

CLASS 14, BRIDGES**SECTION I - CLASS DEFINITION**

This class includes all structures by which a roadway or railroad is carried across a space intervening between supports and all structures, such as gates, etc., whose operation is dependent upon the operation of the bridge (as in drawbridges). Included in this class are both construction techniques and methods for building a bridge, regardless of type.

There has been no attempt in this classification to separate lateral bracing. Sometimes, as in suspension bridges, the lateral bracing is more or less peculiar to the class of bridge structure. In some cases there appears to be no distinction in either structure or function between bracing intended to strengthen a bridge against wind pressure and that intended to support weight, and they have all been classified together. Except as provided for under ARCH and SUSPENSION bridges, support at the approaches (land to bridge transition) are generally considered to be a retaining wall-type structure.

SECTION II - REFERENCES TO OTHER CLASSES**SEE OR SEARCH CLASS:**

- 49, Movable or Removable Closures, appropriate subclasses for closures of the type provided for.
- 52, Static Structures (e.g., Buildings), appropriate subclasses for in situ erected building structures of more general application, particularly subclasses 86-89 for a vertically curved arch, subclasses 169.1-170 for a building with defined terrain and feature, subclasses 174-176 for buildings with traffic guiding feature, subclasses 177-181 for building or building components with wear or friction-type traffic surface, subclasses 262 and 263 for horizontal barrier resting on vertical supports, and subclasses 639-644 for curvilinear or peaked truss.
- 73, Measuring and Testing, appropriate subclasses for instruments used to measure, for example, deflection.
- 104, Railways, subclasses 35-47 for turntables, subclass 124 for elevated structure for supporting an overhead railroad, and subclasses 275-277 for devices for crossing of railroad tracks by fire hose to avoid interference with car movement.

- 105, Railway Rolling Stock, subclasses 458 and 459 for bridging devices between adjacent coupled cars to permit safe passage therebetween.
- 106, Compositions: Coating or Plastic, appropriate subclasses for coating compositions.
- 109, Safes, Bank Protection, or a Related Device, subclass 87 for movable or removable floor sections for bridging floor recesses necessitated in accommodating the opening of a vault door.
- 187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, appropriate subclasses for apparatus having a vertically shiftable load underlying supporting surface driven along a guided path and which moves an entire detachable load between vertically spaced locations.
- 212, Traversing Hoists, appropriate subclasses for apparatus used to lift and horizontally move a detachable load.
- 249, Static Molds, subclass 1 for molds for forming bridge structure in situ.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses for apparatus used to apply a pushing or pulling force to a detachable load.
- 256, Fences, appropriate subclasses for structure analogous to hand rails on bridges.
- 404, Road Structure, Process, or Apparatus, appropriate subclasses for a trafficable surface on a deck and expansion joint.
- 405, Hydraulic and Earth Engineering, appropriate subclasses for piers which do not include specific bridge or bridge coacting structure, e.g., drain pipes to conduct water runoff away from a bridge roadway, and especially subclasses 195.1-228 for such piers located in a marine environment, subclasses 229-257 for the residue of the piers of this (405) class and subclasses 284-287 for a retaining wall-type abutment (at the bridge approach) supporting a superstructure end.
- 414, Material or Article Handling, appropriate subclasses for apparatus used to place or displace a component in a particular manner or with reference to a particular support and for ramps loading to or from a marine vessel.
- 446, Amusement Devices: Toys, subclasses 476-478 for a toy bridge.

SUBCLASSES

2 TRUSS AND ARCH:

This subclass is indented under the class definition. Bridges combining principle of the truss (i.e., framework with distinct reinforcement for tension and compression, e.g., Fink, W, Hip, Bowstring type) with that of the arch, the truss and arch being connected, but usually being clearly distinguishable as separate structures.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

25, for arches including the principle of the truss in the structure of the arch.

2.4 TRANSPORTABLE:

This subclass is indented under the class definition. Bridge intended to span between a first and second land mass (or associated base), which bridge is movable to a site to be spanned.

SEE OR SEARCH CLASS:

414, Material or Article Handling, subclasses 137.1-143.2 for a bridge or gangway with means to effect movement of cargo to or from a marine vessel and for the combination of a bridge or gangway with a ship and with additional material handling structure excluded from Class 14 (or from Class 114).

2.5 Having launching means:

This subclass is indented under subclass 2.4. Bridge having structure which first spans the area to be bridged and on which the bridge itself slides or rolls into position.

