

1	INPUT FROM INDEPENDENT POWER SOURCES	35	.Single impeller-turbine type fluid circuit divides or combines plural power paths
2	.Condition responsive motor control	36	..Planetary gearing divides paths
3	.Including manual input	37	..Three fluid outputs
4	..And electric motor input	38	...And stator
5	.Including electric motor input	39	..Two fluid outputs and stator
6	.Plural outputs	40	...With variable fluid drive control
7	.Worm gear in drive train		...And mechanical drive path
8	.One-way clutch or brake in drive train	41	..Control of or by fluid drive
		42	..With speed or torque responsive clutch or brake control
9	.Bevel planet pinion in drive train	43	..Stator rotatable in reverse direction to provide drive
10	.Intermeshing planet pinions in drive train	44	...Turbine braked, stator provides reverse drive
11	ROTARY PLANETATING OUTPUT	45	...And adds torque in forward drive
12	REVERSAL OF DIRECTION OF POWER FLOW CHANGES POWER TRANSMISSION TO ALTERNATE PATH	46	
13	.Input and output exchange functions	47	.Impeller-turbine type fluid circuit and mechanical path in parallel
14	CYCLICAL OR INTERMITTENT DRIVE	48	..With control of or by the fluid circuit
15	.Plural outputs	49	...Gearing controlled by fluid circuit condition
16	.With means to adjust cycle or drive during operation	50	...Fill and empty type fluid circuit
17	.Multilobed or noncircular gear in drive train	51	..With speed responsive control
18	STEERING BY DRIVING	52	..And nonplanetary gearing
19	.With condition responsive steer control	53	..Planetary gearing divides paths
20	.With cooling or lubrication	54	..Sun, orbit and carrier braked
21	.With infinitely variable drive	55	..Sun and orbit braked
22	..Variable drive is fluid drive	56	..Sun and carrier braked
23	...Hydrostatic type	57	..Orbit and carrier braked
24	....Plural pump-motor sets	58	..Orbits braked
25	..Belt type	59	.Impeller-turbine type fluid circuit in series with planetary gearing
26	..Variable drive is friction drive		..And condition responsive control
27	.Fluid steer control	60	...Control of or by fluid circuit
28	.With plural power paths to a planetary transmission at each output	61	...Control responsive to relative impeller and turbine speeds
29	.With planetary reaction brake steering	62	....System or servo fluid pressure controlled
30	..And carrier input to planetary gearing	63	....Fluid circuit controlled
31	FLUID DRIVE OR CONTROL OF PLANETARY GEARING	64	....By lock-up clutch actuation
32	.Diverse fluid drives	65	..And nonplanetary gearing
33	.Plural impeller-turbine type fluid circuits	66	..With synchronizing of positive clutch or brake
34	..Fill and empty type	67	..With nonratio brake
		68	

69	..Fluid circuit controlled	100	....Valve control and mechanical clutch
70	...Pressure controlled		
71	..And differential in series	101	.....Pump pressure engages mechanical clutch
72	.Fluid pump and motor in one of plural paths to or from planetary gearing	102	...Fluid brake(s) for plural planetary elements
73	..Plural fluid power paths to planetary gearing	103	...Plural fluid clutches
74	..Plural outputs	104	...Fluid brake for planetary element
75	..Three pumps or motors	105	...And fluid clutch
76	..Speed responsive control	106	...Bevel gearing
77	..Constant speed output	107	...Sun or orbit braked
78	..Interrelated fluid unit and gear control	108	...Fluid clutch includes gear type pump
79	..With constant speed ratio between input and one fluid unit	109	...Planet clutched to carrier
		110	...With reversing means
80	..Plural speed ranges	111	..Planet clutched to fluid flywheel
81	..With constant speed ratio between input and one fluid unit	112	..Fluid container connected to planet pinion
		113	..Impeller-turbine type fluid unit used as brake
82	...Having single planet carrier		
83	.Pump and motor in series with planetary gearing	114	.Fluid control of friction planetary gearing
84	.Control of differential planetary gearing	115	..Stepless ratio change controlled
85	..Special fluid	116	.Fluid controlled mechanical clutch or brake
86	..By fluid operated mechanical clutch	117	..Temperature responsive control
87	...Operated by viscous drag	118	..Speed responsive control
88	...Operated by a pump responsive to differential action	119	...Safety device
		120	...Pressure control
89	..Fluid resistance controls relative rotation of outputs	121	...Ratio change
		122	....Speed responsive valve control
90	..Fluid pumped by differential gears	123	....Electrical control
91	.Fluid resistance inhibits relative rotation	124	....Centrifugal control
		125	..Torque responsive control
92	..Fluid damper for reaction element	126	...Responsive to torque reversal
		127	..Pressure regulation
93	..Valve inhibits fluid flow	128	...Valving controls shift timing
94	...Speed or torque responsive valve control	129	....With fluid accumulator
		130	...Manual regulator
95	....Centrifugally actuated valve controls fluid clutch	131	..Manually actuated ratio selector
96	.....Clutch connects planet pinion and carrier	132	...Electrical
		133	...With safety valve
97	.....With fluid brake control	134	...Plural selector valves
98	....Centrifugally actuated valve controls fluid brake	135	...Rotary valve
		136	..With ancillary pump or governor drive
99	..Interrelated valve control and mechanical clutch or brake	137	...Plural pumps
		138	..With positive clutch or brake

