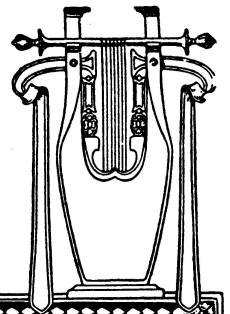
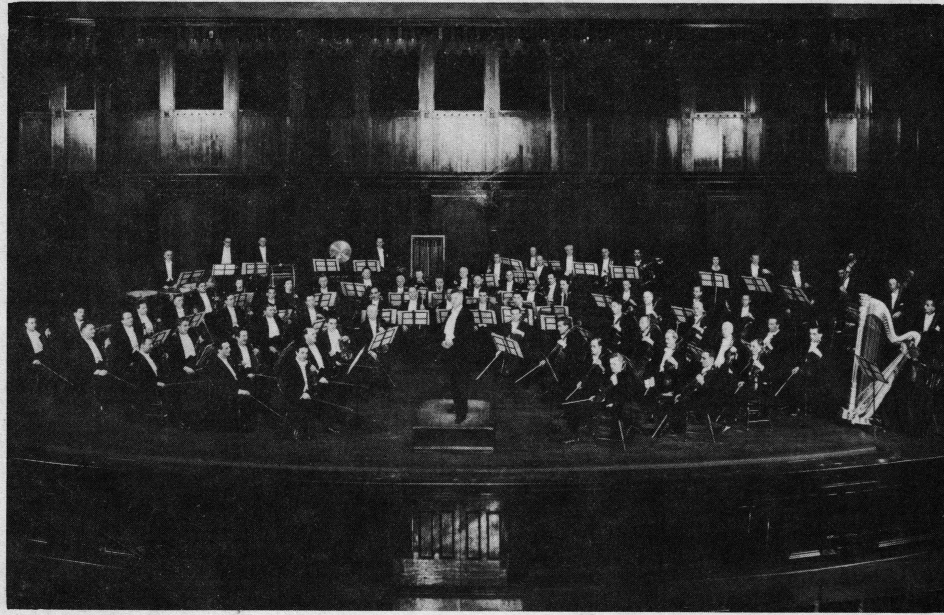


Presser's Musical Instrument Pictures



SCRAP BOOK CUT-OUTS — ORCHESTRAL SEATING SET-UPS
FOR MUSIC APPRECIATION CLASSES, CONCERT-GOERS AND RADIO LISTENERS
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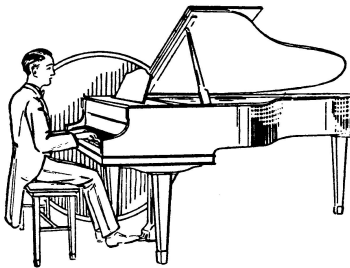
THE TORONTO SYMPHONY ORCHESTRA
SIR ERNEST MACMILLAN, *Conductor*

VIOLINISTS

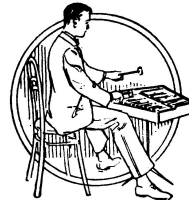
VIOLINISTS



SNARE DRUM



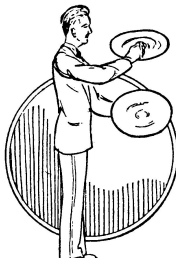
PIANO (PIANOFORTE)



GLOCKENSPIEL



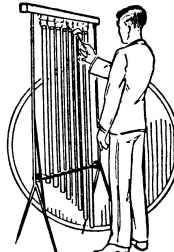
BASS DRUM



CYMBAL



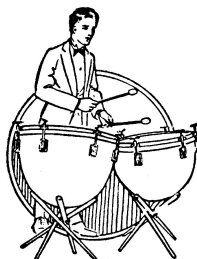
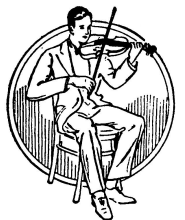
CELESTA



CHIMES



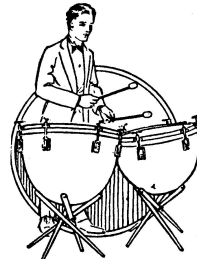
XYLOPHONE



TYMPANI

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It increases your pleasure in music to be able to know something about every musical instrument used in an orchestra and in a band. After you can tell each instrument when you see it, then you will find it easier to learn to tell, just by hearing, which instruments you hear taking prominent parts or helping to give certain effects when an orchestra or a band is playing.

If you heard a large chorus singing, you would know the soprano voices, the alto voices, the tenor voices and the bass voices. When a number of instruments are playing together, they are just like different voices singing together, only of course some instruments can play tones higher than any voices can sing and some can play tones lower than any voices can sing.

Your teacher can tell you more about the various instrumental families and something of the difference in their sounds or you can read about these things in little books you can buy, such as "Betty and the Symphony Orchestra" by Eliza-

beth Gest (price, 10 cents), "What Every Music Lover Should Know About the Band" by John Philip Sousa (price, 10 cents), or in some larger books on these subjects.

Those who learn to play the piano have the advantage over others, not only when it comes to learning how to sing or how to play a band or an orchestra instrument, but also when it comes to listening to music played by a group of instruments. This is because a pianist plays more than one part or one line of music and therefore his ear learns to listen for the different "voices" he plays. Also the piano gives forth sounds in over seven octaves with all the chromatic intervals.

Anyone who can swim enjoys canoeing and sailing more than one who cannot swim. Learning to play the piano even a little bit will help a great deal those who want to become proficient on any other musical instrument or those who wish to enjoy music in any form.



VIOLA



CELLO



CELLO

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HOW TO SET UP AN ORCHESTRA FROM "PRESSER'S MUSICAL INSTRUMENT PICTURES"

Make a game of it in classes by having a competition for the best set-ups.

