

WHO INVENTED THE MOUNTAIN BIKE?

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INTRODUCTION.

Beginning around 1982, a sea change affected the sales of bicycles in America and Europe. The buyers switched from road bikes to mountain bikes. Tires went from skinny to fat, and riders went from a crouched position on dropped handlebars to a more erect position on flat handlebars.

The switch from ordinary bicycles to safety bicycles in the 1890s was a similar sea change. The safety bicycle evolved by degrees and there was no true inventor. Many historians pick John Kemp Starley's 1885 Rover as the first true safety bicycle, but few say that Starley invented the safety bicycle.

The 1970s mountain bike originated in Marin County in northern California. The 1860s pedal-operated bicycle (velocipede) originated in Paris. The two events have one thing in common. Two decades after the prototypes appeared, there was dispute over the inventor.

This paper will describe the development (or the invention) of the mountain bike as told to me first hand by the five major participants: Gary Fisher, Charlie Kelly, Joe Breeze, Tom Ritchey, and Mike Sinyard.

Gary Fisher claims to be the inventor of the mountain bike. None of the people who were present during the gestation and birth process agree with his claim.

There are many similarities between Michaux's claim to have invented the velocipede and Gary Fisher's claim to have invented the mountain bike. Before we can discuss either claim, we must agree on the meaning of inventor.

I have huge advantage over the historians who are researching Michaux and Lallement. I was living in Marin County and writing for *Bicycling* magazine during the whole transition from road bikes to mountain bikes. I know all of the main characters. Everyone is still alive. This paper records their recollection of the events. Perhaps by studying the 1970 events, we can re-evaluate the 1860 events and decide who should get the credit.

CAST OF CHARACTERS.

I tape recorded my interviews with Gary Fisher, Joe Breeze, Charlie Kelly, Tom Ritchey, and Mike Sinyard. I personally interviewed or had long telephone conversations with Otis Guy, Alan Bonds, Russ Mahon and John Finley Scott. I sent preliminary drafts of this paper to all of the participants for comments and corrections.

Gary Fisher was born in 1950. He started bike racing at age 12. He was riding and building fat-tired clunkers from 1973 onward. He was the first person in Marin to put derailleurs on a fat-tire bike. He founded the *MountainBikes* company with Charlie Kelly as his partner in 1979. He started his own company, *Fisher MountainBikes*, in 1983. Today, he lives in San Anselmo and he is the President of the Fisher Bicycle Corporation, a Division of Trek.

Joe Breeze was born in 1953. He was an serious bicycle racer and a frame builder. He started riding fat-tired clunkers in Marin in 1973. In 1977 and 1978, he built ten frames and assembled ten purpose-built mountain bikes. His *Breezers* demonstrated the market for new mountain bikes. Today, he lives in Fairfax and heads his own company, *Breeze Cycles*, which imports high quality mountain bikes.

Charlie Kelly was born in 1945. He and Gary Fisher shared a house from 1971 through 1977. He and Gary founded *MountainBikes*. Charlie was the writer and the publicist. Today, he is the keeper of the sacred records on early mountain biking. He lives in San Anselmo, where he writes for half a dozen magazines and runs a household moving business.

Tom Ritchey was born in 1956. He was a very successful Junior racer. He became a full time bicycle frame builder as soon as he graduated from high school. In 1979, he built the first dozen frames for *MountainBikes*. Tom built the frames for about half of the first 2000 mountain bikes from 1979 to 1982. Today, he lives in the Cupertino, California area and owns his own company, *Ritchey Designs*.

Mike Sinyard was born in 1949. He met the Cinelli family in 1974, while on vacation in Italy. This led to the founding of Specialized Bicycle Imports. In 1982, Specialized imported the *Stumpjumper*, the first widely advertised, mass-produced mountain bike to be sold in regular bike stores. Today, he owns *Specialized* and he lives in Morgan Hill.

Otis Guy was a Marin bike racer and an early Repack rider. He was present during the critical 1974 to 1976 period. Today, he is a Marin firefighter and a frame builder. He makes about 25 custom-built road and mountain bikes per year.

Alan Bonds shared a house with Gary Fisher and Charlie Kelly from 1976 to 1978. In the last half of 1976, he bought 100 old bikes from Legendary Wocus. Alan refinished the old bikes and sold them as clunkers.

Russ Mahon lived in Cupertino, south of San Francisco. In early 1973, he built the first clunker with derailleurs and all of the mountain bike features. Gary Fisher saw Russ Mahon's clunker in December, 1974.

John Finley Scott built a fat-tire bike with hybrid gearing (3-sprocket freewheel plus 4-speed Sturmey Archer hub) in 1953. He built a 10-speed "Woodsy Bike" with 650B rims and tires in 1960. He bought 110 mountain bike frames from Tom Ritchey in 1979 and he financed the *Mountainbikes* startup in 1979.

DEFINITIONS.

If I say that XYZ *invented* the *Mountain Bike*, I must define what I mean by *Mountain Bike* and *Invent*. A different definition may define a different inventor.

Definition of Mountain Bike. A *mountain bike* should include six essential features, in order of importance:

1. **Fat tires.** *Mountain bikes* have tires 26 inches in diameter by at least 2 inches wide. All of the early bikes used knobby tires.
2. **Upright riding position and flat handlebars.** Handlebar shape varies, but mountain bikes have flat, roadster-style bars. If it has dropped racing handlebars, it isn't a *mountain bike*.
3. **Derailleur gearing.** The first Marin fat-tire bicycles were called *clunkers* or *ballooners*. They used one-speed coaster brakes. By the time they were sold to the public as *mountain bikes*, they had front and rear derailleurs, wide-range gearing with at least fifteen speeds, three chainwheels on the front and five or six sprockets on the back. The Low gear was 26-inches or lower. Until about 1983, SunTour thumb shifters mounted on the handlebars were a hallmark of mountain bikes. (Fig 1.)
4. **Good brakes.** The early clunkers bikes needed good brakes because they were developed on the slopes of Mount Tamalpais and many were used as downhill racers. The rear coaster brakes on the old Schwinns could not dissipate much heat. The first clunkers used drum brakes from old tandems or old Schwinns, if the rider could find them. The first custom-built bikes used cantilever brakes. Cantilevers worked well in dry conditions but with chrome-plated steel rims, they did not stop well in the wet. When aluminum rims became available, cantilever brakes became universal. Motorcycle brake levers, cables, and casings were used to increase the braking effectiveness.

5. **Off-road use.** The early mountain bikes were designed for off-road use. They had knobby tires, strong frames, high bottom brackets, long cranks, relaxed frame angles, and heavy duty, mud-proof components. Quick-release seat posts were often used so the saddle could be lowered for descents.
6. **Marin County Origin.** This is not a technical feature but it defines which early bikes were part of the lineal development of today's mountain bikes. Just as the pedal-driven velocipede originated in Paris in the 1860s, so the mountain bike originated in Marin County, California, in the 1970s. Other fat-tired, derailleur-gear, properly braked roadsters were built elsewhere before 1975. There were many more than the ones that I have listed. They were not *mountain bikes* because nothing came of them.

The above definition describes the first generation of mountain bikes from, say, 1978 to 1983. Except for the relaxed frame angles, it's still a reasonable definition of today's front and rear suspended motorless motorcycles.

Definition of *Invent*. This is more critical and more controversial because the definition may determine the inventor.

There are several dictionary definitions for the verb *invent*. The usage that applies to bicycles is:

Webster - To discover as by study or experiment; produce for the first time; as to *invent* printing.

Synonyms - *Invent, create, discover*, mean to bring into being something new. *Invent* always implies fabrication, now, especially as the result of study, experiment, etc. *Create* implies an evoking into being, originally out of nothing but, later, as if out of nothing. *Discover* presupposes the existence of something and lack of knowledge and therefore implies its finding by exploration, investigation, etc. One *invents* a device, *creates* a work of art, *discovers* the laws of motion.

Random House - To originate or create as a product of one's own ingenuity, experimentation or contrivance: to invent the telegraph.

Oxford - To find out in the way of original contrivance, to create, produce, or construct by original thought or ingenuity.

Frank Berto's Interpretation of Invent. I interpret these dictionary definitions that an inventor must pass three tests. First, the inventor must have the original idea and not copy someone else's prior idea. Second, the inventor must make the first prototype, which can not be a copy of someone else's prototype. Third, the inventor must actively participate in the subsequent developments that lead to the utilization of the invention. A genuine inventor must pass all three tests.

Terminology Used In This Paper. I use the word *clunker* to describe a pre-mountain bike that used an old roadster frame. There were coaster brake clunkers and derailleur clunkers. I use the words *mountain bike* to describe a bicycle with a brand new frame that satisfies the mountain bike definition. Everything before Joe Breeze's 1977 *Breezer* was a clunker. A *Cruiser* is a single-speed, coaster brake, balloon-tired bicycle that is popular in Southern California. A *BMX* bike was a single-speed bike used by teenagers for Bicycle Moto-Cross racing.

CRITERIA FOR MOUNTAIN BIKE INVENTION.

