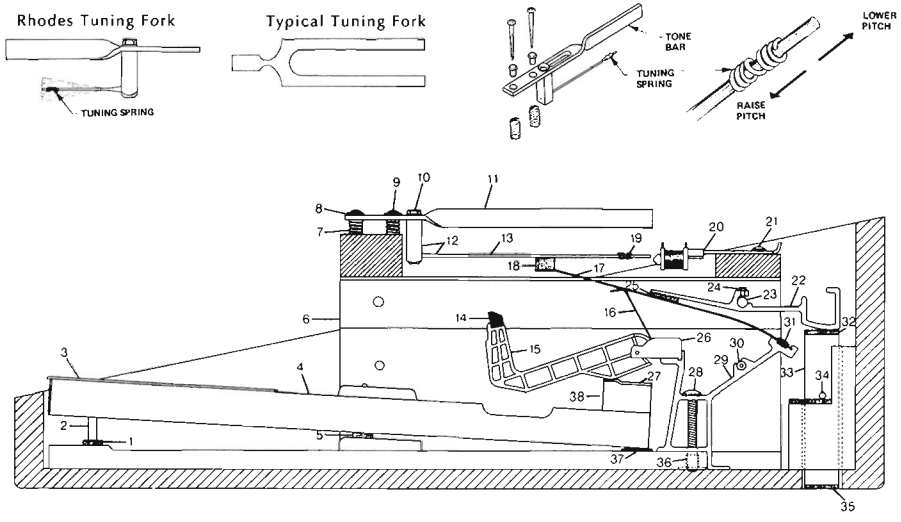
Fender Rhodes Piano Stage MK1 Model (1974).

Courtesy Vintage Vibe Collection
Photo: Erick Roman



Tone generator and Rhodes piano mechanism.

TOM RHEA

ELECTRONIC PERSPECTIVES

The Pianos Of Harold Rhodes

"Teaching is my forte—inventing is not." These modest words come from Harold Rhodes, the inventor of the electric piano that bears his name.

That Harold Rhodes is both a teacher and an inventor is well documented. By age 20, he had established a nationwide chain of music schools that specialized in teaching popular piano. Most people are familiar with the present Rhodes Electric Piano—an instrument Rhodes describes as "...a plain Model T, simple." But perhaps they are not so familiar with its history.

When World War II broke out, Rhodes dissolved his organization of music schools and joined the Army Air Corps. Ever the teacher, he began to teach his Army buddies piano while waiting for a reclassification. Eventually he was asked to teach patients in the post hospital. Rhodes the *inventor* immediately realized the necessity for a cheap but usable keyboard instrument. In the typical make-do wartime spirit, he fashioned a small instrument from spare parts salvaged from disabled planes. He scavenged the "tone bars" for the piano from the hydraulic system in the wings of the planes. The Air Corps Piano was an acoustic instrument; tones were produced by striking lengths of the 3/8" aluminum hydraulic tubing that had been straightened and cut into xylophone lengths. The 2-1/2-octave keyboard had wooden keys (spruce) and bare wooden hammers that struck the tone bars. Rhodes himself describes the Air Corps Piano as "...such a simple instrument it was almost ridiculous." But it fit his purpose well, as he states:

> My objective at the time was not to produce some instrument that I could sell. It was to satisfy the need to get the minds of the convalescing soldiers off their problems. We did it by transforming their telephone numbers or whatever numbers they could grab into melodies, and then harmonizing them with simple chords.

The program became a smash hit. Rhodes was sent to Mitchell Field, Long Island, to draw up blueprints and write a book of instruction which became Army Manual #29, "Sit Down And Play." Eventually, thousands of these little instruments were built and Harold Rhodes was decorated for his role in this humanitarian project.

When Rhodes got out of the Army, he began to wonder if his teaching success in the service could be duplicated in civilian life. He realized that the Air Corps Piano wasn't suitable for home use, so he sought to produce an inexpensive instrument that could accomplish "...roughly in the home what those guys were doing on the Army post." His new 3-octave instrument, the Pre-Piano, used tone generators made from tines produced by a toy manufacturer. These were about an 3/8" in diameter, and the longest was about 8" long. This instrument used an electrostatic pickup; it had an amplifier and a 6" speaker built into the console. Despite its low price tag ($199.50) and innovative design, the Pre-Piano failed because, in Rhodes's words:

> The manufacturer we chose didn't produce a mechanically sound product. In fact, I found myself going to each of the stores where we were introducing these...with a pocketful of tools trying to fix them all. After about two years, the program died a miserable death.

Harold Rhodes is still refining his electric piano today [for more on Rhodes, see *CK*, Nov. '77]. Some may think of the Rhodes Piano as completed, but not Mr. Rhodes. When asked if there might be a Super Rhodes Piano, he remarks:

> I think there will be. I'll tell you what the Super Rhodes Piano does. Visualize an interface between the piano and [the synthesizer]. You've got a multiplex receiver on the one end, and I put a multiplex sender on my end. I can run as few as seven wires and a switching mechanism under my keys. If you've got a Polymoog I can connect the two so that when I am playing the piano, I've got the percussion of the piano and the sustain of the piano and I've got the Moog all at the same time. This is not saying that this is the end-all. It's just a beginning, to show that there is a way of wedding these two.
>
> I've got an acoustic characteristic to my music. That is, *C* is not exactly C and *E* is not exactly *E* the same way twice. And there is percussive control that is dynamic. I don't know how far downstream it will be, but I think it can be better than it is. And I think some things can be done to shape the tones and preserve the acoustic quality it seems to have.

Rhodes has also considered the idea of passing each individual key through a filter to allow envelope control. As he says:

> We've done this. The trouble is that when I was doing it, the cost was prohibitive. I'd have had to fill a room with RC [filter] networks. But the day is fast approaching when it can be done.

History will indeed find a place for Harold Rhodes as *both* teacher and inventor.

Harold Rhodes teaching an Air Corps hospital patient, 1944.

The Rhodes Pre-Piano, 1947.

Fender Rhodes 88-key model, 1966.

SIT DOWN AND PLAY

ELEMENTARY PIANO PLAYING FOR THE SOLDIER

WAR DEPARTMENT PAMPHLET No. 28-10

SGT. TO'TOOLE-AFTRD

SIT DOWN AND PLAY

A HANDBOOK ON ELEMENTARY PIANO PLAYING FOR THE SOLDIER

For Use of Military Personnel Only

WAR DEPARTMENT
Washington 25, D. C,
4 May 1945

[A.G. 300.7 (13 Apr 45).]

This is a reprint of Air Forces Manual No. 29

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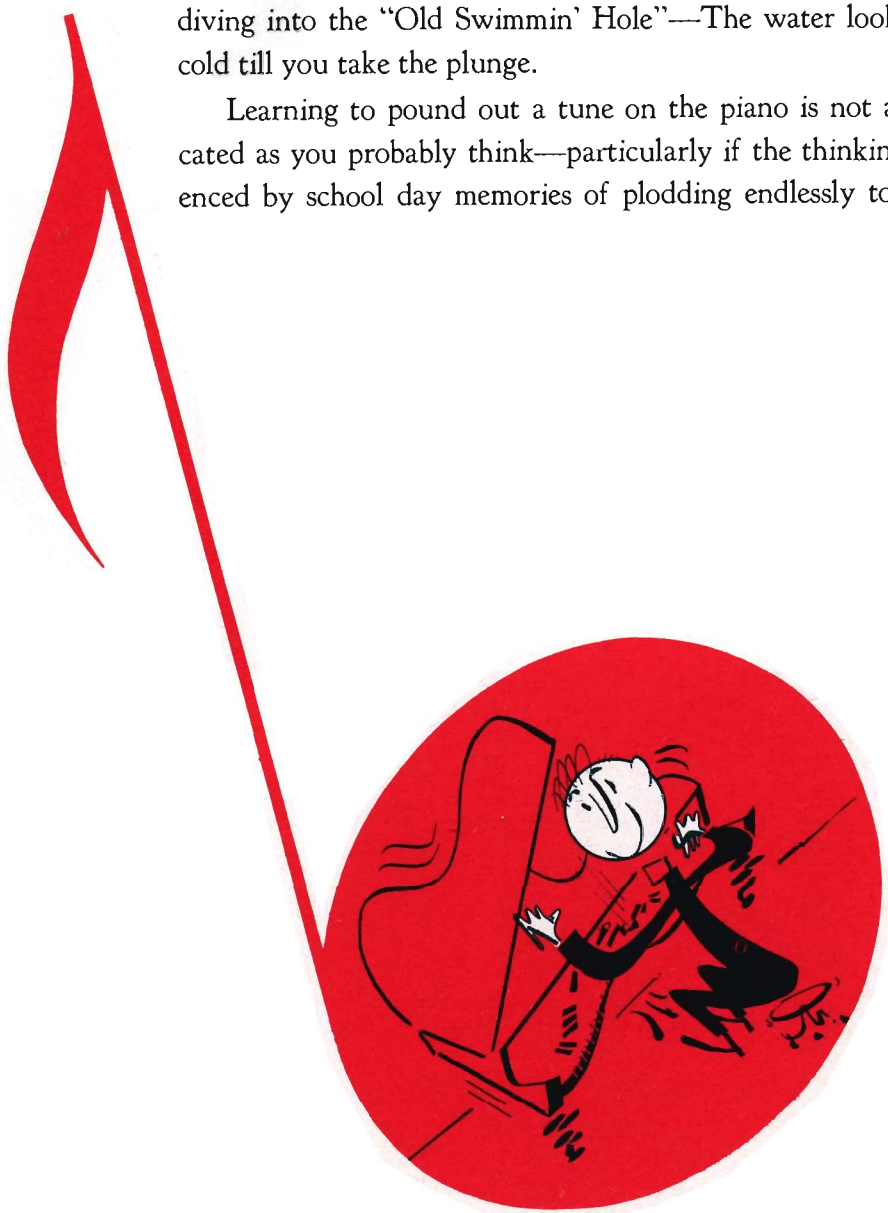
Refer to FM 21–6 for explanation of distribution formula.

WHAT IT'S ALL ABOUT

Sitting down and playing the piano has a lot in common with diving into the "Old Swimmin' Hole"—The water looks mighty cold till you take the plunge.

Learning to pound out a tune on the piano is not as complicated as you probably think—particularly if the thinking is influenced by school day memories of plodding endlessly to the long suffering music professor so that at the annual musicale you could sit down at the piano bench in your Sunday suit, unaccustomed stiff collar torturing the neck, and with painful, grim, determination plow through "Concerto in A Minor."



Before you sat down and played that piece, every last note—every finger movement—had been painfully memorized. And to be perfectly honest, if your ambition is to be a concert pianist, years of study and practice are still the only road.

But if you are looking for fun with a piano—want to be able to sit down and tickle the keys and have "boogie-woogie" come out the other end—the army has a simple streamlined method of teaching you practical piano playing. If you can claim about the average ear for music—hum a tune and keep time when you dance—at the end of three weeks of study and practice we will have you playing tunes on a piano—and people will recognize them. What's more, you'll be able to pick up a melody and harmonize it by ear—and if you are gifted with the knack, perhaps even knock out a little tune of your own. Those are tricks that the orthodox student is lucky if he matches after a couple of years of study.

MELODY, HARMONY, RHYTHM

If you have a smattering of music training, forget it for the time being. Most beginners know just enough about music theory to become confused. In this course we short-cut practically all the technical stumbling blocks—except those actually needed in elemen-

tary piano playing. Forget about "Sharps," "Flats," and "Keys"—what you will need to know about them will be explained later.

MELODY. Melody is really the tune of a song—the part you whistle or sing. In an orchestra, while the lead instruments are busy filling in the melody, other instruments are playing the harmony.

HARMONY. Harmony is the background music used to fill out and accompany the tune. Plain melody, without harmony, is like spaghetti without sauce. Listen to a barber shop quartette. Take "Sweet Adeline" as an example. The tenor is doing most of the work. He is singing the melody, while the other three just break in from time to time. They furnish the harmony. The song would sound flat without harmony. While you are listening to the melody and harmony, the third of the "Big 3," "Old Man Rhythm," is getting in his licks.

RHYTHM. One major element of music is far more ancient than either melody or harmony—it's the thing called rhythm. A few million years ago, when some of the earlier members of our family dropped out of their trees, bent on a musical interlude, the first instrument was a hollow tree trunk. Primitive rhythm could be produced by pounding it with anything handy. The hollow tree trunk is still the only music making device used by the Hottentots in their native African bush.

In an orchestra some of the instruments supply the melody, others add harmony, and still others toss in rhythm. The piano is one of the few instruments which can produce all three major elements of music at one time. That is the reason why the piano is so universally popular.

You probably think, as nine out of ten beginners do, that your big problem is going to be mastering melody. You're wrong. You will probably find melody quite easy to pick up. You play the melody with the right hand. At the start you can pick it out one tone at a time with one finger. It's as simple as learning to type with one finger. Of course, on a piano, like on a typewriter, it's going to take practice before it comes easily and freely.

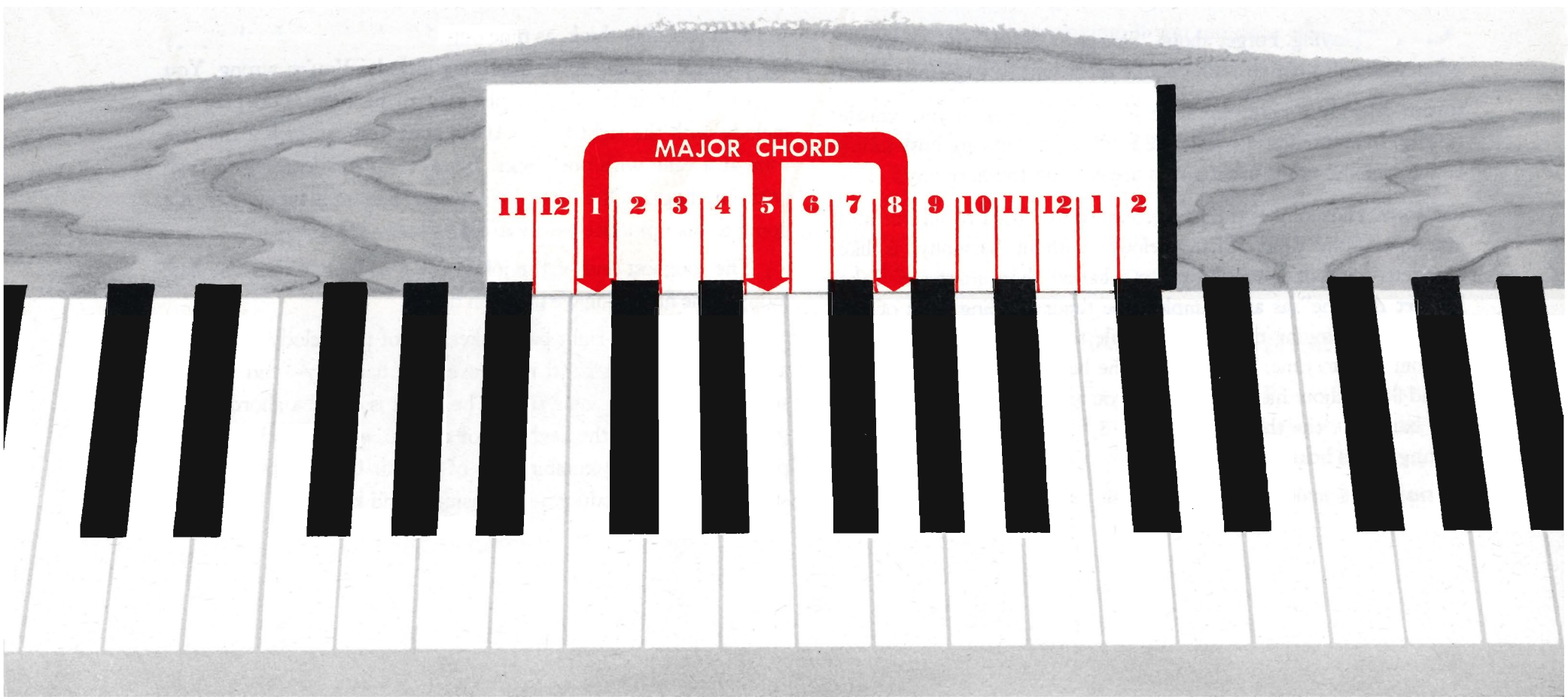
The toughest end of the job is going to be harmony. So harmony is the first thing we tackle in detail.