Get a cardboard or a heavy piece of paper about 22x28 inches in size. Mark it off like either of the orchestra plans shown, using a 10 cent piece to draw the circles marking each player's position. Of course, if you want to make an orchestra having less players, you can use a slightly smaller plan, marking less players in each instrumental group. Next, take some blank white paper, trace on it the "set-up" pattern,

and cut out as many "set-up" patterns as you need. Cut out the little sketches of the various players and paste these on the front of the pattern, then curl back the wing-like ends of the pattern, putting a little paste on the tips of these, and join them together. Put some paste on the little extension tip to the bottom piece and paste this up to the curled back wings. Put a little paste on the circle on your orchestra plan and press the bottom of the "set-up" pattern down upon it, if you want to paste all the players permanently in place. In making the leader "set-up" use both pictures of the leader, pasting the back view on the front



"SET-UP"

Trace this so you may not damage figures on first page.

In the home by the radio the miniature orchestra you make will help you have a game all to yourself of picturing instruments you hear.

of the "set-up" pattern and the face view of the leader upon the back of the "set-up" pattern.

These "set-up" miniature orchestras may be elaborated on as much as is desired, as, for instance, the various rows of players may be raised, each a step higher than the row in front of it, and a whole stage with ceiling,



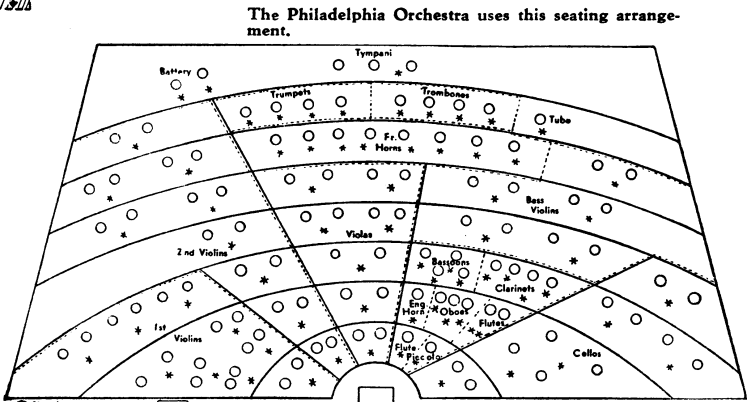
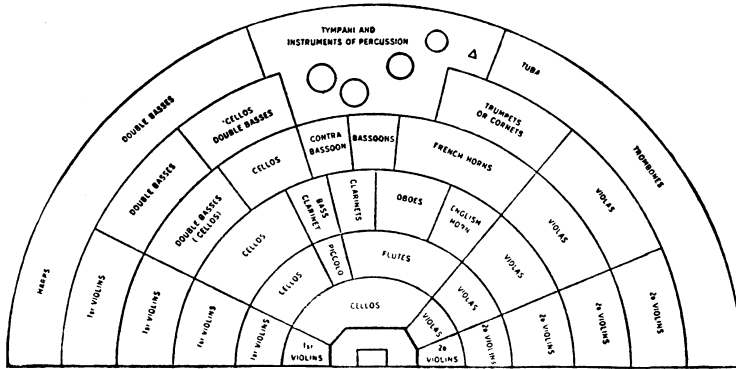
PATTERN

Make these patterns of white paper or of paper the same color as your stage.

(The set-up will appear as above when put together.)

ing, wings and proscenium may be built in which to place the orchestra. By securing additional copies of this set of orchestra and band instrument pictures as many players as are desired for a "set-up" can be obtained. It is even possible to hand-color, by water colors or colored pencils, all of the little pictures of the players.

The standard seating arrangement of the Symphony Orchestra is given below.

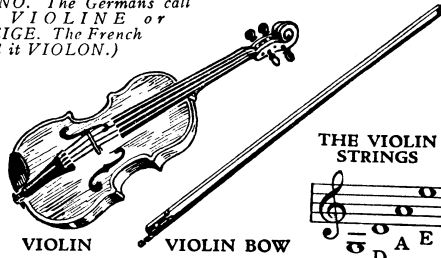




VIOLIN

VIOLIN

(The Italians call it *VIO-LINO*. The Germans call it *VIOLINE* or *GEIGE*. The French call it *VIOLON*.)



VIOLIN

VIOLIN BOW



THE VIOLIN STRINGS

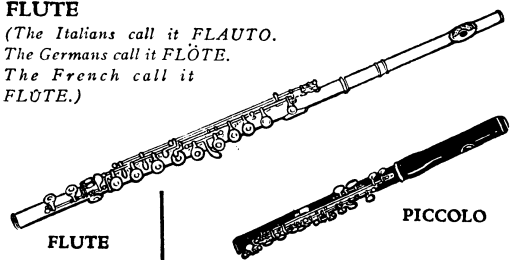
The most important orchestral instrument. It is also one of the most popular of solo instruments. All shades of expressiveness are possible upon the violin and the tone may be varied in volume from the most delicate pianissimo to a full, brilliant and powerful fortissimo. The symphony orchestra usually has 30 violins, with 16 assigned to the first violin part and 14 to a second violin part. A full-size violin is 23½ inches long. There are three-quarter and half-size violins for use with young students. The violin has three relatives in the instrument family—the viola, cello and double bass.



FLUTE

FLUTE

(The Italians call it *FLAUTO*. The Germans call it *FLÖTE*. The French call it *FLÛTE*.)



FLUTE

PICCOLO

The flute is referred to as a wood-wind instrument but there are many flutes made of silver or other metals. Tone is usually obtained from wood instruments through the use of a reed, but, with the flute and the piccolo, the performer blows across the hole in the side of the instrument toward one end. The flute is the quickest speaking of all the wind instruments and this, with its clear, pure liquid tone, also carries it into the realm of solo instruments. It is also a favorite obbligato instrument with voice and piano. There are three in the usual symphonic make-up. It is 26½ inches in length. In the orchestra the flute in C generally is used.

PICCOLO
(The Italians call it *FLAUTO PICCOLO* or *OTTAVINO*. The Germans call it *KLEINE FLÖTE*. The French call it *PETITE FLÛTE*.)



PICCOLO

The piccolo is something of a little brother to the flute. Its tone is one of great brilliancy even to what might be said a penetrating degree. Symphony orchestras usually have a C piccolo, but small orchestras often are without this instrument. The piccolo is pitched an octave higher than the flute. The piccolo is 12½ inches in length.

