Sachs-Hornbostel Classification of Musical Instruments

1  IDIOPHONES  The substance of the instrument itself, owing to its solidity and elasticity, yields the sounds, without requiring stretched membranes or strings

11  Struck idiophones  The instrument is made to vibrate by being struck upon

111  Idiophones struck directly  The player himself executes the movement of striking; whether by mechanical intermediate devices, beaters, keyboards, or by pulling ropes, etc., is immaterial; it is definitive that the player can apply clearly defined individual strokes and that the instrument itself is equipped for this kind of percussion

111.1  Concussion idiophones or clappers  Two or more complementary sonorous parts are struck against each other

111.11  Concussion sticks or stick clappers  Annarn, India, Marshall Is.

111.12  Concussion plaques or plaque clappers  China, India

111.13  Concussion troughs or trough clappers  Burma

111.14  Concussion vessels or vessel clappers  Even a slight hollow in the surface of a board counts as a vessel

111.141  Castanets  Vessel clappers, either natural, or artificially hollowed out

111.142  Cymbals  Vessel clappers with everted rim

111.2  Percussion idiophones  The instrument is struck either with a non-sonorous object (hand, stick, striker) or against a non-sonorous object (human body, the ground)

111.21  Percussion sticks

111.211  (Individual) percussion sticks  Japan, Annam, Balkans; also the triangle

111.212  Sets of percussion sticks  Several percussion sticks of different pitch are combined to form a single instrument

All xylophones, as long as their sounding components are not in two different planes [nicht biplan]

111.22  Percussion plaques

111.221  (Individual) percussion plaques  In the oriental Christian Church

111.222  Sets of percussion plaques  Lithophone (China), and most metallophones

111.23  Percussion tubes
111.231 (Individual) percussion tubes  
Slit drum, tubular bell

111.232 Sets of percussion tubes  
Tubaphon, tubular xylophone

111.24 Percussion vessels

111.241 Gongs The vibration is strongest near the vertex

111.241.1 (Individual) gongs  
S. and E. Asia; including the so-called metal drums, or rather kettle-gongs

111.242.11 Sets of gongs [gong chimes]  
S.E. Asia

111.242 Bells The vibration is weakest near the vertex

111.242.1 (Individual) Bells

111.242.2 Resting bells The cup is placed on the palm of the hand or on a cushion; its mouth faces upwards

China, Indo-China, Japan

111.242.12 Suspended bells The bell is suspended from the apex

111.242.121 Suspended bells struck from the outside. No striker is attached inside the bell, there being a separate beater

111.242.122 Clapper bells A striker (clapper) is attached inside the bell

111.242.2 Sets of bells [chimes] (subdivided as 111.242.1)

112 Indirectly struck idiophones The player himself does not go through the movement of striking; percussion results indirectly through some other movement by the player. The intention of the instrument is to yield clusters of sounds or noises, and not to let individual strokes be perceived

112.2 Shaken idiophones or rattles The player executes a shaking motion

112.11 Suspension rattles Perforated idiophones are mounted together, and shaken to strike against each other

112.111 Strung rattles Rattling objects are strung in rows on a cord

Necklaces with rows of shells

112.112 Stick rattles Rattling objects are strung on a bar (or ring) Sistrum with rings

112.12 Frame rattles Rattling objects are attached to a carrier against which they strike

112.121 Pendant rattles Rattling objects are hung from a frame Dancing shield with rattling rings

112.122 Sliding rattles Non-sonorous objects slide to and fro in the slots of the sonorous object so that the latter is made to vibrate; or sonorous objects slide to and fro in
the slots of a non-sonorous object, to be set in vibration by the impacts

*Anklung, sistrum with rods (recent)*

112.13 **Vessel rattles** Rattling objects enclosed in a vessel strike against each other or against the walls of the vessel, or usually against both. nb The Benue gourd rattles with handle, in which the rattling objects, instead of being enclosed, are knotted into a net slipped over the outer surface, count as a variety of vessel rattle

*Fruit shells with seeds, 'pellet bells' enclosing loose percussion pellets*

112.2 **Scraped idiophones** The player causes a scraping movement directly or indirectly: a non-sonorous object moves along the notched surface of a sonorous object, to be alternately lifted off the teeth and flicked against them; or an elastic sonorous object moves along the surface of a notched non-sonorous object to cause a series of impacts. This group must not be confused with that of friction idiophones