Assuming that the mountain bike resulted from invention rather than from evolution, then the inventor should meet the following criteria, roughly in order of importance:

1. He was first to conceive the idea for the mountain bike and he did not get the idea from someone else.

2. He made the first prototype mountain bike that included all of the definitive characteristics and he did not copy someone else's earlier mountain bike. (If someone else's earlier mountain bike had all of the essential mountain bike characteristics, then someone else is the true inventor, if he meets the rest of the requirements for inventor.)
3. His prototype mountain bike was the *progenitor*, that is the oldest ancestor of a direct line of bikes, that became what we call mountain bikes today.
4. After making the prototype, he was actively involved in the development of subsequent mountain bikes.
5. He was the first to use the name *mountain bike* to describe his bicycles.
6. He got a patent on the mountain bike. (Patents are good for dating ideas. However, the patent holder isn't always the inventor. He's just the first person to claim the invention at the patent office.)

There are problems when a device evolves over a period of time rather than being one person's unique brain storm. Somewhat similar devices usually existed prior to the "invention date". Someone always finds an earlier device that seems to disqualify any inventor. That's why historians have so much fun debunking accepted history.

Dunlop's Invention of the Pneumatic Tire. The pneumatic bicycle tire is the classic example. Today, almost every bicycle history book accepts that John B. Dunlop invented the pneumatic tire in 1888. Yet, R. W. Thompson patented the pneumatic tire in 1845 and Dunlop's patent should have been invalid because of prior art.

Nevertheless, Dunlop meets the criteria for the inventor of the pneumatic tire and it does not matter (to me anyway) if Dunlop was aware of Thompson's previous invention. The thing that we call a tire today developed from Dunlop's 1888 efforts and not from Thompson's 1845 patent. Dunlop's tire was the progenitor of today's tire.

The mountain bike was a combination of features and components. All of them had been invented earlier. It is easy to say that there is no true inventor because it was all prior art. Alternatively, there may be an inventor who meets almost all of the criteria. To help you decide, here is a chronology of the events that led to the mountain bike.

THE CHRONOLOGICAL STORY. (Just the facts, ma'am)

1933. The Schwinn B10E. Frank W. Schwinn introduced the Schwinn B-10E bicycle. This was the first mass market bike in America since the 1890s to use wire bead tires and inner tubes. The B-10E used 26 x 2.125 low pressure balloon tires which were similar to the balloon tires being used on cars. Schwinn's balloon tire innovation created a new U. S. market for better quality bicycles. (Fig. 2)

The B-10E was typical of Schwinn's pre-war balloon tired bicycles. The basic frame geometry used very shallow frame angles, lots of fork rake, and a high bottom bracket. The Excelsior was one of Schwinn's top quality bicycle brands in the mid 1930s. (Fig. 3)

The pre-war Schwinn Excelsior got the reputation as the ideal frame for off-road down hill racing in Marin. Joe Breeze copied the Excelsior's geometry in 1977. Tom Ritchey copied the Excelsior's geometry in 1979 from Joe Breeze's *Breezer*. Mike Sinyard copied the Excelsior's geometry in 1981 from Tom Ritchey's *MountainBike*. "Marin" geometry was standard on mountain bikes until about 1985.

In 1937, Schwinn introduced the front and rear drum brakes. In the early 1950s, Schwinn developed a strap-on cantilever front brake conversion kit. These items were much sought after by the early clunker builders. (Fig. 4)

1970 to 1971. Larkspur Canyon Gang. Sometime around 1970, the precursors of mountain bikes appeared in Larkspur and Mill Valley, two small towns on the east slope of Mount Tamalpais in Marin County, north of San Francisco. The first riders belonged to the Larkspur Canyon Gang. Gang meant a dozen casual friends rather than anything sinister. They started riding old one-speed, coaster brake, newsboy bikes on the trails of Mount Tamalpais, just for kicks. They called their bikes *beaters* or *ballooners*. The Larkspur Canyon Gang ran a race from the top of Mount Tamalpais to Larkspur Canyon using any trail the rider chose. First prize was an envelope of pot. However, not all of the riders were pot-smoking hippies.

At that time, technical innovation consisted of using the best coaster brake and fitting a front drum brake if you could find one. If your bike broke, you threw it away and bought another one at the Goodwill Store for \$5.00.

1972. Marc Vendetti was a member of the Larkspur Canyon Gang. In 1972, he became interested in road bike racing and joined Marin's road racing club, Velo Club Tamalpais. It was an active club. In the early 1970s, Marin was a bicycle racing hot bed. Gary Fisher was a Category One racer but he did not race for Velo Club Tamalpais.

1973. Marc introduced off-road clunker riding to the Velo Club Tamalpais. Joe Breeze, Otis Guy, and Charlie Kelly were early converts. They bought old clunker bikes and started riding them on the trails of Mount Tamalpais for training and for fun. Gary Fisher had been riding clunkers on and off since 1971. You didn't have to be a bike racer to ride a clunker in Marin. Firemen, bike shop mechanics, high school and college students, and just plain members of the general public bought clunkers and used them both on the trails and for general transportation.

By the end of 1973, there were twenty or thirty clunker riders in Marin, mostly men in their teens and twenties. In the early 1970s, Marin's clunkers and their riders had a counter-culture image, especially to *straights* like your writer, who had three teen-age sons at the time. Most of the riders lived in Fairfax and San Anselmo, two small towns on the north slope of Mount Tamalpais.

The early bikes were called many names but they were usually called *clunkers* in Fairfax and San Anselmo.

Upgrading the Clunker. The clunkers got better as the riders learned that old Schwinn bike frames were best for severe use. They held up better than other brands and they were better than the newer Schwinn middleweight bicycles with cantilever frames. (Fig. 18) They learned that Morrow coaster brakes dissipated heat better than Bendix coaster brakes, which were better than New Departure coaster brakes.

Front wheel brakes from any source were desirable. The lever-actuated two-speed Bendix coaster brake had a following. Long Ashtabula cranks were sought after. Sturmey Archer three-speed hubs fitted with large sprockets quickly "cratered" in clunker service. Sturmey Archer hub brakes overheated on long down grades. In a low key, trial and error fashion, Marin's clunker riders improved the performance of their off-road bikes.

Carlisle (Uniroyal) made knobby blackwall tires in 26 x 1.75 and 26 x 2.125 sizes. Parts were readily available. Schwinn, Huff, AMF, Ross, and Roadmaster were still making new coaster-brake, one-speed, middleweight bicycles with 26 x 1.75 tires that sold for \$40 to \$80 price range. The Marin riders saved their money. They bought older stronger bikes with 26 x 2.125 balloon tires at second hand stores for \$5.00 or so.

Russ Mahon and the Cupertino Bikes. Completely distinct from the Marin developments, a similar fat-tire movement took place in the Cupertino area of Santa Clara County, south of San Francisco. In 1972, Russ Mahon and some of his friends started riding fat-tire bikes in the Santa Cruz mountains. They formed the Morrow Dirt Club, which grew to ten members. The club was named after the Morrow coaster brake. Each member built his own off-road bike which they called *bombers*. Russ Mahon was a carpenter. In his spare time, he assembled three bomber bikes for use by his family friends. (Fig. 5)

In February, 1973, Russ built a rear wheel using a French Atom drum brake hub and a five-sprocket freewheel. He installed this wheel on his Wards Hawthorne bomber bike. It already had a front drum brake. He completed the bike with long arm plastic brake levers, a Shimano Tourney rear derailleur, a double crankset and a front derailleur from a Schwinn Varsity, and SunTour thumb shifters. Russ Mahon's February, 1973 bomber bike met all of the basic technical requirements for a mountain bike except for heavy duty motorcycle brake levers, cables, and casings.

By the end of 1973, about half of the members of the Morrow Dirt Club had abandoned coaster brakes and were riding ten-speed derailleur clunkers at a time when the Marin County riders were still using coaster brakes.

1974. This was the last year of the ten-speed bike boom in the U. S. and the year of the great gasoline shortage. It was the critical year for the invention of the mountain bike in Marin County.

Gary Fisher's First 1974 Geared Clunker. Gary Fisher recalls that he built the first clunker with a Maxicar drum brake rear hub and a rear derailleur in September, 1974. By Gary's recollection, over the next few months, he added handlebar-mounted shift levers, a front derailleur and a double crankset to this bike. The next year, he added a TA triple crankset and SunTour thumb shifters. The pads on the Maxi-Car rear hub wore out and Gary rebuilt the wheel using an Exceloo rear hub.

Gary can not produce any hard evidence to support the September, 1974 date for this prototype bike. (Fig. 6) Gary had the prototype bike until 1996. The bike is now in the Shimano Museum in Osaka. I saw it and photographed it in 1996, before it was shipped to Japan.

Prototypes outlive inventors, creating huge problems for historians. After fifty years or so, there are no experts left to point out the anachronisms. There are good reasons for this problem. The inventor usually improves and upgrades the first prototype, destroying the original in the process.

