

#### US006095020A

# United States Patent [19]

## Rinner

[45] **Date of Patent:** 

[11]

**Patent Number:** 

6,095,020

Aug. 1, 2000

[54]	HAND TOOL HAVING A VARIABLE TORQUE-LIMITING IN-LINE DRIVE				
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[21]	Appl. No.:	09/228,132			
[22]	Filed:	Jan. 11, 1999			
	U.S. Cl				
[56]		References Cited			
U.S. PATENT DOCUMENTS					
2,733,622 2/1956 Evans 81/475					

3,292,678 12/1966 Noga ...... 81/475

4,272,973 4,517,865	6/1981 5/1985	Klopping	1/475 X 81/475
4,653,359	3/1987	Liao	81/475
4,901,610	2/1990	Larson et al	81/4/3

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### [57] ABSTRACT

A hand tool of the type having a variable torque-limiting in-line drive with a handle having a cavity and a drive bit disposed in the cavity. Over-ride drive members are disposed in the cavity and a spring exerts a force on the drive members for transmitting only a maximum force to a bit in the tool. A variable control adjustment is on the tool and is used to apply a varying force to the spring and thus control the amount of maximum torque to be transmitted.

### 9 Claims, 4 Drawing Sheets