Remember, the right hand takes care of the melody—one tone at a time. The left hand takes over the harmony—and you hit several tones at the same time. The result is called a chord. Some groups of tones on the keyboard of a piano, when struck together, produce a pleasing combination of sound. Other sets of tones, struck together, produce a displeasing sound known as a dischord.

NOW LET'S BEGIN TO PLAY

Turn to the center of the book and, with a pair of scissors or an old razor blade, cut out all charts and diagrams where cutting is indicated by a dash line. Now select the chart marked MAJOR CHORD. Step to your piano and place this chart behind the keys in the manner indicated below. Just be sure the first arrow points to some key (black or white) on the keyboard.

Now notice how the three arrows point directly to three keys. Play all three keys together with the most convenient fingers of your right or left hand. Yep! That's a Major Chord and after you've shaken the cobwebs out of your finger muscles you'll have no trouble at all in playing it. Now shift this chart to some other point—it doesn't matter where because this chart has the unique quality of pointing directly to proper tones of any Major Chord.



PRACTICE SCHEDULE

NAME OF CHORD	NAMES OF TONES			REPETITIONS (LEFT HAND)				REPETITIONS (RIGHT HAND)			
C MAJOR											
G MAJOR											
F MAJOR											

Hang onto the Major Chord Chart and also place the KEYBOARD CHART at some convenient place in front of you. Now notice that the Keyboard Chart is an exact reproduction of a small section of the keyboard of the piano in front of you. By using the Keyboard Chart as a guide you can locate all the keys on the piano by *name*. Thus if you want to find "C"—refer to the Keyboard Chart—C is shown as the white key just to the left of the group of two blacks. Find the same key on your piano. It's simple enough to locate, in fact there are several "Cs" on the piano—and by playing them you will discover that they all have the same sound—except that they rise progressively in pitch as you move from left to right on the keyboard. The same with the Ds and the Es, etc.

Now it's time to get down to the serious business of learning some of the Major Chords by name.

For instance let's learn this C Major Chord—place the Major Chord Chart behind the keys so that the FIRST ARROW points directly to C on the piano. Now check with the KEYBOARD CHART to determine the letter names of the keys indicated by the second and third arrows. In this case they are E and G. In the Practice Schedule shown above, mark in the three letters where it says NAMES OF TONES.

Now play the Chord with the right hand (use the thumb and whichever other fingers seem most comfortable). Now strike the Chord five times striving with each stroke to develop a clean, clear, sound effect. FOR EACH FIVE REPETITIONS WITH THE RIGHT HAND CHECK OFF *ONE* OF THE BOXES SHOWN ON THE PRACTICE SCHEDULE. Now strike the same three tones with the thumb and most convenient fingers of the left hand. Now build the G Major Chord following the same procedure as outlined above for C Major.

Next learn F Major. Do not turn this page until you have memorized these three Chords.

MINOR CHORDS

Relax—this section is a cinch. You already know your Major Chords. Minor Chords are almost duplications.

Place the Minor Chord Chart behind "C" on the keyboard. Notice that the only difference between the Major and Minor Chord is the lowering by one half step of one of the keys. This relationship between the Major and Minor Chord exists in every case.

The fact that the theory behind the Minor Chord is simple does not mean that practice can be skimped.

Keep pounding away until your fingers can play all the Minor Chords practically by themselves.

Follow the chart shown below. Begin with C Minor. Place the chart behind and play the keys indicated—first with the right hand —then with the left.

Try out various fingerings. Experiment until you find one that seems natural and comfortable.

Now fill in on the practice schedule the names of the tones of the Chord.

Learn the other Minor Chords as indicated.

PRACTICE SCHEDULE

NAME OF CHORD	NAMES OF TONES			REPETITIONS (RIGHT HAND)				REPETITIONS (LEFT HAND)			
E MINOR											
A MINOR											
D MINOR											
G MINOR											
C MINOR											
F MINOR											

SEVENTH CHORDS

With the Seventh Chord a new problem arises—a slight fingering difficulty. For the first time you are playing a chord with four, instead of three, tones—so you master the use of four fingers.

Before we get in any deeper, let's get together on a method of numbering the fingers. The system we shall use is the conventional one among piano instructors. Thumbs are ones; index fingers, twos; and so on to Number Five, the little finger.

When we play a Seventh Chord we use all the fingers except the fourth. Identify the spare finger.

Place the Seventh Chord Chart behind "E." Now name the four tones of "E" Seventh Chord. Write them down in the practice schedule—and practice them until your fingers hit the keys correctly without conscious thought. Practice the rest of the Seventh Chords shown in the schedule.

Now it's time, once the Seventh Chord is under control, to go back and review all Major and Minor Chords. Remember, until you can play them all smoothly with either hand, you can't expect to take successfully the next piano playing step.

PRACTICE SCHEDULE

NAME OF CHORD	NAME OF TONES				REPETITIONS (RIGHT HAND)				REPETITIONS (LEFT HAND)			
E SEVENTH												
A SEVENTH												
D SEVENTH												
G SEVENTH												
C SEVENTH												
F SEVENTH												

CHORD SENTENCES

Chords have one extremely interesting habit—a habit that is mighty helpful when you are learning to play a piano. They tend to group together into sequences. We wouldn't be far off if we said they grouped into CHORD SENTENCES.

If you could take a thousand popular songs in the Key of C, and rip them apart musically, you would notice the repetition of such CHORD SENTENCES as C Major, A Minor, D Minor, G Seventh, and C Major in the accompaniment.

If you started counting them, you would find the following CHORD SENTENCES form the great bulk of the accompaniment to all those thousand songs.

The tendency of chords to group in CHORD SENTENCES explains the trick of "Ear Playing."

To the player who plays by the letter—painfully memorizing every note in a sheet of music before attempting to play—such a stunt is utterly impossible. The trick is the use of the CHORD SENTENCES. All the ear player has to learn are the few simple notes that make up the melody. His right hand may be playing "Blue Moon," but the left is just running over the old, familiar CHORD SENTENCES—the handful of chord sequences that he throws in as accompaniment for any song. Of course it takes time to learn how to select the best chord sentence for the spot.

On the next few pages are some well known songs. In each case the accompaniment is supplied by the group of CHORD SENTENCES shown.

Before you tackle the melody—practice your CHORD SENTENCES with the left hand. Run over them again and again. You must be able to play them automatically—without conscious effort. Now get going. You should need about a week's work.

(Lapse of Time One Week)

Got those CHORD SENTENCES? Okay. Now let's try to combine them with the following melodies.

1 C — G7 — C

2 C — F — C

3 C — D MIN. — G7 — C

4 C — C7 — F — F MIN — C

5 C — A MIN — D MIN — G7 — C

6 C — E7 — A7 — D7 — G7 — C

MELODY

Learning to play the chords before the melody may have struck you as eating the core before tasting the apple. Now you are going to see the reason. First, learning to play melody will be a "push over" after licking the chords. Secondly, put the melody together with the chords you already have mastered—and presto—you're a piano player.

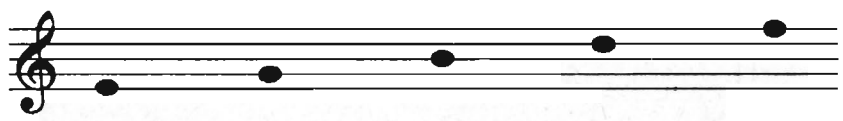
While the objective of this course is to teach you how to play by ear, it is necessary to learn a little about note reading. It should not take many minutes to teach you enough to read that small portion of the entire score which indicates the melody.

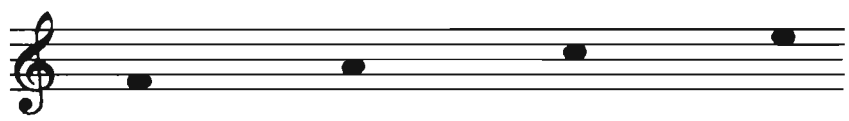
Glance down at the drawing of a piano keyboard below. Do you notice the position of the name plate on the fall board? Just to the left and below you see an arrow pointing to middle C. Locate middle C on your piano. Now, on the drawing, see where the five lines of the staff fall on the keys. Mark the corresponding 5 keys on your keyboard with a pencil, or better yet if you can get it, use strips of adhesive tape. Is each key marked?

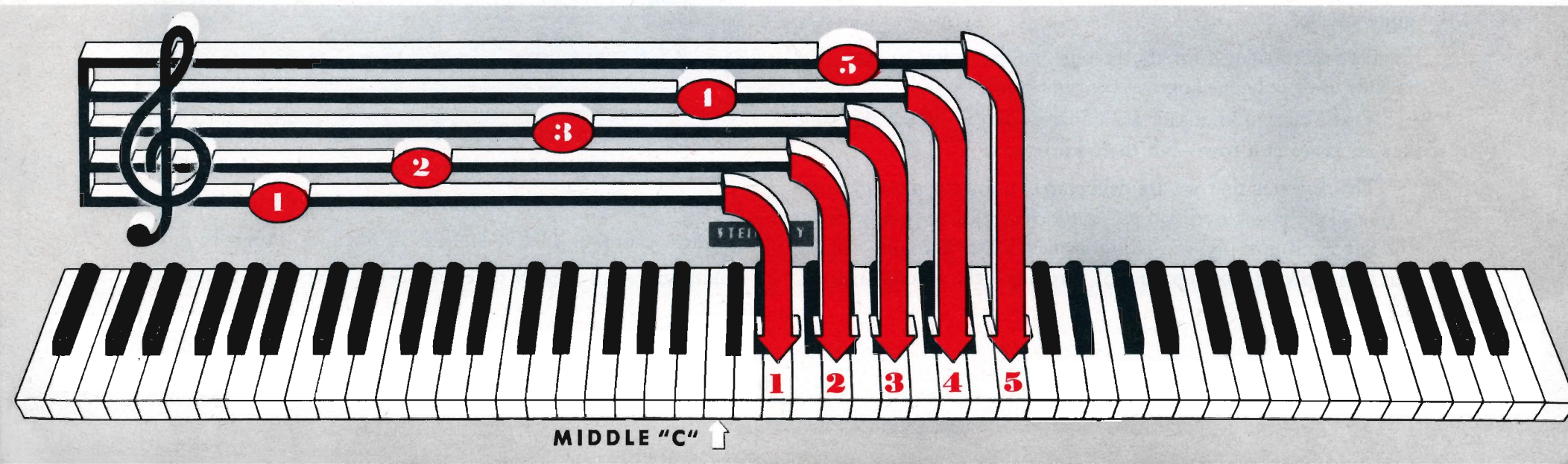
Now you know where the five lines on the drawing are on your keyboard. Can you find on the keyboard the notes indicated on the lines in the staff shown at left below.

The lines and spaces of the staff indicate white keys only. Thus, if the five lines indicate the keys as shown, the open spaces obviously indicate the white keys in between those marked with adhesive tape.

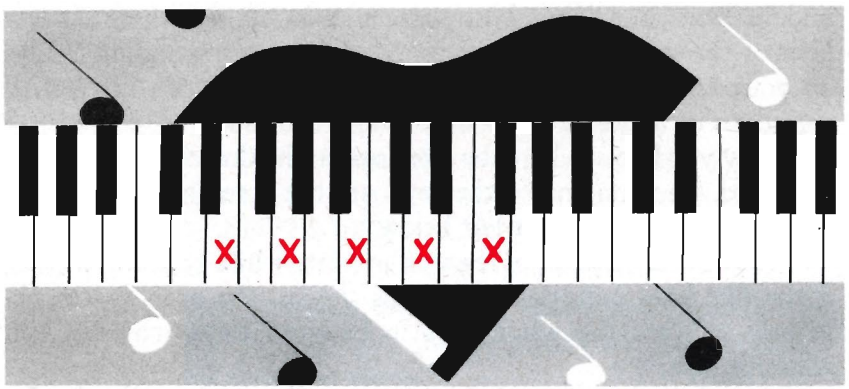
Now find on your keyboard the keys indicated by the notes on the following spaces.







NOW BOTH HANDS



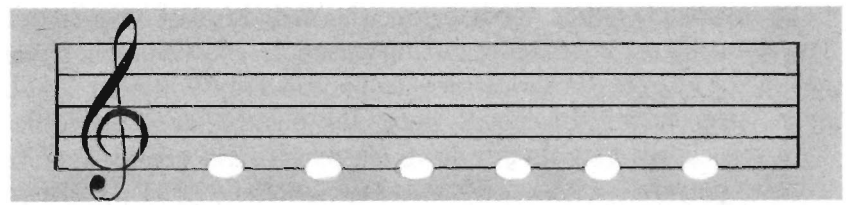
Here is how you usually put together a song. A composer dreams out a melody, putters with it until he gets a flowing combination of tones he thinks has ear appeal. But, as you know, a melody by itself is a mere trickle of tone. It needs an accompaniment.

For the sake of demonstration, let's dream up our own melody. Since reading is still unexplored territory to you, we'll keep it quite simple.

One more thing—for the present we are going to play that melody using only one finger of the right hand.