The prototype that I saw has major problems with Gary's claimed September 1974 production date because:

- The adapter that allowed a cotterless crankset (TA or any other) to be installed in a 2-inch diameter Ashtabula bottom bracket was not made until 1976 at the earliest. Gary could have used a double-chainwheel Ashtabula-style crankset in 1974, but not a cottered TA triple.
- The Shimano 600 rear derailleur not available until mid 1975. It was first advertised in the March 1975 *Bicycling* magazine as *NEW*. I wrote a derailleur test for that issue and I could not get a Shimano 600 to test.
- Many of the people who rode with Gary recall that his first derailleur bike was a red and ivory B. F. Goodrich (made by Schwinn) and that it had stem shift levers mounted on the handlebar. The prototype has a nickel-plated Schwinn Excelsior frame and SunTour thumb shifters.
- The Cook Brothers BMX-style front fork was not available for 26-inch wheels until 1977. Pictures of Gary's 1975- and 1976 bikes show Ashtabula-style front forks.

When Gary and I reviewed the draft of this paper in August, 1997, he agreed that the bike in the Shimano Museum is a *replica* of the various clunkers that he rode in the middle 1970s and that it was not built in 1974.

The December, 1974 Mill Valley Cyclo-Cross Race. There's no question that on December 1, 1974, Russ Mahon, Bernie Mahon, and Carter Cox drove up from Cupertino to ride in the Mill Valley cyclo-cross race. They brought their three fat-tire clunkers. Each bike was a bit different but all had with drum brakes, front and rear derailleurs, and SunTour thumb shifters.

Gary Fisher and Otis Guy were in this race. Gary was riding his cyclo-cross bike. Charlie Kelly and Joe Breeze were spectators. Everyone saw the "Cupertino" bikes. There is a picture of Gary looking at the "Cupertino" bikes in the starting lineup. (Fig. 7)

At the end of the race, the three went back to Cupertino and disappeared from the mountain bike story. The Morrow Dirt Club disbanded in 1975 as members of the moved away from Cupertino.

Charlie Kelly and Otis Guy believe that Gary Fisher got the idea of adding derailleurs and thumb shifters to his clunker when he saw the “Cupertino” bikes. Gary Fisher recalls that he was surprised to see that somebody else was building derailleur clunkers and that they needed better brakes.

I have been unable to find anything in writing or a dated picture to confirm the date for Gary Fisher’s first prototype mountain bike. Lacking any hard evidence, I have to rely on the twenty-two year old recollections of the four people who were on the scene at the time.

1975. Gary Fisher’s Early Geared Clunkers. Charlie Kelly and Otis Guy recall first seeing Gary Fisher’s red and cream B. F. Goodrich clunker equipped with derailleurs in the summer of 1975. Joe Breeze is uncertain of the date but he recalls that Gary’s first derailleur bike didn’t have SunTour thumb shifters. It had a stem shifters mounted on the handlebars.

Gary recalls that he built two or three more 10-speed clunkers in 1975 and there are undated pictures of two of them. Gary says that he built a clunker for Fred Wolf in 1975 with an Ashtabula triple crankset and Suntour front and rear derailleurs. This mud-covered bike is pictured the September, 1979 *Mariah Outside* magazine. (Fig. 8)

Gary says he built another clunker with a green Schwinn Excelsior frame for his personal use in 1975. This clunker is pictured in color in the 1991 book, *Climb Every Mountain the Mountain Bike Way*. (Fig. 9.) The bike in the photo is dated by the Shimano Positron stem shift levers mounted on the handlebars. The first Positron rear derailleur, marketed in 1975, had two cables and the two cables are clearly visible.

Charlie Kelly, Joe Breeze, and Otis Guy all agree that Gary assembled the first derailleur clunker in Marin County.

Derailleur gearing improved the clunker’s off-road capabilities. By the end of 1975, half a dozen people besides Gary Fisher had fitted derailleur gearing to their clunkers. Joe Breeze and Otis Guy stuck with their authentic coaster brake clunkers. The number of Marin clunker riders grew to perhaps fifty.

1976. The derailleur-equipped clunker was catching on in Marin. Many people built their own clunkers but a tiny cottage industry developed to convert old roadster bikes, mostly Schwinn, into clunkers and sell them.

Gary Fisher, Charlie Kelly, and Alan Bonds shared a rented house at 32 Humbolt Avenue in San Anselmo. They had an informal arrangement to build clunkers for their own use or to sell to friends. Charlie sought out frames and components in his travels with *The Sons of Champlin* rock band. Gary worked in the *Wheels Unlimited* bike store in San Rafael and he knew where to find new components. Alan, Gary, and Charlie were not alone. There were half a dozen other clunker assemblers in 1976.

Alan Bonds and Legendary Wocus. Alan Bonds heard about a fantastic Wocus Bike Shop in Klamath Falls, Oregon. In mid-1976, Alan Bonds and a friend drove a truck to Klamath Falls to investigate. They asked for directions to the Wocus Bike Shop at a gas station. “You mean *Legendary Wocus*,” the man replied, and gave them exact directions.

It wasn’t a fantasy. Mr. Wocus repaired bikes for the local kids. He owned a house with a large lot and he had been dismantling old bikes for many years. There were six monster piles of rusty bike frames in his back yard. Each pile was approximately twenty bikes in diameter and ten bikes high. He had separate piles of wheels, forks, and handlebars. The hubs, brakes, chains, etc. were in pails and barrels in the outbuildings.

They made a deal to buy fifty frames complete with components for three dollars each. Mr. Wocus allowed them to pick through the piles and barrels and select the choice items. They rooted through the piles for the rest of the afternoon until they filled the truck.

Alan Bonds went back a month later and bought another fifty bikes. The two truck loads pretty much high-graded the Schwinn Excelsior frames, Morrow coaster brakes, Union drum brakes, etc. from the *Legendary Wocus* mother lode. Marin builders made pilgrimages to Klamath Falls for five more years, to pick through the remnants.

Alan Bonds now had a stockpile. He sand-blasted frames, repainted them in authentic period colors, and assembled clunkers for the local Marin market. Alan's recollection is that he assembled about 25 clunkers in 1976. Half had derailleurs and the other half had coaster brakes. Gary Fisher supplied Alan with the necessary special components. Alan recalls that Gary built about three clunkers and Charlie Kelly built one clunker in 1976. Most of the other clunker assemblers bought frames from Alan. The *Legendary Wocus* trove helped Marin reach a critical mass.

By the end of 1976, there were about twenty geared clunkers in Marin. When a Campagnolo Record-equipped Schwinn Paramount cost \$600, the going price for a clunker with derailleur gearing was around \$400.

The Repack Races. The first Repack race was a down hill time trial held on the Pine Mountain fire road on Mount Tamalpais on October 21, 1976. It was organized by Charlie Kelly and Fred Wolf to settle an argument over who was the fastest descender. Repack was named because the steep 2.1 mile down hill course burned the grease out of the coaster brakes and they had to be "repacked." Seven people were in the first race. Alan Bonds won. He was the only rider who didn't fall. (Fig 10)

Not every one knew about the first race so a second race was held a week later with a field of nine. Bob Burrows won the second race on a 1950 Schwinn Spitfire rebuilt by Gary Fisher to include drum brakes and front and rear derailleurs.

Nine Repack races held in 1976, eight in 1977, three in 1978, and two in 1979. There were "final" races in 1983 and 1984. I rode in the 1983 race. Charlie Kelly organized and publicized most of the Repack races and he was the timer and record keeper. The scheduling depended on Charlie's travels with the rock band. Most of the races were held in the fall after the end of bicycle road racing season and after the first rains made the fire road more useable.

Gary Fisher won four races and set the course record of 4 minutes, 22 seconds, which still stands. Joe Breeze won the most races (10) and he holds the second fastest time of 4 minutes, 24 seconds.

The Repack race was the critical for the development of the mountain bike in Marin County. In a typical race, five or six racers would fail to finish because of mechanical failures. Winning depended largely on rider skill but everyone sought to gain a technical edge. When something worked, it was quickly copied.

Joe Breeze and Otis Guy continued to ride their one-speeds but there was an advantage to derailleur gearing. Without the Repack proving ground, the mountain bike would probably have developed differently and it certainly would have taken longer. Repack was the U. S. equivalent of the Polymultipliée races and exhibitions that took place in Chanteloup, France in the 1950s

The number of Marin clunker riders increased to about a hundred. There was a shortage of suitable old frames to replace the casualties and to satisfy the new customers. There were lots of newer middleweight Schwinn cantilever frames but they didn't hold up as well as the older Schwinn's.

Craig Mitchell's First Frame. Charlie Kelly weighed 180 pounds and he was hard on bikes. In 1976, he asked Joe Breeze to build a custom clunker frame. Joe was busy so Charlie asked Craig Mitchell, another local frame builder, to build a custom frame. Craig completed the frame in ten days. Rather than copying the Schwinn Excelsior frame dimensions, he provided steeper frame angles and a shorter wheelbase. Craig's first custom clunker frame was closer to the geometry of today's mountain bikes.

Charlie assembled the bike as a ten-speed with front and rear derailleurs. He fitted a set of Ashtabula forks which had too much rake. The bike was an unsatisfactory downhill racer. Charlie dismantled the bike after two weeks and returned the frame to Craig. The first custom-built mountain bike was resold and reportedly shipped to Australia.

1977. The First Breezers. In the spring of 1977, Charlie Kelly again asked Joe Breeze to build a clunker frame. Joe agreed and Charlie made a down payment. Joe was a good choice. He was an experienced frame builder and a good designer and machinist in addition to road racing and clunker racing on Repack.