2.6 Floating:

This subclass is indented under subclass 2.4. Bridge including means adapted to engage flowable terrain intermediate the first and second land mass, which means is made buoyant to rest on the flowable material and support a portion of the bridge thereon.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

27, for floating bridges.

SEE OR SEARCH CLASS:

114, Ships, subclasses 264-266 and 382 for a floating platform.

440, Marine Propulsion, subclasses 12.5-12.7 for a self-propelled marine vehicle having land and water propulsion means (e.g., amphibious vehicles).

3 TRUSS:

This subclass is indented under the class definition. Bridges of the type comprising a framework having distinct supporting members for tension or compression (e.g., Howe, Fink, W, Bowstring type).

(1) Note. Included in this subclass are trusses with a prestressing feature.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

2, for combination arch and truss.
25, for compound arches.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 223.1-223.14 for a structure having prestressing feature.
104, Railways, subclass 124 for similar features on elevated railways.

4 Arrangement:

This subclass is indented under subclass 3. Truss structure involving the arrangement of the several parts, the relative location of the elements, or the structure of the truss as a whole.

5 Adjustable:

This subclass is indented under subclass 4. Truss bridge which includes some adjustable feature (usually, but not always, the camber).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

10, for adjustable bowstring truss bridges.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, subclasses 4-7 for dry docks.

6 Deck:

This subclass is indented under subclass 4. Truss bridges in which the road is supported on the upper chord of the truss.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
73, for bridge floors and appurtenances thereto.
- 7 Cantilever:**
This subclass is indented under subclass 4. Bridges of the cantilever type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
31-69, for drawbridges.
- SEE OR SEARCH CLASS:
104, Railways, subclasses 35-47 for rail-road turntables.
- 8 Suspension:**
This subclass is indented under subclass 7. Truss bridges include means of suspension as either a principle or a subordinate feature.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
18-23, for other suspension bridges.
- 9 Bowstring:**
This subclass is indented under subclass 4. Truss bridges having the upper member an arc of a circle and the lower member the chord of said arc.
- 10 Adjustable:**
This subclass is indented under subclass 9. Bowstring truss bridges which include some adjustable feature.
- 11 Intermediate catenary:**
This subclass is indented under subclass 4. Truss bridges having an approximate catenary in addition to the ordinary truss.
- 12 Both chords curved:**
This subclass is indented under subclass 4. Truss bridges having both chords curved, usually oppositely.
- 13 Structure:**
This subclass is indented under subclass 3. Subject matter comprising structure of the members individually (usually, but not always, the upper chord) of trusses.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
74.5, for girders.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 633 through 697 for open-work of more general application, particularly subclasses 639-644 for curvilinear or peaked trusses and subclasses 690-696 for straight trusses; and subclasses 831-857 for elongated rigid members.
- 14 Connections:**
This subclass is indented under subclass 3. Subject matter comprising details of connections between the parts or to details of extensions of such parts.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
5, for adjustable arrangements.
10, for adjustable bowstrings.
15, for end shoes.
75, for piers.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 229 for trussed truck bolsters, subclass 399 for passenger car truss frames, and subclass 407 for freight car truss frames.
- 15 End shoes:**
This subclass is indented under subclass 3. Devices connecting the end of the arch member of bowstring trusses to the tension member and immediate connections between compression and tension chord members.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14, for shoes somewhat similar in structure to end shoes.
73.5, for expansion devices.
- 18 SUSPENSION:**
This subclass is indented under the class definition. Subject matter relating to suspension bridges.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
8 and 11, for similar truss structure.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 223.1-223.14 for a structure having a prestressing feature.
- 19 Compound system:**
This subclass is indented under subclass 18. Bridges supported by more than two cables arranged in sets which are differently connected to the bridge.
- 20 Simple system:**
This subclass is indented under subclass 18. Bridges supported by a single cable or by a simple system of cables, every cable being similarly placed.
- 21 Towers and anchors:**
This subclass is indented under subclass 18. Devices comprising supports and securing devices for suspension cables.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
7 and 8, for cantilever suspension.
26, for arch bridge anchors.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), appropriate subclasses for other building structure of more general application, particularly subclasses 146-152 for vertical structures with diagonal brace or guy, subclasses 155-165 for piercing or expanding land anchors, subclasses 292-299 for footings for vertical structures, and subclasses 223.1-223.14 for a structure having a prestressing feature.
104, Railways, subclass 124 for supports for elevated railways structure.
- 22 Cables and cable clamps:**
This subclass is indented under subclass 18. Structures (such as cables) specially designed to suspend bridges and devices for attachment of other parts to the cables.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclass 16 for means of connecting ends of cables together and subclass 115 for cord and rope holders.
57, Textiles: Spinning, Twisting, and Twining, subclasses 200-260 for twisted or spirally wrapped cables.
59, Chain, Staple, and Horseshoe Making, appropriate subclasses for chains.
248, Supports, subclasses 49-74.5 for pipe and cable supports.
- 23 Constructive apparatus:**
This subclass is indented under subclass 18. Apparatus for use in getting cables into position.
- SEE OR SEARCH CLASS:
57, Textiles: Spinning, Twisting, and Twining, particularly subclass 10 for apparatus for spirally wrapping suspension bridge cables.
- 24 ARCH:**
This subclass is indented under the class definition. Bridges of the simple arch type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
2, for combination truss and arch.
36 through 38, for bascule-type bridges.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), appropriate subclasses for other static structures of more general application, particularly subclasses 86-89 for vertically curved arches with a terminal support, subclasses 245-249 for curvilinear barriers, subclasses 639-644 for curvilinear or peaked trusses, subclasses 223.1-223.14 for a structure having a prestressing feature, and subclasses 690-696 for other trusses.
- 25 Compound:**
This subclass is indented under subclass 24. Bridges in which the arch is not a simple structure, but is composed of a lattice girder, a bow-string-truss, or some other compound structure.