THERE ALSO IS A D-FLAT PICCOLO WHICH IS THE CHOICE FOR BANDS.

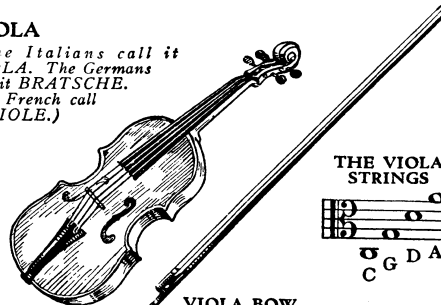
THERE ALSO IS AN ALTO FLUTE IN F, WHICH SOUNDS A FIFTH LOWER THAN WRITTEN, AND A D-FLAT FLUTE (WAS USED IN BANDS), WHICH IS PITCHED A HALF TONE HIGHER THAN THE C FLUTE NOW USED IN BOTH BANDS AND ORCHESTRAS. THE D-FLAT FLUTE NOW IS USED VERY LITTLE.



VIOLA

VIOLA

(The Italians call it *VIOLA*. The Germans call it *BRATSCH*. The French call it *VIOLE*.)



VIOLA

VIOLA BOW



THE VIOLA STRINGS

The viola (about 25 inches long over all) is pitched a fifth lower than the violin. It is rarely used as a solo instrument, its chief purpose being a harmony instrument in string ensembles and in the symphony orchestra, where at least 10 generally are used to make up the tenor section of the string choir. Its general somberness and depth of tone when allowed to predominate serve for effects that border on the sad or melancholy character.



HARP

HARP

(The Italians call it *ARPA*. The Germans call it *HARFE*. The French call it *HARPE*.)

The modern double-action concert harp (size about 6 feet high) has 47 strings all of gut, except the 11 lowest pitched which are wire-spun. (Some smaller styles have only 41 strings and are only about 62 inches tall.) It is tuned to the scale of C-flat major (or by placing all pedals in their center positions it may be tuned in C-natural). There are 7 pedals by which the pitch of the strings may be shifted, making it possible to play in any key. The player plucks the strings, using the 4 fingers of each hand (never the little finger). The C strings are colored red (sometimes green) and the F's blue. The harp is a wonderful art instrument for solo work, accompanying, or for use in orchestral ensembles.

Often used in concert bands. Self-study upon the harp might be done with the aid of Melville Clark's book, *How to Play the Harp*, although, of course, to become a worthwhile soloist a competent harp teacher should be secured.

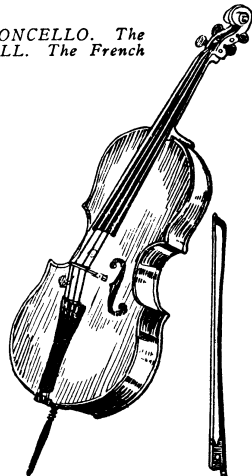


CELLO

CELLO (Violoncello)

(The Italians call it *VIOLONCELLO*. The Germans call it *VIOLONCELL*. The French call it *VIOLONCELLE*.)

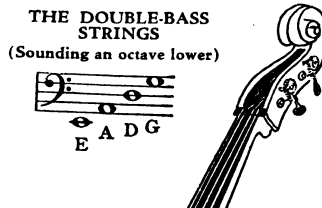
The violoncello, which, including a floor rest, is close to 5 feet in height, is the bass voice of the string choir. It also is a fine solo instrument in the hands of a good performer. It is an octave below the viola and has a full, rich sonorous tone. Violoncello is the Italian way of saying double bass (Violone) small (Cello). Now shortened by common use in this country to cello. In a symphony orchestra the number of cellos is usually within one or two either way of ten.



CELLO

CELLO BOW

THE CELLO STRINGS



THE DOUBLE-BASS STRINGS
(Sounding an octave lower)



DOUBLE BASS

DOUBLE-BASS

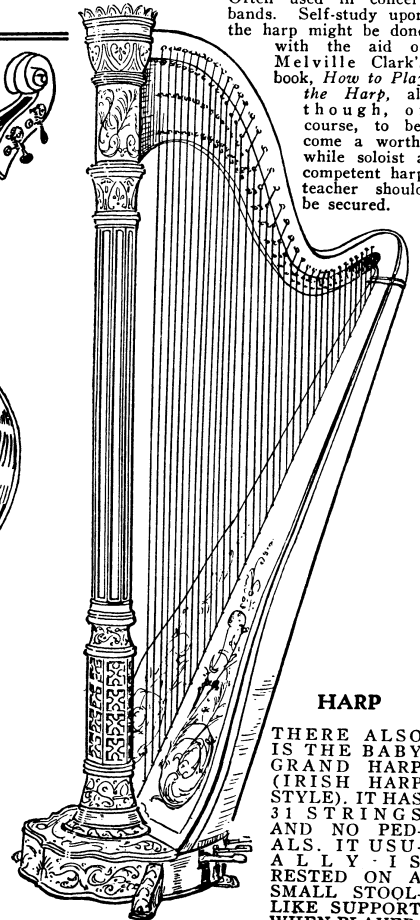
(The Italians call it *CONTRABASSO* or *VIOLONE*. The Germans call it *KONTRABASS*. The French call it *CONTRE-BASSE* or *VIOLONAR*.)

This is the largest and deepest toned of the string choir, voiced an octave below the cello. Its strings are tuned in fourths and not in fifths as the other members of the string choir are tuned. It stands around 6½ feet. There are some 5 stringed basses but the 4 stringed instrument is the one in common use. Its deep tones make it a valuable supporting instrument in the symphony orchestra where around 6 to 8 are used, the number being kept a few less than the cellos. Rarely does any one appear with it as a solo instrument and there is very little published for such use. Presser Co. does have in its catalog 4 Double Bass solos by Sevitzyk.



DOUBLE BASS

DOUBLE BASS BOW



HARP

THERE ALSO IS THE BABY GRAND HARP (IRISH HARP STYLE). IT HAS 31 STRINGS AND NO PEDALS. IT USUALLY IS RESTED ON A SMALL STOOL-LIKE SUPPORT WHEN PLAYED.