The frames of the Schwinn-based clunkers were weak and heavy. Some of the Schwinn clunkers weighed as much as 50 pounds. Joe designed a clunker frame that was both stronger and lighter. There was a significant local demand for custom built mountain bikes and when the word got out, Joe got eight more orders

He was a slow and methodical designer and builder. He prepared drawings (Fig. 11) and ordered tubing and components. The prototype, which was Joe's personal bike, was completed in September, 1977. Joe's bike was painted and it had a hand-made fork with reinforcing stays. The last nine bikes were nickel-plated and had Cook Brothers BMX forks.

1978. Joe Breeze kept going until he completed the remaining nine frames. The last nine frames were nickel-plated at once and they were assembled and delivered starting in June, 1978. Everyone called them *Breezers*. (Fig. 12)

The *Breezer* geometry was straight from the Schwinn Excelsior but Joe designed a conventional diamond frame using straight tubes with an extra pair of small diameter tubes extending from the rear dropout to the head tube. The frame was made from unbutted chrome-moly aircraft tubing. The first *Breezers* weighed 38 pounds. Much of the weight was in the steel rims and heavy tires but that was all that was available in 1978.

The *Breezers* were genuine mountain bikes even though that name wasn't used in 1978. They used Phil Wood hubs and bottom brackets, Dia-Compe cantilever brakes, Magura motorcycle brake levers, TA Cyclotouriste double or triple cranksets, SunTour thumb shifters, and either Shimano or SunTour derailleurs.

Joe Breeze designed and fabricated the first modern mountain bikes. The *Breezers* were new bicycles with new components. They were widely seen and admired and they proved that there was a market for something better than grungy old Schwinns. The *Breezers* expanded the market beyond Marin County. Gary Fisher and Charlie Kelly did not sell any of the first ten *Breezers*. Joe sold them himself for \$750 for a complete bike.

Crested Butte to Pearl Pass. Reports reached Marin of a Colorado bicycle race from Crested Butte to Aspen on a rocky trail over Pearl Pass (12,700 feet). In September, 1978, Joe Breeze, Mike Castelli, Wende Cragg, and Charlie Kelly drove to Crested Butte. Gary Fisher flew in from Emmaus, PA, where he had been road testing bicycles for *Bicycling* magazine. Joe, Charlie, and Wende took their *Breezers*. Gary and Mike took their old Schwinns with derailleurs.

The Butte riders were mostly forest firefighters and patrons of the Grubstake Bar and Grill. They rode plain vanilla one-speed Schwinns. It turned out that it wasn't really a race. It was more of an event and they had decided not to put it on. When they found out that the five people, including Wende Cragg, a woman, had driven a thousand miles to participate, the event was quickly rescheduled.

During the transit of Pearl Pass, it was obvious that geared bicycles with good brakes were much better than one-speeds. It was also obvious that the custom-made *Breezers* were more durable than the old Schwinn clunkers. After the event was over, Gary Fisher pulled a wheelie to impress the small fry in Aspen and his handlebars broke off.

In November, 1978, Gary Fisher ordered three custom clunker frames from Jeff Richmond. Jeff took four months to complete the order. Gary didn't order a *Breezer* because he didn't like the twin lateral frame design.

In late 1978, Schwinn introduced the *Klunker V* which sold for \$160. This had fat tires and five-speed derailleur gearing but it was closer to a beach cruiser than a mountain bike.

1979. First Ritchey MountainBike. The demand remained for custom-built, fat-tire, off-road bikes. After the *Breezers*, it was hard to call a custom-built bike a *clunker*. Marin, indeed most of Northern California, had been "mined" clean of suitable old frames. Foraging expeditions to the hinterlands came back empty handed. Gary needed a rapid frame builder.

In January, 1979, Joe Breeze visited Tom Ritchey, a Palo Alto frame builder. Tom was building a tandem for Joe and Otis Guy to use on their cross-America record attempt. Joe took his *Breezer* with him to show Tom how the twin lateral tubes should be installed on the tandem.

Tom was already riding off-road on a lightweight bicycle with tubular tires. He had a project to build a lightweight off-road bicycle using 650B (26 x 1-1/2) tires and alloy rims. When he saw the *Breezer*, he put that project on hold and decided to build his own custom clunker using 26 x 2.125 tires. Tom felt that he could make a lighter bike by using a larger diameter (1-1/4 inch) down tube. Tom's frame geometry was again based on the proven Schwinn Excelsior.

Tom rode in the January 20, 1979 Repack race on Wende Cragg's Schwinn clunker. He crashed when the handlebar twisted. This led to the later development of the *Bull Moose* handlebar.

Gary Fisher and Tom Ritchey discussed mountain bikes at the race. Gary recalls that he ordered three frames from Tom. Tom made the three frames in two weeks. Tom decided to keep one frame for himself. Gary picked up the two frames in February, 1979.

Tom recalls that Gary ordered one frame. Tom made the second frame for himself and decided to make an extra frame since he and Gary rode the same size. This was basis of the "one for Tom, one for Gary, and one to sell" story.

Tom was only twenty, but he was already a well known frame builder, making and selling about 250 road frames a year. Tom was rapid and prolific frame builder. He was also a skilled machinist and he had the machine shop to make the exotic parts needed for custom clunkers.

There are two versions of the story of the next batch of Ritchey frames. Tom recalls that after he completed the first three, he decided to build a second batch of nine more frames. When they were finished, he called Gary to see if he wanted to sell them. Gary recalls that he ordered ten more frames at the end of February when he picked up the first two.

The nine (or ten) frames were completed in three weeks and Gary picked them up in mid-March. In 1979, Tom charged \$450 each for painted frames with forks. Forks were time consuming to build and added to the price. Gary paid for the frames as he sold the completed bicycles. Gary sold the ten frames over the next three or four months.

It was a hectic year for Gary Fisher. He was a serious Category One bicycle racer. He went to France for several weeks to race and to train. He spent three months in Colorado Springs, the training center for the U. S. Olympic bicycle team. Eddie Borysewicz, the team coach, told Gary that he was too old and would never be a top road racer. It was time for a career change.

The Origin of the MountainBikes Company. In the summer of 1979, Gary Fisher was returning from Palo Alto to with a car load of Ritchey frames. On the way home, he saw Charlie Kelly in Fairfax. They no longer shared a house. Gary stopped to show Charlie the new frames.

They both agreed that Tom Ritchey was the prolific frame builder that would allow the business to expand. Gary needed more help to handle the growing business. Then and there, they pooled their total capital (about \$300), opened a joint bank account, and founded *MountainBikes*. Either Charlie Kelly or Gary Fisher coined the name *MountainBikes* in September, 1979 when they applied for a business license.

MountainBikes assembled Tom Ritchey's frames into bicycles and sold them for around \$1300, payable in advance. After you paid your money, Gary shopped around for the components to complete the Ritchey-*MountainBike*. (Fig. 13)

The bikes were called Ritchey-*MountainBikes* when Tom Ritchey supplied the frames. *Mountainbikes* bought frames from other frame builders but Tom was the major supplier. The first catalog emphasized the Ritchey name. Many people assumed that Tom Ritchey owned *MountainBikes*, or at least that he was a partner. This wasn't the case. Gary Fisher and Charlie Kelly owned *MountainBikes*. There was no written contract between *MountainBikes* and Tom Ritchey. Everything was word of mouth. This caused serious problems four years later.

Tom Ritchey was a friend of John Finley Scott. John saw the potential of the mountain bike market. He recognized the trend and planned to be a major part of it. John ordered 100 mountain bike frames from Tom Ritchey. The price was \$190 for an unpainted frame without forks. When John asked for a volume discount, Tom agreed to supply 110 frames for the same price. John's huge frame order allowed Tom to build the jigs to speed up his frame building operation.

John Scott's mountain bike sales plans did not develop as rapidly as he hoped. It required considerable organization to make the forks, paint the frames, and assemble the bicycles. John stored most of the frames in his garage in Davis.

John knew of the *Mountainbikes* operation in Fairfax. He approached Gary Fisher and offered to sell Gary the Ritchey frames on a "pay-as-you-sell-them" basis. John loaned Gary \$10,000 to keep the *MountainBikes* company growing.

The first *Mountainbikes* used an eclectic mix of components: Huret Duopar rear derailleur, Simplex front derailleur, SunTour thumb shifters, TA Cyclo-tourist triple crankset, Suntour Winner freewheel, Phil Wood hubs, Mafac tandem cantilever brakes, Magura motorcycle brake levers, and an Avocet saddle. *MountainBikes* kept an inventory of the special components to allow people to build their own mountain bikes.

The first few *Mountainbikes* used steel rims. In 1979, both Araya and Ukai made 26-inch alloy rims for the adult BMX market. This made the cantilever brakes more effective. When the Cycle Pro Snakebelly skin-wall mountain bike tire appeared in 1980, the tire-rim combination took six pounds off the weight of the wheels. The lightest version of the Ritchey/*Mountain-Bike* weighed only 28 pounds.