- 26 Abutments and anchorages:**
This subclass is indented under subclass 24. Devices relating to the end supports.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
21, for suspension bridge anchors.
75, for bridge piers.
- 27 FLOATING:**
This subclass is indented under the class definition. Bridges of the floating type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
2.6, for transportable floating bridges.
- SEE OR SEARCH CLASS:
114, Ships, subclasses 264 through 266 for a floating platform.
- 28 Adjustable height:**
This subclass is indented under subclass 27. Floating bridges containing some structure to produce or to permit variations in the height of the road bed.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
42, for draw lifts.
47, for draw aprons.
71.1 through 71.7, for one-end-attached gangways.
- 29 Draw:**
This subclass is indented under subclass 27. Floating bridges of the draw type.
- 30 Locking:**
This subclass is indented under subclass 29. Floating draw bridges, which show some form of device to lock the draw.
- 31 DRAW:**
This subclass is indented under the class definition. Bridges of the draw type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
29 and 30, for floating draw bridges.
- 32 Swing:**
This subclass is indented under subclass 31. Drawbridges of the swing type, limited to structures embodying some feature specifically intended for use in connection with a bridge.
- SEE OR SEARCH CLASS:
104, Railways, subclass 35 for railroad turntables and subclass 48 for railroad transfer tables.
- 33 Hand or motor operated:**
This subclass is indented under subclass 32. Bridges having operating means.
- 34 Boat operated:**
This subclass is indented under subclass 32. Bridges intended to be swung by an approaching boat and usually equipped with an automatic return.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
44, for boat-operated horizontally sliding draw bridges.
- 35 End supports and locking devices:**
This subclass is indented under subclass 32. Devices for connecting the ends of the stationary supports for the purpose of support or locking, or both.
- SEE OR SEARCH CLASS:
405, Hydraulic and Earth Engineering, subclass 4 for similar devices on dry docks.
- 36 Fixed pivot:**
This subclass is indented under subclass 31. Drawbridges of the bascule type revolving on a fixed pivot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
47, for aprons.
71.1 through 71.7, for one-end-attached gangways.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 261.1-279 for car attached rerailers, subclasses 262 and 263 for car replac-