THE RANGE OF EACH OF THE VARIOUS INSTRUMENTS

On some of the instruments additional notes beyond the ones here indicated may be played. The endeavor here is to show only the range that is in practical use.

It is to be noted that the viola uses the C clef, placed on the third line of the staff, while the cello, trombone and bassoon use the C clef placed on the fourth line. This clef is movable insofar as location on a five line staff is concerned, but the staff line running through its center always is Middle C.

The Violin Range, including all chromatic intervals is—



The Harp Range is—



Music for the Bass Clarinet is written in this Range—

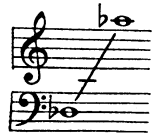


On the B-flat Bass Clarinet it sounds in this Range—

Music for the E-flat Alto Saxophone is written in this Range—



It sounds in this Range—



The Viola Range, including all chromatic intervals is—



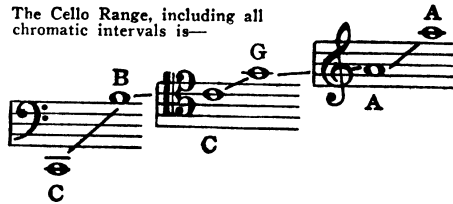
The Oboe Range is—



Music for the Double Bassoon is written in this Range— but it sounds an octave lower



The Cello Range, including all chromatic intervals is—



Music for the English Horn is written in this Range—



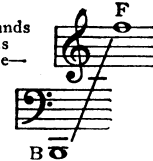
It sounds in this Range—



Music for the French Horn is written in this Range—



It sounds in this Range—



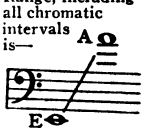
Music for the Concert Horn is written in this Range—



It sounds in this Range—



The Double Bass Range, including all chromatic intervals is—



Music for the Clarinet is written in this Range—



On the B-flat Clarinet it sounds in this Range—



On the A Clarinet it sounds the Range indicated by the small black notes



Written Range of the B-Flat Trumpet is as here shown by the whole notes and when played it sounds in the range indicated by the small black notes.

The Range of the Baritone Horn is—

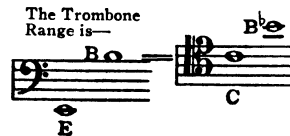


The Flute Range is—



THERE ALSO ARE THE E-FLAT CLARINET (sounds a minor third higher than written) AND THE E-FLAT ALTO CLARINET (sounds a major sixth below written music) USED IN BANDS. THEN THERE IS A CONTRA-BASS OR DOUBLE BASS CLARINET IN E-FLAT.

The Trombone Range is—

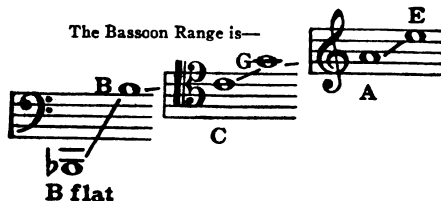


The Range of the B-FLAT CORNET AND THE B-FLAT FLUEGEL-HORN is the same as shown for the B-flat Trumpet.

The Piccolo Range, sounding an octave higher, is—



The Bassoon Range is—



The Tuba Range is—



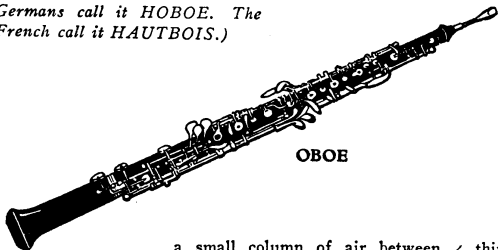
The Range of the E-FLAT ALTO HORN is the same as shown for the Concert Horn.

The SOUSAPHONE, originated by John Philip Sousa, is used in modern bands and dance orchestras. Its flaring bell may be adjusted to focus the tone in any direction.



OBOE

(The Italians call it *OBOE*. The Germans call it *HOBOE*. The French call it *HAUTBOIS*.)



OBOE

The oboe makes possible some very effective tonal colorings. It may be said to have somewhat of a touch of grief in its strongly individual tone, which conveys something of the pastoral feeling, yet it can be called upon for gay and sprightly passages. The tone of this wood-wind instrument is gained by the blowing of

a small column of air between 2 thin reeds placed one against the other. This instrument is pitched in C. It is about 26 inches long and usually 2, with occasionally 3, are used in the symphony orchestra. It also is used in bands. Its close relatives in the instrument family are the English horn, the bassoon and the double bassoon.



BASSOON

BASSOON

(The Italians call it *FAGOTTO*. The Germans call it *FAGOTT*. The French call it *BASSON*.)



BASSOON

To all appearances the bassoon is only 53 inches in length, but it is really a 9-foot tube as it doubles back on itself. It is a non-transposing instrument pitched in G and it is the bass of the oboe family. It can have a seriousness and a sedateness in its tonal quality, yet composers and arrangers sometimes use it to develop the ludicrous and jesting qualities by demanding staccato work upon it. 3 or 4 bassoons are used in the symphony orchestra. There is also a double or a contrabassoon of which one is usually found in the symphony orchestra. This is an octave below the regular bassoon and is the deepest toned of all orchestral instruments. Its tube is about 16 feet long, doubled on itself 4 times. Both bassoons are also used in concert bands.



ENGLISH HORN

ENGLISH HORN

(The Italians call it *CORNO INGLESE*. The Germans call it *ENGLISCHES HORN*. The French call it *COR ANGLAIS*.)



ENGLISH HORN

The English horn is virtually the alto of the oboe family. It is pitched a fifth lower, being an F instrument. It has a more somber and a deeper tone than the oboe. It is 36 inches long. One is all that is used in the symphony orchestra and sometimes one of the oboe players doubles with this instrument. It also is used in bands.



DOUBLE BASSOON OR CONTRA-BASSOON



CLARINET

CLARINET

(The Italians call it *CLARINETTO*. The Germans call it *KLARINETTE*. The French call it *CLARINETTE*.)

