating the Tourist of '91 from that of '92 is that the '92 Tourist is in every portion wholly an AMERICAN bicycle — an evidence of the resources of our own country and of the skill and ingenuity of American workmen.

Even steel tubing, the importation of which has hitherto been needful in constructing wheels of the highest grade, is now made in this country, and our tests conducted at the Colt's Armory showed it in every respect to be the equal of the best English brand, while excelling it in the important points of resistance to pulling and twisting strains.

A very notable fact in relation to the Tourist for 1892 is that it is manufactured at the armory of the Colt's Fire Arms Co. at

Hartford, Conn., whose facilities for and experience in producing the finest work in steel are not surpassed by any other manufacturer in the world. Their reputation is a guarantee of the perfection of material and workmanship to be found in the Tourist. A careful examination of every part of the Tourist and comparison with similar work in any high-grade bicycle will convince the competent examiner of the superiority of the Tourist in these respects.

Many persons will be gratified to learn of our new $100 wheels, the STUDENT and the LADIES' STUDENT. It is of course not possible in wheels made to sell at this price to give such close attention to the details of construction or the perfection of finish as in the Tourist, but the high grade of material that is used in the Students' and the fine quality of the workmanship will immediately commend it to the purchaser. They outrank every wheel yet offered at a similar price and are far stronger and more durable than many so-called high-grade wheels.

We invite your careful attention to the descriptions of these wheels, the TOURIST and the STUDENTS', as contained in this catalogue, confidently placing them before you, in their respective classes, as the best bicycles made on either side the ocean.

A Word of Caution.

The season of 1892 will witness an over-production in certain classes of bicycles, and undoubtedly a cutting of prices by certain makers. Do not be misled into the belief that when a dealer offers you a so-called high-priced bicycle at a very low cost, or at a very large discount, that you are getting a bargain. On the contrary, such wheels are built to sell at a discount, and are worth no more than the price at which they are sold. They will be found to be cheap in every sense of the word; cheap in price, and cheap in construction. A bicycle is worth just what it cost to buy, and no more. If not good enough to bring its full price, it is something to be suspicious of, and we would caution intending purchasers to be very careful of such wheels. As a rule, they are something to be shunned and avoided.

Another point to be considered by the purchaser of a bicycle is the reliability of the manufacturer whose guarantee accompanies it. The past seasons have witnessed the rise of many new concerns who have put upon the market bicycles of various degrees of excellence, but who have been unable to weather the storms of adversity that

beset them, and the first snows have found them buried from sight. The guarantee of such concerns is not worth the paper upon which it is printed, and the riders of their wheels have been put to much trouble to obtain parts when repairs have become necessary.

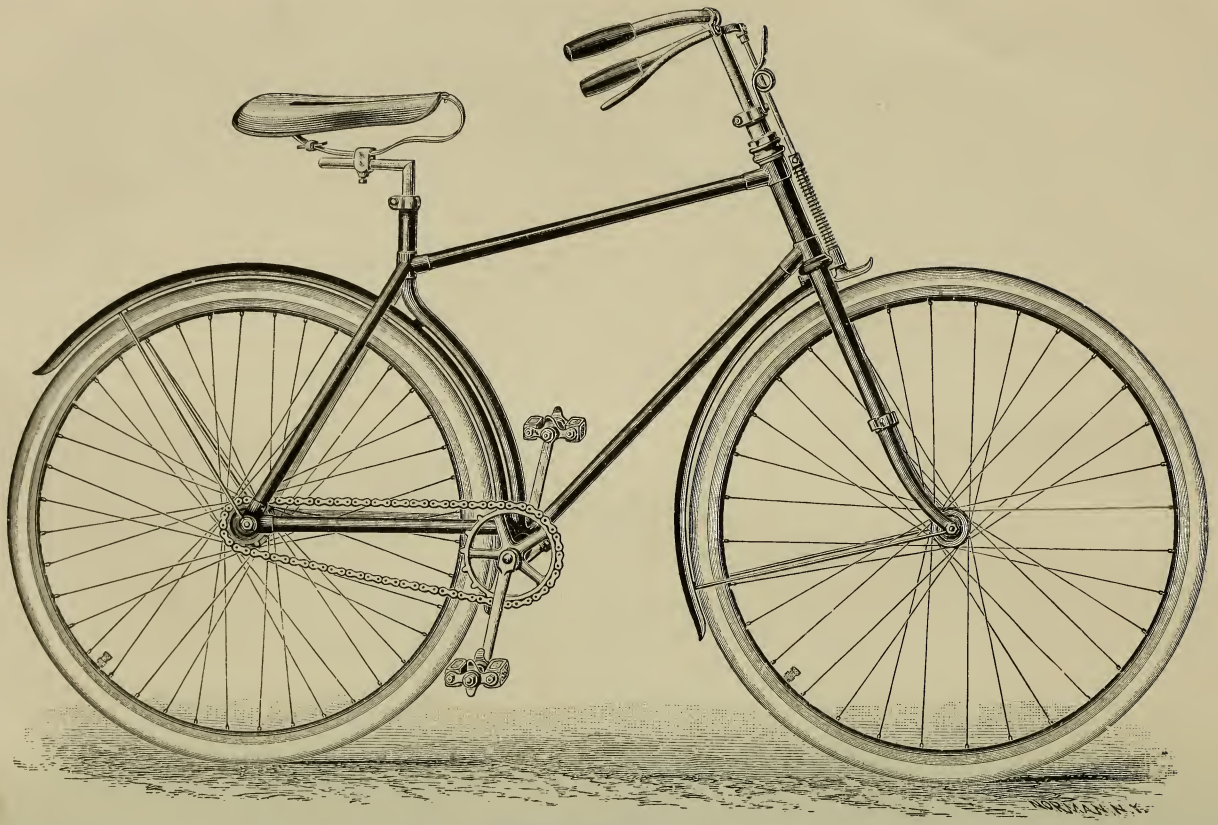
Guarantee.

Our bicycles are guaranteed to be free from all imperfections in material and workmanship, and we will replace, without charge, any parts returned to us within one year from the date of purchase of the bicycle, which give evidence of such imperfections. Parts must be submitted for inspection before allowance will be made.

In reference to the above guarantee, it means that we agree to deliver to every purchaser of any of our Bicycles a perfect wheel, and should the bicycle prove to be imperfect, as above provided for, at any time within one year, we will make good such imperfections.

It does not mean that we will keep bicycles in order, or make repairs of any description for damage caused by use, misuse, or neglect. A bicycle is simply a piece of machinery, and requires the same care and attention from the user as does a machine of any sort. Nuts and bolts will work loose, and bearings and chains require proper attention and adjustment from time to time. There should be no lost motion or rattle to any part of a well constructed bicycle, and as soon as any such is discovered its cause should be immediately ascertained and removed. In order to know how to do this, **every user of a bicycle should familiarize himself with its workings,** and keep all nuts properly tightened, and bearings and chain properly lubricated and adjusted. This is the secret of success, and unless this is done the best results cannot be obtained. It is the reason why some friend's wheel is in better condition, or runs better than your own, though it has seen equal service. Do not always blame the bicycle. The user is more frequently the cause of the trouble, mainly through not knowing how to give it proper care.*

* Believing it will be for the best interests of both the dealers and public for bicycle manufacturers to unite on some definite guarantee, and our attention having been called to the above "Word of Caution" and "Guarantee" in the catalogue of Messrs. A. G. Spalding & Bros., we reprint it entire, embodying as it does, in words both polite and forceful, our opinion on both subjects.



THE TOURIST.

WEIGHT, ALL ON, 42 POUNDS.

PRICE $150.00.