112.21 **Scraped sticks** A notched stick is scraped with a little stick

112.211 **Scraped sticks without resonator**

*S. America, India (notched musical bow), Congo*

112.212 **Scraped sticks with resonator**

*Usumbara, E. Asia (tiger)*

112.22 **Scraped tubes**

*S. India*

112.23 **Scraped vessels** The corrugated surface of a vessel is scraped

*S. America, Congo region*

112.24 **Scraped wheels or cog rattles** A cog wheel, whose axle serves as the handle, and a tongue fixed in a frame which is free to turn on the handle; when whirled, the tongue strikes the teeth of the wheel one after another

*Europe, India*

112.3 **Split idiophones** Instruments in the shape of two springy arms connected at one end and touching at the other: the arms are forced apart by a little stick, to jingle or vibrate on recoil

*China (huan t'u), Malacca, Persia (qasik), Balkans*

12 **Plucked idiophones** Lamellae, i.e. elastic plaques, fixed at one end, are flexed and then released to return to their position of rest

121 **In the form of a frame** The lamella vibrates within a frame or hoop

121.1 **Clack idiophones** (cricri) The lamella is carved in the surface of a fruit shell, which serves as resonator

*Melanesia*

121.2 **Guimbardes** (Jews’ harps) The lamella is mounted in a rod- or plaque-shaped frame and depends on the player’s mouth cavity for resonance

121.21 **Idioglot guimbardes** The lamella is carved in the frame itself, its base remaining joined to the frame

*India, Indonesia, Melanesia*

121.22 **Heteroglot guimbardes** A lamella is attached to a frame
(Single) heteroglot guimbardes *Europe, India, China*

Sets of heteroglot guimbardes Several heteroglot guimbardes of different pitches are combined to form a single instrument *Aura*

In board- or comb-form The lamellae are tied to a board or cut out from a board like the teeth of a comb

With laced-on lamellae

Without resonator *All sansas on a plain board*

With resonator *All sansas with a box or bowl below the board*

With cut-out lamellae (musical boxes) Pins on a cylinder pluck the lamellae *Europe*

Friction Idiophones The instrument is made to vibrate by friction

Friction sticks

(Individual) friction sticks *Unknown*

Sets of friction sticks

With direct friction The sticks themselves are rubbed

*Nail fiddle, nail piano, Stockspiele*

With indirect friction The sticks are connected with others which are rubbed and, by transmitting their longitudinal vibration, stimulate transverse vibration in the former *Chladni's euphon*

Friction plaques

(Individual) friction plaques *Unknown*

Sets of friction plaques *livika* *New Ireland*

Friction vessels

(Individual) friction vessels *Brazil (tortoise shell)*

Sets of friction vessels *Verillon (glass harmonica)*

Blown idiophones The instrument is made to vibrate by being blown upon

Blown sticks

(Individual) blown sticks *Unknown*

Sets of blown sticks *Aeolsklavier*

Blown plaques

(Individual) blown plaques *Unknown*

Sets of blown plaques *Piano chanteur*
Suffixes for use with any division of this class (idiophones):
-8 with keyboard
-9 mechanically driven

2  MEMBRANOPHONES The sound is excited by tightly-stretched membranes
21  Struck drums The membranes are struck
211  Drums struck directly The player himself executes the movement of striking; this includes striking by any intermediate devices, such as beaters, keyboards, etc.; drums that are shaken are excluded
211.1  Kettle drums (timpani) The body is bowl- or dish-shaped
211.11  (Separate) kettle drums European timpani
211.12  Sets of kettle drums W. Asian permanently joined pairs of kettle drums
211.2  Tubular drums The body is tubular
211.21  Cylindrical drums The diameter is the same at the middle and the ends; whether or not the ends taper or have projecting disks, is immaterial
211.211  Single-skin cylindrical drums The drum has only one usable membrane. In some African drums a second skin forms part of the lacing device and is not used for beating, and hence does not count as a membrane in the present sense
211.211.1  Open cylindrical drums The end opposite from the membrane is open Malacca
211.211.2  Closed cylindrical drums The end opposite from the membrane is closed West Indies
211.212.1  Double-skin cylindrical drums The drum has two usable membranes
211.212.1 (Individual) cylindrical drums Europe (side drum)
211.212.2  Sets of cylindrical drums
211.22*  Barrel-shaped drums The diameter is larger at the middle than at the ends; the body is curvilinear Asia, Africa, Ancient Mexico
211.23  Double-conical drums The diameter is larger at the middle than at the ends; the body is rectilinear with angular profile India (mrdanga, banya, pakhavaja)
211.24*  Hourglass-shaped drum The diameter is smaller at the middle than at the ends Asia, Melanesia, E. Africa
**211.25** Conical drums The diameters at the ends differ considerably; minor departures from conicity, inevitably met, are disregarded here  
*India*