In 1979, something like 200 custom-built mountain bikes were sold. This included about 40 Ritchey-*MountainBikes* and about 75 Mert Lawill *Pro Cruisers*. The \$500 TIG-welded *Pro Cruiser* was a high tech production but the component selection was poor and frame design was marginal. (Fig. 14) Other custom builders made smaller quantities.

In 1979 Schwinn change the name of the Klunker V to Spitfire V and raised the price to \$173. Estimating mountain bike sales is difficult because of bikes like the Schwinn's. Were they mountain bikes, or cruisers, or BMX bikes?

1980. Four companies exhibited mountain bikes at the Long Beach Bike Show in January, 1980.

Tom Ritchey made the first *Bull Moose* combined handlebar-stem in early 1980. Fat-tire bikes required a longer bottom bracket spindle so that the chainwheels cleared the chainstay. Tom made a custom sealed bearing bottom bracket that provided wide-spaced bearings.

Gary Fisher won the Reseda to the Sea Challenge Race on a mountain bike in March and he came second in the Sacramento District Cyclo-cross championship on a mountain bike. These results suggested that the mountain bike was more than just a downhill racer.

Fat Tire Flyer. Charlie Kelly published the first issue of *Fat Tire Flyer* in August, 1980. (Fig. 16) Old *Fat Tire Flyers* are the prime source of early mountain bike history. Denise Carmagna took over as editor with the third issue. Charlie was the major publicist of the early mountain bike era.

About 150 Ritchey-*MountainBikes* were sold in 1980. This was probably half of the total sales of genuine mountain bikes. Joe made and sold 25 *Breezers* in 1980 and 1981. The second-generation *Breezers* didn't have twin lateral tubes.

There was only a 5-speed Cruiser in the 1980 Schwinn catalog.

1981. Fifteen custom builders exhibited mountain bikes at the January, 1981 Long Beach Show. There were mountain bike races in southern California.

Tom Ritchey had two part time employees who prepared the tubing. Tom did all of the frame brazing himself. Tom made six different mountain bike frame sizes. He would make 100 frames in one size and then take a few weeks off.

John Finley Scott purchased Spence Wolfe's Cupertino Bike Shop in January, 1981. It became the headquarters for mountain bike sales south of San Francisco. Gary Fisher repaid his loan to John with finished Ritchey-*Mountainbikes*, which were sold by the Cupertino Bike Shop.

The Specialized Stumpjumper. Mike Sinyard's company, Specialized Bicycle Imports, (SBI), sold imported parts to *MountainBikes*. Mike could see the growing market. Mike recalls that in mid-1981, he bought one Ritchey-*MountainBike* for his personal use and three mountain bikes for his friends.

Mike Sinyard and his designer, Tim Neenan, liked what they saw. Mike decided to import a Japanese-made mountain bike. Tim suggested minor design changes. Mike took his Ritchey-*MountainBike* and Neenan's drawings to Japan and ordered copies from Toyo. Toyo was already building road bikes for SBI. (Fig. 15)

There is an interesting story about this bike (or bikes). Many Ritchey frames did not have forks, so the forks were made by other frame builders. Forks were time consuming because there were no lugs available. (Fig. 18) Tom's frames had a sloping top tube. John Paget was one of the frame builders who made forks. He assumed that the frames had a level top tube and he made a batch of forks that were about half an inch too long. Gary and Charlie needed to make deliveries so they used the forks. This resulted in extra fender clearance and a slightly shallower head angle. The bikes that Mike bought had the long forks and this shows in the first *Stumpjumpers*.

The mountain bike gospel spread far beyond Marin. There were organized races in numerous western states. The Fisher-Kelly-Ritchey operation sold about 500 Ritchey-*Mountain Bikes* in 1981. They had lots of competition from other small builders but *MountainBikes* was the clear leader. The Ritchey frameset sold retail for \$625. A complete bike was \$1300.

The 1981 Schwinn King Sting 5 was a 5-speed adult BMX bike for \$550. The 1981 Murray *Baja* sold like hot cakes for \$120. With fat tires and ten-speed derailleur gearing, it looked like a mountain bike but everything else was gas-pipe quality.

1982. About twenty small makers exhibited at the January, 1982 Long Beach bicycle show or advertised in the 1982 *Fat Tire Flyers*. These included: Joe Breeze (*Breezer*), Colorado Bicycle Co., (*Roughrider*), Charlie Cunningham (*Indian*), Richard Cunningham (*Mantis*), Cupertino Bike Shop (*Saturn*), Barry Konig (*Proteus*), Erik Koski (*Trailmaster*), Mert Lawill (*Pro-Cruiser*), Jeff Lindsay (*Mountain Goat*), Moots Cycle (*Mountaineer*), Scot Nicol (*Ibis*), Glen Odell (*Bruiser*), Chris Pauley (*Tierra*), Steve Potts (*Wilderness Trail Bikes*), Angel Rodriguez (*R & E Cycles*), Mike Rust (*Rocky Mountain Bicycle Works*), Erik Sampson (*Rock Creek Cycles*), Ross Shafer (*Salsa*), and Victor Vicente (*VVA*).

Most of the small custom builders sold direct to the customer. You paid \$300 down and got your bike a few weeks or months later.

The Fisher-Kelly-Ritchey *MountainBikes* operation was unique. Almost all of the frames were hand built by Tom Ritchey but his quantities approached factory production. 500 Ritchey-*MountainBikes* were sold in 1982. Prices ranged from \$820 for a Ritchey *Mount Tam* to \$1500 for a Ritchey *Everest*.

Mountain Bikes Enter the Mass Market. 1982 was the last year that the small custom builders dominated the market. There was a significant change at the January, 1982 Long Beach Bicycle Show. Three major bike makers; Specialized, Univega, and Schwinn displayed factory-made mountain bikes that were sold at regular bike shops across America.

Mike Sinyard's \$750 Specialized *Stumpjumper* was the talk of the show. He imported only 500 in 1982. Mike could have sold many more but there were shortages of financing and components. Specialized was an effective marketer. They advertised widely and expanded the mass market for mountain bikes.

Univega imported and sold about 3000 Univega *Alpina Sport* mountain bikes, made in Japan by Araya. Araya provided the frame design Excelsior. (Fig. 17.) The 1982 *Alpina Sport* had a 48-36 double chainwheel so it wasn't a hill climber but it only cost \$500. Ben Lawee, who owned Univega, was famous for picking hot trends. The next year, Univega imported four mountain bike models made in Japan by Miyata.

Schwinn had two 1982 fat-tire offerings; the *King Sting* and the *Sidewinder*. Schwinn couldn't decide if they were mountain bikes, adult BMX bikes, or heavy duty cruisers. Both were available with one-, five-, or ten-speed gearing but they had inadequate brakes, high-rise handlebars, and poor frame geometry.

1983. My chronology ends in 1983 with the mountain bike fully in the main stream. About 5% of 1983 U. S. bicycle sales were mountain bikes. In 1983, there were bicycles (which meant road bikes) and mountain bikes. Ten years later the proportions were reversed. In 1993, mountain bikes and hybrids had 95% of the adult market and road bikes had less than 5%. In 1993, there were bicycles (which meant mountain bikes) and road bikes.

In 1983, you could still buy mountain bikes from the small custom builders but almost all of the major makers were in the market. Centurion, Cycle Pro, Diamondback, Fuji, KHS, Miyata, Puch, Raleigh of America, Ross, Schwinn, Sekai, SR, Takara, Trek, and Univega were all supplying mountain bikes in numerous price ranges to their dealer networks. AMF, Huffy, and Murray of Ohio were supplying inexpensive, gas pipe, quasi-mountain bikes to the department stores.

The Japanese component companies, especially SunTour, had closely followed the mountain bike trend. In 1983, SunTour introduced *Mountech* and Shimano introduced *Deore XT* mountain bike gruppi. Sugino and Sakae introduced triple cranksets for mountain bikes. The window of opportunity for Huret, Mafac, Simplex, and TA had been wide open for five years. Now, it slammed shut.

Specialized introduced the \$500 *Stumpjumper Sport* to go with the \$750 *Stumpjumper*. Gary Fisher and Tom Ritchey went to Japan and contracted to have a less expensive *MountainBike* made by Panasonic. The *Montare* was available in three models priced from \$450 to \$750.

In early 1983, Gary Fisher and Charlie Kelly changed the name of their company to *Kelly-Fisher MountainBikes*. There never was a formal written agreement with Tom Ritchey. Other custom builders supplied frames to *MountainBikes*. If the frame was made by Tom Ritchey, the bicycle was called a *Ritchey-MountainBike*. The Ritchey name on the decal certainly added value to a *MountainBike*.

Tom Ritchey's company was called *Ritchey Custom Cycles* but by 1983, Tom was largely out of the custom frame building business. He made two grades of mountain bike frames. The top quality frames became the \$1800 Ritchey *Everest* or the \$1100 Ritchey *McKinley*. The less expensive frames became the \$875 Ritchey *Mount Tam*. Even with the competition, about 1000 *Ritchey-MountainBikes* were sold in 1983.

MountainBikes' problem was financing. As they grew, they hired more employees, bought more components, carried more inventory, and went deeper into debt. They were later and later in their frame payments to Tom. Tom was the major creditor.