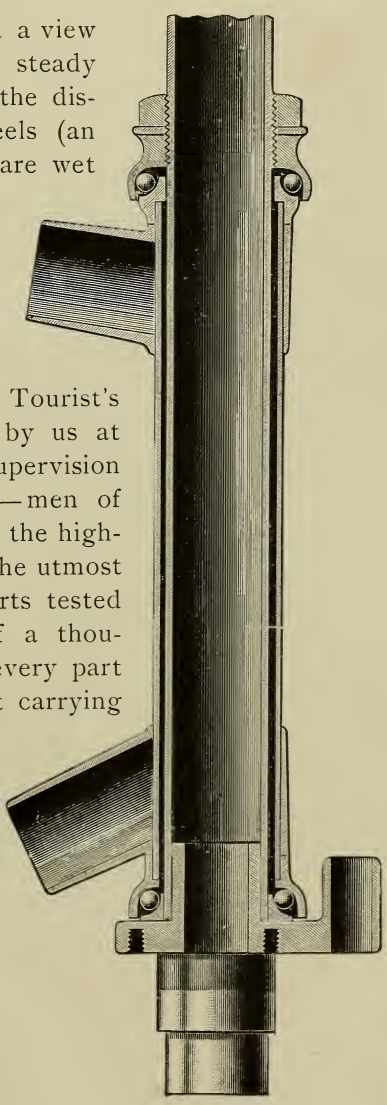
The Tourist.

In designing our 1892 pattern wheel we have followed the lines of the '91 Tourist in general, changing it, however, where such change would prove a distinct advantage.

The "True Diamond Frame" has been retained, but changed from the bolted to the non-detachable brazed style, with tubes reinforced at each brazing, giving greatly increased strength and rigidity. The ball head has been lengthened and the wheel base extended, while the tread is narrower than formerly.

We have deviated from the common rule of using 3-16-inch balls in the head by increasing the size to ¼ inch, making them less liable to breakage.

These improvements have been made with a view to further increase the present wonderfully steady steering qualities of the Tourist, to equalize the distribution of the rider's weight on both wheels (an important factor when roads or pavements are wet and slippery), and also to render the rider's position, when in the saddle, more natural. The frame throughout is of the very best cold drawn, weldless steel tubing.

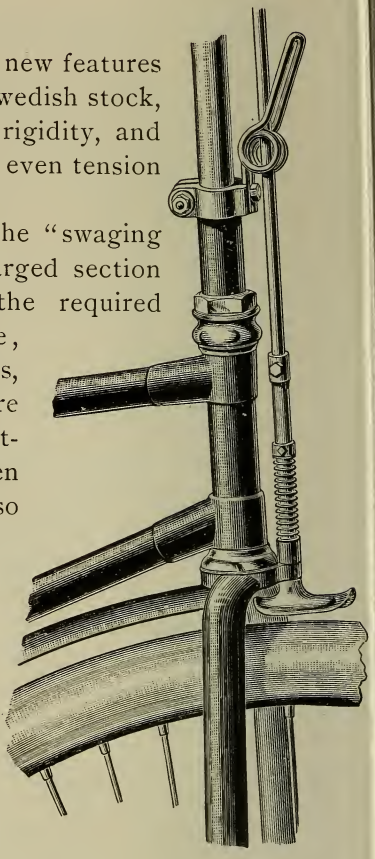


Construction.

We cannot lay too great stress on the Tourist's superiority of construction. Manufactured by us at Colt's West Armory, under the immediate supervision of the best metal specialists in the country—men of many years' experience in the manufacture of the highest grade fire-arms, a class of work requiring the utmost attention to the details of construction, all parts tested to positive gauges, detecting a variation of a thousandth of an inch, the result is a wheel in every part calculated to withstand hard service, yet not carrying an ounce of extra metal which can be dispensed with without sacrificing strength.

Fitted with our latest improved Bidwell (Thomas) Pneumatic Tires and equipped, ready for use, its total weight is forty-two pounds, which can be reduced to thirty-nine pounds by removing the mud-guards.

The Wheels.



The construction of the wheels embodies new features worthy of note. The felloes are of best Swedish stock, thickened at the centre to give additional rigidity, and are formed to a true circle, thereby ensuring even tension on the spokes when wheels are assembled.

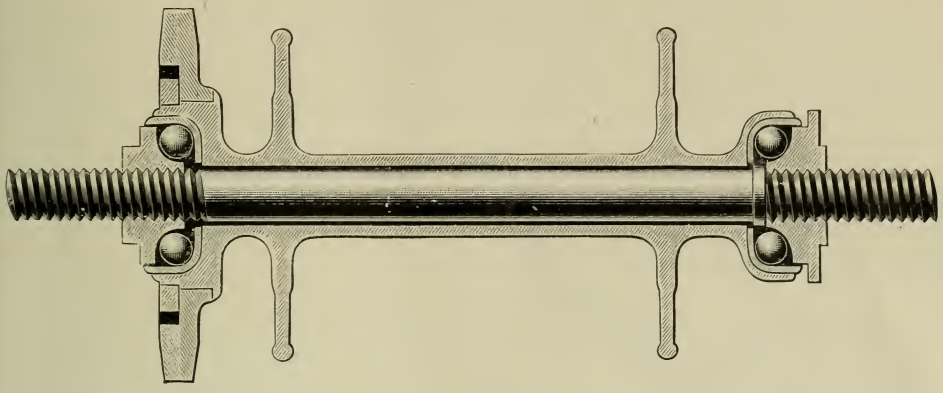
The spokes are enlarged at both ends by the "swaging process," the wire being drawn from the enlarged section to the required size, thereby not crystallizing the stock at the ends, where the strength is required. Heretofore butt-ended spokes have been made by "upsetting'; this crystallizes the stock and has been the main cause of all breakage in spokes, so annoying alike to rider and manufacturer.

The nipple used by us is worthy of more than passing consideration. It is of extra length, with ample square surface for wrench, and solid at the upper end, making it impossible to force the spoke beyond the face of the felloe into the tire. By using a nipple of extra length we so increase the spoke adjustment as to render unnecessary the *removal of the tire* if a new spoke has to be put in.

The wheels are both thirty inches in diameter, fitted with two-inch Bidwell (Thomas) Pneumatic Tires of the latest and most improved form.

The Bearings.

The great advantage of the mechanical accuracy applied in the construction of the Tourist is nowhere more observable than in the perfection of its bearings. Cones, bearing boxes and balls, gauged to the thousandth part of an inch, are not only perfectly free in action, but the decreased wear, owing to this construction, is an important factor when the life of a wheel is considered. Cones and balls may be perfectly true, yet if the ball-races are not equally so the result is increased friction and an unequal strain on the parts, or, *per contra*, the cones and ball-races may be accurate, yet if the

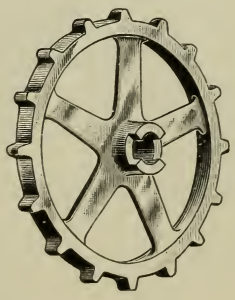


balls are not equally so the result is the same — the parts wear out long before their time.

In this connection we desire to call attention to the fact that the crank-hanger of the Tourist is so proportioned as to give exactly the same distance to the end of the crank shaft on either side of the frame, the great majority of bicycles measuring from a fraction of an inch to a full inch longer on the sprocket wheel side than that opposite, thereby putting an unequal strain on the frame and making the wheel practically one-sided.

The Chain.

Many styles and makes of chain have been submitted for our consideration, but after exhaustive tests we have adopted the well-known Abingdon-Humber pattern, one inch pitch. Realizing that the chain, if improperly made, is the cause of great friction, we have this very important part of the bicycle constructed under our own supervision instead of purchasing in the open market. Every side link and centre block is made to a standard test gauge. The centre block is drilled and the chain riveted by special machinery, which does not admit of any variation, and when complete the chain will exactly fit the sprocket wheel and not "ride the sprockets," as is usually the case when accurate construction is not maintained.

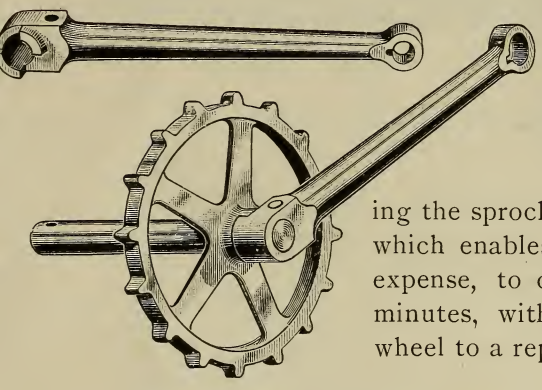


The Driving Gear has had its full measure of attention. The front sprocket wheel is made of aluminum silver-bronze — the rear sprocket of case-hardened gun steel of high carbon, and the chain of open-hearth steel subjected to

special treatment — the combination of these three metals is not only conducive to good wear but also reduces friction to a minimum.

