



US012195134B1

(12) **United States Patent**  
**Bower**

(10) **Patent No.:** **US 12,195,134 B1**  
(45) **Date of Patent:** **Jan. 14, 2025**

(54) **BICYCLE FRAME**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **18/624,224**

(22) Filed: **Apr. 2, 2024**

**Related U.S. Application Data**

(60) Provisional application No. 63/550,773, filed on Feb. 7, 2024.

(51) **Int. Cl.**  
**B62K 3/02** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **B62K 3/02** (2013.01)

(58) **Field of Classification Search**  
CPC ..... B62K 3/02; B62K 19/24; B62K 15/00;  
B62K 15/006; B62K 2015/001; B62K  
2206/00; B62K 13/00; B62K 13/08  
USPC ..... 280/278, 287  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

403,153 A \* 5/1889 Smith ..... B62K 13/00  
280/7.11  
529,861 A \* 11/1894 Hersh ..... B62K 13/00  
280/7.11  
591,673 A \* 10/1897 Maltby ..... B62K 13/00  
280/7.11  
604,838 A \* 5/1898 Nagell ..... B62K 13/00  
280/7.11

615,768 A \* 12/1898 Wagner ..... B62K 13/00  
280/7.11  
620,459 A \* 2/1899 Koehler ..... B62K 13/00  
280/7.11  
638,396 A \* 12/1899 Laviers ..... B62K 13/00  
280/7.11  
1,279,081 A \* 9/1918 Brook ..... B62K 13/00  
280/7.11  
1,744,417 A \* 1/1930 Schwartz ..... B62K 13/00  
280/301  
2,227,252 A \* 12/1940 Giambra ..... B62K 13/00  
280/7.11  
2,827,301 A \* 3/1958 Stevens ..... B62K 3/04  
280/281.1  
2,927,307 A 3/1958 Stevens  
2,997,308 A \* 8/1961 Boudreau ..... B62K 19/24  
280/7.11  
3,088,747 A \* 5/1963 Hahn ..... B62K 13/00  
280/7.11

(Continued)

**OTHER PUBLICATIONS**

Wikipedia, "Rod end bearing," published at 01:52, Jul. 25, 2019, available at [https://en.wikipedia.org/w/index.php?title=Rod\\_end\\_bearing&oldid=907754691](https://en.wikipedia.org/w/index.php?title=Rod_end_bearing&oldid=907754691) (Year: 2019).\*

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**ABSTRACT**

A bicycle having an increased mounting area is shown and described. In one embodiment, a bicycle includes a top tube. In another embodiment, a bicycle includes a drop tube frame. Other examples include a bicycle including a frame having a top tube hinged at one end and releasably connected to another end for easier mount and dismount of the bike. Methods for easier bicycle mount and dismount are also included.

**5 Claims, 16 Drawing Sheets**