139	...And friction synchronizer	171	..Plural power paths to planetary gearing
140	..Spring engaged, fluid released clutch or brake device	172	..Condition responsive control
141	...Plural devices simultaneously spring engaged	173	..Plural planetary elements braked
142	...Single fluid motor engages one device and releases other	174	.Plural outputs
143	..Expanding fluid motor chamber mechanically contracts second motor	175	.With releasable clutch or brake
144	..Fluid controlled one-way devices	176	.Gear has plural circumferential tooth sets
145	..Fluid motor controls device through cam or lever	177	..Internal and external tooth sets
146	..Fluid motor structure	178	.Circumferentially spaced connector pins
147	...Radially expanding motor	179	..Roller bearing surrounds pin
148	...With one-way device	180	.Particular gear tooth
149	ELECTRIC OR MAGNETIC DRIVE OR CONTROL	181	.Particular counterweight
150	.Differential drive or control	182	PLANET PINION ENGAGES FLEXIBLE BELT OR CHAIN
151	.Plural power paths	183	PLANET PINION IS FRICTION GEAR
152	..With nonplanetary drive to electric or magnetic path	184	.Plural outputs (e.g., differential)
153	.With condition responsive control	185	.Variable speed ratio (without slippage)
154	.With electric or magnetic controlled brake	186	..Condition responsive ratio change
155	..And manual speed selector	187	..Releasably braked element
156	..Electric or magnetic device disengages brake	188	...Plural elements releasably braked
157	..Electric or magnetic engaged brake and spring engaged lockup clutch	189	..Planet pinion is a ball
158	WITH INDICATOR OR ALARM	190	..Planet pinion rotatable about axis at angle to axis of input or output gear
159	WITH LUBRICATON	191	...Planet pinion is member having axis fixed or adjustable to position perpendicular to axis of input or output gear
160	.For differential planetary gearing	192	...Pinion engages facing concave surfaces (e.g., mounted in torus)
161	WITH TRANSMISSION COOLING OR HEATING MEANS	193	...Conical or frusto-conical planet pinion
162	PLANET PERIPHERY SURROUNDS AXIS OF INTERACTING GEAR (E.G., ECCENTRICALLY DRIVEN TRANSMISSION)	194	...Torque responsive means to increase contact pressure
163	.Wabblers transmission	195	.Torque responsive means to increase contact pressure
164	..Single member has oppositely axially facing tooth sets	196	.Planet pinion is ball
165	.Friction gearing	197	.Planet pinion rotatable about axis at angle to axis of input or output gear
166	..Variable speed	198	VARIABLE SPEED OR DIRECTION TRANSMISSION COMBINED WITH DIFFERENTIAL
167	.Link chain gearing	199	.Condition responsive
168	.Gear teeth comprise rolling bodies	200	.Differential is beneath prime mover or transmission
169	.Means to change speed ratio between input and output		
170	..Variable eccentricity		

201	.Differential is between prime mover and transmission in the path of power flow	228	.Worm drive on input shaft
202	.With universal joint in drive train	229	..And roller bearing supporting worm from casing
203	.Plural selectively driveable gears surround differential	230	.Bevel gear differential
204	.Variable speed or direction is planetary transmission	231	..With means to limit overspeed of one output (e.g., lock-up clutch)
205	..Plural planetary units combined with differential	232	...Centrifugal actuator
206	.Transmission output shaft parallel to differential output shafts	233	...Lock-up clutch between pinion and pinion carrier
207	NONPLANETARY VARIABLE SPEED OR DIRECTION TRANSMISSION COMBINED WITH PLANETARY TRANSMISSION	234	...By axial movement of output gear
208	.Condition responsive	235	...With spring bias on gear or clutch
209	.Interrelated control of in series transmissions	236	...Particular gear shape or tooth interaction limits overspeed
210	.Nonplanetary transmission is belt or chain gearing	237	...Manual actuator
211	..Plural power paths to planetary gearing	238	....Friction clutch
212	...Nonplanetary transmission is chain gearing	239	.....Plate clutch
213	..Nonplanetary transmission is chain gearing	240	...Spring bias on overspeed limiting means
214	.Nonplanetary transmission is friction gearing	241	...Helically coiled spring
215	..Plural power paths to planetary gearing	242	..Separate planet pinions or separate tooth set on same pinion for each output
216	..Friction gear engages facing concave surfaces	243	..Output gear rotatable relative to axial support shaft
217	..Nonplanetary transmission is disc and wheel	244	...Support shaft coupled to other output gear
218	.Plural power paths to planetary gearing	245	...With roller bearing between output gear and shaft
219	.Plural planetary units	246	..With roller bearing between gear and its support
220	DIFFERENTIAL PLANETARY GEARING	247	...Ball bearing
221	.Differential or nondifferential planetary combined with differential (e.g., two differentials)	248	.Spur gear differential
222	.With universal joint in drive train	249	..With means to limit overspeed of one output
223	.Including means to selectively apply rotational power to only one output	250	...Manual actuator
224	..By braking other output	251	..Pinion axis at angle intersecting axis of output
225	.With additional gearset between differential output and load	252	..Intermeshing planet pinions
226	.Planet pinion is worm gear	253	..With roller bearing between gear and its support
227	..And spur gear on pinion	254	CONDITION RESPONSIVE CONTROL
		255	.Eccentrically weighted planet
		256	.Downshift responsive to high speed limit
		257	.Speed responsive control adjusted or opposed by torque
		258	.Centrifugally controlled clutch or brake
		259	..One-way clutch or brake
		260	..Centrifugal brake control
		261	..Positive clutch
		262	..Axially engaged friction clutch

