



Bulletin #29

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📖 Riding 🌿 Collecting 🌿 Restoring 🌿 Research 🌿 History 📖

## Learning to Ride the Star and Eagle Bicycles

The principles of balance of the Star and Eagle are very much the same. Indeed the rider cannot take a header in the “Ordinary” sense of the word, that is by sailing over the handlebars. However, a “header” is a distinct possibility if the rider applies too much power to the pedals or attempts a steep up-hill run without adequately leaning forward over the bars. Before learning to mount these rearing beasts the beginner should enlist the aid of a friend or a fence in order to climb aboard the Star or Eagle. In this manner the novice gets the feel of the fore and aft balance of the machine by riding it for a while. You must learn to lean forward over the bars an extra measure when ascending hills or applying added power to the pedals. Until you understand the balance of these machines, you would do well to keep the saddle adjusted forward. Otherwise the front wheel will soon be in the air and you will be riding a unicycle.

### STAR

The Star is the first machine with a small front wheel to become acquainted with. Unlike the Eagle, the Star can be scooted until you get that feeling of balance peculiar to this type of bicycle. Unfortunately, with the Eagle there is no such half-way point in mounting. You must get on all at once. This can be painful if not executed with knowledge and confidence. So, choose a small Star to learn on if at all possible. A Pony Star is a little easier to get around on than a larger roadster.

The American Star was the most interesting, most successful, and most famous answer to the hazzard of headers from the “Ordinary” high wheel bicycle of the eighties. It was built from 1880 to the very end of the high wheel era, the product of the H.B. Smith Machine Company of Smithville, New Jersey. Early models may weigh 65 pounds or more, but continued refinement made them competitive with Ordinaries by the late eighties. They handle beautifully for skilled riders and were even used to play polo! However, they are very different from any other bicycle and those who would learn to ride them should not follow their first impulse to leap on and be off.

In most years, Stars were built in two sizes only, unlike the Ordinaries which came in increments of two inches. You can ride any size Star—you just push the levers down and let them rise to your leg range; there is no particular bottom or top to the stroke. The smaller size started around

45 inches and finally got down to the Pony Star at 39 inches. The company correctly said the smaller machine was lighter, safer, and better, but most riders bought the big one which seems to have been 52 inches in 1885 and 48 inches a few years later. Just because you ride a 50 inch Ordinary does not mean you ride a 50 inch Star. You will find the Star much more difficult to mount.

Make certain that your machine is in sound working order. Tires that come off, leather straps that break, or saddles that give way certainly don’t make for safe riding. Replace your old, hardened rubber pedal pads with soft, new rubber that will hold your feet. It is quite painful to get kicked in the shins repeatedly by your “old mule” when your feet slip and H. B. Smith’s well engineered spring snaps the drive lever up against your leg. The Star’s ratchet drive allows for no back pedaling as a method of braking. You must depend on a brake in good working condition in order to keep your lunging beast under control. Wear snug fitting shoes with hard rubber soles if you are learning to mount. If you have original bakelite handle grips you should replace them with wood or brass until you have mastered the machine. By the way, the front fork is supposed to rake back, not forward as on modern bikes. The staff at one museum assembled theirs wrong and the pictures have been widely circulated.

The first stage in learning to mount a Star is to coast on its mounting step, which is located near the axle on the

left side. Choose a smooth, level course. Stand facing forward on the left of your wheel, holding both handles. Place the ball of your left foot securely on the step. Develop forward momentum by hopping and pushing with the right foot. As you rise to the step, lean as far forward as possible. Keep the machine steering straight ahead and on an even balance. There should be little chance of falling over on your machine if you jump off on the side which you are falling. Practice the sideways balance by coasting on one pedal of a modern safety. Stand down as your Star slows and practice coasting again and again.

Complete the mount from the controlled coasting position. Continuing to lean forward over the bars, swing your right leg high and clear over the saddle. Take your riding position and pump away.

Before you do this, however, fix the dismount firmly in your mind. Know just where that elusive little step is or, if you prefer, the larger frame member near the axle. Practice getting to know where it is almost by feel. It is helpful to look down briefly as your toe finds its way. Then, as your machine slows, put your weight on the step and swing your right leg over the saddle. Jump lightly to the ground, landing on your toes and cushioning the impact with your knees. You will find that you have released your grip on the right handle and are standing beside your Star, holding it up with your left hand. Another exit is directly to the rear. Keep in mind that you can't possibly clear the big wheel while holding both handles *and* keeping the little wheel on the ground! When your momentum is sufficiently slow, pull quickly back on the handles as you vault from the saddle towards the ground behind you. You will land, clear of the big wheel, behind your machine, holding both handles, with the front wheel high in the air. A little

## EAGLE

Once you have become thoroughly familiar with the fore, aft, and sideways balance of the Star, you are ready to get right on the Eagle! All that you need is a lot of confidence. However, remember that there is no half-way on an Eagle—it's either all on or not. So here is how it is done: standing at the left of your machine, take the handles and run slowly forward. The whole idea is to step on the pedal just as it reaches its lowest point. The trick is to leap high from your right foot just as you place your left foot on the rising left pedal. Then ride the pedal up. The Eagle's forward momentum will carry you (or at least your left leg) into position. Remember that you must lean forward and maintain the machine's sideways balance as you do all of the above. It's a good idea here to have an assistant ready

safer variation of this dismount is to use the step or frame member from which to vault backwards. Take comfort in the fact that when you find yourself in a situation where you are toppling over backwards you can land on your feet by pulling back on the bars as in the rear dismount.

