

Item	Name	Date	Inventor	Patent	Download
1	Laser peening system and method	6/26/1990	Angel L	US4937421A	Link
2	Laser peening method	9/26/1995	Nobutada Aoki	JPH07246483A	None
3	Reducing edge effects of laser shock peening	9/28/1995	Jeff L. Dulaney	WO1995025821A1	None
4	Laser shock peening surface enhancement for gas turbine engine high strength rotor alloy repair	6/11/1996	SeethaRamaiah Mannava	US5525429	Link
5	Laser shock method utilizing light absorbing material	11/5/1996	Noboru Takayanagi	US5571575A	Link
6	Laser shock peening for gas turbine engine vane repair	12/17/1996	SeethaRamaiah Mannava	US5584662A	Link
7	Laser shock peened bearings	12/17/1996	Dominick A. Casarcia	US5584586A	Link
8	Laser shock peened dies	9/30/1997	Herbert Halila, SeethaRamaiah Mannava	US5671628A	Link
9	Dry tape covered laser shock peening	10/7/1997	SeethaRamaiah Mannava, Robert L. Yeaton; Albert E. McDaniel	US5674328	Link
10	Cavity dumped laser shock peening process	3/24/1998	Farzin Homayoun Azad, Josef Robert Unternahrer, Niskayuna	US5730811	Link
11	Preloaded laser shock peening	4/21/1998	SeethaRamaiah Mannava, William D. Cowie	US5742028A	Link
12	Laser peening process and apparatus	4/21/1998	Jeff L. Dulaney	US5741559A	Link
13	Method and apparatus for laser shock peening	4/28/1998	Robert L. Yeaton	US5744781A	Link
14	Laser shock peening for gas turbine engine weld repair	12/8/1998	Stephen J. Ferrigno	US5846057	Link
15	Oblique angle laser shock processing	6/15/1999	Jeff L. Dulaney	US5911890A	Link
16	Laser shock peening using low energy laser	8/3/1999	SeethaRamaiah Mannava	US5932120	Link
17	Laser shock peening apparatus with a diffractive optic element	8/10/1999	Jeff L. Dulaney Allan H. Clauer Steven M. Toller	US5935464A	Link
18	Method and apparatus for measuring laser pulse energy	11/9/1999	Josef Robert Unternahrer	US5980101A	Link
19	Method and apparatus for shaping a laser pulse	11/16/1999	Phillip Randall Staver	US5987042A	Link
20	Method and apparatus for controlling the size of a laser beam	12/14/1999	Phillip Randall Staver Farzin Homayoun Azad	US6002706A	Link
21	Laser peening process and apparatus with uniform pressure pulse confinement	4/11/2000	Jeffrey L. Dulaney	US6049058A	Link
22	Method for monitoring and controlling laser shock peening using temporal light spectrum analysis	6/13/2000	Richard L. Trantow Ui W. Suh	US6075593A	Link
23	Laser peening hollow core gas turbine engine blades	6/20/2000	Jeffrey L. Dulaney	US6078022A	Link
24	Holographic interferometry for monitoring and controlling laser shock peening	7/25/2000	Todd J. Rockstroh Wilbur D. Scheidt	US6094260A	Link
25	Process chamber for laser peening	10/3/2000	Steven M. Toller	US6127649A	Link
26	Ballistic momentum apparatus and method for monitoring and controlling laser shock peening	10/10/2000	Todd J. Rockstroh	US6130400A	Link
27	Efficient laser peening	11/7/2000	Jeff L. Dulaney Allan H. Clauer Steven M. Toller	US6144012A	Link
28	Ripstop laser shock peening	12/12/2000	Todd J. Rockstroh Kennard Wright II P.	US6159619A	Link
29	Overlay control for laser peening	1/23/2001	ven Dykes	US20030038123A1	None
30	In plane deflection coupon for monitoring and controlling of laser shock peening	2/6/2001	SeethaRamaiah Mannava	US6183882B1	Link
31	Short-pulse high-peak laser shock peening	3/6/2001	Josef Robert Unternahrer	US6197133B1	Link

32	Laser beam temporal and spatial tailoring for laser shock processing	3/6/2001	Lloyd Hackel	US6198069B1	Link
33	Laser beam temporal and spatial tailoring for laser shock processing	3/6/2001	Lloyd Hackel	US6198069B1	Link