In mid-1983, Gary Fisher bought out Charlie Kelly for \$2300 and an Apple computer. The price was low because *MountainBikes* was so deeply in debt.

Both Gary Fisher and Tom Ritchey had plans for the future but their plans were quite different. At the end of 1983, their disagreements came to a head and the breakup was less than amicable.

PREDECESSORS THAT WEREN'T MOUNTAIN BIKES.

1930 - Vernon Blake Roadster. Vernon Blake was a fascinating character and a friend and protégé of Velocio. He was an editor for the British magazine, *Cycling*, and he had a major influence on UK bicycle developments.

He and Velocio both believed in the chain flotante. Flotantistes used two or three chainwheels and a single-sprocket freewheel. The lower run of chain hung loose. Down shifts were made by kicking the chain with the heel. Upshifts were made by lifting the chain with a wire hook or a finger.

In the May, 1930, *C. T. C. Gazette*, Blake described a bicycle that he made for bad roads and long hills. It used 26 by 2 inch balloon tires. The gear train used 48-36-24 chainwheels and a reversible rear wheel with a 16-tooth sprocket on one side and an 18-tooth on the other. It had roadster handlebars, cantilever brakes, and hand-made brake levers. (Fig. 19)

Was this the first mountain bike? Would it have been the first mountain bike if Vernon Blake had fitted derailleurs, or if it had been designed for off-road use?

Probably not. The problem wasn't lack of technical features but timing. Blake was premature and nothing came of his bicycle. The cycling world wasn't ready for mountain bikes in 1930.

1953 - John Finley Scott was a sociology professor at the University of California at Davis in the 1970s with an independent outside income. He was a bicycle innovator. As a undergraduate student in 1953, he assembled a fat-tired off-road bike using a diamond frame, flat handlebars and a hybrid gear train with a Sturmey Archer four-speed hub, an 18 to 28 three-cog freewheel, and an Super Champion rear derailleur. He proved to himself that with low enough gearing it was possible to ride over rough single track trails. This bike was stolen. (Fig. 20)

John's 1960 "Woodsy Bike" had a custom-built Jeff Butter frame with 650B rims and tires, dropped handlebars, sidepull brakes, Cyclo Benelux rear derailleur, Simplex front derailleur, TA 52-49-30 triple crankset and a 14 to 28 five sprocket freewheel. John pedaled this bike thousands of miles over numerous high mountain passes. The cycling world wasn't ready for mountain bikes in 1960. John shows up again in the mountain bike story in 1979 when he bought 110 frames from Tom Ritchey and provided the initial financing for Gary Fisher.

1961/1962 - Schwinn Corvette. Frank W. Schwinn believed in derailleur bicycles. The problem was educating the American market. The 1961-62 *Corvette* was a five-speed derailleur version of a popular middleweight Schwinn bicycle. (Fig. 21) It had middleweight tires, flat handle bars, derailleur gears and moderately effective caliper brakes. It sold poorly when ten-speed Schwinn *Varsitys* and *Continental*s were selling well. With chrome fenders and front and rear racks, the *Corvette* was clearly not designed for off-road use.

1973. - Russ Mahon and the "Cupertino" Bikes. Russ Mahon started building fat-tired bikes for off-road riding in the Cupertino, California area in 1972. In February, 1973, Russ Mahon added front and rear derailleurs and a five-speed drum-brake hub to a Wards Hawthorne (built by Columbia) clunker bike. Russ's 1973 clunker had all of the essential elements that define a mountain bike; fat tires, flat handlebars, derailleur gearing, thumb shifters, and effective brakes. (Fig. 23) Russ made two similar derailleur-g geared clunkers for his family. His friends made about six additional fat-tired bikes with derailleur gears.

In December, 1974, Russ Mahon, Bernie Mahon, and Carter Cox brought their three fat-tire bikes with derailleurs to a cyclo-cross race in Mill Valley, California. Gary Fisher, Joe Breeze, Charlie Kelly, and Otis Guy were at the race and they all saw the bikes. (Fig. 21)

After the December, 1974 race, Russ went back to Cupertino and simply disappeared from further mountain bike developments. By my definition of *invent*, Russ Mahon is not the inventor of the mountain bike because he had nothing further to do with mountain bike development after 1974.

ORIGIN OF THE NAME “MOUNTAIN BIKE.”

In 1869 A drawing of a *Gebirgevelocipede* (mountain bike) appeared in an 1869 German magazine. (Fig. 22) The balloon-supported bicycle would not have been very practical but it was probably the first use of the word *mountain bike*.

Either Charlie Kelly or Gary Fisher coined the name *MountainBike* in September, 1979, when they took out a Marin business in the name *MountainBikes*. The early catalogs spelled it either Mountain Bikes (two words) or MountainBikes (one word).

In 1980, Charlie Kelly hired a lawyer to trademark the name. They asked for trademarks for MountainBike, Mountainbike, Mountain Bike, and mountain bike. The trademark office asked if the bike was only for mountain use. The lawyer said, “Yes.” The correct answer was “No” and the trademark was refused. Gary and Charlie did not mention their failure to get a trademark at the time. It was generally accepted that they had a trademark.

In the mid 1970s, in Santa Barbara, California, Wing Bamboo, a native American, used the term “mountain bike” to describe his fat-tired clunker. James McLean, who became a salesman for Specialized, says that he heard Wing Bamboo use the name in Santa Barbara and suggested the name to Charlie Kelly in 1978.

Gary’s and Charlie’s *MountainBikes* operation was the first to use the name in Marin to describe their fat-tired bicycles and they certainly popularized the name mountain bike.

The final insult came when *Bicycling* magazine decided that *mountain bike* was an unsuitable generic name. They had a contest for a better name. The winner was *ATB* (All Terrain Bicycle.) *Bicycling* decreed that henceforth mountain bikes would be called *ATBs*. This caused confusion for three or four years, but the public would not buy the *ATB* name. Today, *mountain bike* is the generic name for a fat tire bike. This raises an interesting question. If *Bicycling*’s name, *ATB*, had won out, would Gary Fisher claim to be the inventor of the *ATB*? Gary says, “Yes.”

ESTIMATED PRODUCTION OF GEARED CLUNKERS AND MOUNTAIN BIKES.

Year	Derailleur Clunkers	Mountain Bikes
1973	3 (Cupertino)	0
1974	3 (Cupertino)	0
1975	5 (Marin)	0
1976	15 (Marin)	0
1977	25 (Marin)	2
1978	30 (Marin)	9
1979	?	200
1980	?	300
1981	?	2000
1982	?	5,000
1983	?	100,000

The above table is a very rough effort to show the growth of mountain bikes and pre-mountain bikes in the San Francisco Bay area in the first decade. From 1973 to 1978, the table shows the approximate numbers of fat-tired, derailleur-g geared bikes with old frames (Derailleur Clunkers). From 1977 to 1983, the table shows new custom-built frames (Mountain Bikes). The figures are approximations because nobody really kept count and it’s hard to separate the quasi-mountain bikes, like the Murray Baja, from the genuine article.

SUMMARY OF THE SIGNIFICANT EVENTS THAT LED TO THE MOUNTAIN BIKE.

Significant Event.	Date and Person.
Old balloon-tired clunkers ridden off-road in Marin and Santa Clara. The best old models were modified to include better brakes	1970 - Larkspur Canyon Gang members in Marin. 1972 - Russ Mahon and others in the Cupertino area. 1973 - Gary Fisher, Marc Vendetti, Joe Breeze, and Otis Guy in Marin.
Ten-speed clunkers with drum brakes, freewheel, and rear derailleur, double crankset and front derailleur.	1973 - Russ Mahon in the Cupertino area. Either late 1974 or mid 1975 - Gary Fisher in Marin.
First purpose built mountain bike frame.	1976 - Frame built by Craig Mitchell for Charlie Kelly.
First complete new mountain bike with new frame, new components, cantilever brakes, front and rear derailleurs, thumb shifters, and triple crankset.	1977 - Joe Breeze. 1979 - Tom Ritchey. Ritchey frames were assembled into <i>MountainBikes</i> by Gary Fisher and Charlie Kelly.
First commercial use of the name <i>MountainBike</i> .	1979 - Gary Fisher and Charlie Kelly.
First mass produced genuine mountain bikes for regular retail distribution.	1982 - Mike Sinyard (Specialized Stumpjumper). 1982 - Ben Lawee (Univega Alpina Sport).

SO WHO REALLY INVENTED THE MOUNTAIN BIKE?

Gary Fisher claims that he invented the mountain bike. None of the pioneers that I interviewed claims to be the inventor. Depending on the definition of “inventor”, there are three choices:

1. **Russ Mahon** invented the mountain bike because he made the first fat-tired, off-road bike with all of the essential features in February, 1973. He assembled three off-road bikes with derailleur gearing and used them in the Cupertino area. Gary Fisher saw Russ Mahon’s bike in December, 1974.
2. **Gary Fisher** invented the mountain bike. Gary Fisher has not produced hard evidence to support his claim that he fitted a freewheel and a rear derailleur to his Schwinn clunker in September, 1974, before he saw Russ Mahon’s “Cupertino” bike. There is considerable evidence to support a mid-1975 date. Assuming that Gary made his first derailleur-equipped bike in mid-1975, after he had seen Russ Mahon’s bikes, Gary could be the inventor because:
 - Gary assembled the first clunker in Marin with all of the key mountain bike features.
 - Gary’s 1975 clunker was the *progenitor* of today’s mountain bikes.
 - Gary was actively linked to the progression of events that led to the development of mountain bikes.
 - Gary (and/or Charlie Kelly) were the first persons to call a clunker a *MountainBike* and they popularized the generic name, “mountain bike.”
3. **No One Person** invented the mountain bike. Mountain bikes just happened when enough of the early pioneers piled enough developmental logs on to the mountain bike bonfire. Critical mass was achieved and the mountain bike mushroomed.