**211.26** Goblet-shaped drums The body consists of a main section which is either cup-shaped or cylindrical, and a slender stem; borderline cases of this basic design like those occurring notably in Indonesia, do not affect the identification, so long as a cylindrical form is not in fact reached  
*Darabuka*

**211.3** Frame drums The depth of the body does not exceed the radius of the membrane. N.B. The European side-drum, even in its most shallow form, is a development from the long cylindrical drum and hence is not included among frame drums

**211.31** Frame drums (without handle)

**211.311** Single-skin frame drums  
*Tambourine*

**211.312** Double-skin frame drums  
*N. Africa*

**211.32** Frame drum with handle A stick is attached to the frame in line with its diameter

**211.321** Single-skin frame drums with handle  
*Eskimo*

**211.322** Double-skin frame drums with handle  
*Tibet*

**212** Rattle drums (sub-divisions as for drums struck directly, 211) The drum is shaken; percussion is by impact of pendant or enclosed pellets, or similar objects  
*India, Tibet*

**22** Plucked drums A string is knotted below the centre of the membrane; when the string is plucked, its vibrations are transmitted to the membrane  
*India (gopi yantra, anandalahari)*

**23** Friction drums The membrane is made to vibrate by friction

**231** Friction drums with stick A stick in contact with the membrane is either itself rubbed, or is employed to rub the membrane

**231.1** With inserted stick The stick passes through a hole in the membrane

**231.11** Friction drums with fixed stick The stick cannot be moved; the stick alone is subjected to friction by rubbing  
*Africa*

**231.12** Friction drums with semi-fixed stick The stick is movable to a sufficient extent to rub the membrane when it is itself rubbed by the hand  
*Africa*

**231.13** Friction drums with free stick The stick can be moved freely; it is not itself rubbed, but is employed to rub the membrane  
*Venezuela*

*To be sub-divided like 211.21.*
With tied stick The stick is tied to the membrane in an upright position  Europe

Friction drum with cord A cord, attached to the membrane, is rubbed

Stationary friction drum with cord The drum is held stationary

Europe, Africa

Single-skin stationary drums with friction-cord

Double-skin stationary drums with friction-cord

Friction drum with whirling stick The drum is whirled on a cord which rubs on a [resined] notch in the holding stick.

Waldteufel [cardboard buzzer] (Europe, India, E. Africa)

Hand friction drums The membrane is rubbed by the hand

Singing membranes (Kazoos) The membrane is made to vibrate by speaking or singing into it; the membrane does not yield a note of its own but merely modifies the voice

Europe, W. Africa

Free kazoos The membrane is incited directly, without the wind first passing through a chamber

Comb-and-paper

Tube- or vessel-kazoos The membrane is placed inside a tube or box

Africa; while also, E. Asian flutes with a lateral hole sealed by a membrane, exhibit an adulteration with the principle of the tube kazoo

Suffixes for use with any division of this class (membranophones):

-6 with membrane glued to drum
-7 with membrane nailed to drum
-8 with membrane laced to drum

-81 Cord-(ribbon-) bracing The cords are stretched from membrane to membrane or arranged in the form of a net, without employing any of the devices described below

-811 Without special devices for stretching Everywhere

-812 With tension ligature Cross ribbons or cords are tied round the middle of the lacing to increase its tension Ceylon

-813 With tension loops The cords are laced in a zigzag; every pair of strings is caught together with a small ring or loop India