The clarinet is a cylindrical instrument with something of a cone-shaped mouthpiece and a bell-shaped end. It is known as a wood-wind instrument but there now are clarinets made of metals and other materials. A single reed of cane bound to the mouthpiece makes possible its tone. The clarinet is perhaps the most valuable instrument in the orchestral wood-wind combination and it is also very important to the band. To the band, it is what the violin is to the orchestra. Its performer can call forth a variety of tone qualities. The symphony orchestra uses 2 or 3 clarinets in B-flat and sometimes the A clarinet. The clarinet is 26½ inches in length.

THERE ALSO ARE CLARINETS IN C (SOPRANO), E-FLAT ALTO, F (THIS IS REALLY THE BASSET-HORN), B-FLAT BASS, BASS IN A, BASS IN C, AND E-FLAT CONTRA-BASS. THERE IS AN E-FLAT HIGH CLARINET SOMETIMES USED IN BANDS.

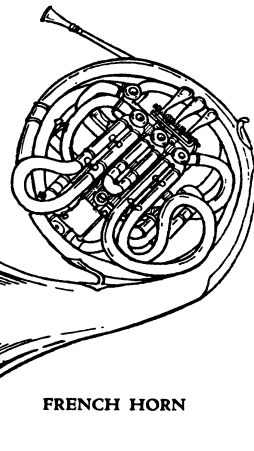
The Contra-Bass Clarinet as here shown is not pictured in exact proportion to other clarinets given. This instrument is about 48 inches long and it has a spike-like floor rest.



CONTRA-BASS CLARINET



FRENCH HORN



FRENCH HORN

FRENCH HORN

(The Italians call it *CORNO*. The Germans call it *HORN*. The French call it *COR*.)

The "curlycues" in a French horn are not just for decoration. They are necessary to putting in a compact space 12 feet of brass conical tubing flaring out at the end into a bell around 12 inches in diameter. This is one of the most pleasing toned of all the brass instruments of the orchestra and is played by the vibration of the lips against the mouthpiece. This adjustment of the mouth in playing a wind instrument is known as the embouchure. The mouthpiece of the French horn, however, is funnel-shaped and not cupped as on other brasses. This is a very difficult instrument to play in a masterly fashion, but it is an instrument depended upon for many fine melodic and harmonic effects in the orchestra. It has a fine mellow tone of pure and lofty character. Certain shadings are accomplished by manipulating the right hand in the bell. The French horn is an F horn and is a transposing instrument. There are usually at least 4 and sometimes as many as 7 or 8 French horns in the full symphony orchestra.



CLARINET



CLARINET



BASS CLARINET

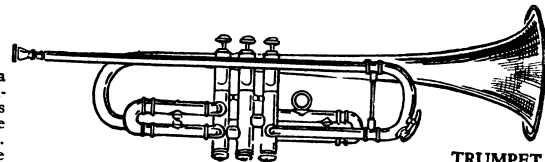
BASS CLARINET



TRUMPET

TRUMPET

(The Italians call it *TROMBA CLARINO*. The Germans call it *TROMPETE*. The French call it *TROMPETTE*.)



TRUMPET

The trumpet is a brass wind instrument that provides the leading voice of the brass choir. Its entire tube length is half that of the French horn and it is pitched an octave higher than the French horn. It is a B-flat instrument. Like the cornet, the modern orchestral trumpet has 3 valves and there is a slide or a valve mechanism by which it may be quickly changed from a B-flat instrument to an

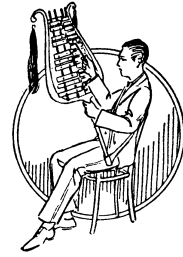
A instrument. The mouthpiece is cup-shaped. The tone quality is brilliant and it has a martial majesticalness. The length from the mouthpiece straight out to the end of the bell is about 21 inches. 2 to 4 trumpets are used in the symphony orchestra.



DOUBLE BASS



VIOLIN



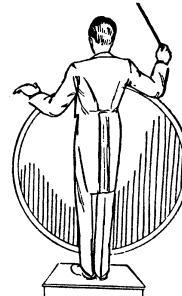
BELL LYRE
(For Bands)



DOUBLE BASS

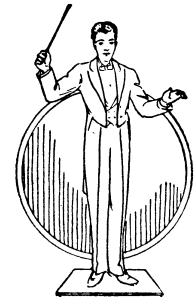


DOUBLE BASS



CONDUCTOR

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CONDUCTOR



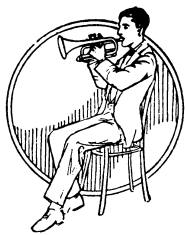
VIOLA



VIOLA



VIOLA

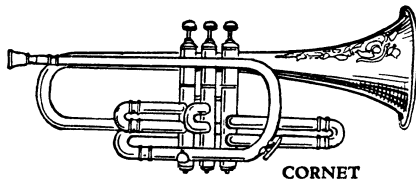


CORNET

CORNET

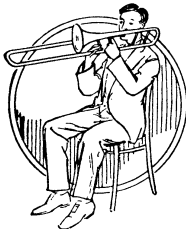
(The Italians call it CORNETTO or CORNETTA. The Germans call it CORNETT. The French call it CORNET-A-PISTONS.)

The cornet is a brass wind instrument used in amateur and small orchestral groups but it has been practically discarded by the modern symphony orchestra. It stands pre-eminent in the band, however, where it takes the leading part. It also is an excellent solo instrument. It is a smaller appearing instrument than the trumpet and its tube tends toward the conical where the trumpet virtually



CORNET

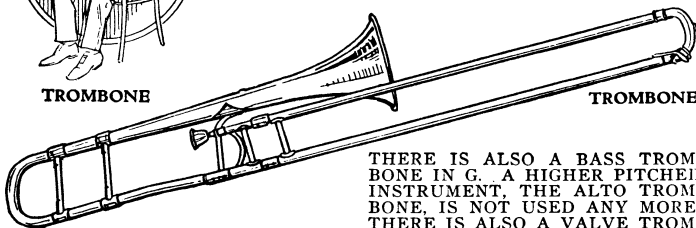
stays to a cylindrical tube. Like the trumpet it has 3 valves and it also has a mechanism for changing it from a B-flat to an A instrument. It has a mellow tone of beautiful roundness. While the cornet in general use is a B-flat instrument, there is one pitched in C and there used to be one used in bands pitched in E-flat, but this is now obsolete. The cornet is 16½ inches long.