Gary Fisher is not the inventor of the mountain bike because he did not have the brain storm for the first clunker developments in Marin County and he saw Russ Mahon’s “Cupertino” derailleur-equipped clunker in 1974 before he added a derailleur to his clunker.

Russ Mahon is not the inventor of the mountain bike because he had nothing further to do with mountain bike developments after 1974.

LESSONS FOR BICYCLE HISTORIANS.

How does this apply to Lallemond, the Michauxs, and the Olivier brothers?

Problems with Dates. My first observation is that people have poor memories for dates. Even though the events that led to today's mountain bike took place less than twenty five years ago and all of the principals are still alive, I found it difficult to fix the dates within a year. It was necessary to read letters, catalogs, and magazines to fix the correct dates. The most reliable dating mechanism is the publication date of the literature. We can be sure that an event took place before the date of publication of literature that described the event. The later the publication, the greater the likelihood that the author is repeating old myths or inventing new ones.

Pre-dating Inventions. The interesting parallel is between Gary Fisher and Pierre Michaux. Pierre and Ernst Michaux (or the later historians) had to pre-date the Michaux invention of the velocipede back to either 1855 or 1861 to pre-date Lallemond's 1863 velocipede. Gary Fisher apparently pre-dated his first derailleur-equipped clunker from mid-1975 back to September, 1974 to pre-date his sighting of Russ Mahon's derailleur-equipped clunker. The Michauxs needed to rewrite history by eight years. Gary Fisher needs less than a year.

Problems with Prior Art. This is a serious problem with the mountain bike because it was a combination of features and there were many similar earlier bicycles. This is less of a problem with the velocipede. We eliminate Kirkpatrick MacMillan by saying *pedal-driven*.

Few inventions take place without something similar having been invented beforehand. Does the inventor's original brain storm have to be virginal? If the inventor didn't know about the prior device, can he be the inventor? Is it the *existence* of the prior device or the inventor's *awareness* of the prior device that is critical? The dictionary definitions don't help us in these areas.

Historians must decide if the prior bicycles were essentially the same as the inventor's bicycle. "Velocipede" and "mountain bike" must be precisely defined to establish if the later bicycles were different from the earlier bicycles.

If the later velocipede or mountain bike was essentially the same as the earlier one, and if the maker of the later bicycle was aware of the earlier bicycle, then we have to assume that he copied the earlier bicycle and he is not the inventor. The dictionary definition for invent requires originality.

Other Requirements for Invention. Finally, we have to decide if the prior inventor actively pursued his invention. The dictionary definitions give us some help here. An inventor must fabricate subsequent devices. My litmus test is that the inventor's first device should be the progenitor of the line of later devices. There are three cumulative requirements; the original idea, the first prototype, and the subsequent development. This often leads to the situation where there is no inventor because no one person meets all three requirements.

Comparisons with Michaux and Lallemond. If the Michauxs did not know about Lallemond's velocipede, we can accept that the Michauxs invented the velocipede either in 1855, or 1861, or 1865.

If the Michauxs knew about Lallemond's velocipede and if Lallemond did nothing to develop his invention, and he just disappeared from bicycle history, then we might be able to accept that Michaux was the inventor.

If the Michauxs knew about Lallemond velocipede, and if Pierre Michaux was hired to make copies of it, and if Lallemond proceeded to patent and to develop his velocipede, then we have problems with the Michaux's claim that he is the inventor of the velocipede.

If Lallemond had the first idea for a pedal-driven velocipede, and if Lallemond built his velocipede and rode it in Paris in 1863, before any sighting of a Michaux velocipede, and if Lallemond went to Boston and got a patent on the velocipede and participated in subsequent developments, then Lallemond meets all three of my requirements for *inventor*.

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I'm sorry about the poor quality of the figures and pictures. Almost everything had to be reproduced from old magazines and catalogs.

Throughout this paper, I use the male *he* rather than the politically correct *he or she*. Sorry about that.

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August 1974. *Popular Science*. "Moto-Bike: Off-Road Bicycle Built Like A Motorcycle." Describes the 1974 Yamaha Moto-Bike with front and rear suspension. One-speed coaster brake.

May 30, 1977. Working drawing for the frame for Joe Breeze's *Breezer*. This was the first modern mountain bike to be produced in quantity (ten).

February 1, 1978. *Velo News*. "California bikies are 'mountainside surfing'." By Owen Mulholland. This is the earliest printed article on Marin mountain biking that I have seen. Owen describes the first meeting between Gary Fisher and Charlie Kelly and says, "*Gary mentioned the bike parts warehouse he occasionally also referred to as 'home,' and pretty soon the two were hard at work on some heavy modifications. First came a front drum brake, then 10 speeds with the usual alloy crank setup, then 25-year old Schwinn cantilever brakes, a Brooks B-72 saddle, and finally the logical outcome of such a line of development, their own frames, these being made by local master craftsman, Joe Breeze.*" This sounds like Charlie Kelly's first *Breezer*.

Spring, 1978. *The CoEvolution Quarterly*. "Clunker Bikes." By Richard Nilsen. Describes the early developments of mountain bikes in Marin. Describes the first *Breezers*. Says "*A revolutionary moment in this history occurred three or four years ago when Gary Fisher got the idea of putting a ten-speed derailleur assembly on a balloon-tired bicycle.*"

September 29, 1978. *Crested Butte Chronicle* and *Crested Butte Pilot*. Describes the second (or third) Crested Butte to Aspen event.

October 8, 1978. *The Washington Post*. "New California Fad Clunker Bikes."

October 29, 1978. Charlie Kelly's flyer for the 18th Repack Race.

January, 1979. *Bicycling* "Clunkers Among the Hills." By Charles R. Kelly. Describes the Repack race. Pictures of a *Breezer*.

September 1979. *Mariah Outside*. "Built To Take It." By Charles R. Kelly. This article was first written in 1977, rejected and rewritten several times before it was finally published in 1979. Describes the evolution of the mountain bike from the Canyon Gang to the Velo Club Tamalpais to the derailleur-g geared clunker to Repack to Crested Butte to the *Breezer*. There is an interesting picture of a mud covered bike on the first page. Gary Fisher says that this is the 15-speed bike that he built for Fred Wolf at about the same time as his 1974 prototype. The picture shows a drum brake and five-speed freewheel, an Ashtabula triple crankset and 1974-75 vintage Suntour-derailleurs. Charlie Kelly says, "*The problem was solved when one rider discovered that tandem bicycles had drum rear brakes as well as a five-speed gear cluster. A little tinkering, and filing, and a derailleur was mounted on and old balloonner.*"

November 27, 1979. Letter from Charlie Kelly to Russ Mahon on MountainBikes letterhead. Says, "*I watched the M. V. cyclo-cross in '74 and was blown out by the balloonner action. Please send me a spec. list of the bikes in use. These were the 1st multispeed balloonners I ever saw and we jumped on the concept hard at about the same time. You can see how hard we jumped on it.*"

December, 1979. *City Sports*. "Working Up An Appetite."

September 29, 1978. *Crested Butte Chronicle* and *Crested Butte Pilot*. "Describes the second (or third) Crested Butte to Aspen event.

January, 1980. *Bicycle Motocross Action*. "Full Bore Cruisers." Interviews with Mert Lawill, Gary Fisher, Charlie Kelly, and Joe Breeze. Situation in Marin at the end of 1979. Consensus of the four makers was that clunkers should be called *mountain bikes*.

February, 1980. *BMX Plus*. "The Ritchey Mountain Bike Test."

May, 1980. *Bicycle Dealer Showcase*. "Mountain Biking. Off-Road to Happiness."

April, 1980. *Bicycling*. "Rocky Mountain High." By Charles R. Kelly. Describes the 4th Crested Butte to Aspen Clunker Tour.

Mid-1980. MountainBikes Catalog. This is my earliest catalog. Lists Uniroyal Nobby tires.

July 25, 1980. *Pacific Sun*. "Clunker Capital of the World." By Richard Street. Interviews with Gary Fisher and Charlie Kelly. Status in Marin in 1980.

August/September, 1980. *Fat Tire Flyer*. Issue One. The *FTF* was published quarterly with Charlie Kelly and Denise Caramagno as editors. The *FTF* was the voice the mountain bike for the next eight years.

Fall, 1980. MountainBikes Catalog. Details of the first Ritchey frame and the components used in 1980. Lists Mitsubishi skinwall tires. Details and picture of John Finley Scott's 1953 "Woodsy Bike."

January, 1981. *City Sports*. "Klunking Away."