The rear sprocket screws on the hub by a right-hand thread and is locked securely by an outer disc having left-hand thread, making removal of the sprocket when desired a very simple matter.

The front sprocket and crank on sprocket wheel side are recessed into each other, slipping readily on and off the crank shaft, and are locked together and fixed by the crank key, as shown in illustration. This is not only an improvement over the old method of attaching the sprocket wheel to the crank shaft, but one which enables the rider, at a slight additional expense, to change the gearing in a very few minutes, without the necessity of sending the wheel to a repair shop.

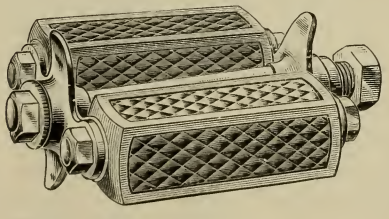


The Chain Adjustment.

For our chain adjustment we have adopted that used on the first Rudge Safeties, modifying it to suit our requirements and thereby providing an adjustment both simple and reliable, making impossible the throwing of the rear wheel out of line when tightening or loosening the chain.

The Pedals.

The accompanying cut shows our new Tourist pedal. The same care in the detail of construction is here observable as in all other parts of the wheel. The inside end of the pedal shaft has a stay pin projecting from its shoulder flush with the end of the shaft, making it impossible to apply the shaft to the crank incorrectly and greatly reducing the strain on the nut.



The Tires.

Again we take the initiative and fully recommend the Simonpure "Pneumatic."

Our tire is not a built-up *inflated cushion* of rubber, canvas and rubber vulcanized together, with thick walls cemented into a crescent-shape felloe, destroying all its life and buoyancy and having

no more of the features of the true Pneumatic than the large solid or cushion ; but a Bidwell (Thomas) Pneumatic Tire constructed as described on page 20, with which all the Tourist cycles are equipped.

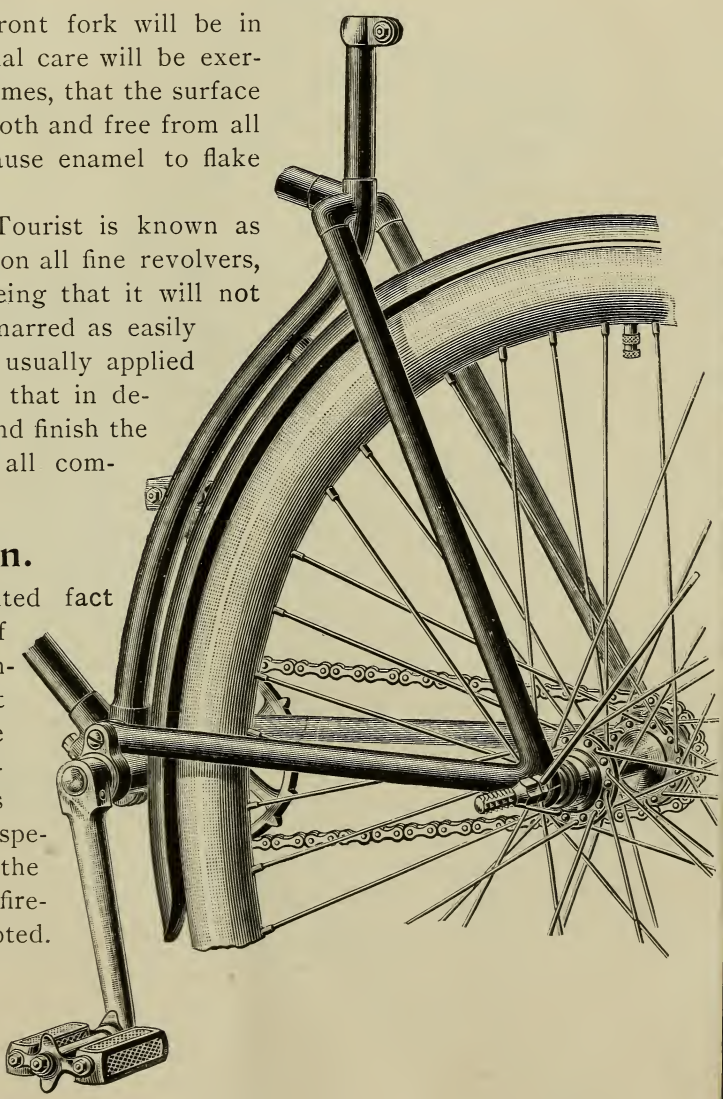
While we are prepared to supply the Tourist with a large cushion (1½ inch) we shall only do so on special order and earnestly recommend our customers to use the "Pneumatic."

The Finish.

We have adopted several novel features not heretofore used on bicycles and which are worthy of special attention. All bolts, nuts and screws, instead of being nickeled, will have what is known as the case-hardened finish, familiar on fine firearms, where beauty and durability are essential.

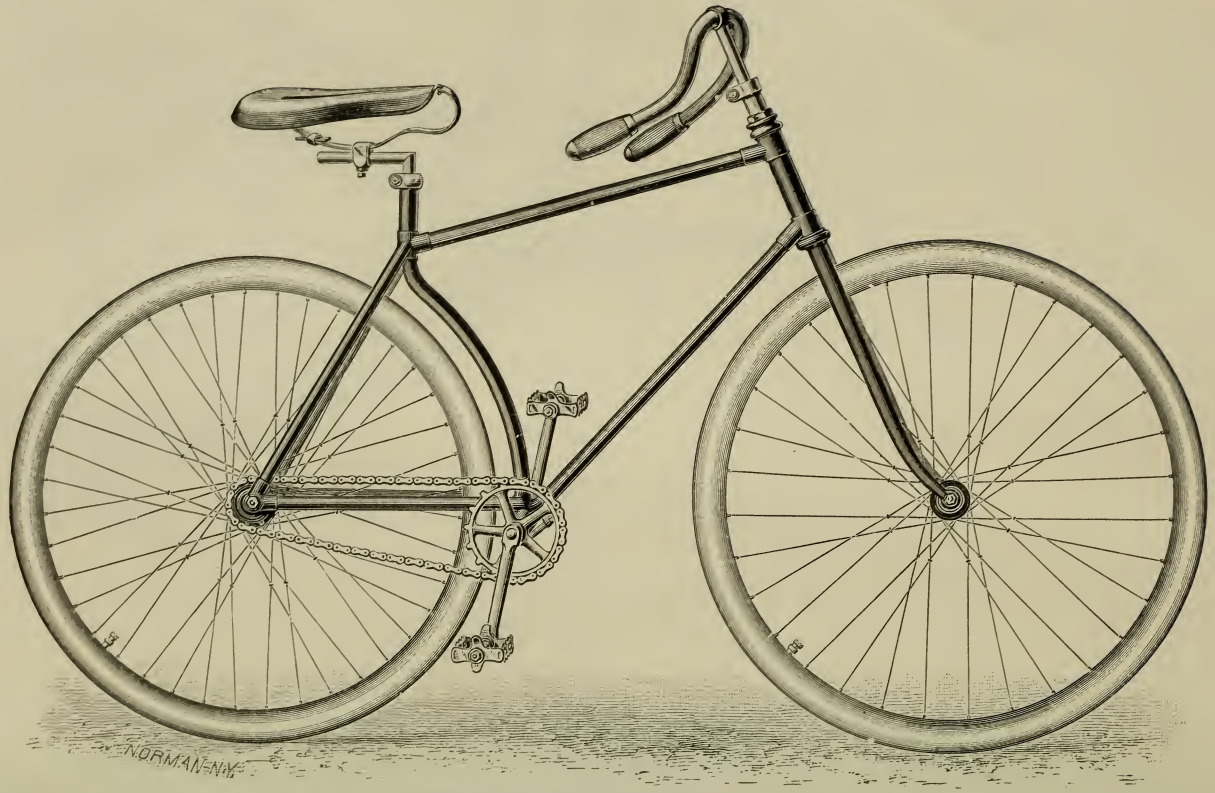
The frame and front fork will be in black enamel. Special care will be exercised in preparing frames, that the surface may be perfectly smooth and free from all imperfections that cause enamel to flake off or peel.

The nickel on the Tourist is known as "Hard Nickel," used on all fine revolvers, its special feature being that it will not become defaced or marred as easily as the "soft nickel" usually applied —in fact, we propose that in detail of construction and finish the Tourist shall excel all competitors.