TROMBONE

TROMBONE

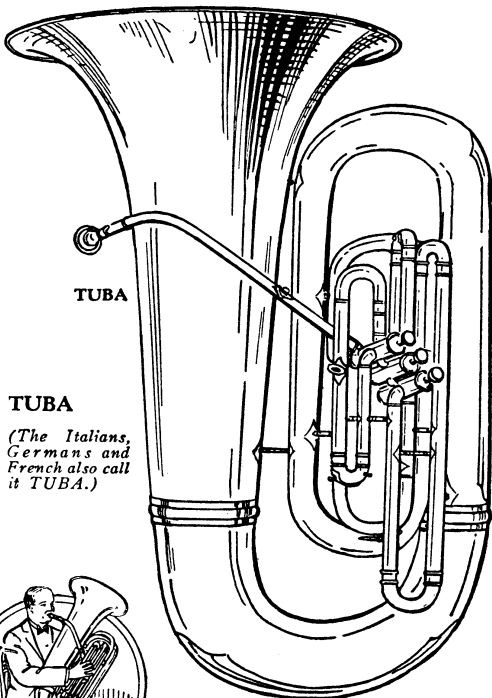
(The Italians call it TROMBONE. The Germans call it POSAUNE. The French call it TROMBONE.)



TROMBONE

THERE IS ALSO A BASS TROMBONE IN G. A HIGHER PITCHED INSTRUMENT, THE ALTO TROMBONE, IS NOT USED ANY MORE. THERE IS ALSO A VALVE TROMBONE IN B-FLAT BUT THIS IS LITTLE USED IN AMERICA.

The slide trombone is a masterful voice among brass instruments, and the B-flat instrument (the one chiefly used) is the tenor voice of the brass quartet. It is 45 inches in length. It sounds its lowest note when extended to the furthest point of the slide and the player has to obtain the pitch of each note by having a sense of the proper position of the slide somewhat as a violinist must have in the placing of his fingers on the strings. It has a rich, dignified tone and all gradations of volume are possible upon it, from the magnificent grandeur of its fortissimo down to the solemn mystical softness of its pianissimo. In the symphony orchestra from 2 to 4 B-flat slide trombones are used and the larger symphonies include a bass trombone. These also are used in bands.



TUBA

TUBA

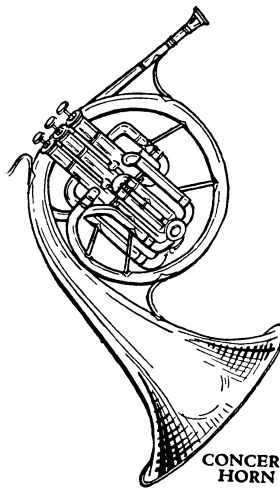
(The Italians, Germans and French also call it TUBA.)

For the double bass of the brass wind instruments in the orchestra we have the tuba. This instrument is made with 3 to 5 valves. It has a deep, rich, sonorous tone with a softness of quality. Only one B-flat tuba usually is used in the symphony orchestra. The length of the tuba is 36 inches.



TUBA

THERE ALSO ARE F, E-FLAT AND C TUBAS AND THERE IS A BB-FLAT CONTRA BASS OR TUBA AND THE HELICON AND THE SOUSAPHONE STYLES OF BASS HORNS FOR BANDS. THE HELICON IS THE E-FLAT OR THE BB-FLAT CONTRA BASS SO MODELED AS TO ENCIRCLE THE BODY OF THE PLAYER. THE SOUSAPHONE IS A HELICON WITH A WIDELY FLARING BELL WHICH MAY BE SET TO SEND THE TONE IN ANY DIRECTION. THE SOUSAPHONE ALSO IS USED BY DANCE ORCHESTRAS.



CONCERT HORN

CONCERT HORN (or Mellophone)

The concert horn is really an alto horn which looks something like the French horn. The French horn, however, circles clockwise and has a small funnel-shaped mouthpiece, while the concert horn of less tubing goes anti-clockwise and has the cupped mouthpiece common to most brass instruments. The concert horn, or mellophone, is not used in symphony orchestras but, in amateur orchestras, the mellophone in F is often substituted for the French horn. The E-flat concert horn, or mellophone, is principally used in bands.



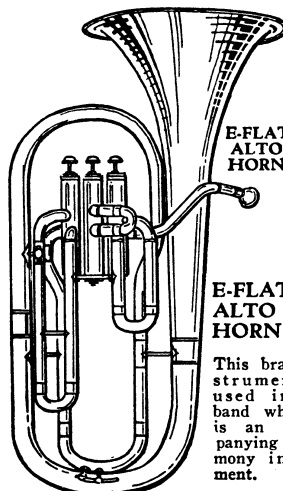
CONCERT HORN



E-FLAT ALTO HORN



FLUGEL HORN



E-FLAT ALTO HORN

E-FLAT ALTO HORN

This brass instrument is used in the band where it is an accompanying or harmony instrument.



SOUSAPHONE



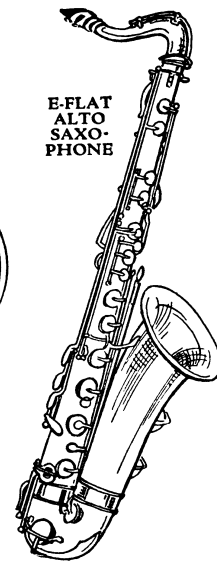
BARITONE HORN

SAXOPHONE

(The Italians call it SASSOPHONE. The Germans call it SAXOPHON. The French call it SAXOPHONE.)



