

1	MORTAR MIXER TYPE	43	..Including automatic control means
2	.Methods		
3	..Gas incorporating; fluid mixing, delivering, or conveying	44	..Rotatable mixing chamber reversible for delivery
4	...With heating or cooling	45	..Mixing chamber tiltable for delivery
5	..Gas incorporating at delivery	46	...With stirrer
6	..Treatment or preparation of material	47	...Hand operated tilt
7	...By heating or cooling	48	...Wheelbarrow-type support
8	...By ingredient proportioning	49	..Endless belt
9	.Gravity type	50	..Rotary screw
10	..With gas incorporating; fluid mixing, delivering, or conveying	51	..Pump
11	..Gas incorporating at delivery nozzle	52	..Scraper or deflector
12	..Into rotating mixing chamber	53	.Movable mixing chamber
13	..With rotatable stirrer	54	..Rotatable
14	.Plural mixing chambers	55	...With additional diverse motion
15	..Intercommunicating	56	...With agitator
16	..With ingredient proportioning	57	...Rigid deflector fixed to chamber wall
17	..By condition sensing means	58	....Compartmental-type chamber
18	..By weight	59	....Helical
19	..By volume	60	..With specified actuating or control means
20	..By screw conveyor charging means	61	...Hydraulic drive or control
21	..By varying opening of charging means	62	..With specified support structure
22	..With heating or drying	63	...Specified rotational mounting
23	..Heating mixing chamber and ingredient preheater	64	.Movable stirrer
24	..Heating mixing chamber	65	..Vertical mixing chamber
25	...By hot gases to interior	66	..Plural stirrers
26	..With elevating means	67	..Including scraper, wiper, or brush
27	..With dynamic charging and dynamic delivery	68	.Movable chute
28	..Interrelated	69	RUBBER OR HEAVY PLASTIC WORKING
29	...With automatic control means	70	.Candy puller type
30	..With dynamic charging	71	.Roll couple and scraper
31	..By vibration	72	.Roll couple and work handler
32	...Of skip or hopper	73	.Roll couple having adjustment means
33	..Plural charge means	74	.Roll traveling within platen
34	...Including dynamic liquid charge	75	.With specified vent means
35	...Including screw conveyor	76.1	.With specified feed means
36	...Skip and liquid	76.2	..Condition responsive
37	...Plural dynamic	76.3	..Screw feeder distinct from agitator
38	..By screw conveyor	76.4	...Plural screws
39	..Skip	76.5	..Roller feeder
40	..With liquid charge	76.6	..Plural feed means
41	..Movable charge hopper or chute	76.7	..Piston feeder (e.g., ram)
42	..With dynamic delivery	76.8	...Mixing rotor having recess for material
		76.9	..Chute or hopper with gravity discharge

76.91	...Having plural means to feed material to chute or hopper	112	..Supported by vibrator solely
76.92	...Having discharge valve	113	.Vibrator mounted in aperture of mixing chamber bottom wall
76.93	..Including specific structure for controlling flow through the feed means	114	.Vibrator attached to mixing chamber wall or platform
77	..With specified discharge means	115	..By bonding
78	..Rotating and reciprocating stirrer	116	.With amplitude or frequency regulator
79	..Stirrer is through-pass screw conveyor	117	.Of stirrer
80	..With deflector	118	..In mixing chamber
81	..With additional stirrer element on screw conveyor	119	...Actuated by flow of material
82	..Ring or disk	120	..Pencil type
83	..Plural screw conveyors on separate shafts	121	...With lubricating means
84	...In parallel intercommunicating mixing chambers	122	...Specified end structure
85	....Screw conveyors intermeshing	123	...Actuated by rotary movement of unbalanced-weight shaft
86	....Intercommunication by conduit	124	.Vibrator actuated by fluid under pressure
87	..And downstream breaker plate or screen	125	..Including shaft with radially movable element
88	..Including sections of different pitch	126	..Fluid acting on orbital rolling ball
89	..Varying diameter of shaft	127	.By electrostrictive or magnetostrictive transducer
90	..Notched, apertured, or interrupted thread	128	.By rotary movement of unbalanced-weight shaft
91	..Plural mixing chambers	129	OPERATOR SUPPORTED
92	..With means to move mixing chamber	130	.Mixing chamber type
93	..Rotating mixing chamber	131	HAVING INTERRELATED FEED AND DISCHARGE MEANS