- ers, and subclass 276 for overhead hose bridges.
- 119, Animal Husbandry, subclasses 843-849 for animal gangways.
- 37 Hinged sections:**
This subclass is indented under subclass 36. Bascule bridges in which each vertically swinging part is composed of sections hinged together.
- 38 Rack and pinion:**
This subclass is indented under subclass 36. Bascule bridges operated by a rack and pinion, the rack being on the movable span and the other on a stationary part of the bridge.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
40, for similar structure on nonpivoted bascule bridges.
- 39 Nonpivoted:**
This subclass is indented under subclass 31. Bascule bridges with no fixed pivot operated by means acting directly on the movable span.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
47, for aprons.
71.1 through 71.7, for one-end-attached gangways.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 261.1-279, 262, 263, and 276. (See this class (14), subclass 36).
119, Animal Husbandry, subclasses 843-849 for animal gangways.
414, Material or Article Handling, subclasses 364-366 and 742 for similar structure in material handling devices.
- 40 Rack and pinion:**
This subclass is indented under subclass 39. Bridges operated by a rack and pinion, the rack or the pinion being on the movable span and the other on a stationary part of the bridge.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
38, for similar structure on fixed pivot bascule bridges.
- 41 Locking devices:**
This subclass is indented under subclass 31. Devices for positively locking the movable parts of bascule bridges against vertical or lateral movement.
- 42 Lift:**
This subclass is indented under subclass 31. Drawbridges moving vertically (either up or down from normal position) with usually no horizontal motion.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
52, 58-62, and 66, for vertically sliding gates.
71.1 through 71.7, for one-end-attached gangways.
- SEE OR SEARCH CLASS:
405, Hydraulic and Earth Engineering, subclass 3 for lift-type drydocks.
- 43 Horizontally sliding:**
This subclass is indented under subclass 31. Drawbridges which open by a horizontal longitudinal movement.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
69.5 through 72.5, appropriate subclasses for unattached gangways.
- SEE OR SEARCH CLASS:
104, Railways, subclass 124 for similar structure on elevated railways.
- 44 Boat operated:**
This subclass is indented under subclass 43. Drawbridges which are operated by an approaching boat.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
34, for boat-operated swinging drawbridges.
- 45 Lazy tongs:**
This subclass is indented under subclass 31. Drawbridges operated by one or more lazy-tongs.

SEE OR SEARCH CLASS:

- 74, Machine Element or Mechanism, subclass 521 for lazy tongs.
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 136-165 for lazy tongs operated and other forms of plural strip, slat or panel devices in which the elements intersect to form parallelograms pivoted at their points of intersection.

46 Locking devices:

This subclass is indented under subclass 31. Devices for positively locking drawbridges against movement.

- (1) Note. Search this class, for all other subclasses under the main subtitles of Draw and Floating entitled "locking devices."

47 Aprons:

This subclass is indented under subclass 31. Devices usually constituting part of the floor or roadway and connecting the draw to the fixed span (being hinged to one or the other), which are moved out of the way either prior to or during the movement of the draw.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 28, for similar structure on floating bridges.
- 71.1 through 71.7, for one-end-attached gangways. The subclasses under Draw, Bascule, for the use of similar structure.

48 Buffers:

This subclass is indented under subclass 31. Structures, actuated by drawbridges, which when the draw is open project above the roadway to receive the impact of a moving car or other object and designed to resist considerable force.

SEE OR SEARCH CLASS:

- 104, Railways, subclass 254 for bumpers for railway cars.
- 186, Merchandising, subclasses 24 and 25 for buffers used in store service.

49 Signals:

This subclass is indented under subclass 31. Devices relating to signal apparatus used in connection with drawbridges and usually operated simultaneously with the gates.

SEE OR SEARCH CLASS:

- 246, Railway Switches and Signals, subclass 118 for drawbridge-protection railway signals.

50 Gates:

This subclass is indented under subclass 31. Drawbridge having gates whose operation involve some feature specific to bridges.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 37, for hinged-section bascule bridges.

SEE OR SEARCH CLASS:

- 49, Movable or Removable Closures, appropriate subclasses for closures of the type provided for, and see the search notes in section IV of Class 49, for the loci of closures in other classes.
- 160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for (1) gates in the form of panel units in which a flexible fabric or other flexible sheet material forms the panel portion, (2) panel units formed of plural strips, slats or panels interconnected for relative motion (excluding those connected only by a common operator or mounted only on a common support or in a common frame), where the relation to a bridge or the features of bridge structure are not claimed.
- 405, Hydraulic and Earth Engineering, subclasses 87-106 for water control gates.

Hand or motor operated:

This subclass is indented under subclass 50. Drawbridge gates operated wholly or in part by hand or motor power.