1981 MountainBikes Catalog. Details of the 1981 bikes. Brief biographies of Charlie Kelly, Gary Fisher, and Tom Ritchey. Gary's biography says, "*In seven years of off-road bicycle experimentation, he has pioneered the use of multiple gearing on balloon tire bikes and the use of motorcycle parts for dirt riding.*" It did not say that Gary invented the mountain bike.

May, 1981. *Bicycle Dealer Showcase*. "A Bike for All Seasons." By John Francis. Status of the 1981 Market. Pictures of the 1980 Ritchey and Breeze bikes.

July, 1981. *City Sports*. "A Rebirth For Big Bikes." By Darryl Skrabak. Describes the transition from 1950s roadsters to 1960s three-speed s to 1970s ten speeds to clunkers. Gives reasons for the changes. Says, "*Gary Fisher is credited with first adaptation of derailleur gearing to an off-road bike.*"

July, 1981. *American Bicyclist and Motorcyclist*. "Mountain Bikes: A Different Breed." By Charles R. Kelly. Says, "Gary Fisher, now of MountainBikes, turned his old Schwinn Excelsior into a 5-speed by bolting on a tandem drum brake. After he added thumb shifters, a quick release seat post, and motorcycle brake levers, the rush was on.

1982 Specialized Catalog. Shows the 1982 Specialized *Stumpjumper*.

1982 Univega Catalog. Shows the 1982 Univega *Alpina Sport*.

1982 MountainBikes Catalog. Details of the Ritchey frame and the components used in 1982.

1982 Schwinn Catalog. Shows the 1982 *King Sting* and *Sidewinder*.

May, 1982. *The Flat Tyre*. Newsletter of Western Wheelers. Interviews with Mike Sinyard and Tom Ritchey.

May, 1982. *Bicycle Dealer Showcase*. "The Future Now?" By John Francis. Status of the 1982 Market.

May 1982. *Bicycling*. "A Look at the Long Beach Bike Show." By Frank Berto. I counted 20 fat-tire bikes.

June, 1982. *Bicycling*. "The Klunkers of Marin." By John Schubert. Road Test of three different models of Ritchey *MountainBikes*, Koski *Trailmaster*, Breeze *Breezer*, Lindsay *Mountain Goat*, and Specialized *Stumpjumper*. Schubert says, *In the mid-1970s, he (Fisher) was the first on his block to add a five-speed derailleur gearing to his newsboy-style clunker.*"

October, 1982. *Bike Tech*. "The View from Japan" By Gary Fisher. Describes Gary Fisher's and Tom Ritchey's trip to Japan and how the Japanese companies jumped aboard the mountain bike trend.

1983 Specialized Catalog. Shows the *Stumpjumper* and *Stumpjumper Sport*.

March, 1983. Kelly-Fisher MountainBike catalog.

March/April, 1983. *Fat Tire Flyer*. Lists 22 makers of mountain bikes selling for more than \$600. Had an article by Frank Berto in mountain bike gearing. The write up for K & F MountainBikes says, "*The Legendary Gary Fisher is the first mountain biker in history to have taken the fenders and coaster brakes off of his old newspaper boy clunker bike to have put on derailleurs in the early 1970s.*"

Spring, 1983. *Bicycling News Canada*. "Ritchey Mountain Bike (Japanese Version.) Road Test of the *Montare*.

May, 1983. *Bicycling*. "Off-Road Test: Fat Tires Come of Age." By John Schubert. Road Test of six ATBs.

July, 1983. *City Sports*. "The New Trend in Treads." By Laurence Malone.

December, 1983. *Bicycling*. "All-Terrain Bike Test Ballooner Bonanza." By John Schubert. Road Test of eight ATBs.

Winter 1983. *SunTour Inside Line*. "Mountain Bike Special" Articles by Erik Koski and Chris Allen. Bibliography of early articles on fat-tire bikes.

September xx, 1984. *Marin Independent Journal*. Article by Beth Ashley. Interviews with Gary Fisher, Jeff Bedford, and Charlie Kelly.

1984. Specialized Catalog. Shows the 1984 *Stumpjumper*.

1984 Fisher MountainBikes Catalog. Shows the *Montare*, *Mt. Tam*, *Everest 84*, and *Competition* MountainBikes.

March, 1984. *Bicycling*. "Repack Revisited." By Frank Berto. Discussion of the early Repack races. Impressions of the course. Frank Berto's time - 6 minutes, 18 seconds.

April, 1984. *Outside*. "Fat is Back." By Craig Vetter. Says Gary Fisher added gears in 1974.

1984. *The Mountain Bike Book*. By Rob Van der Plas. This was one of the first mountain bike books and Rob did some original research. Rob says that Gary Fisher modified his Schwinn to take derailleur gearing.

March, 1985. *Bicycling*. "The Vanguard." By Charlie Kelly. Interviews with Gary Fisher, Joe Breeze, Tom Ritchey, Steve Potts, and Charlie Cunningham. Says, "*Fisher is credited with being the first Marin County rider to put gears on his 'clunker.'*" *Others had done similar variations as early as 1953, but Fisher's innovation of gears on a fat-tire bike is credited with being the lineal ancestor of the modern mountain machine.*"

1988. *Richard's Mountain Bike Book*. By Charles Kelly and Nick Crane. This is the best history of the mountain bike. Charlie Kelly wrote, "*Although Gary Fisher is generally credited with being the first person to try a drum brake five-speed hub on his clunker, he should more properly be credited with being the first person in Marin County to do so.*"

1991. *Climb Every Mountain the Mountain Bike Way*. By Andy Bull. Andy tells the mountain bike history as told to him in 1991 by Gary Fisher. The best part of the book is the picture of Gary doing a wheelie on a green Schwinn Excelsior clunker. This clunker is closer to the first mountain bike than Gary's "1974 prototype". It has an Ashtabula front fork, Ashtabula double crankset, front and rear drum brakes, Magura motorcycle brake levers. The Shimano Positron stem shifters (the model with two cables to the rear derailleur) are mounted on the handlebars, date this bike to 1975 or later.

September x, 199x. *Marin Independent Journal*. Article by Beth Ashley. "Marin's mountain bikes sweep the world."

December, 1991. *Interbike Buyer*. "The Pioneers of Mountain Biking." By Charles Kelly. Describes mountain biking in Marin in the 1970s.

July, 1992. *Japan Cycle Press*. Interviews with Tom Ritchey - Ritchey Design, Gary Fisher - Fisher Cycles, and Ross Schafer - Salsa Cycles. The Fisher article says, "*In 1974, he built his first mountain bike for his own pleasure and found that people who tried it loved it.*"

June, 1994. *Smithsonian*. "Over hill, over dale, on a bicycle built for goo." By Donald M. Schwartz. Interviews with Gary and Charlie. Describes the current status of mountain biking.

1995. *Mountain Bike Almanac*. By Grant Wolf Inc. This book is a trove of mountain bike history and statistics. It includes articles by Joe Breeze, Gary Fisher and Charlie Kelly. Joe Breeze's article on mountain bike origins starts with the statement, "*There were many steps in the evolution of the mountain bike. There was no single inventor.*" Gary Fisher ends his article saying, "*In 1974, I blacksmithed the now famous clunker from scavenged objects.*"

1996. *No Hands*. By Judith Crown and Glenn Coleman. This book is the history of the Schwinn Bicycle Company. Chapter 9 is the mountain bike story based on interviews with Gary, Charlie, Joe, Tom, and Mike. The basic facts are reasonably accurate.

March, 1996. *Bicycling*. "Who really invented the mountain bike?" By Joe Breeze. Describes the December 1, 1974 Mill Valley cyclo-cross race and Russ Mahon's bikes. Says there was no single inventor.

June, 1996. *Bicycling*. Letters to the Editor. Gary Fisher says "*I built my 18-speed clunker in September of '74, not summer '75.*" Breeze responds, "*Fisher did not have derailleurs on his bike in December, 1974.*"

August 6, 1996. *Marin Independent Journal*. "Different Spokes - Who really invented the Mountain Bike?" Article by Richard Politi. Interviews with Gary Fisher, Joe Breeze, Charlie Kelly, and Tom Ritchey. Tom Ritchey recalls that Gary Fisher said, "*Tom, the person who invented the mountain bike is the person with the biggest printing press.*"

October 24, 1996. *Marin Independent Journal*. "Fat tire faithful return to Repack" Article by Richard Politi. Describes the 1996 rerunning of the Repack race.

September 1, 1996. *Bicycle Retailer and Industry News*. "Joe Breeze Celebrates 20 Years of Innovation." History of Joe Breeze's mountain bike innovations.

September, 1997. *Mountain Biker*. "A Brief History of Mountain Bike Time." Lists the significant dates including the 1994 Mill Valley cyclo cross race. Does not mention Gary Fisher's September, 1974 date.

April 5, 1997. *St. Louis Post Dispatch*. Article by Ralph Loos. Claims that mountain bikes were invented in Kentucky to service the moonshine stills. Probably an April Fool's spoof. No real evidence.

June, 1997. *Mountain Biker*. "The Search for the Cupertino Bikes." By Joel Smith. The story of Russ Mahon and the Cupertino mountain bikes.