94	...With rotating stirrer	132	.Including means to monitor or control operation
95	....Single stirrer	133	.By single endless or screw conveyor
96	..Stationary mixing chamber	134	.Plural feed or discharge means
97	..With rotating stirrer	135	.Rotatable mixing chamber
98	...Single stirrer	136	.Recirculating from and to mixing chamber
99	....Horizontal	137	..Directly
100	..Stirrer with specified drive means	137.1	JET OR SPRAY IMPINGING FREE-FALLING STREAM
101	BY INJECTING GAS INTO MIXING CHAMBER	138	WITH FLUSHING OF MIXING CHAMBER IN VACUUM CHAMBER
102	..With stirrer	139	WITH SAMPLING
103	..Plural stirrers	140	WITH WEIGHING
104	...Diverse	141	WITH TEST, SIGNAL, OR INDICATOR MEANS
105	..Into rotating mixing chamber	142	WITH INSPECTION MEANS (E.G., WINDOW)
106	..Intermittent or pulsating feed	143	WITH HEATING OR COOLING
107	..Plural gas feeders	144	.Including temperature control
108	BY VIBRATION	145	.Electrical heating
109	..Including endless conveyor	146	
110	..Of holder for mixing chamber		
111	..Of platform or mixing chamber supported by vibrator		

- 147 .Medium in stirrer or mixing chamber
- 148 .Of supply
- 149 .Fluid-filled jacket
- 150.1 **HAVING SPECIFIED FEED MEANS**
- 151.1 .Responsive to condition sensor
- 151.2 ..Responsive to location of mixing chamber
- 152.1 ..Proportioning plural material components
- 152.2 ...By volume or fixed quantity
- 152.3 ...By viscosity
- 152.4 ...By electrical conductivity
- 152.5 ..Responsive to viscosity
- 152.6 ..Responsive to level of material in feeder
- 153.1 ..Controlling level of material in mixing chamber
- 153.2 .Layering
- 153.3 .Endless conveyor
- 154.1 .Agitation of material in feeder or supply reservoir
- 154.2 ..By vibration
- 155.1 ..Rotatable impeller
- 155.2 ...Having radially projecting pinlike element
- 156.1 ...Screw conveyor
- 156.2Plural screw feeders
- 157.1Coaxial or unitary with stirrer
- 157.2Screw stirrer
- 157.3Vertical axis
- 157.4Vertical axis
- 158.1Axis parallel to stirrer in mixing chamber
- 158.2Varying diameter screw or shank
- 158.3Discontinuous screw
- 158.4Including upstream agitator
- 158.5 ..Stationary deflector
- 159.1 .Returning material to supply
- 160.1 .Adjustable mixing ratio control
- 160.2 ..Including pump
- 160.3 ...By variable pump
- 160.4Piston pump
- 160.5 ..By volume
- 162.1 .Predetermined mixing ratio
- 162.2 ..Rotatable feeder
- 162.3 ..Feed chamber of decreasing volume
- 162.4 .Impinging jets
- 162.5 ..Having clean-out rod
- 163.1 .By suction
- 163.2 ..By venturi or jet pump type device
- 164.1 ..By stirrer
- 164.2 ...Conduit integral with stirrer
- 164.3Detachably or adjustably mounted on drive shaft
- 164.4Stationary deflector in mixing chamber
- 164.5 ...Outlet behind blade
- 164.6 ..Centrifugal type
- 165.1 .Material introduced so as to cause rotary motion in mixing chamber (e.g., cyclonic)
- 165.2 ..Including deflector in chamber (deflector may be part of chamber wall)
- 165.3 ..Rotating stirrer in chamber
- 165.4 ..Feed means having a flow regulator (e.g., valve or pump)
- 165.5 ..Manifold in feed means
- 166.1 .Print washer type
- 167.1 .Liquid injector within mixing chamber
- 167.2 ..Injector is rotatable body having internal material passage and peripheral outlet (e.g., slinger)
- 168.1 ..Including rotating stirrer
- 168.2 ...Driven by material feed
- 169.1 ...Fed through stirrer or stirrer drive shaft
- 169.2Fed radially through side wall of shaft
- 170.1Rotating mixing chamber
- 170.2Plural coaxial rotating shafts
- 170.3Passage through stirrer blade
- 170.4Stationary feed conduit received within rotating stirrer or shaft
- 171.1 ...Including cooperating stationary element
- 172.1 ...Plural injectors
- 172.2 ...Injector directs material onto stirrer
- 173.1 ..Plural injectors
- 173.2 ...Plural injectors for material from same source
- 174.1 ..Deflector
- 175.1 ...Rotating mixing chamber
- 175.2 ...Injector directs material onto deflector
- 175.3 ..Moving mixing chamber

176.1	.Pump forces material through restriction (e.g., static emulsifier)	188	..Closure-type discharge
176.2	..Variable restriction (may be manual or pressure responsive)	189	.Batch discharge
176.3	..Piston pump	190	.By pump within mixing chamber