34	Laser shock peened gas turbine engine seal teeth	3/13/2001	Stephen J. Ferrigno	US6200689B1	Link
35	Method using laser shock peening to process airfoil weld repairs pertaining to blade cut and weld techniques	5/29/2001	Jeff L. Dulaney	US 6238187 B1	Link
36	Quality control plasma monitor for laser shock processing	7/3/2001	David W. Sokol	US6254703B1	Link
37	Apodizers for laser peening systems	7/10/2001	David Sokol	US6259055B1	Link
38	Mobile laser peening system	9/11/2001	Jeffrey L. Dulaney	US6288358B1	Link
39	Image processing for laser peening	9/18/2001	Jeffrey L. Dulaney	US6292584B1	Link
40	Multiple beam time sharing for a laser shock peening apparatus	9/18/2001	Jeff L. Dulaney	US6291794B1	Link
41	Simultaneous offset dual sided laser shock peening	10/2/2001	Ui W. Suh	US6296448B1	Link
42	Method for setting up and controlling confinement media flow in laser shock peening	12/25/2001	Wayne L. Lawrence Richard E. Klaassen	US6333488B1	Link
43	Method for setting up and controlling confinement media flow in laser shock peening	12/25/2001	Wayne L. Lawrence Richard E. Klaassen	US6333488B1	Link
44	FOD inspection of laser shock peened gas turbine engine airfoils	1/29/2002	William D. Cowie	US6341936B1	Link
45	Beam path clearing for laser peening	3/19/2002	Allan H. Clauer	US6359257B1	Link
46	Single mode oscillator for a laser peening laser	4/16/2002	Jeff Dulaney David Sokol	US6373876B1	Link
47	Contour forming of metals by laser peening	6/25/2002	Lloyd Hackel Fritz Harris	US6410884B1	Link
48	Identification marking by means of laser peening	7/23/2002	Lloyd A. Hackel	US6423935B1	Link
49	Laser shock peening quality assurance by ultrasonic analysis	7/23/2002	Ui Won Suh	US6422082B1	Link
50	Oblique angle laser shock processing	10/22/2002	Jeff L. Dulaney	US6469275B2	Link
51	Dual laser shock peening	11/12/2002	Michael Evans Graham John Dennis Jackson	US6479790B1	Link
52	Mechanical gauges for quality assurance of laser peening	11/19/2002	Allan H. Clauer	US6483578B1	Link
53	Method of cleaning turbine component using laser shock peening	12/31/2002	James D. Risbeck	US6500269B2	Link
54	Quality control for laser peening	1/28/2003	Mark E. O'Loughlin	US6512584B1	Link
55	Laser search peening for exfoliation corrosion detection	3/4/2003	Allan H	US6528763B1	Link
56	Laser shock peening integrally bladed rotor blade edges	4/1/2003	SeethaRamaiah Mannava	US6541733B1	Link
57	Laser shock peened gas turbine engine intermetallic parts	4/22/2003	SeethaRamaiah Mannava	US6551064B1	Link
58	Single sided laser shock peening	5/6/2003	seethaRamaiah Mannava	US6559415B1	Link
59	Simultaneous offset dual sided laser shock peening with oblique angle laser beams	5/27/2003	Ui Won Suh	US6570125B2	Link
60	Simultaneous offset dual sided laser shock peening using low energy laser beams	5/27/2003	Ui Won Suh	US6570126B2	Link
61	Real time laser shock peening quality assurance by natural frequency analysis	6/27/2003	Brian Michael Davis	US6914215B2	Link
62	Laser shock peening quality assurance by acoustic analysis	10/7/2003	Ui Won Suh James Douglas Risbeck	US6629464B2	Link
63	Laser peening of components of thin cross-section	12/2/2003	Lloyd A. Hackel	US6657160B2	Link
64	Method using laser shock processing to provide improved residual stress profile characteristics	12/16/2003	Allan H. Clauer	US6664506B2	Link
65	Laser shock peening method and apparatus	12/30/2003	Phillip Randall Staver	US6670577B2	Link
66	Reduced mist laser shock peening	3/30/2004	Wayne Lee Lawrence	US6713716B1	Link