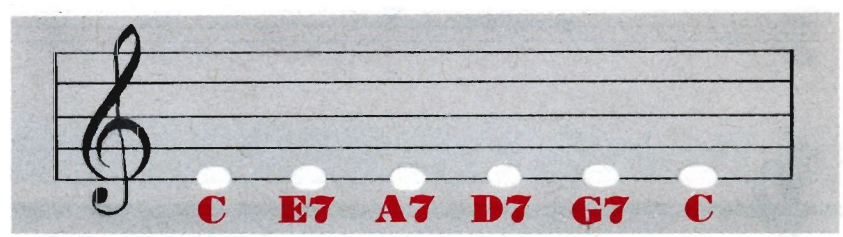
That's right. Go ahead. It may seem silly to strike the same key six times in a row—but there's a reason.

The reason is that we are deliberately using the most monotonous melody possible so you will get a clear picture of how much the left hand does for the musical effect when it begins helping out by supplying a background of harmony—the accompaniment.



Now the problem is what to do with the left hand. You know several chords—major, minor, and seventh—but how do you figure out which to use now?

This is where the CHORD SENTENCES you learned enter the picture. For the accompaniment of this song let's try CHORD SENTENCE 6.

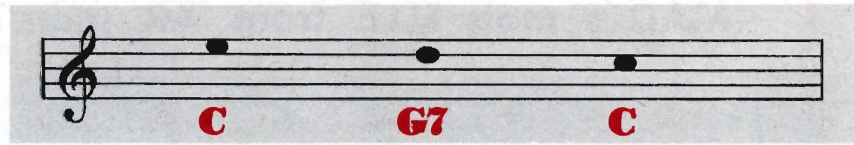
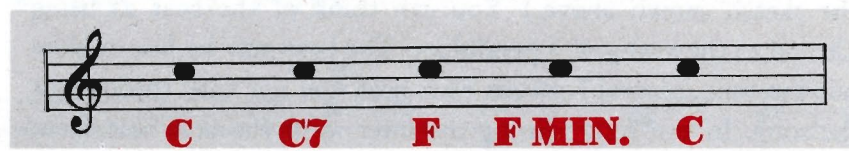
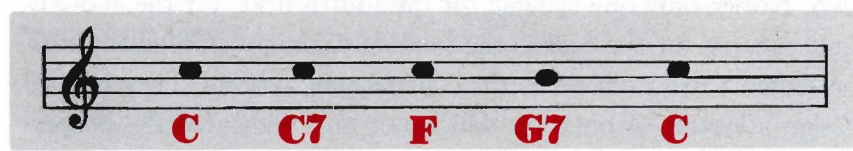
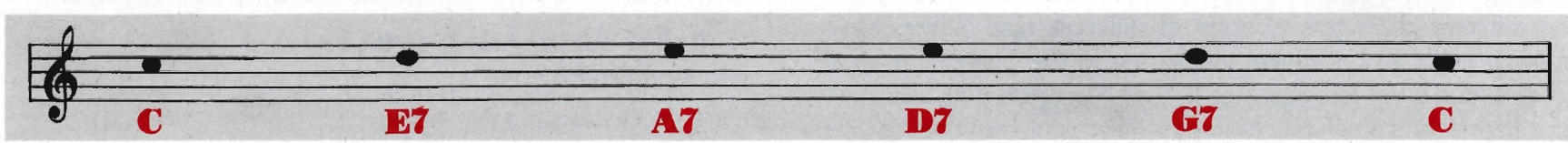


Now we are going to try the song using both hands. Keep on with that one finger of the right—batting out the melody—but as the right hand plays the first note of the melody the left hand plays the first chord of CHORD SENTENCE 6. A chord should sound with each melody note provided a new chord is indicated.

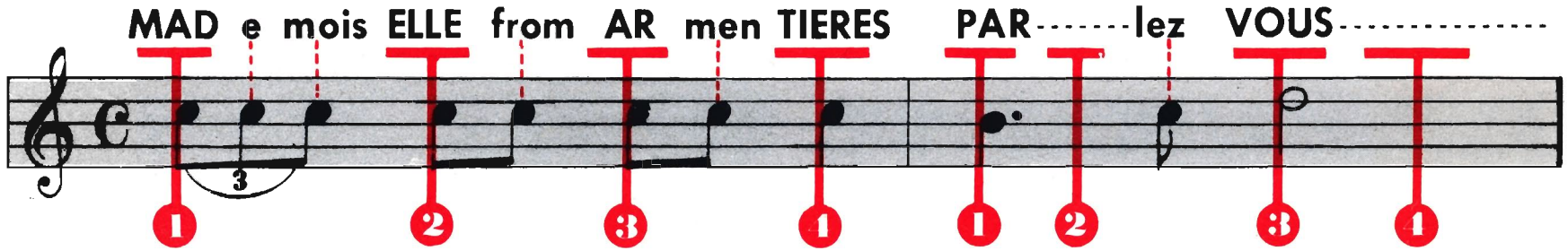
Try it again—run over it half a dozen times. Begin to notice something? The melody alone was flat—but now that chords have been added with the left hand it is beginning to have color—it is even faintly reminiscent of many well known songs.

You may play pieces which run longer—which have faster moving melodies—and other musical complications, but the six little notes of the melody you just played contain all the fundamentals of music reading you will have to learn to play the piano.

The melodies sketched on this page will give you some more essential experience in practical music reading—if you can read them it won't be long before you are reading regular popular melodies.

In each case, play the melody alone a few times with the right hand before adding the chord with the left hand. Try to become familiar with the "effect" produced by the various different left hand CHORD SENTENCES.



RHYTHM



The fundamental unit of Rhythm is the *Beat*. And nowhere is the beat more emphasized than in the *Words* of a song. (Notice the sketch shown above.) You can think of the beat as being likened to the swing of a pendulum. The beat may be fast or slow but the time interval between each beat will not vary throughout the song. In this song, during the interval of the first beat there are three syllables—while during the second beat there are only two. Notice only one syllable for the fourth beat, yet the allotted time spacing for the beat is the same in each case. Obviously this presented a real problem to the original song writers. They had to design a system of notation which not only indicated the proper tones but adequately showed the amount of time to be allotted to each note.

For instance during the first beat—(since there are three syllables, i.e., three notes)—each note must be identified as being worth a third of a beat. But during the fourth beat there is only *one* syllable and *one* note. In this case the note must be identified as being worth exactly one beat. This problem was solved by giving different characters to notes of different time values. Most music primers give adequate instruction in this phase of musical study and it is not our intention to load you down with any more of it here than is absolutely necessary. (For your convenience time values and musical notations are described in the VOCABULARY OF MUSICAL TERMS.)

For our purpose it is enough to know that the two most common rhythmic groupings are WALTZ time—where three beats constitute a measure of time—and SWING time—where four beats constitute a measure. A MEASURE of time is indicated in sheet music by a vertical bar drawn across the staff. The number of beats per measure and the exact location of each beat with respect to the Melody will be carefully indicated in all songs included in this booklet.

To assure playing a song in correct rhythm try tapping each beat with your foot as you hum the melody—next pick out the melody on the keyboard with your right hand—stay with this until you can play the melody at the same tempo as when you hummed. Only after this is accomplished should you add the left hand accompaniment. Remember the three steps:

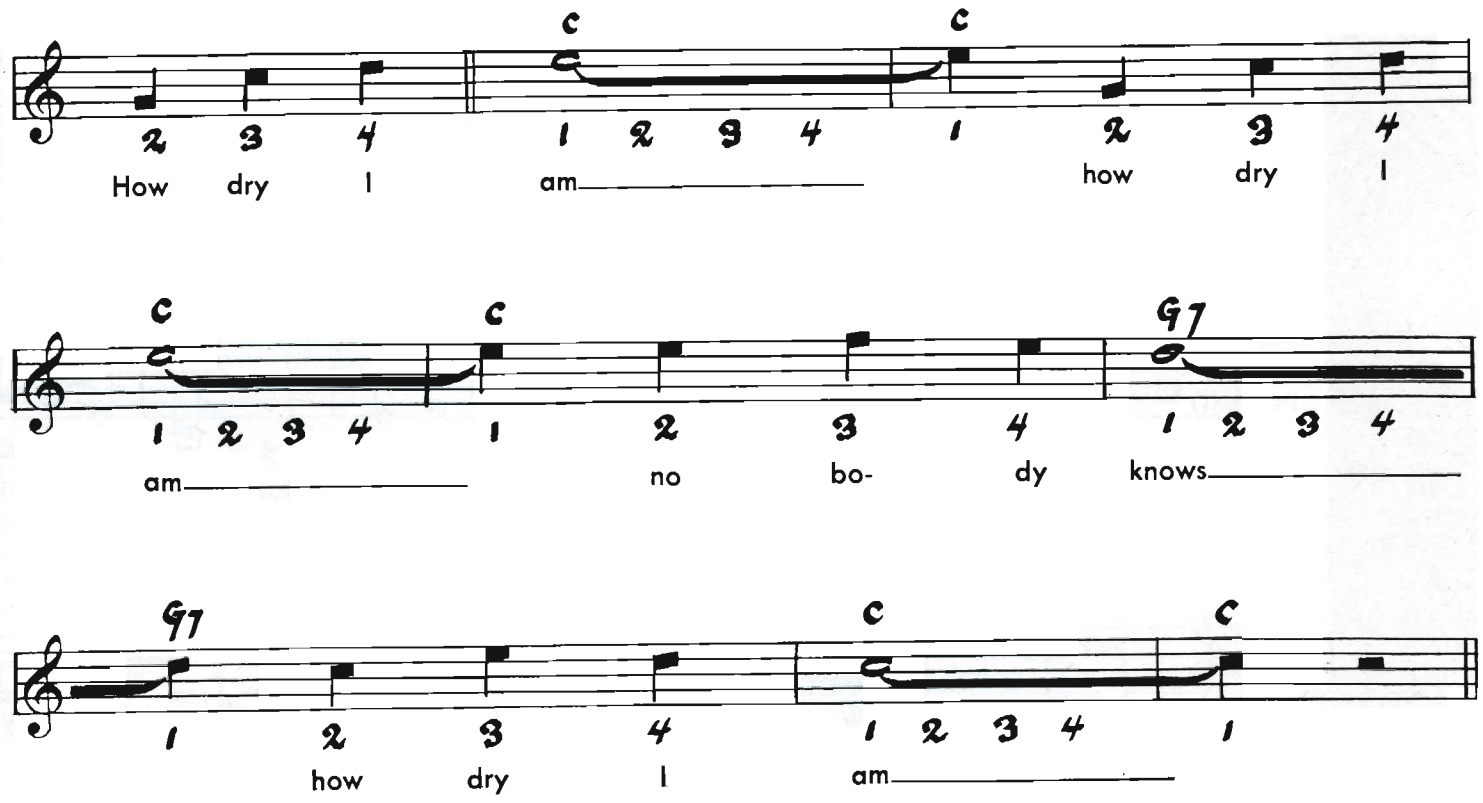
1. Learn to hum or whistle the melody in correct Rhythm.
2. Pick out the melody on the keyboard—learn to play it in proper Rhythm.
3. Add left hand Chord accompaniment.

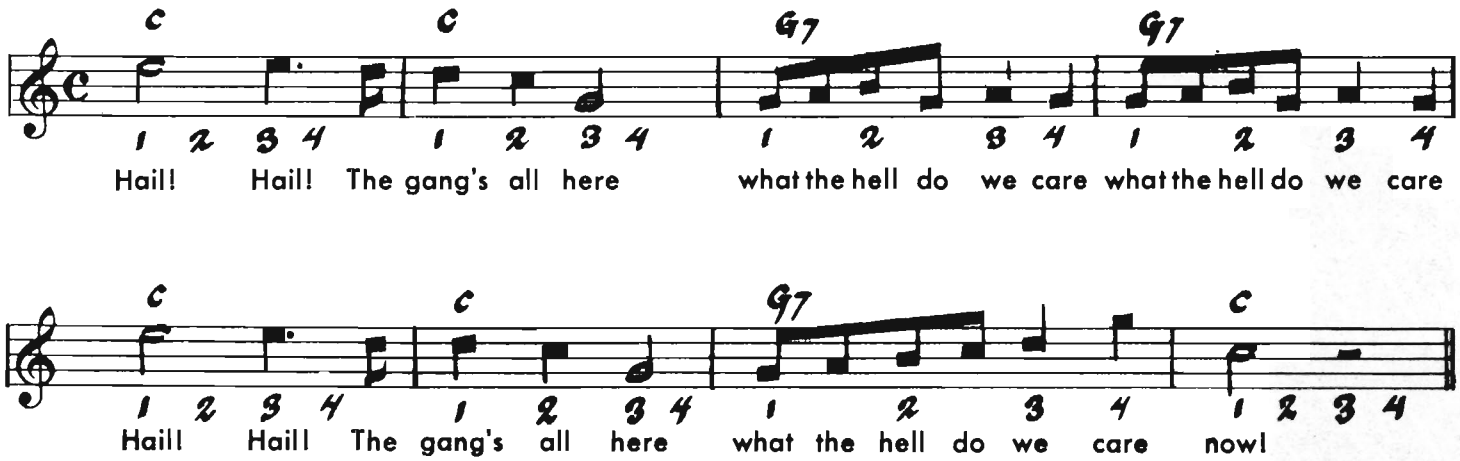
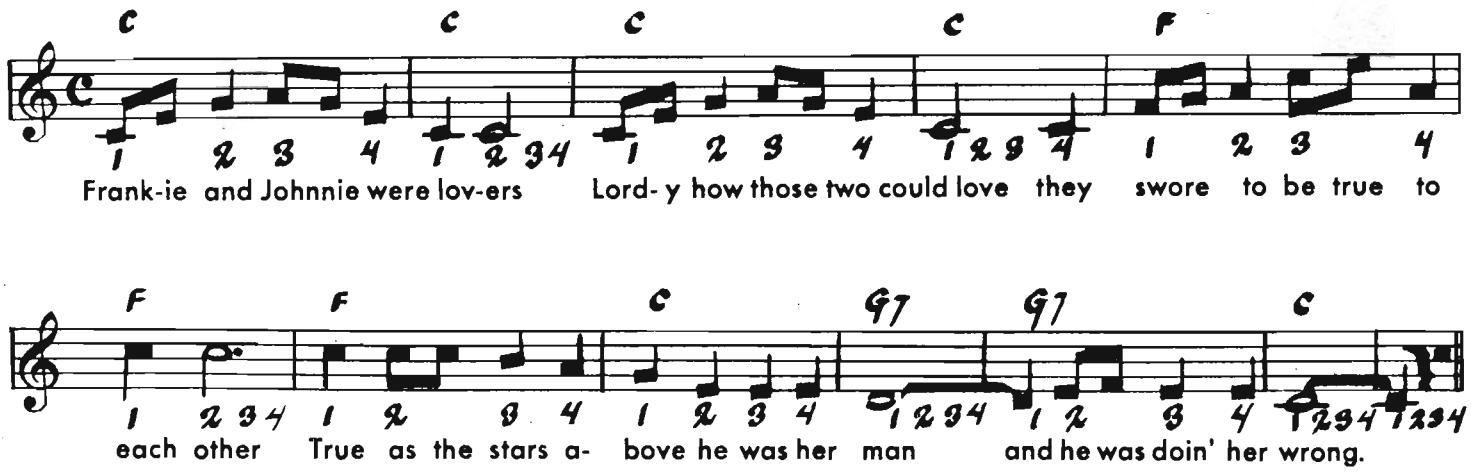
STRIKE UP THE MUSIC