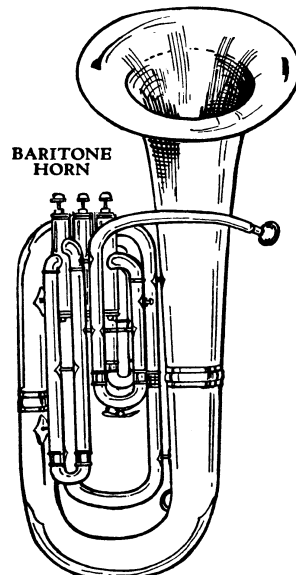
SAXOPHONE



E-FLAT ALTO SAXOPHONE

The saxophone is named after its Belgian inventor, Adolph Sax, who evolved this instrument in 1840. It is a brass reed instrument combining features of the clarinet and the oboe, using the single reed of the clarinet and the conical metal tube of the oboe. It is not used in symphony orchestras to any extent but it has been adopted as an orchestral instrument by dance, amateur and small orchestras. It has been used in military bands for quite some time. The great wave of popularity for this instrument in orchestral and solo use came along about the time of the World War. The E-flat alto saxophone is pictured.

THERE ALSO ARE THE B-FLAT SOPRANO SAXOPHONE, THE C MELODY SAXOPHONE, THE B-FLAT TENOR SAXOPHONE, THE E-FLAT BARITONE SAXOPHONE, THE B-FLAT BASS SAXOPHONE AND THE E-FLAT CONTRA BASS SAXOPHONE.



BARITONE HORN

BARITONE HORN (3 Valves) or EUPHONIUM (4 Valves)

This is a B-flat band instrument sounding an octave below the B-flat cornet. Sometimes this instrument is seen with 2 bells and the player can switch to the smaller one for a trombone-like quality.

THE FOLLOWING INSTRUMENTS ARE ILLUSTRATED ON PAGE ONE—

PIANO

(The Italians call it *PIANOFORTE*. The Germans call it *KLAVIER*. The French call it *PIANO*.)

The Pianoforte by general usage, has been shortened to Piano. This, the most important of all musical instruments, opens the door to a greater realm of music than any other single instrument. The Piano is a marvelous solo instrument, combining melody, rhythm, and harmony, and affording a wide dynamic scope of tonal powers and qualities. It is an unsurpassed accompanying instrument. There are upright pianos and grand pianos of various sizes. The French call the Grand Piano *Piano à Queue*, "piano with a tail." The Germans call it *Klavier Flügel*, an allusion to its wing shape. The white keys (52) form the scale of C major. The black keys (36) furnish the half tones needed to play in all the other major keys and all of the minor keys. The average Piano covers approximately $7\frac{1}{2}$ octaves chromatically. Music for the Piano is written on the grand staff comprising the treble and bass clefs.

CELESTA

Auguste Mustel of Paris invented this keyboard instrument in 1886. Its mellow and beautiful bell-like tones of exquisite purity are produced by hammers striking small steel plates. Each plate has beneath it a perfectly tuned wooden resonator. It has a range of 4 octaves. Music for it is written from C, second space in bass clef, to high C, second ledger line above treble clef staff. The tones sound one octave higher than written.

GLOCKENSPIEL

(The Italians call it *CAMPANELLA*. The Germans call it *GLOCKENSPIEL*. The French call it *CARILLON*, *CLOCHES*, or *JEU DE TIMBRE*.)

Sometimes called the orchestra bells. It usually has 37 chromatically tuned metal bars arranged in 2 parallel rows with a tube-like resonator under each bar. These run 3 octaves from Middle C up. There are some smaller instruments. This instrument is played with 2 wooden hammers and it gives forth tones of sparkling brilliancy. Some Glockenspiels are made to be played from a keyboard.

XYLOPHONE

(The Italians call it *XILOFONE* or *GIGLIOLA*. The Germans call it *XYLOPHON*, *STROHFLÜDEL* or *HOLZHARMONIKA*. The French call it *XYLOPHON* or *CLIQUE-BOIS*.)

This instrument's name has its root in the Greek word for wood, to which is added "phone" meaning sound. It is made of blocks of hardwood running in a size gradation and arranged in 2 rows, the lower row being like the white keys of the piano and the upper like the black keys. Some are made of metal bars. Metal resonators add to the tone. Played by 2 wooden mallets with somewhat flexible handles. Some soloists use 4 mallets, 2 in each hand. There are various size Xylophones, the larger ones usually ranging through $3\frac{1}{2}$ octaves from the F below Middle C up to the C in the 6th added space above the treble clef.

CHIMES

(The Italians call them *CAMPANE*. The Germans call them *GLOCKEN*. The French call them *CLOCHES*.)

The orchestra chimes are a set of metal tubes accurately tuned. The set usually covers the chromatic range from G, 3rd space below the treble clef, to G, 1st space above the treble clef. These tubes are suspended from a frame and are struck at the upper end with a small wooden mallet.



PIPE ORGAN

(The Italians call it *ORGANO*. The Germans call it *ORGEL*. The French call it *ORGUE*.)

The Pipe Organ is the most imposing, the most majestic of all musical instruments. Some Pipe Organs have only two manuals (keyboards) and a limited number of stops. These stops generally control voice colorings such as the reeds, diapason, flute, piccolo, bassoon, clarinet, trombone, tuba, trumpet, and vox humana. There also is usually a stop for tremolo. Larger Pipe Organs run 3 to 5 manuals and a wide range of registers or stops for obtaining the colorings of practically all orchestral instruments. Each manual controls a set of pipes. The usual 5-manual groups are the Echo Organ, Solo Organ, Choir or Orchestral Organ, Swell Organ, and the Great Organ, along with the group of pipes of the Pedal Organ. The Organ pipes are of metal, reed or wood, and range in size from 4 feet long to 32 feet long. The cost of a Pipe Organ may range anywhere from \$1400 or \$1500 to several hundred thousands of dollars.



PIANO ACCORDION

(The Italians call it *ACCORDION*. The Germans call it *ZIEH-HARMONIKA*. The French call it *ACCORDEON*.)