General Mention.

It is an undisputed fact that all makers of high-grade bicycles endeavor to construct their product of the very best material obtainable, but it is equally true that the special steel used in the manufacture of fine firearms has not been adopted.



THE TOURIST ROAD RACER.

WEIGHT 35 POUNDS. PRICE $150.00.

As the steel used in guns is necessarily subjected to greater tests as to strength and toughness than it would be in bicycles, we have decided to use the best grade of gun steel in the manufacture of the Tourist bicycle.

With a view toward reducing the number of parts, we have used ¼-inch balls throughout the wheel, save in the pedals; the cups or ball-races in each wheel are interchangeable, which is also true of the set screws used in binding the seat-post clamp and the handle-bar clamp. In addition each bolt head and nut is tempered to a degree that makes it impossible to round the corners of the nuts or to twist off the bolts under any ordinary strain.

Specifications.

True diamond frame. Best cold-drawn, weldless steel tubing—gun steel drop forgings throughout—ball bearings all around. 30-inch wheels; best Swedish steel rims—slightly crescent shaped—thickened at base. No. 11 swaged tangent spokes, tied, 32 front wheel, 40 rear, special closed head nipples, 2-inch Bidwell (Thomas) Pneumatic tires. Detachable front and rear sprocket; front, aluminum bronze; rear, case-hardened gun steel of high carbon. Special Tourist chain of open hearth steel; detachable round cranks; 6¾-inch throw; Tourist ball pedals, square rubbers. Ball-steering head, plunger brake, ¾-inch tubular, tapering handle bars, 28 inches wide; adjustable coasters, round step, detachable lamp bracket, L seat rod, new design Garford saddle, round tool-bag, nickeled B. & S. wrench, oil can, screw driver and air pump. Weight 42 pounds all on. Finish special Tourist black enamel, all bright parts and spokes hard nickel (on copper). Standard gear, 54 inches. Note.—57-inch, 60-inch and 63-inch gears furnished when desired.

The Tourist Road Racer

is adapted for the use of riders who desire the lightest possible wheel, combined with strength sufficient to withstand hard service. The Tourist, stripped of guards and brake parts, fitted with Scorcher handle-bars, Garford's Scorcher saddle, rat-trap pedals and Bidwell-Thomas Pneumatic road-racing tires, becomes the Tourist Road Racer, weighs but 35 pounds, and can be depended upon to carry a rider wherever it is possible to push a wheel—and who shall say what roads are impossible to the rider of a genuine Pneumatic. The Tourist Road Racer is geared to 60 inches, but 54, 57, or 63 inches gear can be obtained if desired. Price, $150.00.

THE STUDENT.

WEIGHT, 49 POUNDS.

PRICE, WITH 1¼-INCH CUSHION TIRES, $100.00; WITH 2-INCH BIDWELL (THOMAS) PNEUMATIC TIRES, $125.00.

The Student.

To meet the requirements of riders who desire a strong, serviceable wheel at a moderate price, embodying the latest features of construction, combined with good wearing and traveling qualities, we have designed The Student and can confidently await the test of time and use to prove that the claims we make concerning it are laid on the broad foundation of truth.

The frame is of the best quality cold-drawn, weldless steel tubing, made wide enough to admit of two-inch pneumatic tires, with long nine-inch head and long wheel base. Drop forgings are used throughout. The crank hanger is well forward, enabling the rider to place his saddle well back and yet not throw an undue proportion of his weight on the rear wheel.

The wheels are both thirty inches in diameter with rims thickened at centre, fitted with forty tangent spokes to the back and thirty-six to the front wheel.

The bearings are the best that can be procured, ball bearing throughout and can be depended upon to wear as long as any other part of the machine.

The handle bars are of the same cold-drawn, seamless tubing as used in the frame, are dropped back with a handsome curve and spread thirty inches. They afford ample adjustment as to height, as does the saddle post.

The cranks are adjustable, 5½ to 6½ inches throw and heavily nickeled on copper, as are all the other bright parts of the wheel.

The chain is of the Abingdon-Humber pattern, 1½-inch pitch and each one is specially tested under heavy pressure before being accepted.

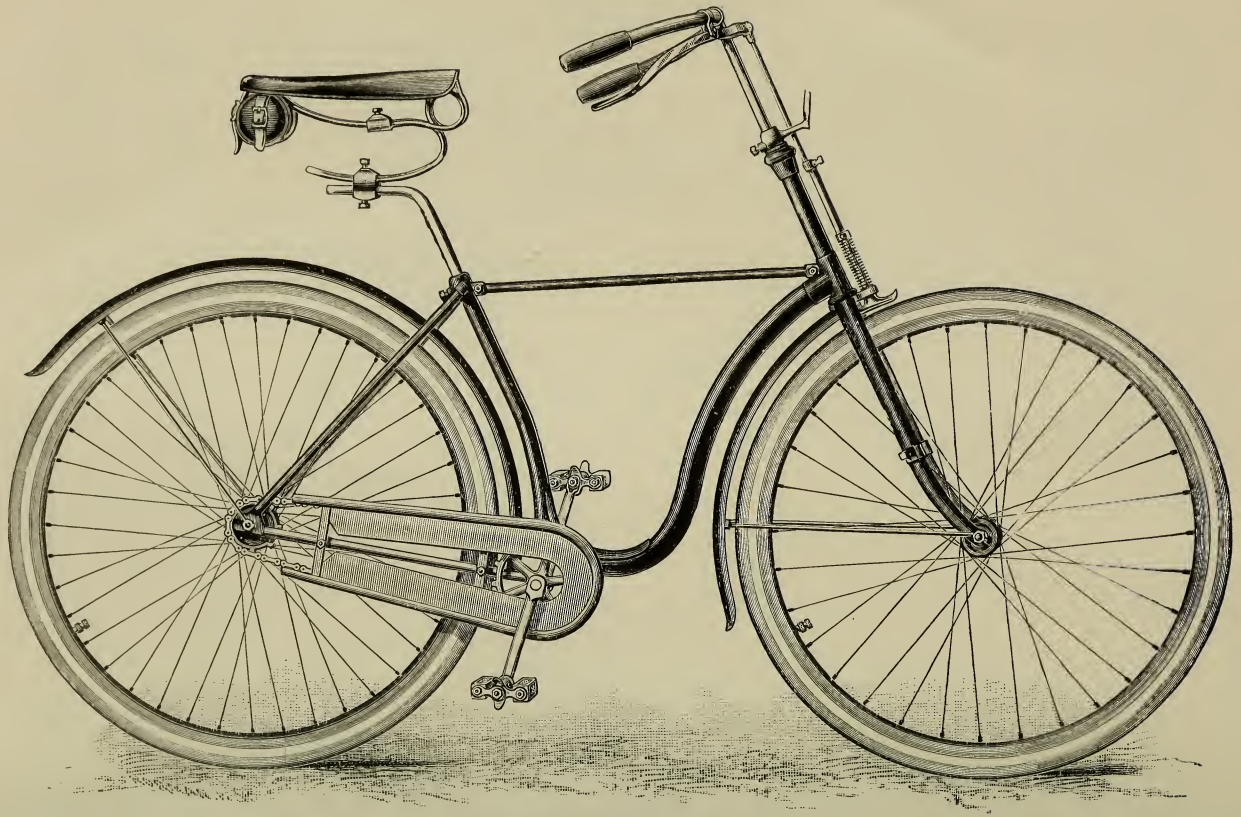
The chain adjustment is that used on the 1891 Psychos and is both simple and reliable. The gearing is 54 inches.

The tires.—The Student will be fitted with 1¼-inch cushion tires of best quality gray Para rubber or with the improved Bidwell (Thomas) pneumatic tire. See full description on page 20.

The Garford saddle, with which The Student is equipped, is too well known to need special comment. Round tool-bag, nickeled wrench and oiler are also provided.

Specifications.

True diamond frame of cold-drawn, weldless steel tubing, ball bearings, drop forgings throughout, save sprocket wheels of alum-



THE LADIES' STUDENT.

WEIGHT, 48 POUNDS.