-814 With wedge-bracing Wedges are inserted between the wall of the drum and the cords of the lacing; by adjusting the position of the wedges it is possible to control the tension Indonesia, Africa

-82 Cord-and-hide bracing The cords are laced at the lower end to a non-sonorous piece of hide Africa

-83 Cord-and-board bracing The cords are laced to an auxiliary board at the lower end Sumatra
-84 Cord-and-flange bracing The cords are laced at the lower end to a flange carved from the solid Africa
-85 Cord-and-belt bracing The cords are laced at the lower end to a belt of different material India
-86 Cord-and-peg bracing The cords are laced at the lower end to pegs stuck into the wall of the drum Africa

N.B. -82 to -86 are sub-divided as -81 above
-9 With membrane lapped on A ring is slipped over the edge of the membrane
-91 With membrane lapped on by ring of cord Africa
-92 With membrane lapped on by a hoop
-921 Without mechanism European drum
-922 With mechanism
-9221 Without pedal Machine timpani
-9222 With pedals Pedal timpani

3 CHORDOPHONES One or more strings are stretched between fixed points
31 Simple chordophones or zithers The instrument consists solely of a string bearer, or of a string bearer with a resonator which is not integral and can be detached without destroying the sound-producing apparatus
311 Bar zithers The string bearer is bar-shaped; it may be a board placed edgewise
311.1 Musical bows The string bearer is flexible (and curved)
311.11 Idiochord musical bows The string is cut from the bark of the cane, remaining attached at each end
311.111 Mono-idiochord musical bows The bow has one idiochord string only New Guinea (Sepik R.), Togo
311.12 Poly-idiochord musical bows or harp-bows The bow has several idiochord strings which pass over a toothed stick or bridge W. Africa (Fan)
311.12 Heterochord musical bows The string is of separate material from the bearer
311.121 Mono-beterochord musical bows The bow has one hetero-chord string only
311.121.1 Without resonator N.B. If a separate, unattached resonator is used, the specimen belongs to 311.121.21. The human mouth is not to be taken into account as a resonator
311.121.11 Without tuning noose Africa (ganza, samuius, to)
311.121.12 With tuning noose A fibre noose is passed round the string, dividing it into two sections South-equatorial Africa (n’kungo, uta)
311.121.2 With resonator
311.121.21 With independent resonator Borneo (busoi)
311.121.22 With resonator attached

311.121.221 Without tuning noose  S. Africa (hade, thomo)
311.121.222 With tuning noose  S. Africa, Madagascar (gubo, huno, bobre)

311.122 Poly-heterochord musical bows The bow has several hetero-chord strings

311.122.1 Without tuning noose  Oceania (kalove)
311.122.2 With tuning noose  Oceania (pagolo)

311.2 Stick zithers  The string carrier is rigid

311.21 Musical bow cum stick The string bearer has one flexible, curved end. N.B. Stick zithers with both ends flexible and curved, like the Basuto bow, are counted as musical bows  India

311.22 (True) stick zithers N.B. Round sticks which happen to be hollow by chance do not belong on this account to the tube zithers, but are round-bar zithers; however, instruments in which a tubular cavity is employed as a true resonator, like the modem Mexican harpa, are tube zithers

311.221 With one resonator gourd  India (tuila), Celebes (suleppe)
311.222 With several resonator gourds  India (vina)

312 Tube zithers  The string bearer is a vaulted surface

312.1 Whole-tube zithers  The string carrier is a complete tube

312.11 Idiochord (true) tube zithers  Africa and Indonesia (gonra, togo, valiha)
312.12 Heterochord (true) tube zithers

312.121 Without extra resonator  S.E. Asia (alligator)
312.122 With extra resonator An internode length of bamboo is placed inside a palm leaf tied in the shape of a bowl  Timor