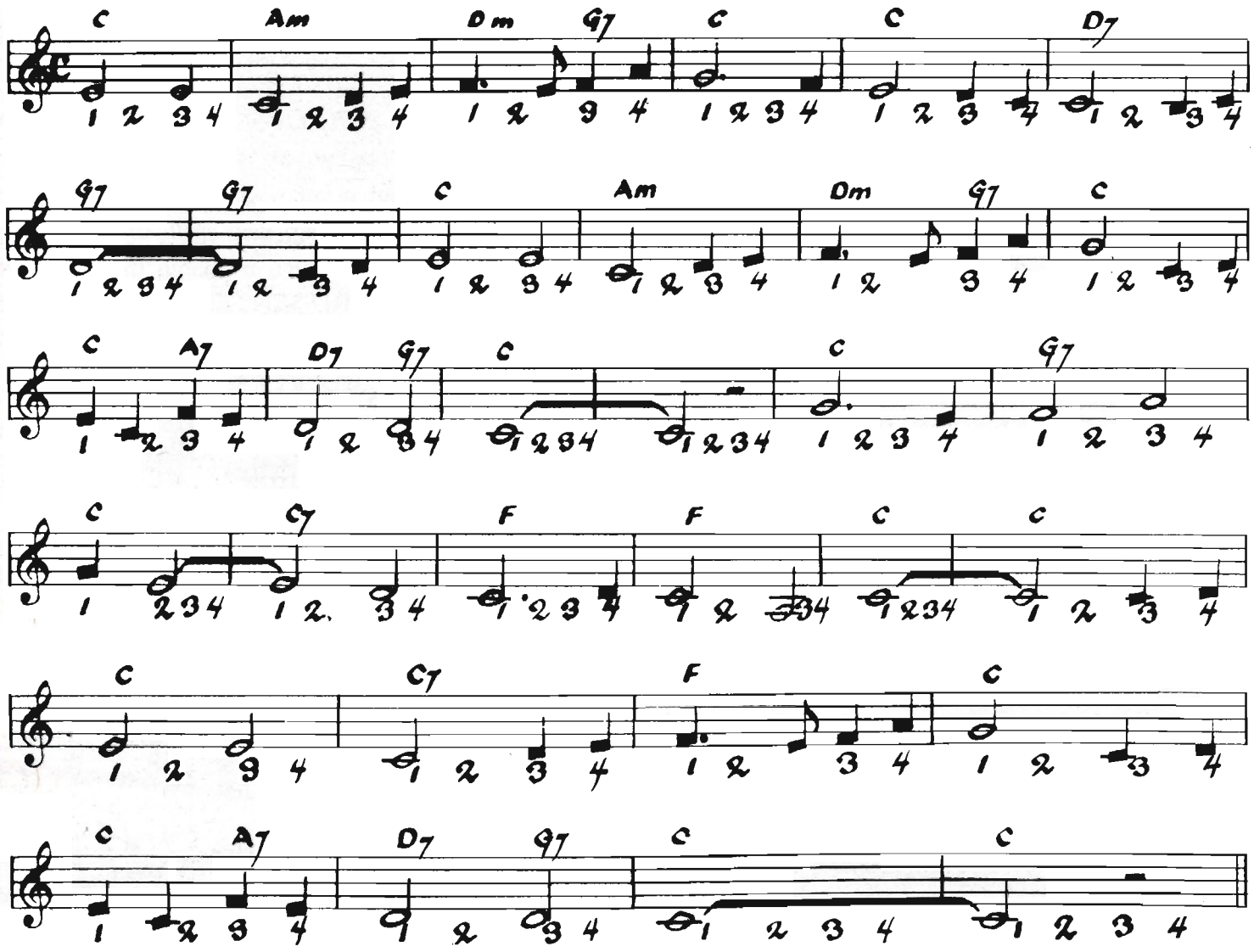
Now for the pay-off. So far in this course you've been putting in ground work—studying exercises in chords, melody, and rhythm—now we are going to put them together. You are going to play the music below—it's your first actual standard melody. Play the notes shown on the staff with your RIGHT HAND. Play the chords indicated by the letters above the staff with your LEFT HAND. Notice that the entire LEFT HAND accompaniment is based on two CHORD SENTENCES.

The numerals below the staff indicate the rhythm beats.

HOW DRY I AM



HAIL! HAIL! THE GANG'S ALL HERE

FRANKIE AND JOHNNIE

MY OLD KENTUCKY HOME

STEPHEN FOSTER

HOW TO READ COMMERCIAL SHEET MUSIC

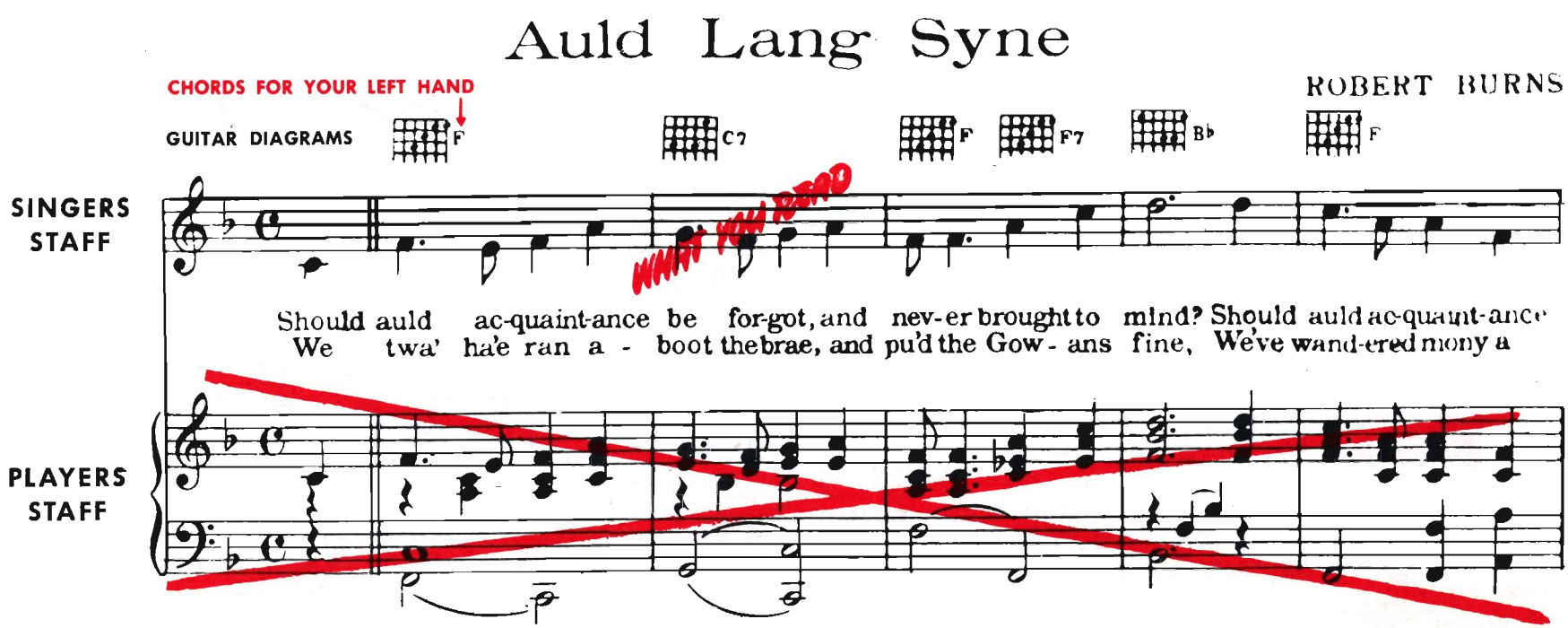
Here again we use a short-cut—and you learn how to read sheet music in hours—rather than the usual years.

The process is simple. We use a system where you play by reading a few key notes—you don't have to read the great bulk of the notes printed on the music. You center your attention on two things on the music sheets.

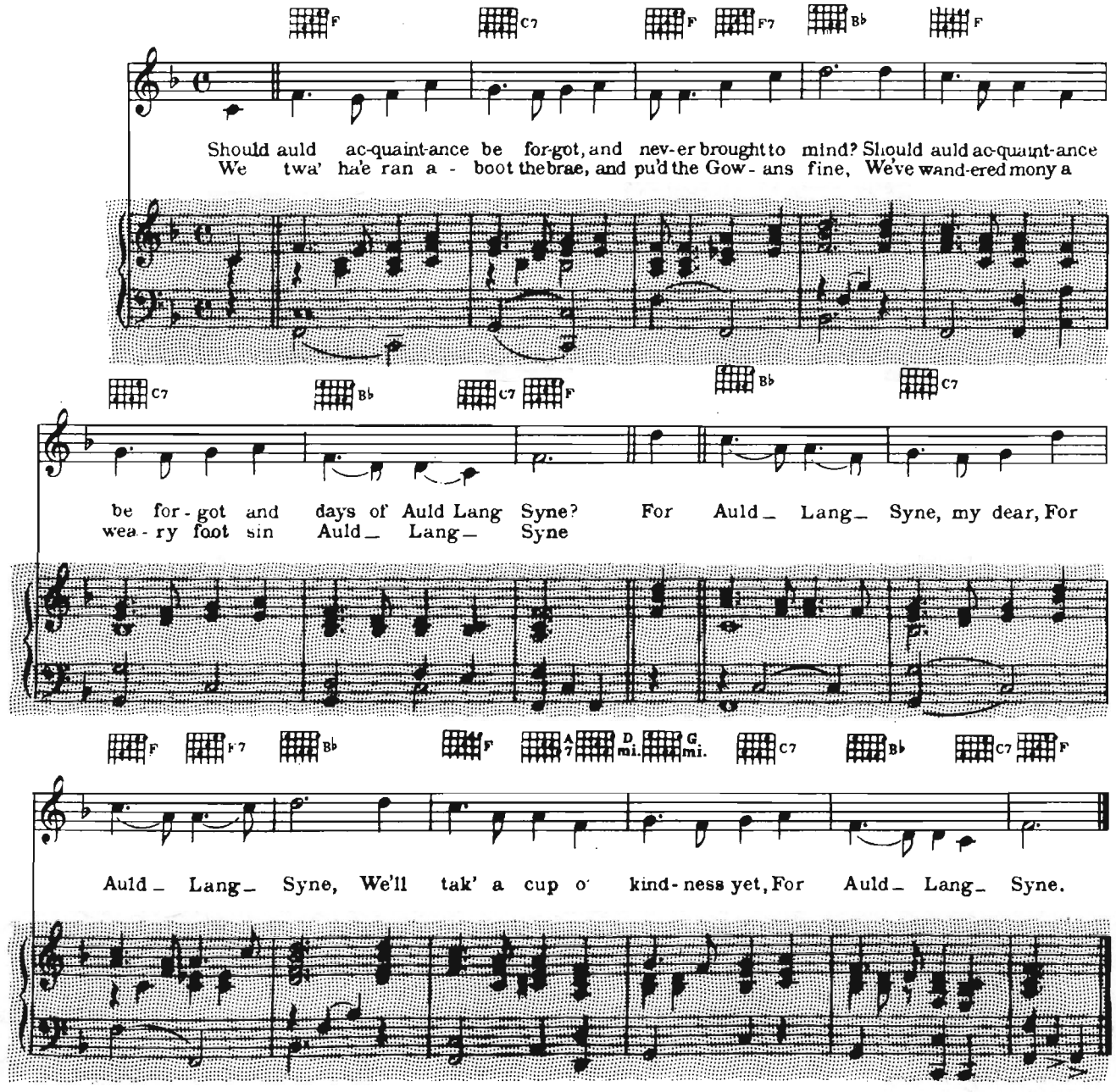
First, you learn to follow the SINGER'S STAFF—it contains all the melody notes you need. Play those notes, as before, with one finger of the right hand.

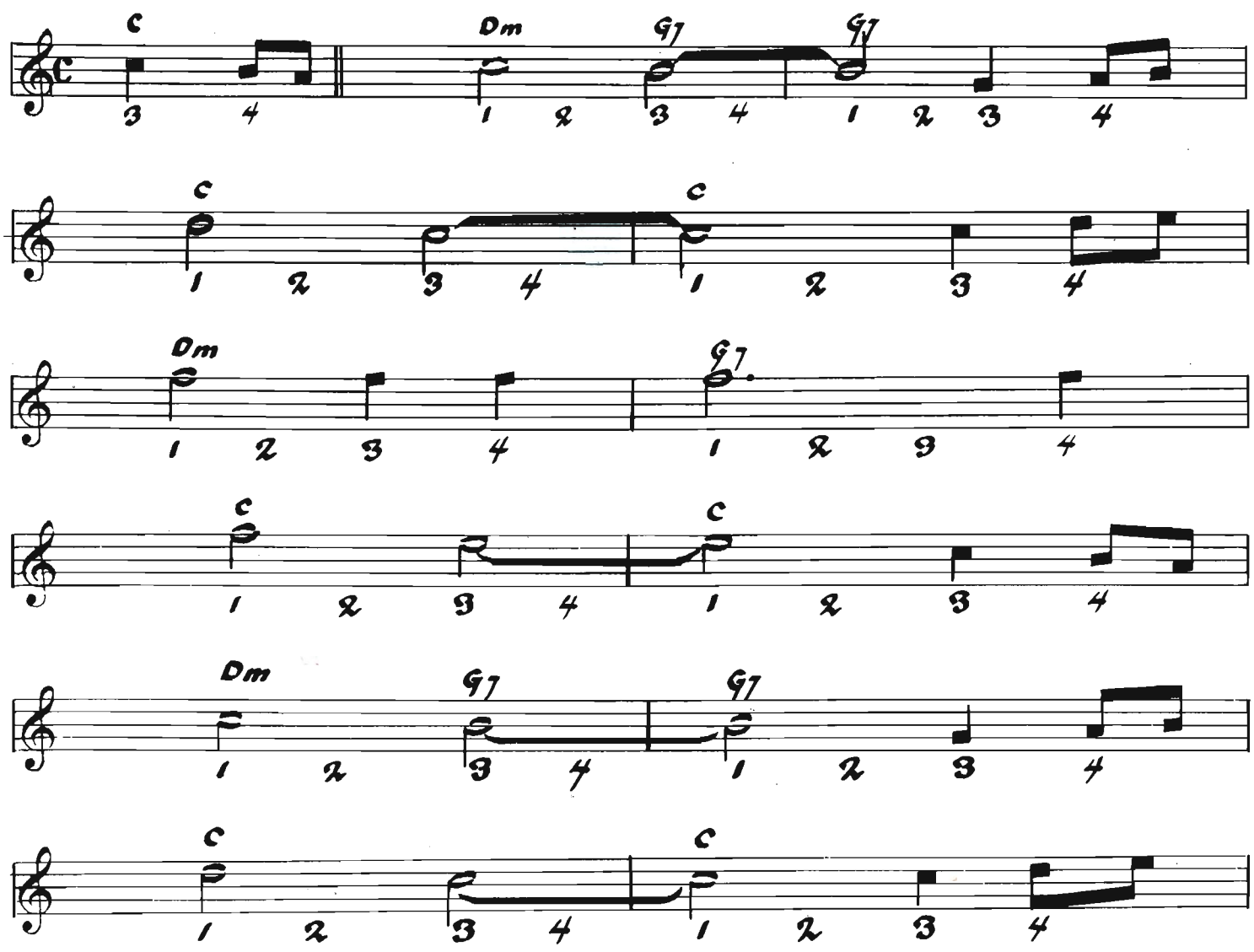
Now for the second point—CHORDS. Notice how the chords are indicated above the SINGER'S STAFF. Play these with your left hand. Simple enough, isn't it? Do you notice how many of the chords are falling into the CHORD SENTENCES you already know?