PRICE, WITH 1¼-INCH CUSHION TIRES, $100.00 ; WITH 2-INCH BIDWELL (THOMAS) PNEUMATIC TIRES, $125.00.

inum bronze. Special thickened rims. Bessemer steel tangent spokes, 13 gauge, tied, nickeled to outer crossing; brass nipples, enameled; aluminum bronze sprocket wheels; Abingdon-Humber chain, 1½-inch pitch; Psycho adjustment, gear 54 inch. Detachable round cranks, 5½ to 6½ inches throw; ball pedals, square rubbers; 9-inch ball head, adjustable handle bars, ¾-inch tubing; plunger brake. Finish.—Four coats best black enamel, all bright parts nickeled on copper. Fitted with Garford saddle, round tool bag, wrench and oiler. Weight, 49 pounds.

Price, with 1¼-inch cushion tires of best gray Para rubber, $100; with 2-inch Bidwell (Thomas) Pneumatic Tires, $125.

The Ladies' Student

Is of the same material and workmanship as The Student. The Drop Frame, patterned after the Ladies' Psycho, is of handsome design and fitted with a detachable brace rod from the neck to the saddle post tube, which can be easily put in place when the wheel is desired for gentlemen's use.

The Wheels are 28 inches in diameter, with 1¼-inch cushion tires of the purest quality gray Para rubber, or 2-inch Bidwell (Thomas) Pneumatic Tires, as ordered.

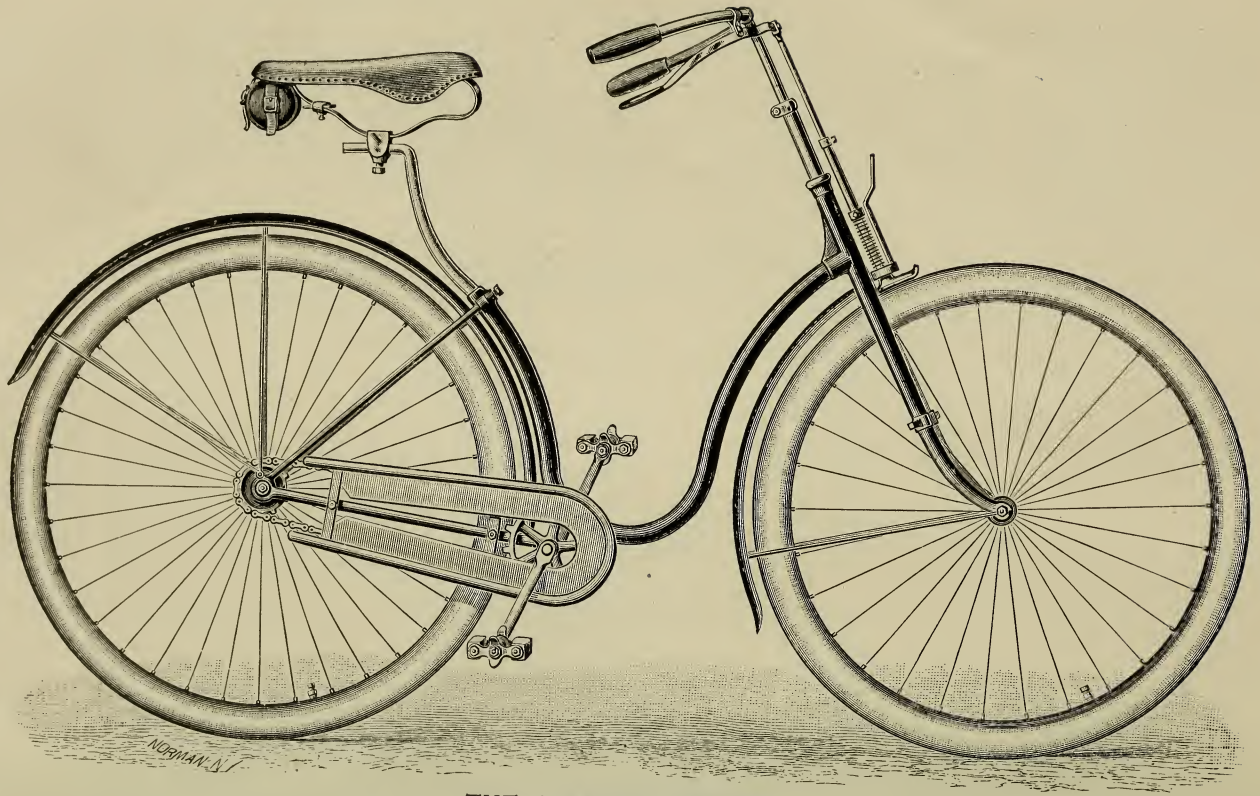
The Bidwell Pneumatic Tires are guaranteed against bursting or leakage of air, and a full description of them can be found on page 20.

The Specifications of The Student in all other respects apply equally to the Ladies' Student, save that it weighs 48 pounds and is supplied with the ladies' Garford saddle.

Specifications.

Drop frame with detachable brace rod of cold-drawn, weldless steel tubing, ball bearings, drop forgings throughout, save sprocket wheels of aluminum bronze. Wheels, 28 inch. Special thickened rims. Bessemer steel tangent spokes, 13 gauge, tied, nickeled to outer crossing; brass nipples, enameled; aluminum bronze sprocket wheels; Abingdon-Humber chain, 1½-inch pitch; Psycho adjustment, gear 54 inch. Detachable cranks, 5 to 6 inches throw; ball pedals, square rubbers; 9-inch ball head, adjustable handle bars, ¾-inch tubing; plunger brake. Finish.—Four coats best black enamel, all bright parts nickeled on copper. Fitted with ladies' Garford saddle, round tool bag, wrench and oiler. Weight, 48 pounds.

Price, with 1¼ inch Cushion Tires $100.00
Price, with 2 inch Bidwell (Thomas) Pneumatic Tires . . 125.00



THE LADIES' PSYCHO.

WEIGHT, 42 POUNDS.

PRICE, WITH 1¾-INCH BIDWELL (THOMAS) PNEUMATIC TIRES, $155.00.

The Ladies' Psycho

Needs no words of introduction. Its record for years past as the strongest and most beautiful ladies' wheel made, as well as one of the lightest, is a matter of cycling history. Our inability to complete the dies and gauges for the Ladies' Tourist, without seriously delaying the construction of The Tourist, has led us to adopt the Ladies' Psycho for the reasons above mentioned, as the only wheel fitted to fill its place. Manufactured at Coventry, England, by the well-known Starley Bros., the Psycho wheels have always maintained their reputation among the best-known makers in England. We have handled them for several years past with increasing satisfaction both to ourselves and customers.

The frame, of the well known U pattern, is of one-piece seamless tubing, very light, at the same time rigid and possessing great strength. To no other single merit can the popularity of the Ladies' Psycho be attributed, in like measure to that given by the beauty of its frame. "Curved is the line of beauty" is here exemplified, and many manufacturers have viewed the Ladies' Psycho with longing eyes (the V frame being protected by patent) and tried in vain to equal it in outline.

The wheels are 28 inches in diameter, fitted with direct double butt-ended spokes, nickeled.

The head is ball-bearing 6 inches between centres, with a simple and satisfactory adjustment.

The handle-bars are of one-piece seamless tubular steel, half-circle design, fitted with soft rubber handles, and are brought back well within reach, rendering the rider's position both comfortable and graceful.

The tires are the Bidwell (Thomas) Pneumatic, guaranteed against bursting or leakage of air, and are fully described on page 20.

The bearings are ball throughout, with removable ball runs and hardened steel cones. The balls are carefully gauged, 5-16-inch being used for crank shaft bearings, ¼-inch for the wheels and head, and 3-16-inch for the pedals. The pedals are a size smaller than generally used, and fitted with best quality square rubbers of handsome design.

