

1.05	AUTOMATIC CONTROL; SIGNALING OR INDICATING	30	.Remote control
1.1	.Ore/rock interface determination during cutting	31	.Stepper-type advance-causing means
1.2	..On cutter head	32	..Planer-type cutter
1.3	.Of tunneling apparatus having a wall temporary support	33	.With mine roof-supporting means
1.4	.Of hard material disintegrating machines	63	.Cutting kerfs to form block
1.5	..Floor working	34.01	.Cutter attached to endless chain or cable (e.g., planer type)
1.6	..Sidewall working	34.02	..With auxiliary cutter
1.7	...Of advancing material handling means or roof support	34.03	...Roof-type cutter
1.8	..Of rotary cutter with advance direction coincident to rotary axis	34.04	..Planer, plow, or knife details
1.9	.Of material handling means	34.05	...With fluid supply
2	TUNNEL RECOVERY OF FLUID MATERIAL	34.06	...With vibrator
3	IN SITU CONVERSION OF SOLID TO FLUID	34.07	..Drive details
4	.Input and output wells	34.08	..Vertical height adjustment of entire installation
5	.Dissolving or chemical reaction	34.09	..Chain features and connected to miner
6	.Melted material recovered	34.1	..Guide, associated with conveyor, for chain or supply lines
7	WITH SEPARATION OF MATERIALS	34.11	..Guide for adjustment of cutter
8	.Separation below surface of earth or water	34.12	..Pivoting cutter body
9	.Material mined or excavated underwater	35	.Wire saw-type cutter
10	PROCESSES	36.1	.Floor-working
11	.Stabilizing underground structure	37.1	..Reciprocating or oscillating cutter
12	.Mine safety	37.2	...Resonant vibrator driven
13	.Explosive	37.3	...Narrow, channel-forming type
14	.Directly applying heat or vibration	37.4	..Impact or hammering type cutter
15	.Forming blocks (e.g., quarrying)	37.5	...Hydraulic piston and cylinder type
16	.Breaking down by direct contact with fluid	39.1	..Rotary cutter
17	..Jetting (e.g., hydraulic mining)	39.2	...With material handling
18	.With material-handling	39.3	...Slot-type cutter; e.g., pavement saw
19	MINE LAYOUTS	39.4	...Drum-type
20	EXPANSIBLE BREAKING-DOWN DEVICES	39.5	...Shiftable horizontally
21	.Fluid-pressed element	39.6	...Height adjustment
22	..Piston	39.7	...Yieldably mounted cutter
23	.Wedge	39.8	...Specific mount for fixed projecting cutters
24	ICE-WORKING DEVICES	39.9	...And having rotatable cutting element
25	.Relatively moving cutter	40.1	...Freely rolling cutter
26	..Reciprocating	41.1	...Vertical cutter axis
27	..Block-cutting type	42	.Sidewall-working (e.g., drum-type cutter)
28	...Plural blades	43	..With material-handling means
29	HARD MATERIAL DISINTEGRATING MACHINES	44	...Undercutting, dislodging and conveying

45	..Material handler enters cut with cutter	81.1	.Cleansing fluid passage
46	..Rotary impeller	81.2	..Fluid feed distributor or controller (e.g., manifold)
47	..Driven flexible member causes advance	81.3	..Nozzle or seal details
48	...Cutter shiftable horizontally	82.1	.Endless-chain type head
49	...Driver for member rotates about horizontal axis	83.1	..Plural teeth on single link
50	...Axis transverse to direction of advance	84.1	..Nontracking tooth arrangement
51	..Horizontal cutter tooth orbit	85.2	.Adjustable tooth
52	..Cutter shiftable horizontally	87.1	.Tooth mounted on helical head portion or head with helical conveying portion
53	..Vertical cutter tooth orbit	100	.Percussive tooth or bit
54	..Cutter bodily shiftable horizontally	101	.Plural cutting edges on tooth, pick, or bit
55	.Rotary cutter head with advance direction coincident to rotary axis	102	.Clamped tooth holder or tooth mount
56	..With material-handling means	103	.Clamped tooth
57	...Cooperates with laterally spaced heads	104	.Wear shield or replaceable wear sleeve
58	..Machine follows cutter into opening formed thereby	105	.Wear resistant feature for tool body (e.g., hard facing)
59	...Relatively driven cutters	106	.Rolling or rotatable type bit mount
60	...Cutting area of one encircled by another	107	..Having a spring biased retainer
61	..Radially adjustable cutting area	108	.Planar type bit mount
62	..With percussive-type cutter	109	..Tooth mounting spring biased
64	..With material-handling means	110	.Rolling or rotatable bit
65	..Undercutting, dislodging and conveying	111	..Insert or tip shape
66	..Undercutter shiftable horizontally	112	.Planer-type cutter insert or tip shape
67	..Material handler enters cut with cutter	113	.Insert or tip mounting feature (e.g., soldering, brazing, friction or interference fit)
68	..Rotary impeller	95	MISCELLANEOUS
69	.Percussive-type cutter		
70	..Cutter shiftable horizontally		<u>FOREIGN ART COLLECTIONS</u>
71	..Relatively shiftable cutters	FOR	CLASS-RELATED FOREIGN DOCUMENTS
72	.Shiftable to operate in vertical or horizontal cutter tooth orbit		
73	.Cutter shiftable horizontally		
74	..Horizontal cutter tooth orbit		
75	..Shiftable vertically		
76	.Cutter shiftable vertically		
77	.Horizontal cutter tooth orbit		
78	.Vertical cutter tooth orbit		
79.1	CUTTER TOOTH OR TOOTH HEAD		
85.1	.Plural heads moving relative to each other		
80.1	.Adjustable head		