The PLAYER'S STAFF—the part you can ignore—is the music, note by note. You could learn to play it that way—sweating it out grimly—but it wouldn't be much fun. Moreover, it would be a long, long spell, to say the least, before you could play freely enough to match the results you can get overnight using CHORD SENTENCES as a short cut.



Auld Lang Syne

ROBERT BURNS

MOONLOVE

from PETER TSCHAIKOWSKY

MAJOR CHORDS

In sheet music major chords appear over the Ukelele box as follows: (C) = C major.

C Maj=C E G E♭ Maj=E♭ G B♭ G♭ Maj=G♭ B♭ D♭ A Maj=A G♯ E
F " =F A C A♭ " =A♭ C E♭ B " =B D♯ F♯ D " =D F♯ A
B♭ " =B♭ D F D♭ " =D♭ F A♭ E " =E G♯ B G " =G B D

MINOR CHORDS

In sheet music, minor chords appear over the Ukelele box as follows: (C m) or (C–) or (C min). If you should encounter (C m 6) or (C m 7) you may simply ignore the added ciphers or in the case of C m 6 you may add the sixth step ("la") on the major scale. In the case of C m 7 find the seventh tone of the scale and lower it one-half step.

SEVENTH CHORDS

In sheet music Seventh Chords appear over the Ukelele box as follows: (C 7). Sometimes you will encounter (C 9). You may ignore the "9" and just play the regular C 7.

AUGMENTED CHORDS

In sheet music the Augmented Chords appear over the Ukelele box as follows: (C aug) or (C+) = C augmented. The Augmented Chord can be thought of as an exaggerated form of the Seventh Chord and can often be used in place of or immediately following the Seventh Chord as G 7—G aug—C. Often the Seventh can be added to the Augmented Chord as (C aug 7) but in this case, the seventh tone should be added *below* the chord—for instance (C aug 7) = B♭ C E G♯.

DIMINISHED CHORDS

In sheet music Diminished Chords appear over the Ukelele box as follows: (C dim) or (C °). Both represent C diminished. The diminished chord has the peculiar quality of causing a *backward* progression on the circle, i.e., C through C dim to G 7, etc.

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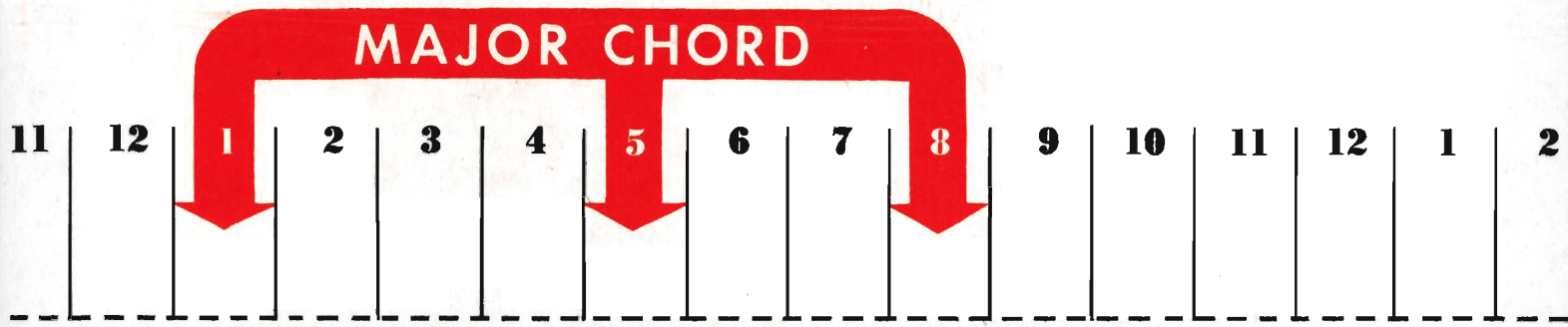
MAJOR CHORD



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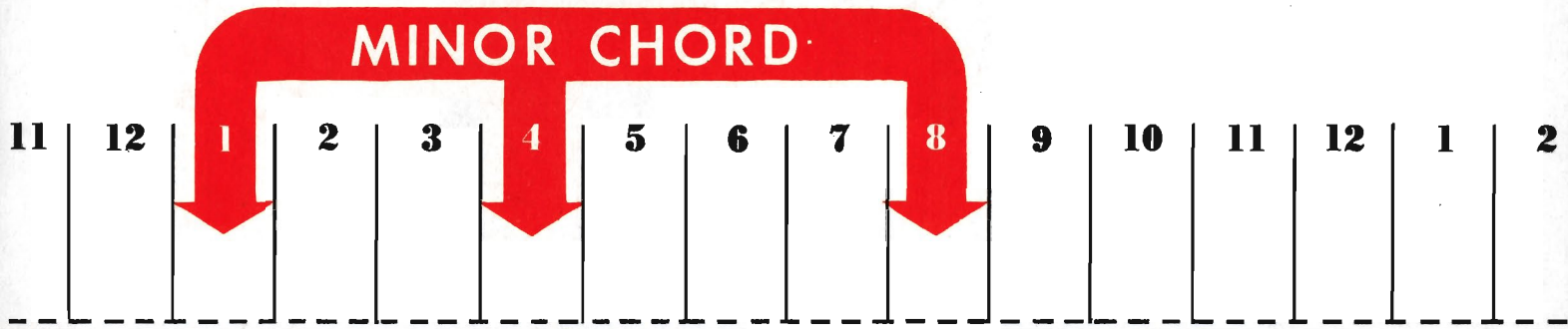
MINOR CHORD



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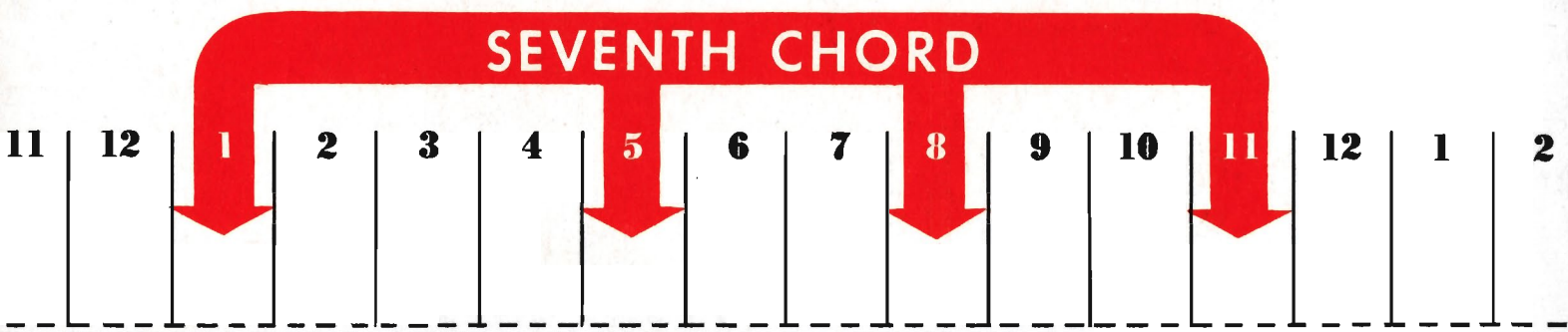
SEVENTH CHORD



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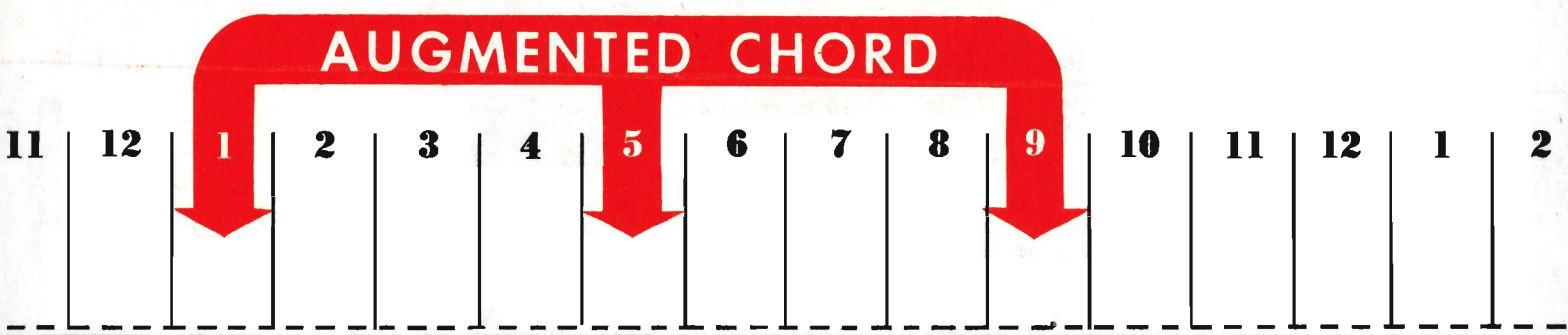
AUGMENTED CHORD



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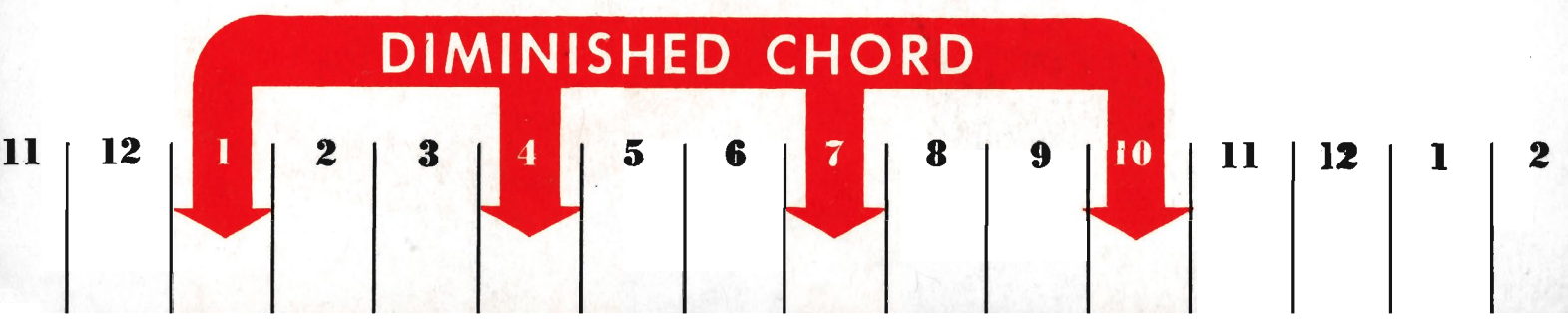
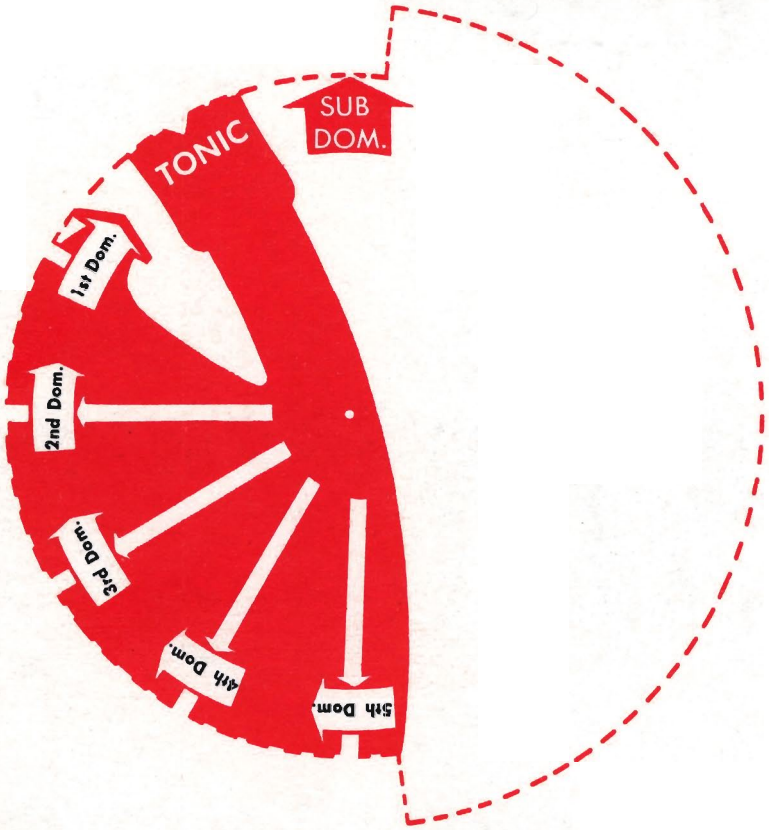
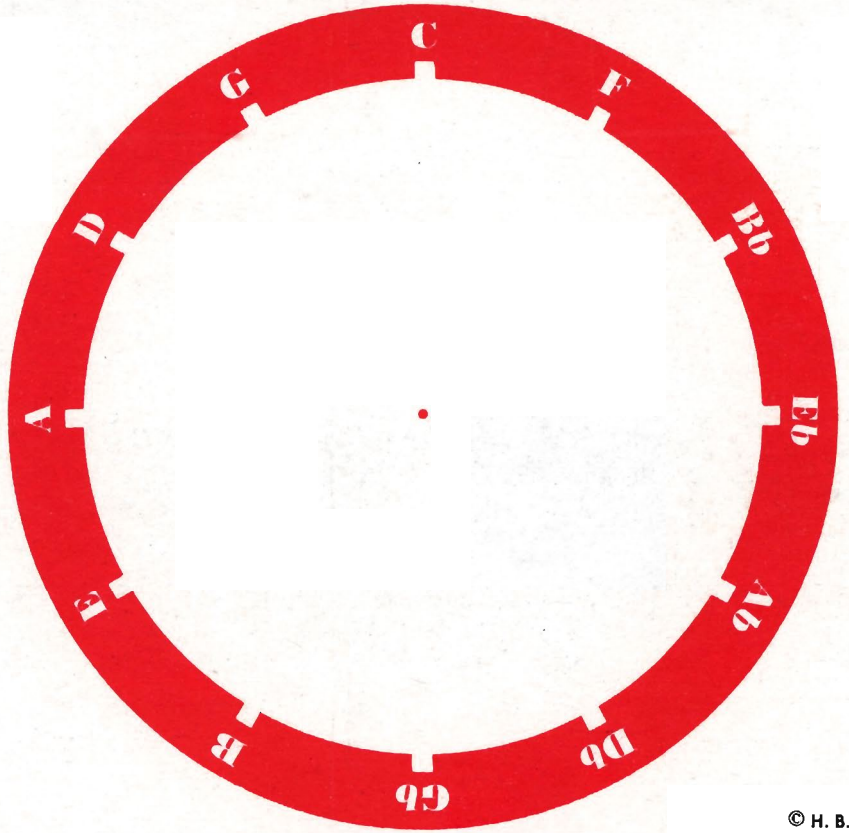
DIMINISHED CHORD





NOTE: Cut moveable disc on dotted lines and mount over CYCLE by means of a cotter pin.