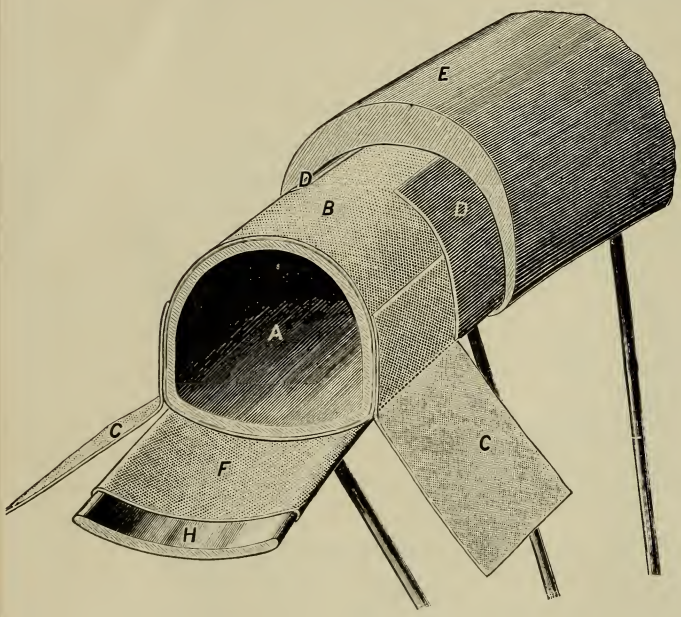
The finish is baked enamel, solid black, with usual bright parts nickeled on copper.

Equipped with ladies' Garford saddle, tool-bag, wrench, screw-driver and oil can ; weight 42 pounds, gear 54 inches.

Price, with 2-inch Bidwell (Thomas) Pneumatic Tires . . $155.00

The Bidwell (Thomas) Pneumatic Tire.

And a Few Points Concerning Genuine Pneumatic versus Air Cushion Tires.—During the Fall of 1890 the question of tires became a subject of much discussion among the manufacturers and dealers, the advent of cushion and pneumatic tires seeming to point to a speedy close of the days of the solid tire. The Spring of 1891 found the public in an undecided state of mind. The manifest advantages of the cushion tire, however, soon made themselves apparent, and while some pneumatic tires were used, despite leaky soft-rubber valves and bursting tubes, yet the cushion tire met the public wants.



CUT NO. 1—CONSTRUCTION.

Realizing the great advantages of the pneumatic tire over the cushion, we obtained control of the Thomas Pneumatic Tire patents early in the Spring of 1891, re-naming it the Bidwell (Thomas) Pneumatic Tire, and commenced studying and experimenting to perfect it.

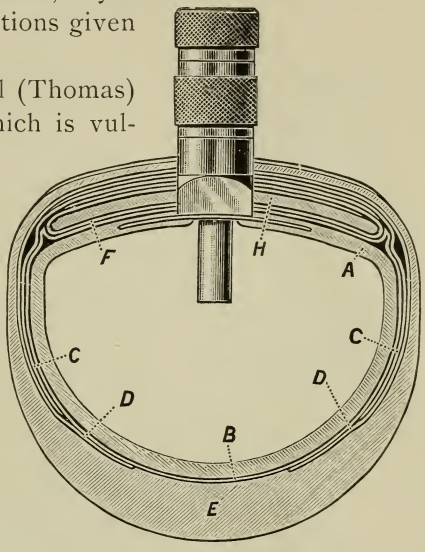
How well we have succeeded is evidenced by the fact that nine-tenths of the manufacturers and importers of the country are having their 1892 wheels fitted with Bidwell (Thomas) Pneumatic Tires, which *we guarantee against bursting of the air tube or leakage of the air valve.*

Some few manufacturers are trying to mislead the public by applying so-called pneumatic tires to their wheels, which are practically cushion tires with an air tube inserted—in other words, air cushion tires. A few of these tires are an improvement on the cushion, but in no way approach the *genuine pneumatic in resiliency, comfort or speed.*

Some objection has been made to the true pneumatic tire owing to a fear of its puncturing. As a matter of fact, a punctured tire is about as rare as "frost in June." It is safe to say a rider with

average care can use his Bidwell (Thomas) Pneumatic Tires over many thousand miles of road, good or bad, without once puncturing it. Should such a contingency occur, however, any rider can make the necessary repairs by following the directions given under the heading "How to repair," etc.

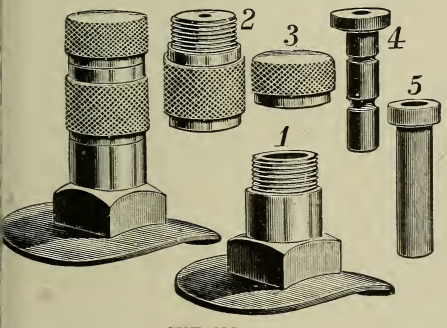
The distinguishing features of the Bidwell (Thomas) Pneumatic Tire are its *non-leakable valve*, which is vulcanized into the air tube, its *seamless, non-expansible tube* (into which the air tube is inserted and which is of itself made to stand an air pressure of over two hundred pounds to the square inch), and its *endless outside cover* or shoe.



CUT NO. 2—CROSS SECTION AND VALVE.

Construction of the Bidwell (Thomas) Pneumatic Tire.

Cut No. 1 shows the construction of the Bidwell Tire, each separate part being lettered to facilitate the explanation, and for convenience in ordering parts. The tire is built up as follows: Starting at the rim of the wheel (H), the canvas strip (F) is cemented smoothly to it, entirely covering the rim. The rubber air tube (A), which is encased in the seamless non-expansible linen jacket (B), to which has been sewn linen flaps or wings (CC), is next put on, and the flaps firmly cemented beneath the rim. An extra reinforcing strip (DD) of linen canvas, to prevent cutting at the edge of the rim and to prevent slipping, is then cemented to the seamless jacket (B), passing under the rim, as shown in cut No. 2. The rubber wearing shoe (E) is put on over all, firmly cemented beneath the rim, and a strip of black rubber friction cloth secured on the inside of the rim covering the edge of the shoe (E), to protect the inner construction against moisture and dirt. The valve is fully shown in cut No. 3.



CUT NO. 3.

Directions for Using the Bidwell (Thomas) Pneumatic Tire.

See that the tire is kept well inflated and never ride it when at all deflated. Herein lies the whole secret of the long life of the tire and

almost entire freedom from trouble. Observe this rule and your Bidwell Pneumatic Tire will be a "thing of comfort and a joy forever."

To inflate the tire, remove the cap No. 3, attach the pump, and inflate as fully as desired ; then replace the cap.

To deflate the tire, remove the cap No. 3 and part No. 2, when the contained air will rush out through the valve.

Should at any time the tire fail to maintain the pressure of air applied to it, it may be found that there is dust in the valve, arising from friction wearing away the rubber "bloom" of the valve, No. 5. In such a case, take out the rubber valves, remove No. 5 from No. 4, and carefully clean the two parts, seeing that No. 5 is in perfect condition.

How to Repair the Bidwell (Thomas) Pneumatic Tire.

There is little liability of any trouble, except a possible puncture, which is an exceedingly rare occurrence, owing to the materials used and the method of construction. Should the tire be punctured, note the following :

It is most always possible to easily locate the puncture by finding the cut in the outside shoe ; when this is impossible, inflate the tire fully, revolve the wheel slowly in a shallow basin of water, and at the point of puncture slight bubbles will appear on the surface of the water. When the puncture is located, deflate the tire ; break loose the inside strip of friction cloth for a space of about twelve inches ; do the same with the outside shoe ; turn that part of the shoe over the edge of the rim ; cut a cross in the canvas jacket ; clean the rubber tube at the point punctured ; cement a small round patch of rubber over the puncture ; let it dry fifteen minutes ; then inflate lightly to enable you to cement a small square of canvas to the canvas jacket where it was cut ; moisten the edge of the shoe with cement ; spring it back into place ; smooth the friction cloth also into place ; properly inflate ; mount your wheel, and go ahead.

Materials and directions for making these slight repairs go with each set of tires. Very few wheelmen will ever have occasion to use them.

Price List of Tire Parts.

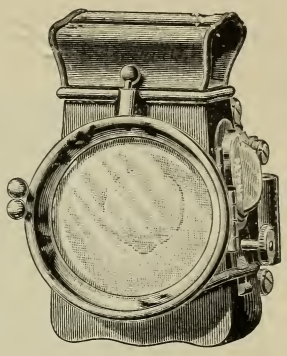
Shoe, E	$6.50
Air Tube with Valve, A	4.50
Linen Tube, Complete, B and C	2.50
Reinforcing Linen, DD	.50
Finishing Strip	.50
Pump	1.00
Repair Kit	.70

Price List of Valve Parts.