176.4	...Adjustable pressure regulator	191	.By suction or compressed air
177.1	.Plural related feeders having separate outlets to mixing chamber	192	.Valve or gate
178.1	..Concentric	193	..Sliding gate
178.2	...Feed means has plural identical outlets	194	.With rotatable or oscillatable stirrer
178.3	...Inner feeder passes through wall of outer feeder and extends along common axis at the wall	195	..Interrelated with discharge means
179.1	..Intermittent feed	196	..Discharge effected by stirrer
180.1	..Rotating mixing chamber	197	MIXING CHAMBER REMOVABLE FROM STIRRER AND SUPPORT
181.1	..Including chute or hopper with gravity discharge to mixing chamber	198	.Plural supports
181.2	...Including distributor	199	.Removable power drive means
181.3	...Including gate, valve, or closure	200	.Support rotatable only
181.4	..Rotating stirrer and cooperating stationary element	201	..Adjustable stirrer
181.5	..Stationary deflecting element in flow-through mixing chamber	202	.Support oscillatory only
181.6	..Feed means has plural identical outlets	203	.Support rectilinearly reciprocable only
181.7	..Feed to narrow space between stirrer and chamber wall	204	.Mixing chamber mounted within container
181.8	..Fluid pump	205	.Stirrer mounted through mixing chamber bottom wall
182.1	..Including specific structure for controlling flow through the feed means	206	.With motor control
182.2	..Including pump	207	.Adjustable
182.3	..Including feed container having valved outlet	208	BY MOVEMENT OF SUPPORT FOR REMOVABLE MIXING CHAMBER
182.4	..Including valve in feed conduit	209	.Mixing chamber secured to support
183.1	.Static conveyor with gravity discharge to mixing chamber	210	..Support oscillatory only
183.2	..Obstruction or distributing means in outlet (e.g., screen)	211	...Motor driven
183.3	..To rotatable mixing chamber	212	..Support rectilinearly reciprocable only
183.4	...Closed connection between conveyor and mixing chamber (e.g., sealed joint)	213	..Support rotatable only
184	WITH SPECIFIED DISCHARGE MEANS	214	...And means to clamp plural mixing chambers
185	.By tilting mixing chamber	215	..Support pivotally mounted by plural linkage
186	.By endless belt or screw conveyor	216	..Support oscillatory with additional motion
187	.Rotatable or oscillatable mixing chamber	217	..Support rotates about plural axes
		218	.Mixing chamber conveyed by support during agitation
		219	BY MOVEMENT OF MIXING CHAMBER RELATIVE TO STATIONARY SUPPORT
		220	.Mixing chamber rotatable only
		221	..With scraper
		222	..Interrelated stirrer and mixing chamber drive
		223	...Effecting counter rotation
		224	..With rotatable stirrer
		225	..With deflector

226	...Foraminous type	268	...Plural
227	...Helical type	269	...Inlet and outlet at same end of flow path
228	...Attached directly to chamber wall	270	..Propeller blade type
229	...Additional deflector on support in chamber	271	.Endless conveyor with paddles
230	...Deflector stationary	272	.Gear-type stirrer
231	...Suspended within chamber	273	.Magnetic stirrer
232	..Mixing chamber supported by shaft at one end only	274	..Actuating means in base support
233	..Roller or suspended support for mixing chamber	275	.Flexible diaphragm
234	..Foraminous mixing chamber	276	.Oscillatory stirrer
235	..Plural mixing chambers	277	..With additional motion
236	..Rectangular mixing chamber	278	..Including rotatable input drive
237	..Mixing chamber oscillating only	279	.Rotatable stirrer
238	..With stirrer	280	..With movable element actuated by material
239	..Mixing chamber rocking only	281	..With support for attachment to mixing chamber rim
240	..Mixing chamber rectilinearly reciprocating only	282	...With motor drive
241	STIRRER WITHIN STATIONARY MIXING CHAMBER	283	...With gear drive
242	..Mounted in removable mixing chamber closure	284	...Including adjustable rim contact support
243	..Oscillatory stirrer	285	..Adjustable
244	..Rotatable stirrer	286	...Axially
245	...Axis fixed	287	..Planetary
246	...Coincident axes	288	...Axes of rotation and revolution parallel
247	...Single stirrer	289	..Also axially reciprocable
248	....Bent bar	290	..In at least one of intercommunicating adjacent mixing chambers