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CYCLE OF RELATED CHORDS

F# or Gb | G# or Ab | A# or Bb | C# or Db | D# or Eb | F# or Gb | G# or Ab | A# or Bb

F G A B C D E F G A B

K E Y - B O A R D C H A R T

© H. B. R.

This device is in two parts—one consisting of 12 letters corresponding to the twelve keys on the piano. These are equally spaced around a complete circle. The other consists of a moveable disc which, when placed over the cycle, reveals only seven of the twelve letters at any one time. On the moveable disc there appear seven names: TONIC, 1st DOMINANT, 2nd DOMINANT, 3rd DOMINANT, 4th DOMINANT, 5th DOMINANT & SUB-DOMINANT. To obtain the seven chords of any key, rotate the moveable disc until the name TONIC appears under the desired key name. The seven chords thus revealed are the seven chords of that key.

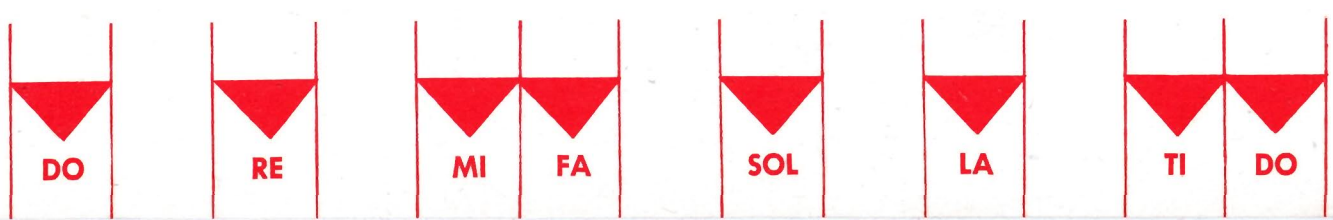
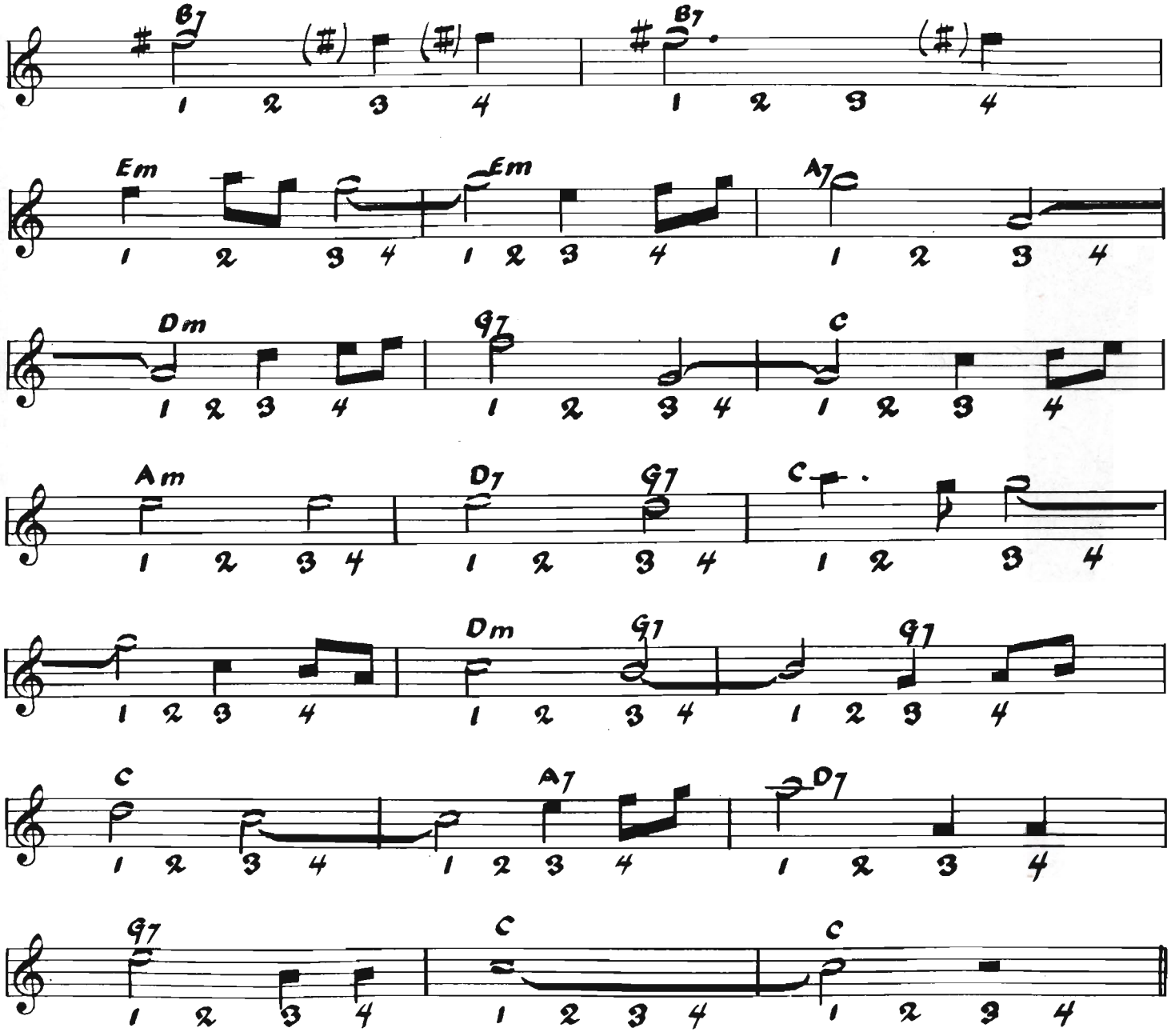
You will notice as you try to construct various scales from the chart that certain arrows will point to black keys and, since each black key can be called by TWO DIFFERENT names, you can observe the following rule to avoid confusion: If the scale starts on a white key, black keys in the scale will be named "sharps." If the scale starts on a black key, black keys in the scale will be named "flats." (The single exception is the F scale where the one black key is B♭ —not A♯ .)

Chords also may be given two different names and here again the same rule applies. If you are playing in a key where, according to the above rule, some of the tones appear as "sharps" rather than "flats," then any CHORDS should be named as "sharps" rather than "flats", i.e. F♯ 7 rather than G♭ 7.

MAJOR SCALE CHART

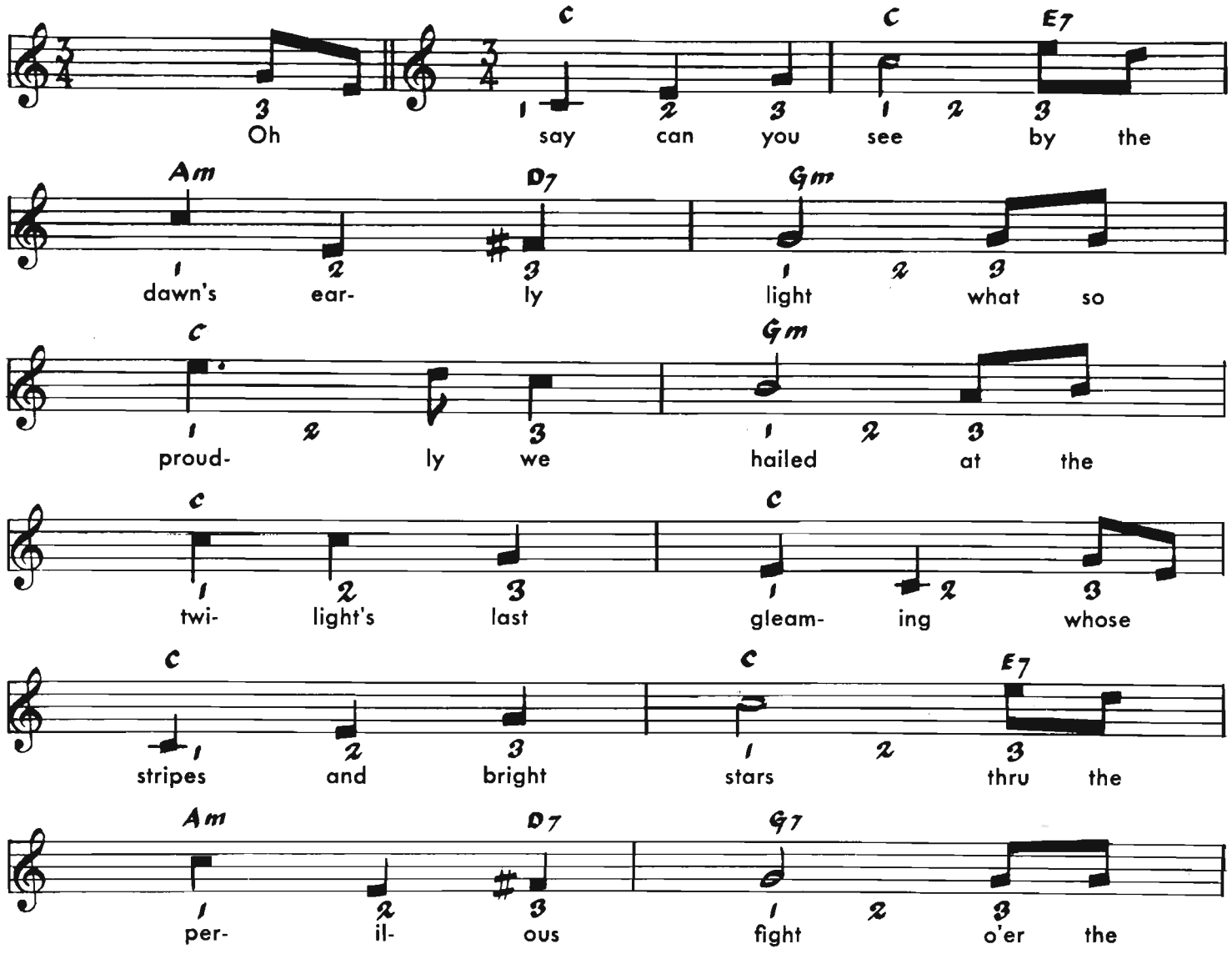
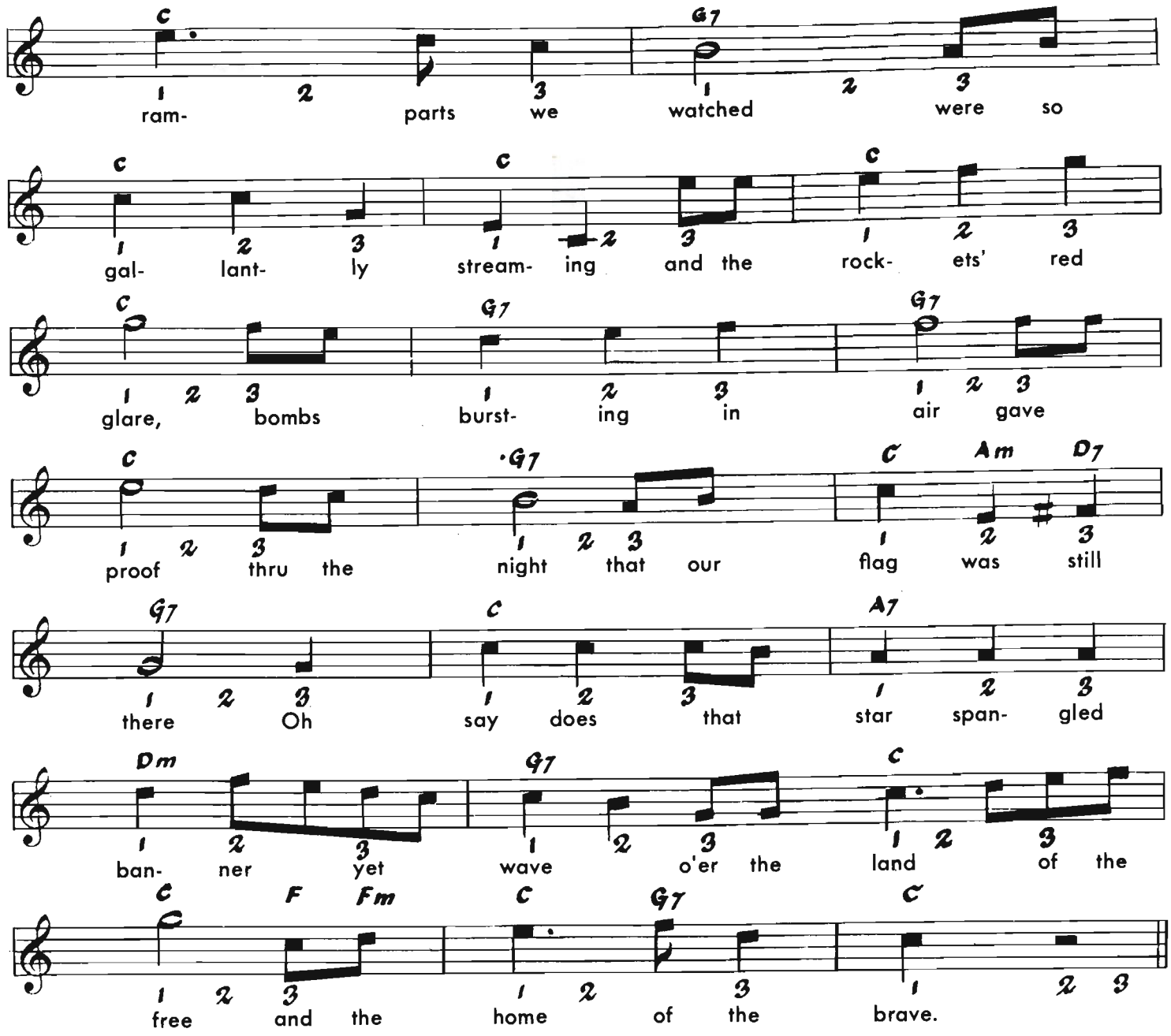
The keyboard consists of seven alphabetical names repeated over and over along the keyboard. These seven alphabetical names are given to white keys only. The black key to the right of C is known as C sharp, written (♯). The same black key when thought of as being the black key to the left of D is known as D flat, written (♭). In this manner the 5 black keys "borrow" their names from the adjacent white keys.