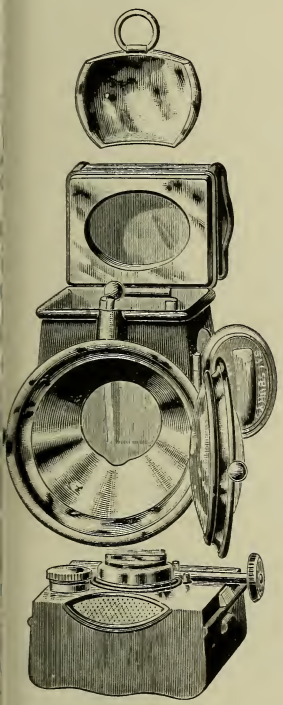
Valve Complete	$1.00
Base Flange, No. 1	.50
Deflating Cap, No. 2	.25
Cover Cap, No. 3	.15
Hard Rubber Valve, No. 4	.10
Soft Rubber Jacket, No. 5	.05

The Tourist Lamp,

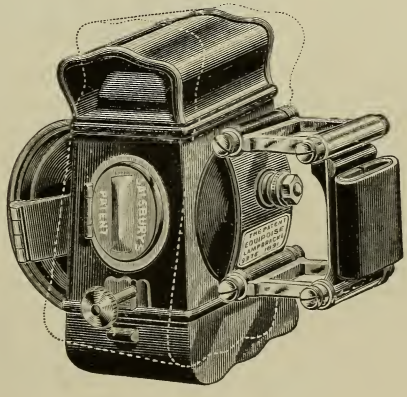
Fitted with Bown's Ball-Bearing Bracket and Equipoise Attachment.



New and important improvements are made in this lamp, in addition to all the best features of other well known makes. The spilling of oil from the reservoir when the wheel is tipped sidewise, is entirely remedied by means of the Equipoise Attachment, an adjustable ball-bearing similar to that used in bicycles, attaching the bracket plate to the back of the Lamp, the greater weight below the centre always keeping the Lamp on its own level. The Bracket is also fitted with a large single ball-bearing at each of its eight bearing points, affording ample adjustment as the bearings wear and effectually removing all rattling of the bracket, in addition to controlling at pleasure the "up and down" movement of the Lamp.



Other points worthy of note are the double convex lens of great magnifying power; Saulsbury unbreakable side lights, left side opening from the rear; locomotive reflectors, capable of throwing a strong clear light to a considerable distance; removable reflector, and detachable top and bottom, the latter containing oil reservoir of special size. The Tourist Lamp is made by William Bown, of Birmingham, England, maker of "Æolus" Ball Bearings,"—a sufficient guarantee that the materials used are the best obtainable. In two sizes; finish, best nickel and enamel.



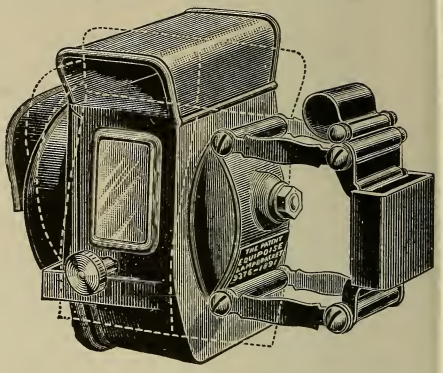
No. 306. Size A (largest size), Enameled.
Price $7.50

No. 306. Size A (largest size), Nickeled.
Price $9.00

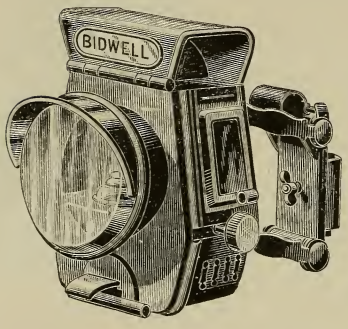
No. 306. Size B (smaller), Enameled.
Price $7.00

No. 306. Size B (smaller), Nickeled.
Price $8.50

The Light of Road Lamp,



Catalogued last year as the Bidwell Lamp. It has been very largely used by many dealers for renting purposes, and has given excellent satisfaction.



It is difficult to extinguish, gives a good, steady light; reservoir and reflector are removable; front door opens at side and has sliding side light for ease in lighting. Various parts are carried in stock. Imported in enamel finish only, with or without Equipoise Bracket. Manufactured by William Bown.

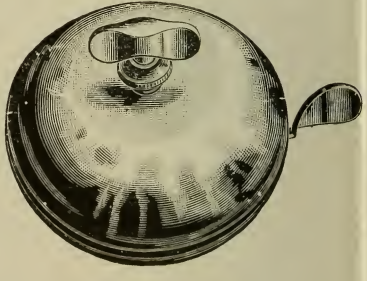
No. 308. With Equipoise Bracket, Enameled. Price . . $4.50
No. 310. Without " " " Price . . 3.50

The Rob Roy Lamp

Is of the same size and model as the Light of Road, though not as well finished, and is not fitted with the sliding side light. It has the same spring and adjustment to the lamp bracket as the better grades, and is by far the best lamp ever offered at the price. Imported in enamel only. No. 312, Enameled. Price $2.75

Perfection Bicycle Alarm.

This is the standard bicycle alarm and has attained that position through continuous improvements made during the nine years it has been upon the market.



The Perfection Alarm can be attached to any make of bicycle or tricycle. On the ordinary bicycle it may be fastened to the brake spoon, and on safeties or tricycles it is attached to the handle bar.

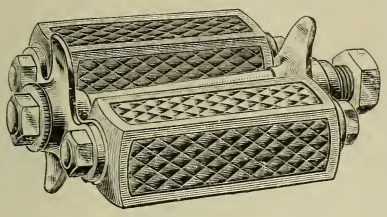
The spring to operate the alarm is contained within the bell, and is wound up by a button on the outside of the gong.

The alarm is given by a slight forward pressure on the projecting lever, which releases the spring movement.

A simple alarm stroke, a succession of strokes, or a continuous alarm, at pleasure of rider. Price $2.50

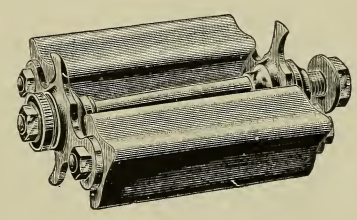
The Tourist Pedal

is made for us by the Colt's Patent Fire Arms Co., and is manufactured in the same perfect manner as The Tourist — every part fitted to gauges exact to the thousandth of an inch. Square Pedal Rubbers of the very finest black Para stock. Diamond cut; impossible to wear out. Price, per pair $10.00

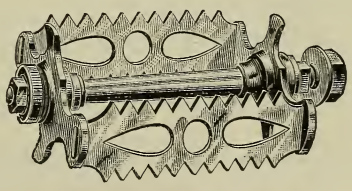


Pedals.—Bown's Æolus.

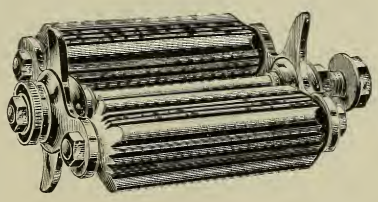
1891 Tourist Ball Pedal, with triangular rubbers. Very light and strong. Price, per pair . $9.00



Tourist Rat Trap Pedal. Weight, 18 ounces; strength guaranteed. Tourist Rat Trap Racing Pedal, 4 teeth to each blade. Price, per pair $10.00



Full Roadster Pedal. Well made and adjusted. Price, per pair, $8.00

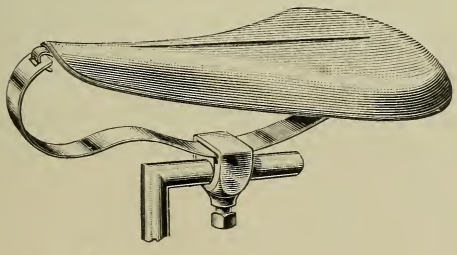


NOTE.—ALL PARTS OF ABOVE ARE STEEL FORGINGS.

Garford Scorcher Saddles.

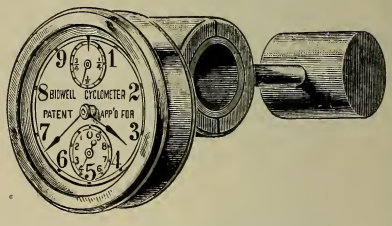
New 1892 model, the cleanest, neatest and most perfect saddle on the market. Weight, one pound eleven ounces. Price . $6.00

Garford Saddles, standard pattern, either men's or women's. Price . . $6.00



The Bidwell Cyclometer.