- 51 Horizontally swinging:**
This subclass is indented under subclass 50. Hand or motor-operated drawbridge gates which are horizontally swinging.
- 52 Vertically sliding:**
This subclass is indented under subclass 50. Hand or motor-operated drawbridge gates which are vertically sliding.
- SEE OR SEARCH CLASS:
405, Hydraulic and Earth Engineering, subclass 86 for lifting canal locks and subclass 3 for lifting dry docks.
- 53 Vertically swinging:**
This subclass is indented under subclass 50. Hand or motor-operated drawbridge gates which are vertically swinging.
- Bridge operated:**
This subclass is indented under subclass 50. Drawbridge gates operated either by being contacted by the bridge, or by gate-operating mechanism under the control of the bridge.
- Displacement:**
This subclass is indented under subclass 50. Bridge-operated gates wherein the bridge displaces the member of the operative member which contacts with the movable span.
- 54 Horizontally sliding:**
This subclass is indented under subclass 50. Displacement-type bridge-operated gates which are horizontally sliding.
- 55 Locking:**
This subclass is indented under subclass 54. Devices, said gate having an attachment for locking it in one position.
- 56 Horizontally swinging:**
This subclass is indented under subclass 50. Displacement-type bridge-operated gates which are horizontally swinging.
- 57 Locking:**
This subclass is indented under subclass 56. Devices, said gate having an attachment for locking it in one position.
- 58 Vertically sliding:**
This subclass is indented under subclass 50. Displacement-type bridge-operated gates which are vertically sliding.
- 59 Locking:**
This subclass is indented under subclass 58. Devices, said gate having an attachment for locking it in one position.
- 60 Vertically swinging:**
This subclass is indented under subclass 50. Displacement-type bridge-operated gates which are vertically sliding.
- 61 Locking:**
This subclass is indented under subclass 60. Devices, said gate having an attachment for locking it in one position.
- Shaft rotation:**
This subclass is indented under subclass 50. Bridge-operated gates under subclass 50 wherein the bridge first rotates a shaft in the operating mechanism.
- 62 Horizontally sliding:**
This subclass is indented under subclass 50. Shaft rotation bridge-operated gates which are horizontally sliding.
- 63 Locking:**
This subclass is indented under subclass 62. Devices, said gate having an attachment for locking it in one position.
- 64 Horizontally swinging:**
This subclass is indented under subclass 50. Shaft rotation bridge-operated gates which are horizontally swinging.
- 65 Locking:**
This subclass is indented under subclass 64. Devices, said gate having an attachment for locking it in one position.
- 66 Vertically sliding:**
This subclass is indented under subclass 50. Shaft rotation bridge-operated gates which are vertically sliding.

- 67 Locking:**
This subclass is indented under subclass 66. Devices, said gate having an attachment for locking it in one position.
- 68 Vertically swinging:**
This subclass is indented under subclass 50. Shaft rotation bridge-operated gates which are vertically swinging.
- 69 Locking:**
This subclass is indented under subclass 68. Devices, said gate having an attachment for locking it in one position.
- 69.5 GANGWAY, RAMP, OR DOCK LEVELER:**
This subclass is indented under the class definition. Subject matter comprising a floored, narrow structure especially adapted to serve as a bridge for supporting persons or material or conveying them between ordinarily disassociated bases.
- (1) Note. Included in this subclass and the subclasses thereunder are loading docks and related structure.
- SEE OR SEARCH CLASS:
- 52, Static Structures (e.g., Buildings), subclasses 2.11-2.26 and 173.2 for dock seals.
- 114, Ships, subclass 362 for a structure generally limited to use for assisting in the boarding or disembarking of a vessel by personnel.
- 182, Fire Escape, Ladder, or Scaffold, subclasses 222 and 223 for a platform.
- 193, Conveyors, Chutes, Skids, Guides, and Ways, subclass 38 for a skidway.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 88 and 89-92 for a vehicle ramp and means for lifting at least a portion of the ramp while it supports the vehicle.
- 404, Road Structure, Process, or Apparatus, subclasses 34 and 35 for a portable ramp structure or arrangement.
- 414, Material or Article Handling, subclasses 137.1-143.2 and 537 for a bridge or gangway with means to effect movement of cargo to or from a marine vessel and for the combination of a bridge or gangway with a ship and with additional material handling structure excluded from Class 14 (or from Class 114, Ships).
- 70 Endless conveyor:**
This subclass is indented under subclass 69.5. Bridging structure, which includes an endless conveyor as the whole or a part of the floor.
- SEE OR SEARCH CLASS:
- 56, Harvesters, subclasses 76-78 for corn-stack handlers, subclasses 181-188 for harvester conveyors, and subclasses 345-359 for rakers and loaders.
- 119, Animal Husbandry, subclasses 843-849 for animal gangways.
- 182, Fire Escape, Ladder, or Scaffold, subclasses 42-44 for similar structure in a fire escape.
- 193, Conveyors, Chutes, Skids, Guides, and Ways, appropriate subclasses for a nonpower-driven endless belt conveyor.
- 198, Conveyors: Power-Driven, subclasses 321-338 for a people carrying conveyor of the endless belt type, subclasses 793-803.15 for a load supporting platform moved about an endless path, and subclasses 804-853 for an endless belt conveyor.
- 460, Crop Threshing or Separating, subclass 86 for straw carriers.
- 71.1 Attached:**
This subclass is indented under subclass 69.5. Bridging structure in which one end thereof is secured to one of the ordinarily disassociated bases.
- (1) Note. Securement of the gangway to the base in this subclass is intended to include a loose securement; e.g., the provision to allow the gangway to pivot vertically or horizontally with respect to the base to which it is attached is included herein as is the provision to allow the gangway to slide horizontally with respect to the base.
- (2) Note. Dock levelers generally are classified in this subclass and the indented subclasses.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