312.2 Half-tube zithers The strings are stretched along the convex surface of a gutter

312.21 Idiochord half-tube zithers  Flores
312.22 Heterochord half-tube zithers  E. Asia (k’in, koto)

313 Raft zithers The string bearer is composed of canes tied together in the manner of a raft

313.1 Idiochord raft zithers  India, Upper Guinea, Central Congo
313.2 Heterochord raft zithers  N. Nyasa region

314 Board zithers The string bearer is a board; the ground too is to be counted as such
314.1 True board zithers The plane of the strings is parallel with that of the string bearer
314.11 Without resonator Borneo
314.12 With resonator
314.121 With resonator bowl The resonator is a fruit shell or similar object, or an artificially carved equivalent Nyasa region
314.122 With resonator box (box zither) The resonator is made from slats Zither, Hackbrett, pianoforte
314.2 Board zither variations The plane of the strings is at right angles to the string bearer
314.21 Ground zithers The ground is the string bearer; there is only one string Malacca, Madagascar
314.22 Harp zithers A board serves as string bearer; there are several strings and a notched bridge Borneo
315 Trough zithers The strings are stretched across the mouth of a trough Tanganyika
315.1 Without resonator
315.2 With resonator The trough has a gourd or a similar object attached to it
316 Frame zithers The strings are stretched across an open frame
316.1 Without resonator Perhaps amongst medieval psalteries
316.2 With resonator W. Africa, amongst the Kru (kani)
32 Composite chordophones A string bearer and a resonator are organically united and cannot be separated without destroying the instrument
321 Lutes The plane of the strings runs parallel with the sound-table
321.1 Bow lutes [pluriarc] Each string has its own flexible carrier Africa (akam, kalangu, wambi)
321.2 Yoke lutes or lyres The strings are attached to a yoke which lies in the same plane as the sound-table and consists of two arms and a cross-bar
321.21 Bowl lyres A natural or carved-out bowl serves as the resonator Lyra, E. African lyre
321.22 Box lyres A built-up wooden box serves as the resonator Cithara, crwth
321.3 Handle lutes The string bearer is a plain handle. Subsidiary necks, as e.g. in the Indian prasarini vina are disregarded, as are also lutes with strings distributed
over several necks, like the harpolyre, and those like the Lyre-guitars, in which the yoke is merely ornamental.

321.31 **Spike lutes** The handle passes diametrically through the resonator

321.311 **Spike bowl lutes** The resonator consists of a natural or carved-out bowl

321.312 **Spike box lutes or spike guitars** The resonator is built up from wood

321.313 **Spike tube lutes** The handle passes diametrically through the walls of a tube

321.32 **Necked lutes** The handle is attached to or carved from the resonator, like a neck

321.321 **Necked bowl lutes** Mandoline, theorbo, balalaika

321.322 **Necked box lutes or necked guitars** N.B. Lutes whose body is built up in the shape of a bowl are classified as bowl lutes Violin, viol, guitar

322 **Harps** The plane of the strings lies at right angles to the sound-table; a line joining the lower ends of the strings would point towards the neck.

322.1 **Open harps** The harp has no pillar

322.11 **Arched harps** The neck curves away from the resonator Burma and Africa

322.12 **Angular harps** The neck makes a sharp angle with the resonator Assyria, Ancient Egypt, Ancient Korea

322.2 **Frame harps** The harp has a pillar

322.21 **Without tuning action** All medieval harps

322.211 **Diatonic frame harps**

322.212 **Chromatic frame harps**

322.212.1 **With the strings in one plane** Most of the older chromatic harps

322.212.2 **With the strings in two planes crossing one another** The Lyon chromatic harp

322.22 **With tuning action** The strings can be shortened by mechanical action

322.221 **With manual action** The tuning can be altered by hand-levers Hook harp, dital harp, harpinella

322.222 **With pedal action** The tuning can be altered by pedals

323 **Harp lutes** The plane of the strings lies at right angles to the sound-table; a line joining the lower ends of the strings would be perpendicular to the neck. Notched bridge W. Africa (kasso, etc)
Suffixes for use with any division of this class (chordophones):

-4 sounded by hammers or beaters
-5 sounded with the bare fingers
-6 sounded by plectrum
-7 sounded by bowing
-71 with a bow
-72 by a wheel
-73 by a ribbon
-8 with keyboard
-9 with mechanical drive

**AEROPHONES**

The air itself is the vibrator in the primary sense

**Free aerophones**
The vibrating air is not confined by the instrument

**Displacement free aerophones**
The air-stream meets a sharp edge, or a sharp edge is moved through the air. In either case, according to more recent views, a periodic displacement of air occurs to alternate flanks of the edge