Major scale chart: A "scale" is ANY succession of whole or half steps. The Major scale is the most common used as a guide for melody construction.



B7
(#)
(#)
B7
(#)
1 2 3 4
1 2 3 4
Em
Em
A7
1 2 3 4
1 2 3 4
1 2 3 4
Dm
G7
C
1 2 3 4
1 2 3 4
1 2 3 4
Am
D7
G7
C
1 2 3 4
1 2 3 4
1 2 3 4
1 2 3 4
Dm
G7
G7
1 2 3 4
1 2 3 4
1 2 3 4
C
A7
D7
1 2 3 4
1 2 3 4
1 2 3 4
G7
C
C
1 2 3 4
1 2 3 4
1 2 3 4

STAR SPANGLED BANNER

FRANCIS SCOTT KEY

C G7
ram- parts we watched were so
C C C
gal- lant- ly stream- ing and the rock- ets' red
C G7 G7
glare, bombs burst- ing in air gave
C G7 C Am D7
proof thru the night that our flag was still
G7 C A7
there Oh say does that star span- gled
Dm G7 C
ban- ner yet wave o'er the land of the
C F Fm C G7 C
free and the home of the brave.

HOW TO PLAY BY EAR

The first step in learning to play by ear consists of acquiring the knack of picking a melody out of the air. Ever whistle or hum a tune you heard over the radio? If you have, you've got the knack —and if you haven't we're afraid you probably never will and you may as well forget about playing by ear.

Now here's the procedure you follow to convert that tune you are humming into music on a piano. Locate your Key Board Chart. On the back you find the following syllables: do—re—mi—fa—sol—la—ti—do. All melodies are built on a scale, and the scale indicated by the Do-Re-Me (not the folding kind) is the most common. It is known as the Major Scale.

For practice, place this chart so that "Do" points to C on the keyboard. Now play the keys indicated by Re-Mi, etc.

This is the "C" Major Scale.

Now move the chart to some other starting point. Say to "G." Now follow the Do-Ro-Me procedure. The result is the "G" Major Scale.

Now let's assume that melody you picked out of the air is running through your mind. Hum or whistle it. Now play a scale ("C" is the safest bet) and notice how playing the scale automatically sets the pitch of the tune in your mind to the key of C.

Now hum the first tone of your melody. Keep humming this first tone until you find the corresponding key on the keyboard. Keep right on with this process until you have gone clear through your melody, punching the keys on the piano which correspond with the tones you hummed.

It will seem rather clumsy to you at the beginning—but eventually you can handle this process almost automatically. Obviously you should try a simple tune at first such as "Row Row Row Your Boat" or "Three Blind Mice."

Play the results of your tune-search a couple of times—until you have it on your finger tips.

That's melody—and you're playing it by ear.

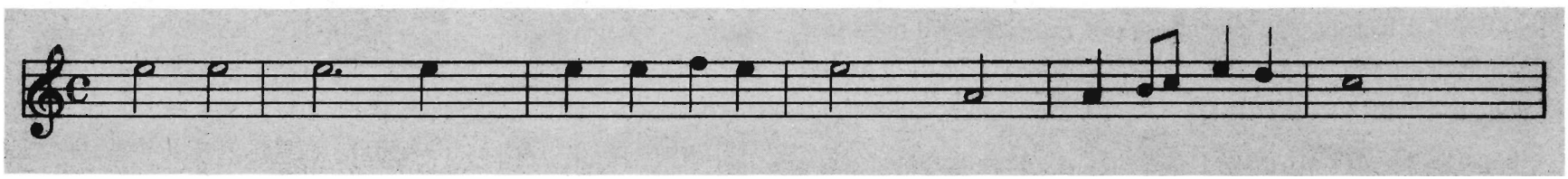
Now we go to work to build a chord accompaniment. We don't try to lift this out of thin air—instead we use one of our tricks—CHORD SENTENCES.

Our knowledge of how chords fall in sequence is going to come in handy from now on—in fact it's the real key to the mystery of playing by ear.

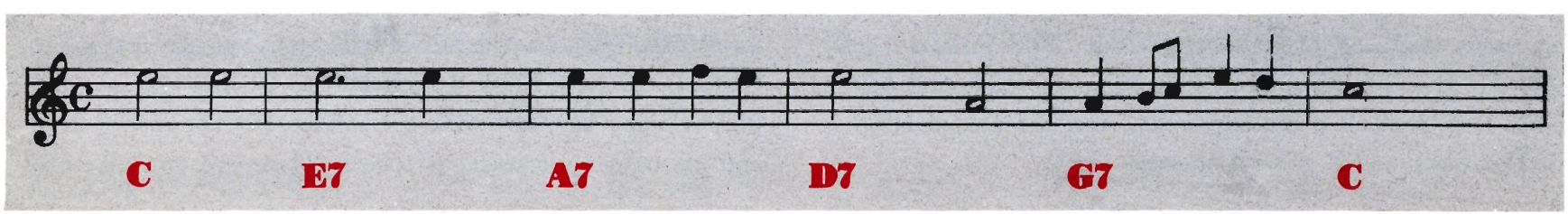
The process is simple—you work just as you did in the other

songs when you supplied a chord accompaniment. Take Liebestraum—imagine we've heard it for the first time over the radio.

First we pick out its melody practicing with our "C" scale. If Liebestraum is unfamiliar to you read it over on the line below.

—from LIEBESTRAUM **by Franz Liszt**

Next we experiment with the CHORD SENTENCES we have learned—until we find the one which combines with the melody in a way that sounds most pleasant to our ear. With Liebestraum we discover that CHORD SENTENCE 6 is a stand out. Try it.

Before too many repetitions you probably will recognize the famous old melody by Franz Liszt. The instant the melody becomes familiar to you, abandon the notes. (Try to play the melody *without* reading the printed line.)

Don't expect to play by ear easily and casually the first week—or the first month. It's not a knack you are going to pick up overnight. But if you use the method outlined here you are on the right track—and success is going to be largely a matter of constant practice.

HOW TO PLAY IN OTHER KEYS.....

Up to now everything studied and played has been in the Key of C. Any questions about what we mean when we say "Key of C"?

Let's clear that point up. Get out the "Scale Chart" and arrange it to indicate the C scale. Now examine all the CHORD SENTENCES learned. Do you notice one thing they all have in common? Every one begins and ends on C Major Chord. That's what is meant by the Key of C.

Shift the "Scale Chart" to F and play the F scale. Now you are playing in the Key of F—but the CHORD SENTENCES used in the Key of C won't work in the Key of F. Some method of transposing the chords must be worked out so that their equivalent is formed in the Key of F. This means we have to use the CYCLE OF RELATED CHORDS. Don't let the words scare you. It's simple enough.

Suppose we want to change CHORD SENTENCE SIX from the Key of C to the Key of F. Pick up your circle and revolve it until the word "TONIC" on the device points to C. Note that all the chords of CHORD SENTENCE SIX appear with their key names indicated on the moveable disc. Now make a mental note that the C is called Tonic. Underline in your mind that E is 4th Dominant, A is 3rd Dominant, D is 2nd Dominant, G is 1st Dominant, and F is Sub-Dominant.

Now spin the indicator until it is pointing to F, or so that F is Tonic. Now locate 4th Dominant, 3rd Dominant, 2nd Dominant, and 1st Dominant. Notice that when the indicator points to F the chords are F-A-D-G-C-F.

Then CHORD SENTENCE SIX in the Key of F is F Major, A 7th, D 7th, G 7th, C 7th and F Major.

This is a good time to read about Key Signatures as described in the Vocabulary of Musical Terms.

We didn't choose the Key of F for any particular reason—the CYCLE OF RELATED CHORDS works with the same simplicity in any key. Just point the indicator at the desired key—and presto, your problem is solved. There are two major ad-

vantages in being able to switch freely from key to key. If you are playing the accompaniment for some one singing you'll run into songs whose high notes are far too high for the singer in, say, the Key of C. So you just drop down to F or G—and a set of vocal chords are saved.

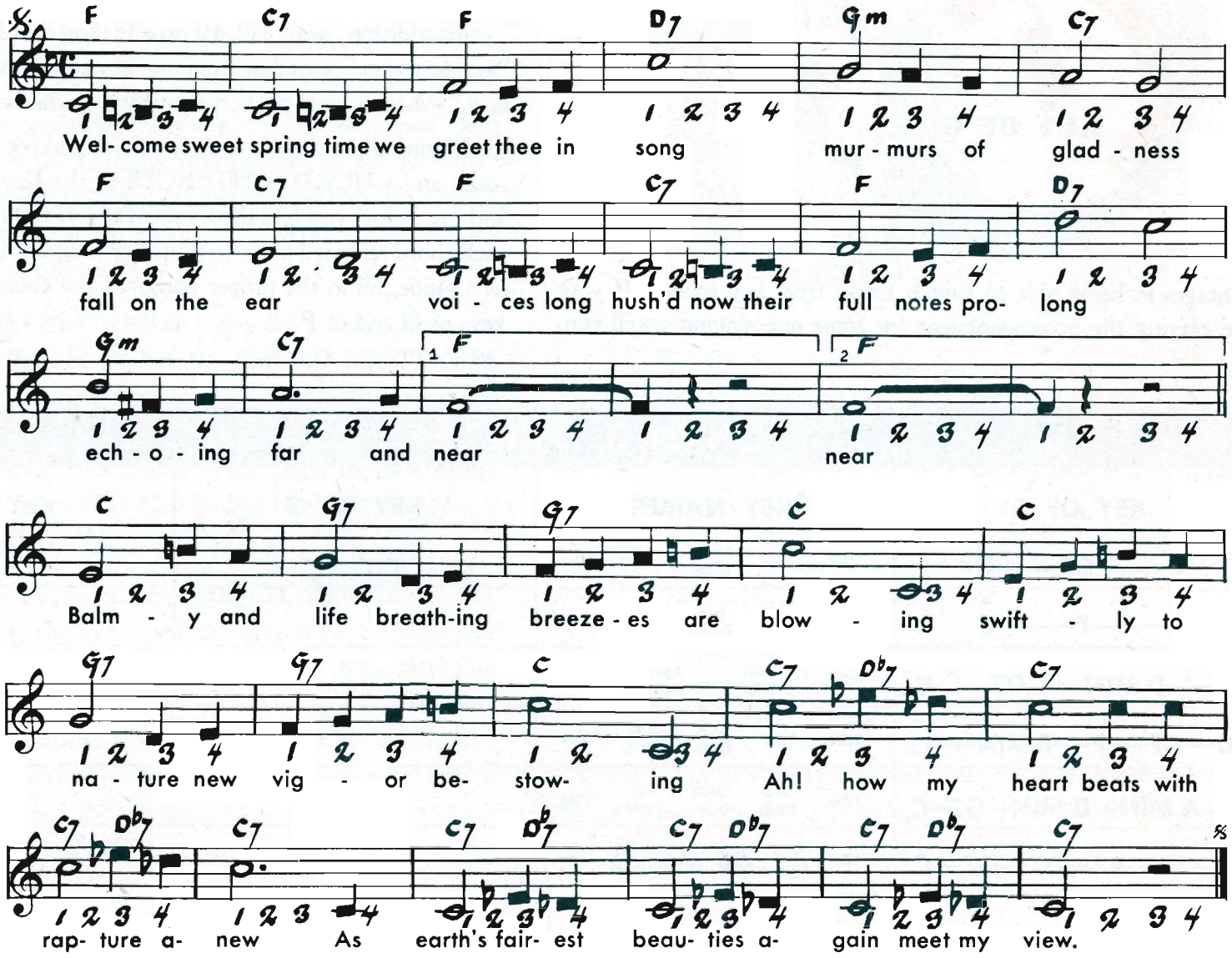
In addition, you will eventually find music that suddenly, "in midstream," switches from one key to another as in "Melody in F," where a large portion actually is in the key of C.