263	.Overload release	292	..Including one-way clutch or brake
264	..Spring applied friction drive establishing means	293	.Speed responsive clutch or brake
265	...Drive establishing means is friction brake	294	.Ratio shift initiated by reverse rotation of input shaft
266	.Stepped, torque responsive ratio change	295	.Plural outputs
267	.With flywheel or centrifugal weight control	296	.Plural drive ratios other than unity
268	..With planet pinion axis at angle to axis of mating gear (e.g., bevel gears)	297	..Including one-way clutch or brake
269	WITH MEANS TO VARY DRIVE RATIO OR DISCONNECT DRIVE (E.G., BRAKE OR CLUTCH)	298	.Gear shiftable axially to disconnect or vary ratio
270	.Manual force provides reaction during drive	299	..Orbit shiftable relative to sun and carrier
271	.Plural elements selectively braked	300	..Sun shiftable relative to orbit and carrier
272	..With preselection	301	.Brake or clutch on surface of helically coiled member
273	..Axis of planet pinion at angle to axis of mating gear (e.g., bevel gears)	302	.Nonplanetary gearing combined with planetary
274	...And additional planetary gearset having axis of pinion parallel to axis of mating gear	303	.With synchronizing clutch or brake
275	..Transmission includes three relatively rotatable sun gears	304	.Planet pinion is worm gear
276	..With brake for sun, carrier and orbit	305	.Including releasable clutch directly between planet pinion and carrier
277	..With brake for plural sun gears	306	.Brake for planetary transmission having axis of planet pinion at angle to axis of mating gear (e.g., bevel gears)
278	...And brake for carrier	307	..Including one-way clutch or brake
279	..With brake for plural orbits	308	..And lock-up clutch
280	.Brake for sun, carrier and orbit	309	...Friction clutch
281	...Including one-way clutch or brake	310	...Plate clutch
282	..Brake for sun and orbit	311	.Sun braked
283	...Including one-way clutch or brake	312	..Including one-way clutch or brake
284	..Brake for sun and carrier	313	..Intermeshing planet pinions on single carrier
285	...Including one-way clutch or brake	314	..And lock-up clutch
286	..Brake for orbit and carrier	315	...Friction clutch
287	...Including one-way clutch or brake	316	...Plate clutch
288	..Plural suns braked	317	.Orbit braked
289	...Including one-way clutch or brake	318	..Including one-way clutch or brake
290	..Plural orbits braked	319	..Intermeshing planet pinions on single carrier
291	...Including one-way clutch or brake	320	..And lock-up clutch
		321	...Friction clutch
		322	...Plate clutch
		323	.Carrier braked
		324	..Including one-way clutch or brake

- 325 ..Intermeshing planet pinions on
single carrier
- 326 ..And lock-up clutch
- 327 ...Friction clutch
- 328Plate clutch
- 329 **PLURAL POWER PATHS TO PLANETARY
GEARING**
- 330 .Plural planetary units
- 331 **PLANETARY GEARING OR ELEMENT**
- 332 .Plural outputs
- 333 .Planet pinion is worm gear
- 334 .Floating support annulus in
rolling contact with planet
pinion
- 335 .Toothed planet pinion has smooth
bearing surface engaging
raceway on sun or orbit gear
- 336 .Axis of planet pinion at angle
intersecting rotational axis
of mating gear (e.g., bevel
gears)
- 337 .Plural planet carriers in series
move at different speeds
- 338 .Coaxial teeth around planet
pinion engage axially spaced
relatively rotatable gears
- 339 ..Engage plural relatively
rotatable sun gears
- 340 ...And orbit gear
- 341 ..Engage plural relatively
rotatable orbit gears
- 342 ...And sun gear
- 343 .Nonplanetary gearing combined
with planetary
- 344 .Particular gear tooth feature
- 345 ..Nonmetallic or resilient
- 346 .Floating or flexible coupling or
support
- 347 ..Resilient member
- 348 .Planet pinion supported by
roller bearings
- 349 .With manual input

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