*Whip, sword-blade*

**Interruptive free aerophones**
The air-stream is interrupted periodically

**Idiophonic interruptive aerophones or reeds**
The air-stream is directed against a lamella, setting it in periodic vibration to interrupt the stream intermittently. In this group also belong reeds with a ‘cover’, i.e. a tube in which the air vibrates only in a secondary sense, not producing the sound but simply adding roundness and timbre to the sound made by the reed’s vibration; generally recognizable by the absence of fingerholes

*Organ reed stops*

**Concussion reeds**
Two lamellae make a gap which closes periodically during their vibration

*A split grass-blade*

**Percussion reeds**
A single lamella strikes against a frame

**Individual percussion reeds**

*Brit. Columbia*

**Sets of percussion reeds**

*The earlier reed stops of organs*

**Free reeds**
The lamella vibrates through a closely-fitting slot

**Individual) free reeds**

*Single-note motor horn*

**Sets of free reeds**
N.B. In instruments like the Chinese sheng the fingerholes do not serve to modify the pitch and are therefore not equivalent to the fingerholes of other pipes

*Reed organ, mouthorgan, accordion*
412.14 **Ribbon reeds** The air-stream is directed against the edge of a stretched band or ribbon. The acoustics of this process has not yet been studied

*Brit. Columbia*

412.2 **Non-idiophonic interruptive instruments** The interruptive agent is not a reed

412.21 **Rotating aerophones** The interruptive agent rotates in its own plane

*Sirens*

412.22 **Whirling aerophones** The interruptive agent turns on its axis

*Bull-roarer, whirring disc, ventilating fan*

413 **Plosive aerophones** The air is made to vibrate by a single density stimulus

*condensation shock*

42 **Wind instruments proper** The vibrating air is confined within the instrument itself

421 **Edge instruments or flutes** A narrow stream of air is directed against an edge

421.1 **Flutes without duct** The player himself creates a ribbon-shaped stream of air with his lips

421.11 **End blown flutes** The player blows against the sharp rim at the upper open end of a tube

421.111 **(Single) end-blown flutes**

421.111.1 **Open single end-blown flutes** The lower end of the flute is open

421.111.11 **Without fingerholes**

Bengal

421.111.12 **With fingerholes**

Almost world-wide

421.111.2 **Stopped single end-blown flutes** The lower end of the flute is closed

421.111.21 **Without fingerholes**

The bore of a key

421.111.22 **With fingerholes**

Especially New Guinea

421.112 **Sets of end-blown flutes or panpipes** Several end-blown flutes of different pitch are combined to form a single instrument

421.112 **Open panpipes**

421.112.11 **Open (raft) panpipes** The pipes are tied together in the form of a board, or they are made by drilling tubes in a board

China

421.112.12 **Open bundle (pan-) pipes** The pipes are tied together in a round bundle

*Solomon Is., New Britain, New Ireland, Admiralty Is.*

421.112.2 **Stopped panpipes**

Europe, S. America

421.112.3 **Mixed open and stopped panpipes**

*Solomon Is., S. America*
421.12 **Side-blown flutes** The player blows against the sharp rim of a hole in the side of the tube

421.121 **(Single) side-blown flutes**

421.121.1 **Open side-blown flutes**

421.121.11 **Without fingerholes**

421.121.12 **With fingerholes**

421.121.2 **Partly-stopped side-blown flutes** The lower end of the tube is a natural node of the pipe pierced by a small hole

421.121.3 **Stopped side-blown flutes**

421.121.31 **Without fingerholes**

421.121.311 **With fixed stopped lower end**

421.121.312 **With adjustable stopped lower end** (piston flutes)

421.121.32 **With fingerholes**

421.122 **Sets of side-blown flutes**

421.122.1 **Sets of open side-blown flutes**

421.122.2 **Sets of stopped side-blown flutes**

421.13 **Vessel flutes** (without distinct beak) The body of the pipe is not tubular but vessel-shaped

421.2 **Flutes with duct or duct flutes** A narrow duct directs the air-stream against the sharp edge of a lateral orifice

421.21 **Flutes with external duct** The duct is outside the wall of the flute; this group includes flutes with the duct chamfered in the wall under a ring-like sleeve and other similar arrangements

