If the shell you're using is not intercepting it, you are typing a "Form-feed" character in your terminal. If the terminal application does not intercept or use the keystroke in some way, Ctrl +Letter is translated to the ASCII code of the letter minus 64(1). 65 is the ASCII code of 'A', 'L' is the 12th letter -> code 76. If the shell does not know what to do of the code, it prints it.

Printing a FF char resulted in a new page on a line printer and a clear screen on the terminal (yes, I used a VT-52 back then, at 300 baud).

So Ctrl +L is 12 which is FF. In the same way, Ctrl +I is a TAB, and Ctrl +G rings the bell --- if the terminal or the shell does not intercept it, like Ctrl +C for example.

Notice from the other answer: it seems that bash **do** intercept CTRL-L and do a clear . Nice touch that the bash authors associated the key with a command which will do more or less the same that the ASCII code did on old terminals!

On the other hand, in my zsh the combination CTRL-I works as TAB and CTRL-H as a Backspace (2).

Old nice ASCII... (notice that letter L is at column 4, row 12, it has ASCII code 4*16+12=76).

USASCII code chart

B. B.	B 6 b 5						° 0 ,	0 1 0	0 1	100	0 -	10	1 1
B	D4+	b 3	p ⁵	b - +	Row	0	1	2	3	4	5	6	7
	0	0	0	0	0	NUL .	DLE	SP	0	0	Р	``	Р
	0	0	0	-		SOH	DC1	!	1	Α.	Q	O	q
	0	0	_	0	2	STX	DC2	11	2	В	R	b	r
	0	0	-	1	3	ETX	DC3	#	3	С	S	С	S
	0	1	0	0	4	EOT	DC4	1	4	D	T	d	1
	0	1	0	1	5	ENQ	NAK	%	5	Ε	U	е	U
	0	1	1	0	6	ACK	SYN	8	6	F	٧	f	٧
	0	1	1	1	7	BEL	ETB		7	G	W	g	W
	1	0	0	0	8	BS	CAN	(8	н	X	h	X
	1	0	0		9	нт	EM)	9	1	Y	i	У
	-	0	1	0	10	LF	SUB	*	•	J	Z	j	Z
	1	0	1	1	11	VT	ESC	+	;	K	C	k,	(
1	I	1	0	0	12	FF	FS		<	L	\	1	1
	1	1	0	1	13	CR	GS	1	=	М)	m	}
	1	1	1	0	14	so	RS	<u>. </u>	>	N	^	n	~
		1		1	15	SI	US	1	?	0		0	DEL