42 and 47, subclasses indented under Draw and Bascule for similar structure associated with the special types.

SEE OR SEARCH CLASS:

104, Railways, subclass 31 for a station platform having shiftable portions to facilitate passenger movements or handling of freight.

105, Railway Rolling Stock, subclasses 436 and 458 for similar structure adapted to be used with a railway vehicle.

114, Ships, subclass 362 for boarding aids, including a ladder or gangway, generally, limited to use for assisting in the boarding of vessel by personnel.

119, Animal Husbandry, subclasses 843-849 for a gangway of particular utility to the transporting of livestock.

296, Land Vehicles: Bodies and Tops, subclass 61 for ramps attached at one end, usually to a vehicle.

410, Freight Accommodation on Freight Carrier, subclass 6 for ramps attached at one end, usually to a rail car.

414, Material or Article Handling, subclasses 137.1-143.2 for a bridge or gangway with means to effect movement or cargo to or from a marine vessel and for the combination of a bridge or gangway with a ship and with additional material handling structure excluded from Class 14 (or from Class 114, Ships).

71.3 With lift means:

This subclass is indented under subclass 71.1. Bridging structure including means to force at least a portion of the person or material supporting structure in a vertical direction for repositioning of the gangway to properly relate to the disassociated bases.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, appropriate subclasses for a mechanism used in moving a ramp.

248, Supports, subclasses 157-423 for a ramp support.

414, Material or Article Handling, subclasses 228-230, 258, 385, 401, and 584 for handling apparatus including a movable ramp.

71.5 Attached to fixed structure at first end and with cover and provision to fit vehicle at second end:

This subclass is indented under subclass 71.3. Bridging structure, one end of which is attached to a building or other fixed base wherein the gangway includes a protective shroud adapted to cover and isolate any person or material supported thereon from the atmosphere and including provision to cause the end of the gangway remote from the fixed base to cooperatively interfit with a mobile base.

SEE OR SEARCH CLASS:

187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 247, 248, 267, and 268 for control means for an elevator.

454, Ventilation, subclass 370 for ventilating an airport ramp.

71.7 Hydraulic powered:

This subclass is indented under subclass 71.3. Bridging structure wherein the repositioning means includes a fluid actuated motor as a prime mover.

SEE OR SEARCH CLASS:

60, Power Plants, appropriate subclasses for a hydraulic system.

91, Motors: Expansible Chamber Type, appropriate subclasses for structure of a hydraulic or pneumatic component.

137, Fluid Handling, appropriate subclasses for various components of a hydraulic system (e.g., check valves).

251, Valves and Valve Actuation, appropriate subclasses for specific valve structure.

72.5 Wheeled:

This subclass is indented under subclass 69.5. Bridging structure having attached thereto wheels that are adapted to be utilized to transport the gangway to the location of its use.

73 DECK:

This subclass is indented under the class definition. Floors and appurtenances thereto which are specific to bridge structures.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for a deck on the upper chord of a truss.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), appropriate subclasses for ceiling, flooring or roof constructions, particularly subclasses 174-176 for buildings with traffic feature; subclasses 223.1-223.14 for a structure having a prestressing feature; subclasses 319-341 for cast-in situ ribbed concrete constructions with attached flooring or ceiling; subclasses 578-592.6 for modules, panels or slabs with edge-wise connecting features; and subclasses 660-676 for gratings.