421.211 **(Single) flutes with external duct**

421.211.1 **Open flutes with external duct**

421.211.11 **Without fingerholes**

421.211.12 **With fingerholes**

421.211.2 **Partly-stopped flutes with external duct**

421.211.3 **Stopped flutes with external duct**

421.212 **Sets of flutes with external duct**
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<td>421.22</td>
<td><strong>Flutes with internal duct</strong> The duct is inside the tube. This group includes flutes with the duct formed by an internal baffle (natural node, block of resin) and an exterior tied-on cover (cane, wood, hide)</td>
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<tr>
<td>421.211</td>
<td>(Single) flutes with internal duct</td>
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<td>Sets of partly-stopped flutes with internal duct</td>
</tr>
<tr>
<td>421.222.3</td>
<td>Sets of stopped flutes with internal duct</td>
</tr>
<tr>
<td>422</td>
<td><strong>Reedpipes</strong> The air-stream has, through means of two lamellae placed at the head of the instrument, intermittent access to the column of air which is to be made to vibrate</td>
</tr>
<tr>
<td>422.1</td>
<td><strong>Oboes</strong> The pipe has a [double] reed of concussion lamellae (usually a flattened stem)</td>
</tr>
<tr>
<td>422.11</td>
<td>(Single) oboes</td>
</tr>
<tr>
<td>422.111</td>
<td>With cylindrical bore</td>
</tr>
<tr>
<td>422.111.1</td>
<td>Without fingerholes</td>
</tr>
<tr>
<td>422.111.2</td>
<td>With fingerholes</td>
</tr>
<tr>
<td>422.112</td>
<td>With conical bore</td>
</tr>
<tr>
<td>422.12</td>
<td>Sets of oboes</td>
</tr>
</tbody>
</table>
422.121 With cylindrical bore
double aulos

422.122 With conical bore
india

422.2 clarinets The pipe has a [single] 'reed' consisting of a percussion lamella

422.21 (single) clarinets

422.211 with cylindrical bore

422.211.1 without fingerholes
brit. columbia

422.211.2 with fingerholes
european clarinet

422.212 with conical bore
saxophone

422.22 sets of clarinets
egypt (zummara)

422.3 reedpipes with free reeds The reed vibrates through [at] a closely-fitted frame. There must be fingerholes, otherwise the instrument belongs to the free reeds

422.31 single pipes with free reed
s.e. asia

422.32 double pipes with free reeds

423 trumpets The air-stream passes through the player's vibrating lips, so gaining intermittent access to the air column which is to be made to vibrate

423.1 natural trumpets without extra devices to alter pitch

423.11 conches A conch shell serves as trumpet

423.111 end-blown

423.111.1 without mouthpiece
india

423.111.2 with mouthpiece
japan (rappakai)

423.112 side-blown
oceania

423.12 tubular trumpets

423.121 end-blown trumpets The mouth-hole faces the axis of the trumpet

423.121.1 end-blown straight trumpets The tube is neither curved nor folded

423.121.11 without mouthpiece
some alphorns

423.121.12 with mouthpiece
almost world-wide

423.121.2 end-blown horns The tube is curved or folded

423.121.21 without mouthpiece
asia

423.121.22 with mouthpiece
lurs

423.122 side-blown trumpets The embouchure is in the side of the tube
| 423.122.1 | Side-blown straight trumpets | S. America |
| 423.122.1 | Side-blown horns | Africa |
| 423.2 | Chromatic trumpets With extra devices to modify the pitch |
| 423.21 | Trumpets with fingerholes | Cornetti, key bugles |
| 423.22 | Slide trumpets The tube can be lengthened by extending a telescopic section of the instrument | European trombone |
| 423.23 | Trumpets with valves The tube is lengthened or shortened by connecting or disconnecting auxiliary lengths of tube | Europe |
| 423.231 | Valve bugles The tube is conical throughout |
| 423.232 | Valve horns The tube is predominantly conical |
| 423.233 | Valve trumpets The tube is predominantly cylindrical |

Suffixes for use with any division of this class (aerophones):

-6 with air reservoir
-61 with rigid air reservoir
-62 with flexible air reservoir
-7 with fingerhole stopping
-71 with keys
-72 with Bandmechanik [presumably a perforated roll or ribbon]
-8 with keyboard
-9 with mechanical drive