The Accordion has been developed in the last century, and around 1900, in Italy, a maker produced the first Piano Accordion. To-day they are made with a piano style keyboard taking care of a range of over 3 octaves, ranging chromatically from F, 3rd ledger line below the treble clef, to A, 5th space above the treble clef. There are some student instruments with smaller keyboards. Bellows moved apart and together by the left hand of the performer supply the air which is forced upon free reeds of metal. Under the fingers of the left hand are buttons for the bass. The instrument with 120 bass buttons, giving 40 bass notes and 80 chord combinations, is one of the most popular. There are some instruments having as few as 12 bass buttons, while others give 48, 60, 80, 96, 108, 140, 160, or 200 bass buttons. The Piano Accordion is popular as a solo instrument and as a member of the dance orchestra. Community and school Piano Accordion orchestras are many. It is now making a place for itself in the regular school orchestra.

BANJO

The Banjo is a plectrum string instrument with a tambourine or drum-like body, the head of which is a tightly stretched skin, and a long neck now usually made with frets. The Five-Stringed Banjo, such as used by the American Negro for an instrumental background to singing or to dancing, has one short string. This short string (E) is placed as the 5th string, but it is a fourth higher in pitch than the 1st string (B). The 5 strings are tuned B, G-sharp, E, A, and E. Some players use the thumb on only the 5th string, but generally the 1st string is picked by the 2nd finger, the 2nd string by the 1st finger, and the last 3 by the thumb of the right hand. Recent developments of the Banjo have brought forth some Six-Stringed Banjos, and Banjo Mandolins of 8 strings in 4 pairs. The most popular Banjo instrument of to-day is the Four-Stringed Tenor Banjo described in the following paragraph.



TENOR BANJO

As a solo instrument, as well as something of a rhythm or percussion instrument in the dance orchestra or dance "band," the Tenor Banjo has become one of the "liveliest" of instruments in modern use. Because of the number of young people who possess Tenor Banjos, a place has been made for it in school orchestras. This 4-stringed instrument is played with a pick or plectrum held between the index finger and the thumb of the right hand. Its strings are tuned A, D, G and C. The music is written in the treble clef, ranging from the C of the 1st ledger line below the treble clef upwards, but the actual pitch of the instrument is an octave lower than the written music.

GUITAR

(The Italians call it *CHITARRA*. The Germans call it *GUITARRE*. The French call it *GUITARE*.)



The Spanish Guitar is possible of being an instrument upon which music of great beauty may be brought forth in solo playing. Ordinarily, however, the average person only hears it used as an accompanying instrument or as part of a plectrum string ensemble. A Spanish Guitar has 6 strings tuned in fourths. Usually the 3 highest strings are gut and the 3 lower strings are wire wound. In stringed instruments the highest string is named first. (The old banjo is one exception to this.) The Guitar strings are E, B, G, D, A and E. The written notes are an octave above the true pitch of the Guitar. The fingerboard is fretted and the strings are played by a pick or plectrum held between the thumb and first finger.

BASS DRUM

See Illustration on Page One

(The Italians call it *GRAN CASSA*. The Germans call it *GROSSE TROMMEL*. The French call it *GROSSE CAISSE*.)

This largest of the Drum family is a cylindrical shell of metal or wood ranging from a little over 2 feet to close to 3 feet in diameter. It has a "head" on each side. It has no definite pitch but is used for certain booming and dramatic effects in the concert orchestra and concert band where the player uses a single soft head drumstick. In the marching band, it is a rhythm instrument and the player often uses a drumstick in each hand, beating upon each side of the drum. In smaller orchestras, the Drum becomes part of the "Traps" set-up with a pedal worked drumstick.

SNARE DRUM

See Illustration on Page One

(The Italians call it *TAMBURO MILITARE*. The Germans call it *KLEINE TROMMEL*. The French call it *CAISSE CLAIRE* or *TAMBOUR*.)

The Snare Drum, an important instrument in a military band, also has taken an important place in the symphony orchestra, concert band and the dance orchestra. The snares are strings of catgut stretched across the center of the outside of the lower head. Two hardwood sticks with small, rounded or partially pear-shaped ends are used for the playing of it. There are Snare or Side Drums with a head diameter of 17 inches and a depth of 14 inches, which are used by some bands in street marching and by military bands in field work. The average Snare Drum is from 14 inches in diameter with a side depth of 4 inches, to 15 inches in diameter with 6 inches in side depth.

TYMPANI (Kettle-Drums)

See Illustration on Page One

(The Italians call them *TIMPANI*. The Germans call them *PAUKEN*. The French call them *TIMBALES*.)

The body of each drum is metal in a hemispherical form and the "head" of each drum is a tightly stretched calf-skin in the well-prepared vellum or parchment quality. The drums have screws for varying the tension of the head since these are instruments which may be tuned to definite pitches. They are played with 2 drumsticks, the beating ends of which are solid felt. Often the drums are used only in pairs, the larger with a range from F below the bass clef to C, and the smaller with a range from B-flat, second line of the bass clef, to F, each having a compass of a fifth, giving a range of an octave to the two. With 2 drums, the tonic and the dominant may be commanded, although in some keys the dominant must be above the tonic and in others the dominant must be below the tonic. Many modern orchestras use three drums, permitting the sounding of the sub-dominant as well as the dominant and the tonic of the key. The timpanist, in meeting the key changes common in orchestral scores, must possess a good ear to make his changes. The player also controls a great dynamic range through the lightness or forcefulness of his beat.

CYMBALS

See Illustration on Page One

(The Italians call them *PIATTI* or *CINELLI*. The Germans call them *BECKEN* or *CINELLEN*. The French call them *CYMBALES*.)

A pair of circular brass plates with a small center portion slightly concave on the striking side. The performer holds them by leather or fabric loops attached to the center of each instrument. They are made to sound by striking the edges together in a sliding motion.



'CELLO



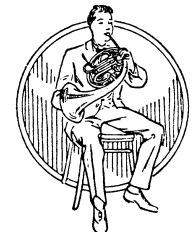
FRENCH HORN



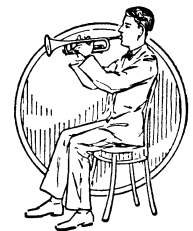
FRENCH HORN



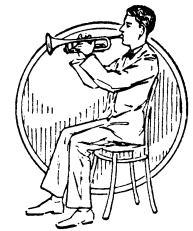
FRENCH HORN



FRENCH HORN



TRUMPET



TRUMPET