404, Road Structure, Process, or Apparatus, subclasses 34, 43-45, 70, 71, and 134-136 for deck structure, per se.

73.1 Joint:

This subclass is indented under subclass 73. Subject matter including means between adjacent bridge deck portions which allows slight relative movement between the portions.

(1) Note. The “slight movement” referred to in this subclass includes shifting incidental to temperature change of the bridge parts.

(2) Note. The “deck” of this subclass includes that portion of the bridge adapted to be engaged by traffic crossing thereon.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 396.01 for an expansion joint.

404, Road Structure, Process, or Apparatus, subclasses 47-69 for an expansion joint in a road.

405, Hydraulic and Earth Engineering, subclasses 135 and 153 for an expansion joint in a tunnel.

73.5 EXPANSION DEVICE (E.G., BEARING PAD):

This subclass is indented under the class definition. Subject matter including means between a bridge component and a support base (e.g., the earth, a column, pier, wall, or abutment) which allows slight movement of the bridge with respect to the base.

(1) Note. The “slight movement” referred to in this subclass includes shifting incidental to temperature change of the bridge parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

21, for a suspension bridge tower or anchor.

26, for an arch bridge abutment or anchorage.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 167.1-167.9 for an expansion device (e.g., bearing pad) allowing compensation, and absorbing motion in, e.g., a building.

74 COVERING:

This subclass is indented under the class definition. Devices for covering and protecting separately the members of a bridge. Does not include structures for covering a bridge as a whole.

SEE OR SEARCH THIS CLASS, SUBCLASS:

76, for pier fenders.

74.5 GIRDER:

This subclass is indented under the class definition. Subject matter comprising a distinct generally horizontal structural member in the superstructure for supporting a traffic bearing surface.

(1) Note. Structure in this subclass is generally either one usually solid piece (e.g., I, W, S, polygonal, ellipsoidal beam or AASHTO type I-VI beam) or fabricated

from solid pieces (e.g., box beam), both without distinguishable support elements for tension or compression.

- (2) Note. Included in this subclass are prestressed beams.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 73, for a bridge deck having the reinforcement integral with the traffic bearing surface.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 897.35 for assembly and details of girders.
52, Static Structures (e.g., Buildings), subclasses 223.1 through 223.14 for prestressing features and subclasses 836-841 for I-beams.

75 **PIER:**

This subclass is indented under the class definition. Structure relating to the intermediate supports for bridge spans.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 274 and 292-299 for building foundation constructions and subclasses 848 and 849 for end-to-end connected sections.
405, Hydraulic and Earth Engineering, subclasses 222, 223, and 224-228 for masonry and concrete piers and methods for constructing the same in a marine environment and subclasses 231-257 for piers and construction methods therefor not specifically for use in marine environments.

76 **Fender:**

This subclass is indented under subclass 75. Structures designed to protect piers from damage by boats, ice, driftwood, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 74, for other protectors of bridge parts.

SEE OR SEARCH CLASS:

- 114, Ships, subclasses 219 and 220 for ship fenders.

- 405, Hydraulic and Earth Engineering, subclasses 212-215 for fenders for piers in general, as well as fenders for other marine structures of the class type.

77.1 **BRIDGE CONSTRUCTION METHOD:**

This subclass is indented under the class definition. Technique for constructing a bridge superstructure.

- (1) Note. See Search Notes under the Class Definition for bridge construction equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 21, for a suspension bridge tower and anchor.
26, for an arch bridge abutment and anchorage.
77.3, for constructing piers.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 745.19 and 745.2 for precast bridge construction.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 31-35 for in situ construction of a bridge (e.g., few or no precast members).
405, Hydraulic and Earth Engineering, subclasses 284-287 for a method of building a retaining wall-type abutment.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 64 for in situ construction devices.

77.3 **Pier:**

Method of constructing a generally vertical structural support for a bridge.

- (1) Note. See Search Notes under the Class Definition for pier construction equipment.

SEE OR SEARCH CLASS:

- 405, Hydraulic and Earth Engineering, subclasses 232-249 for equipment used in constructing a pier.

- 78 MISCELLANEOUS:**
This subclass is indented under the class definition. Bridge structure involving features not otherwise classifiable above.

END