67	Articles having improved residual stress profile characteristics produced by laser shock peening	6/22/2004	Allan H. Clauer	US6752593B2	Link
68	System for laser shock processing objects to produce enhanced stress distribution profiles	7/6/2004	Allan H. Clauer	US6759626B2	Link
69	Laser peening method and apparatus using tailored laser beam spot sizes	11/11/2004	David Sokol Allan Clauer	US20040224179A1	Link
70	Laser peening with fiber optic delivery	11/16/2004	Herbert W. Friedman	US6818854B2	Link
71	Laser peening process and apparatus using a liquid erosion-resistant opaque overlay coating	3/3/2005	Richard Tenaglia	US20050045607A1	Link
72	Automated positioning of mobile laser peening head	3/15/2005	Allan H. Clauer	US6867390B2	Link
73	Method using laser shock processing to provide improved residual stress profile characteristics	4/5/2005	Allan H	US6875953B2	Link
74	Monitored laser shock peening	5/5/2005	Richard Warren	US20050092724A1	Link
75	Target isolation system, high power laser and laser peening method and system using same	5/5/2005	C. Dane	US20050092722A1	Link
76	Laser shock peened gas turbine engine compressor airfoil edges	8/17/2005	Seetha Mannava	US20070243071A1	Link
77	Laser shock peening of medical devices	8/18/2005	Thomas Holman Jan Weber	US20050182478A1	Link
78	Continuous motion laser shock peening	1/12/2006	Wayne Lawrence	US20060006158A1	Link
79	System and method for monitoring laser shock processing	3/16/2006	Pingfan Wu	US20060054607A1	Link
80	Active beam delivery system for laser peening and laser peening method	5/18/2006	C. Brent Dane	US20060102609A1	Link
81	Welded joint of metallic material and metallic clad material, and laser peening of casting material	5/18/2006	Muneharu Kutsuna	JP2006122969A	None
82	Laser shock peening target	9/19/2006	Edward Michael Even	US7109436B2	Link
83	Laser shock peening	11/21/2006	Jacquelyn A	US7137282B2	Link
84	Laser Shock Processing With Momentum Trap	12/7/2006	C. Brent Dane	US20070138157A1	Link
85	Solving constraint satisfaction problems with duplicated sub-problems	4/26/2007	Roy Emek	US20070094184A1	Link
86	Countering laser shock peening induced airfoil twist using shot peening	5/15/2007	Todd Jay Rockstroh	US7217102B2	Link
87	Laser peening treatment method and laser absorption powder layer sheet	7/5/2007	Muneharu Kutsuna	JP2007169753A	None
88	Laser shock hardening method and apparatus	11/15/2007	Yuji Sano	US20070262063A1	Link
89	Use of friction stir and laser shock processing in oil & gas and petrochemical applications	2/7/2008	Glen A. Vaughn	US20080032153A1	Link
90	Varying fluence as a function of thickness during laser shock peening	4/3/2008	Mark Samuel Bailey	US20080078477A1	Link
91	Laser shock peening of medical devices	2/12/2009	Clay W. Northrop	US20090043228A1	Link
92	Laser shock peening	3/11/2009	Brennan S. Domec	US20090230104A1	Link
93	System and method for controlling laser shock peening	4/2/2009	John Broddus Deaton,	US20090084767A1	Link
94	Method and device for laser shock forming on the basis of polyurethane rubber film	9/9/2009	冯爱新	CN101524784A	None
95	Method for strengthening complex surface based on laser shock wave technology and device thereof	5/5/2010	任旭东	CN101701282A	None
96	Method and device for laser shock processing of fastening holes	1/12/2011	姜银方	CN101942546A	None

97	Method of Peening Metal Heart Valve Stents	6/23/2011	James A. Davidson	US20110146361A1	Link
98	Laser plasma shock wave surface nanocrystallization method for polycrystal metal material	9/28/2011	何卫锋	CN102199690A	None