249	....Motor driven	291	...Plural stirrers on parallel axes in adjacent mixing chambers
250	.....Fluid motor	292	..Plural stirrers
251	.....Electric motor	293	...Coaxial
252	.....Gear driven	294	...Differing in speed
253	.....Having cooperating stationary element	295	...Diverse stirrers
254	.....Adjustable stirrer or stirrer element	296	...Rotating in opposite directions
255	..Translatable stirrer	297	...On parallel axes
256	..Rectilinearly reciprocable only	298	...Differing in speed
257	...Plural stirrers	299	...Diverse stirrers
258	...With rotary input drive	300	...Rotating in opposite directions
259	...Actuated by pivoted lever	301	...Intermeshing with each other
260	...Spring return	302	..Having cooperating stationary element
261	..With means to move stirrer and support	303	...Interdigitating
262	..Pump type	304	...Parallel to axis of rotation
263	..Centrifugal	305	...Cylindrical or conical stirrer or element
264	...Impeller with outer stationary ring	306	...Element mounted on mixing chamber end wall
265	...Impeller only		
266	..Screw		
267	..Piston		

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|--------|--|-------|--|
| 307 | ...Element mounted on cylindrical mixing chamber wall | 327.4 | ...Oppositely pitched element sections |
| 308 | ..Collapsible articulated stirrer | 328.1 | ...Notched element |
| 309 | ..Including scraper, wiper, or brush | 328.2 | ...Apertured element |
| 310 | ...Helical type | 328.3 |Noncircular aperture |
| 311 | ...Pivotally mounted on noncoincident axis | 328.4 |Square aperture |
| 312 | ...Plural distinct scraping edges or wiping surfaces | 329.1 | ...Diverse size or shape |
| 313 |Axially offset | 329.2 | ...Elements having different lengths |
| 314 | ..Mounted in mixing chamber bottom wall | 329.3 | ...Including movable scraper |
| 315 | ..Disk-type stirrer | 330.1 | ...Axially directing blade (e.g., propeller, helix section, etc.) |
| 316 | ...Apertured or notched | 330.2 | ...Blade detachably secured to hub |
| 317 | ...With projection | 330.3 | ...Bowed or angled out of plane of rotation |
| 318 | ..Screw-type stirrer | 330.4 |Outwardly increasing width |
| 319 | ...With additional agitator elements on screw | 330.5 |Outwardly decreasing width |
| 320 | ...Openwork helical ribbon | 330.6 | ...Nonhorizontal, nonvertical axis of rotation |
| 321 | ...Opposite pitch | 330.7 | ...Convex trailing edge in plane of rotation |
| 322 | ...Discontinuous screw | 331 | ..With specified mounting means |
| 323 | ...Varying diameter of convolutions or shank or varying pitch | 332 | ..Rectilinearly reciprocable stirrer |
| 324 | ...Apertured or notched | 333 | ..In contact with mixing chamber |
| 325.1 | ..Relatively fixed plural elements | 334 | ..Plural |
| 325.2 | ...Pinlike radially projecting element | 335 | ...On parallel axes |
| 325.3 | ...Spiral arrangement | 336 | STATIONARY DEFLECTOR (DIVIDING AND RECOMBINING TYPE) IN FLOW-THROUGH MIXING CHAMBER |
| 325.4 | ...Element mounted parallel to shaft, spaced therefrom, and having at least one free end | 337 | .Angularly related flat surfaces |
| 325.5 |Opposite free ends | 338 | .Curved deflector surface |
| 325.6 | ...Looped wirelike element | 339 | ..Helical ribbon or strand |
| 325.7 | ...Openwork having element supported by central shaft at opposite ends | 340 | .Plate or block being apertured, notched, or truncated in shape |
| 325.8 |Element axis parallel to shaft | 341 | STATIONARY MIXING CHAMBER AGITATOR |
| 325.9 |Apertured element | 342 | .Stirrer |
| 325.91 |Apertured element | 343 | ..With ejector |
| 325.92 | ...Flat element having major surface lying in plane substantially including shaft axis (e.g., paddle type) | 344 | ..Ambulant over material-supporting surface |
| 325.93 |Apertured element | 345 | ...Track guided |
| 325.94 | ...Openwork having substantially no central shaft | 346 | COVER OR SHIELD FOR MIXING CHAMBER |
| 326.1 | ..Adjustable or flexible | 347 | CHAMBER |
| 327.1 | ...Of different pitch | 348 | METHOD |
| 327.2 |Rodlike element having enlarged outer end | 349 | MISCELLANEOUS |
| 327.3 |Elements of opposite pitch | | |
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