The Star's unique lever action and ratcheting strap drive may be a little disconcerting to you at first, especially when you realize that both feet start in the up position. Since the stroke has no distinct bottom to it for your body to work against, your hands and seat must take this added load. There may be a moment of panic until you remember that you must pull a leg back up for another stroke to keep going. Any length and pattern of stroke may be used. You can pump alternately or drive the levers down together for greater power. Many Star racers got off to a blazing start by thrusting down on both levers at the start of the race. In hill climbing, place most of your weight on the pedals, lean forward, and take short quick strokes at the bottom of your reach, as this is the most powerful part of the stroke. The lever action of the strap drive develops a "gearing up" effect. By changing the attachment position (there are two) you can modify this leverage.

As you get to know your Star, endeavor to place the majority of your weight on the large driving wheel. By keeping your weight off the front wheel, especially on a rough surface, you will find that your machine is easier to control and more comfortable to ride. The going will be easier too, if you can do some of the steering by balance. In the old days, proficient Star riders were able to ride hands off. (Try it!) Readjust your saddle position rearwards from the learning position, centering it just back of the middle of the big wheel. This will help you get your weight off the front wheel. Just remember—lean forward!!

to catch or steady you on the other side of the bicycle. Be determined that you are going to make it into the saddle as you step and vault upwards. If it appears that you are falling short of your goal and straddling the rear saddle support or big wheel is imminent, pull quickly back on the bars, lifting the front wheel off the ground and landing on your feet. Once you are in the saddle lean forward and quickly catch the pedals, and you are on your way.

The standing mount on the Eagle is the quickest and easiest to do, yet the hardest to learn. The left pedal should be forward, a little below the height of the axle (below the horizontal). Grasp both handles, place your left foot on the pedal, and leap up to the saddle from the right foot, taking care to lean forward and keep the little wheel firmly on the ground. The moment your weight is on the pedal, the

Eagle will start forward and give you sufficient motion to guide it until your other foot reaches the right pedal, which will then be forward ready to push. Don't get the machine rolling before stepping on the pedal because the bicycle will be at a standstill by the time you reach the saddle and the right pedal will be all the way down.

The best way to get off an Eagle is by the pedal dismount, as with the Ordinary. As your machine slows and either pedal reaches its lowest point, throw all of your weight upon it. At the same time bring the other leg over the big wheel and jump to the ground, holding your Eagle up as you land. You can also exit directly to the rear by pulling quickly back on the handles as you throw yourself backwards. You will clear the big wheel and land neatly on your feet, with the little wheel suspended in the air. As thoughtfully pointed out in the 1889 Eagle catalog, the rider "...should never attempt to step or jump off backward over the rear wheel for he will be quite likely to catch astride it, or the rear of the saddle spring, and fall flat before he could get his feet under him."

As with the Star, learn to ride the Eagle with the saddle adjusted well forward. Then as you get the feel of the bicycle, move the saddle back so that more of your weight is on the big wheel. Riding and steering is easier with as little weight on the front wheel as possible. In hill climbing, the saddle can be unstrung and dropped so that more weight can be put on the pedals. In the old days proficient Eagle pilots rode hands-off by balancing and leaning. Some pros even rode on one wheel, using only body-English to steer. Obstacles could be avoided in this manner. Both Eagles and Stars are great coasters. Remove

your feet from the pedals and cross them relaxingly over the steering rod. Remember though, no over-the-handlebars dismounts!

Another Eagle trick is riding side-saddle. When your left pedal is at its lowest point, swing your right leg around the rear of the wheel and carry it forward between your left leg and the machine, taking seat on the saddle just as the pedal reaches its highest point. Continue to propel yourself with your left foot. If you start to fall, throw both feet forward and around the steering rod, attempting to land on both feet and holding up the Eagle. You can also ride standing on one pedal by supporting your weight on both handlebars when the pedal is rising and then allowing your full weight to bear on the pedal as it falls, always leaning forward and keeping the little wheel on the ground. For another trick you can "scull" (propel without pedalling) your Eagle on a smooth surface by assuming the coasting position and turning the handles quickly from side to side without letting the little wheel slip. In this way forward progress can be maintained. Now try vaulting onto your Eagle from the rear. Stand directly behind the machine, holding both handles with the front wheel high in the air. Run forward a few steps, put on the brake, and leap into the saddle—taking care to land on it and not on the big wheel. Now the little wheel will once again be on the ground, so lean forward and pedal off. If you are still looking for more tricks, try riding your Eagle backwards! They say it can be done...with some difficulty. Or use your Eagle (or Star) to play bicycle polo. Then try a "wheelie." Ride on the big wheel while the little one is in the air. But whatever you do, lean *forward* and enjoy your Eagle and/or Star.