Since the bicycle was first introduced to the American public, manufacturers, dealers and riders have adopted, tested and discarded numberless instruments for measuring distances.



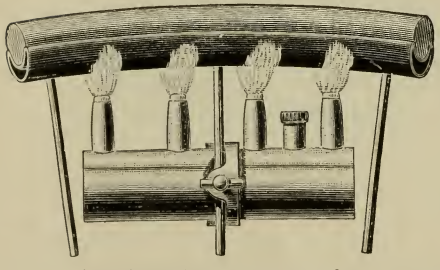
Bicycles, lamps, bells and other cycling accessories have been perfected and accepted by all, but cyclometers have remained to annoy the dealer and deceive the rider.

The Bidwell Cyclometer, first put on the market in 1891, has given universal satisfaction and its large and steadily increasing sale is satisfactory evidence of its reliability. Free from cams or springs, simple and positive in action, it is easily attached, can be read from the saddle, and will accurately record the distance from the first to the thousandth mile. This we guarantee. Made for 26, 28, 30 and 32 inch wheels. Price, nickel plated on copper $10.00

Directions: To place instrument on wheel, remove the screws from both collar and bearing. Place collar on axle, packing with tire tape or rubber if necessary, and taking care to make a close joint. Then replace outer sections. The long hand indicates one mile, and the shorter ten miles to each movement.

Perfection Tire Heater.

This useful article will be found indispensable, and a necessary adjunct to every wheelman's outfit. It is designed to carry in the tool bag. The fluid used is alcohol. In case of a loose solid or cushion tire the heater can be quickly affixed to the spokes, directly under the tire (see illustration), and in a few seconds will melt the old cement in the rim, thereby re-cementing the tire.



The set screw at the centre answers the double purpose of a vent, when half unscrewed, to allow the gases arising from the alcohol to escape, and also when taken out furnishes a ready means of refilling. Each burner is fitted with a cap, fastened to a bar, to prevent the evaporation of the alcohol when not in use. The Tire Heater can be procured of any dealer in bicycles or bicycle sundries, or will be mailed, postpaid, to any part of the United States. Price, polished brass finish $1.00

The Tourist Oiler.

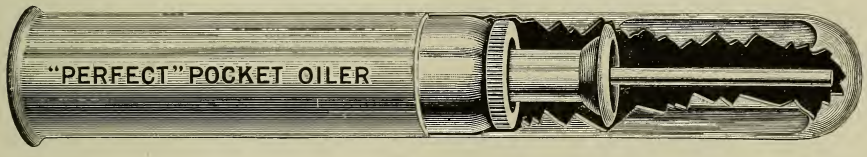
This cut is a full-sized illustration of the Tourist Bicycle Oiler, which is suitable for all uses requiring a small, clean and durable oiler.

Made of extra heavy metal with a handsome finish of nickel plating, always clean and ready for use, the spout being kept free from all dirt or sediment by an attachment soldered in the cover. Price . . . . 25 cents

The "Perfect" Pocket Oiler.

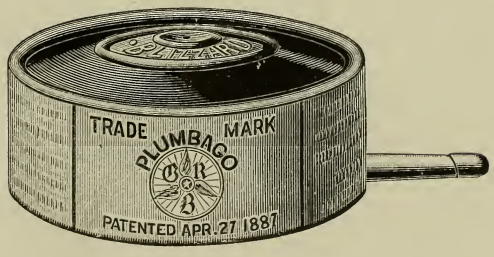
The Cleanest and Handiest Pocket Oiler in the World. This oiler consists of a tube for holding the oil, fitted at the top with a patent tip, which can be unscrewed to refill the oiler.

This tip throws only a small quantity at a time, and prevents all spilling and waste of oil. As the ordinary oil-can throws from 20 drops and upward at each stroke, the immense superiority of this oiler as to neatness, cleanliness and economy will be at once apparent.



The shape and nickel finish make it the handsomest and most convenient oiler in use. Price, each . . . . . 50 cents

Plumbago.



This brand of Plumbago is made of the best Ceylon Lead, ground very fine, and left perfectly dry. In adopting the "Blizzard Gun" as its receptacle, we provide an *economical*, convenient and thorough mode of applying to the chains.

Cycle chains should be perfectly clean before applying the Lubricant. Price . . . 25 cents

Price List of Cycle Accessories.

Bells, Perfection Automatic. Guaranteed $2.50
" Harrison's Double Chime, 2.00
" Single Stroke, large . . 1.00
" Single Stroke, small . . .50
Belts, Snake Buckle, .50, .60, .75, 1.50
Carriers, Lamson's No. 1 for ordinary or Safety . . 1.00
" Lamson's No. 4 for Safeties 1.25
" Lamson's No. 4 double for Safeties . . . 1.50
" Z. & S. 1.25
" Barkman 2.00
Cement, for securing tires . . .25
" for repairing cuts in tires, .25
Chain Cleaner, Automatic . . .75
Coasters, Adjustable, per pair . 1.50
Cyclometers, Bidwell, for 26, 28, 30 & 32-in. wheels, 10.00
Enamel, "Perfection" 50
Flag Standards, or Banner . 4.00
Handles, Soft Rubber, 5/8-inch hole, per pair . . .75
" Soft Rubber, 3/4-inch hole, per pair . . 1.00
" Vulcanite, any size, per pair. 1.00
" Cork, best quality, per pair. 1.00
Lamps, "Tourist," Bown's pat., Ball-bearing Bracket, Equipoise Adjustment, No. 306. Size A (largest), enameled . . . 7.50
" No. 306 Size A (largest), nickeled . . 9.00
" No. 306. Size B (smaller), enameled . . 7.00
" No. 306. Size B (smaller), nickeled . . . 8.50
" Light of Road, No. 308, with Equipoise Adjustment . . . 4.00
" Light of Road, No. 310, without Equipoise Adjustment . . . 3.50
" Rob Roy, No. 312 . . 2.75
L. A. W. Badges . . $2.00 to 10.00
Metal Polish, per can 15
Oil, Lubricating, 1/2-pint can . . .15
" Best Illuminating, 1 pint can, .25
Oilers, Standard flat tinned . . .15
Oilers, Tourist, nickeled . . . $0.25
" Victor, spring top 35
" Perfect 50
Padlock & Chain, Perf'ct'n, brass, .75
" " Nickeled . . 1.00
" " Yale, bronze, 1.00
" " Yale, nickeled, 1.25
" " Lynch buckle, nickeled . 1.00
" " No. 600, bronze, .50
" " No. 600, nick'l'd, .75
" " Boys', blued, .25
Pedals, Tourist 10.00
" 1891 Tourist Tri. Rubber, 9.00
" Bown's No. 2, Sqr'e Rub'r, 8.00
" Bown's Rat-Trap . . . 10.00
Pedal Rubbers, Tourist, per set, 2.00
" " Tourist, tr'ngl'r, 1.50
" " Square, best qual., 1.50
Saddles, Garford Scorcher . . 6.00
" Garford Standard, men's or women's . . . 6.00
" Fish, with bag . . . 7.00
" R. & S., Tens'n Spring, 6.00
" Comfort 6.00
" Racing 4.00
Screw Driver, Novelty . . .50
" " American F'lding, .25
Stands, Safety 1.00
" Buffalo, ordinary . 2.00
Spoke Grip . . . . . .50, .75
Stockings, Worsted, blue, black and gray . . $1.00, 1.50
" Woolen, any color, 1.10, 1.50
Shoes, Gymnas'm, Tennis, Bicycle, $1.00 to 5.00
Supporters, Stockings, Champ'n .75
" " Z and S. . .50
" " " Belt, .35
" Body, Morton's . . .50
Tire Heater, Perfection . . . 1.00
Tires, all sizes . . . . $1.00 to 6.00
Tool Bags, Boys' Round 75
" " Standard Round. . 1.25
Tool Brush, Cyclists' 50
Whistles, Duplex, Calliope, Surprise, Sp'ngf'ld, each, .25
Wrenches, Majestic, 5-in. blued, .75
" " " nick'l'd, .85
" B. & S. 4-in. blued, . .75
" " " nick'l'd, 1.00
" Victor, nickeled . . 1.00
" Acme, polished, . . .50

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