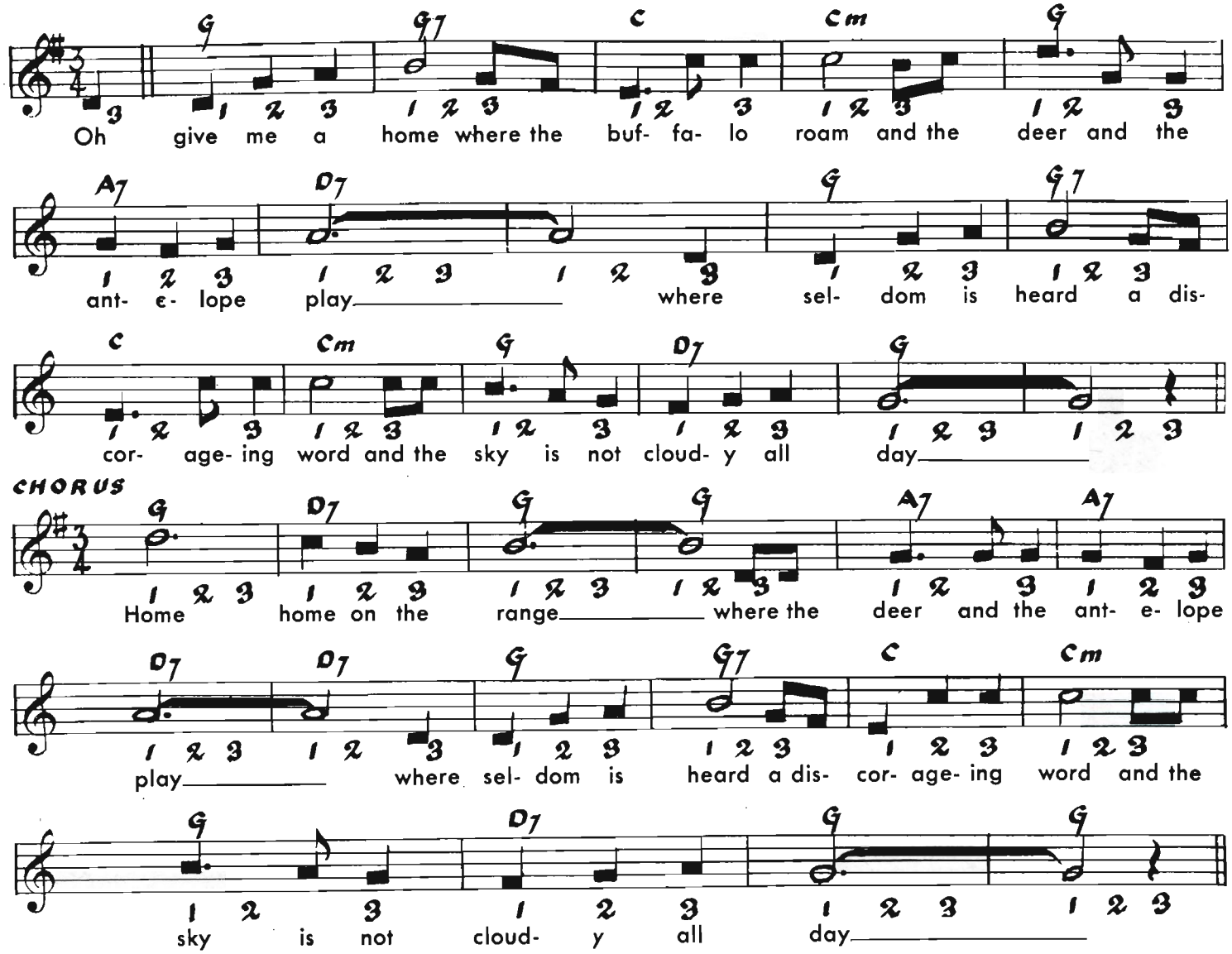
During the next few months you should become familiar with scales and CHORD SENTENCES in the Keys of G, C, F, B♭ and E♭. Below you find the CHORD SENTENCES listed—with each chord renamed in terms of its key position. Using the "Cycle" as a guide, fill in the proper names of the chord sentences in the keys of G and of F.

CHORD SENTENCES

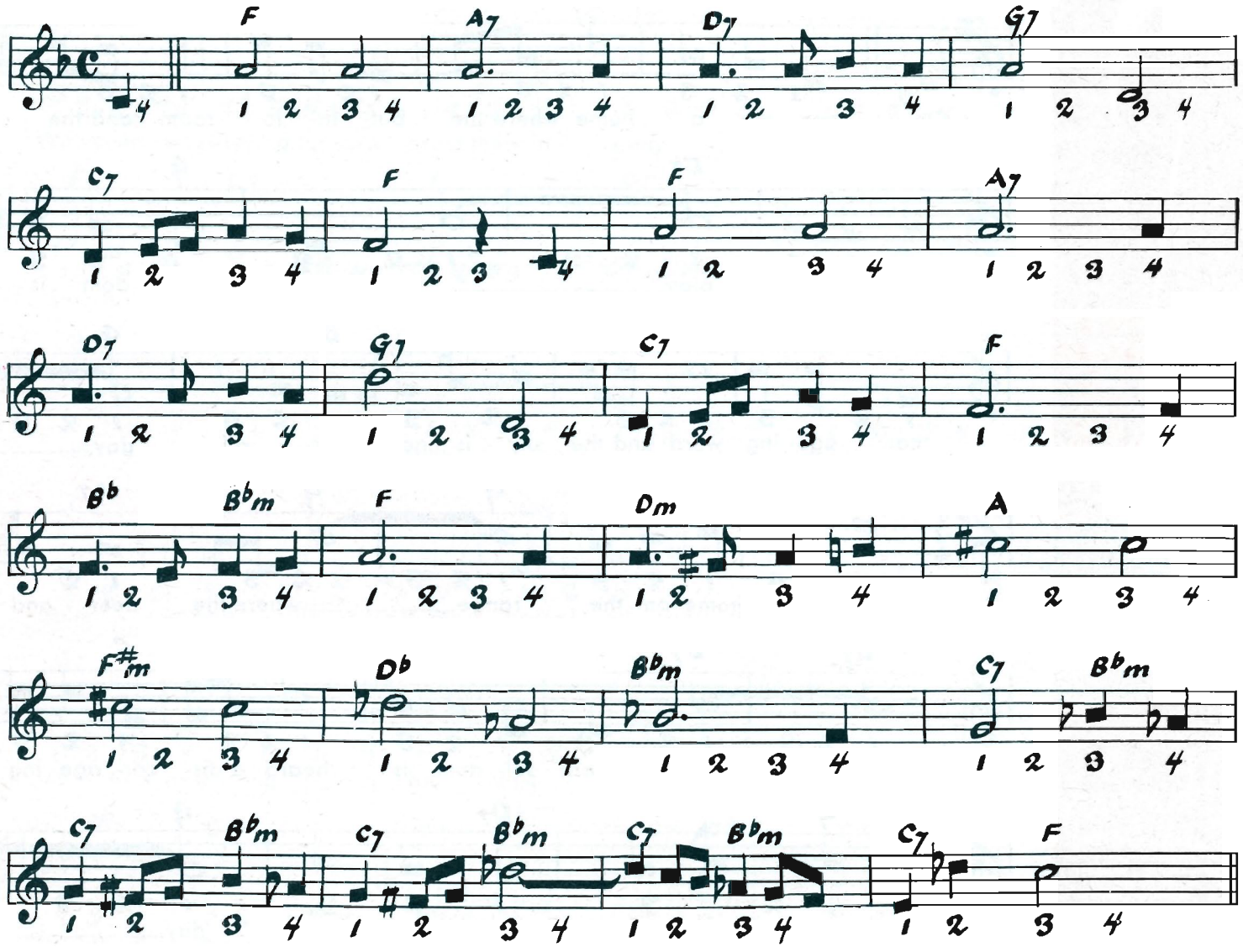
KEY OF C	KEY NAMES	KEY OF G	KEY OF F
C——G7——C	TON. 1ST DOM. TON.	G - D7 - G	
C——F——C	TON. SUB. DOM. TON.		
C——D MIN——G7——C	TON. 1ST DOM. 2ND DOM. TON.		
C—C7—F—F MIN—C	TON. TON. SUB. DOM. SUB. DOM. TON.		
C—A MIN—D MIN—G7—C	TON. 3RD DOM. 2ND DOM. 1ST DOM. TON.		
C—E7—A7—D7—G7—C	TON. 4TH DOM. 3RD DOM. 2ND DOM. 1ST DOM. TON.		

MELODY IN F

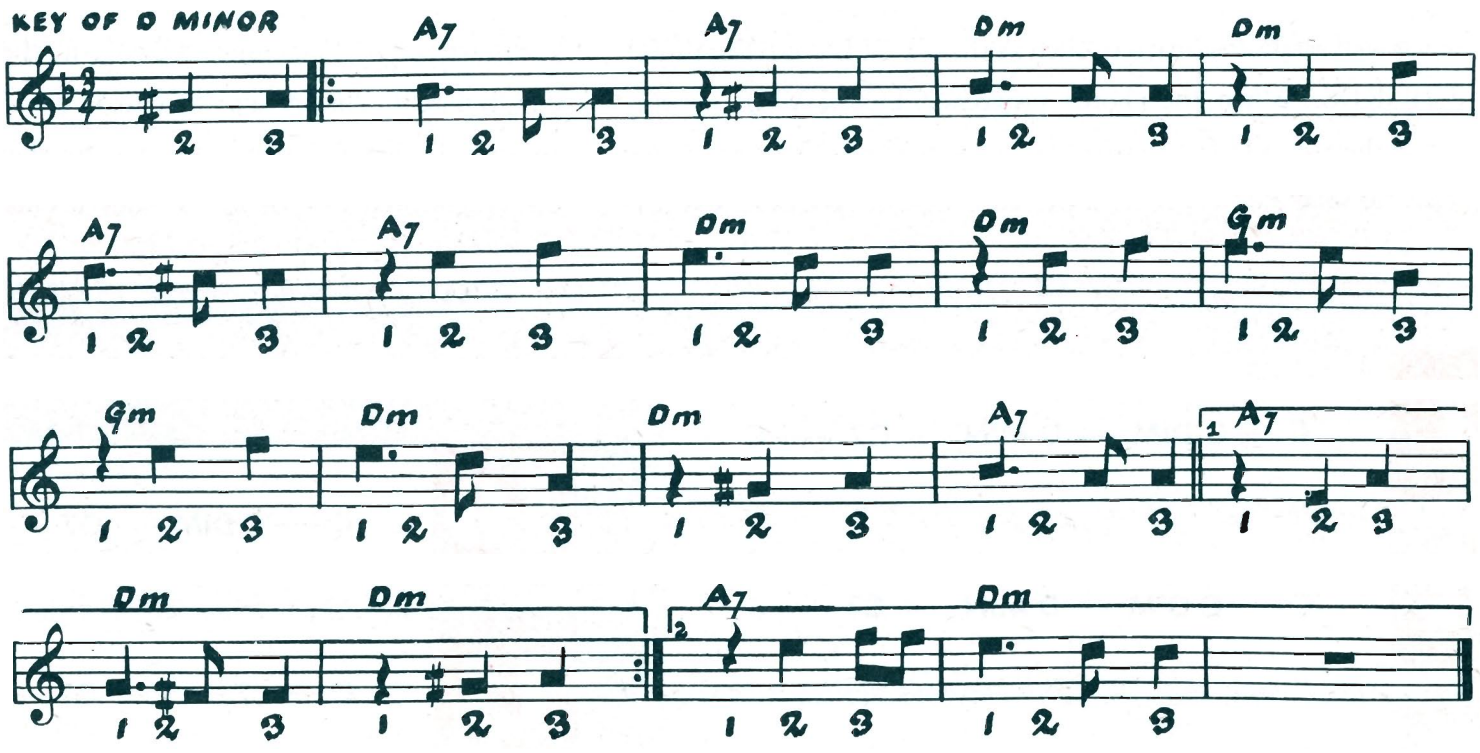
A. RUBINSTEIN

HOME ON THE RANGE

FOLK SONG

DREAM OF LOVE

from LIEBESTRAUM

by FRANZ LISZT

The song shown below is offered for the purpose of introducing music in the MINOR MODE.

The MINOR SCALE is formed by lowering the third, "mi," and the sixth, "la," tones of the MAJOR SCALE. The CHORD SENTENCES are altered to the extent of substituting the MINOR chord for the MAJOR chord in all cases where the TONIC or SUB-DOMINANT chords are indicated, for instance CHORD SENTENCE ONE, would be C min, G 7, C min. TWO would be C min, F min, C min, etc.

DARK EYES

AUGMENTED AND DIMINISHED CHORDS

The Augmented and Diminished Chords are to be learned by using the Charts just as you did the Major, Minor and Seventh Chords. Though the addition of these chords is not vital to music playing, they do add much color to the accompaniment. Their addition suggests a few more common Chord Sentences. Memorize these just as you did the first six.

By now you probably are well aware of the fact that chords sound most pleasant to the ear when they progress according to some well established pattern such as the CYCLE OF RELATED CHORDS. When the chords progress CLOCKWISE on this circle they seem to fit together like "peas in a pod." Yet the chords have no such pleasant effect if played COUNTERCLOCKWISE on the same circle. This is where the DIMINISHED CHORD enters the picture.

Generally speaking the Diminished Chord eliminates the harshness of a backward movement on the circle. C followed by G_7 is improved by playing either C—C dim—G_7 or C—G dim—G_7. The augmented chord demands even a stronger FORWARD movement on the circle. When G_7 goes to C it has even a stronger affinity for C if it is played G_7,—G aug—C.

Practice the Diminished Chords in the following order—C dim, B dim, B♭ dim, A dim, A♭ dim, G dim, G♭ dim, F dim, E dim, E♭ dim, D dim, D♭ dim. Now reverse the order. Now practice the Augmented Chords in the same manner.

7 C — C DIM — D MIN — G7 — C

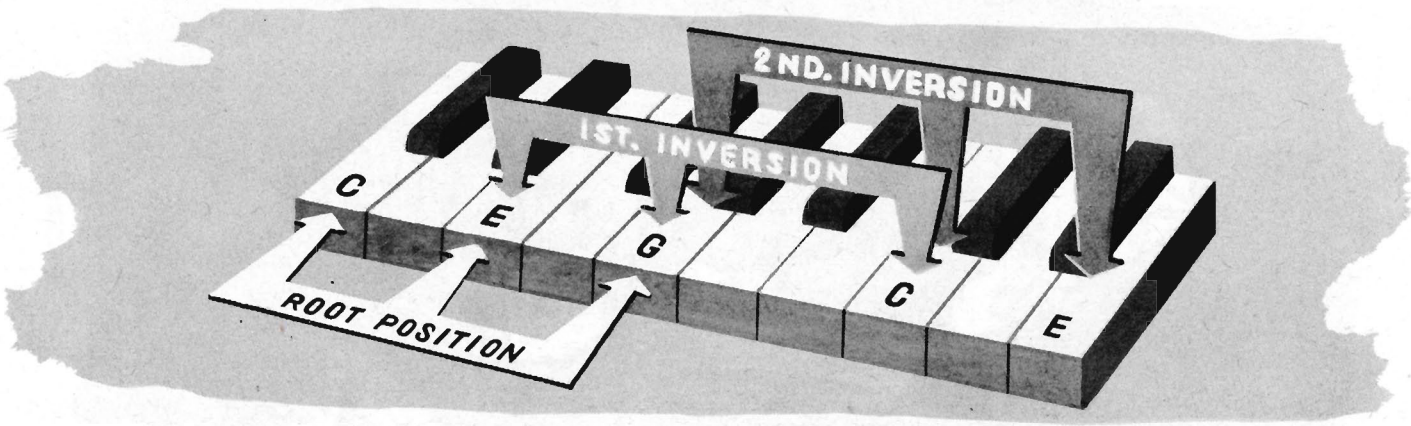
8 C — G DIM — D MIN — G7 — C

9 C — C7 — F — C DIM — C

10 C — C DIM — G7 — G AUG — C

11 C — C7 — F — G7 — G AUG — C

INVERSIONS OF THE CHORD



Once a chord is established it is not necessary that the individual tones maintain their original positions with respect to each other. For instance, C Major consists of the following tones C, E, and G.

By now you should be familiar with this chord.

According to the statement above about individual tones, any rearrangement of tones C, E and G will continue to sound the C Major Chord—so long as nothing is omitted or added.

Try scrambling C, E and G in every imaginable way—the result is still C Major.

It doesn't matter if it's CEG or EGC or GCE, etc.

So it is just as correct to play the C Major Chord GCE as to play it CEG as originally learned.

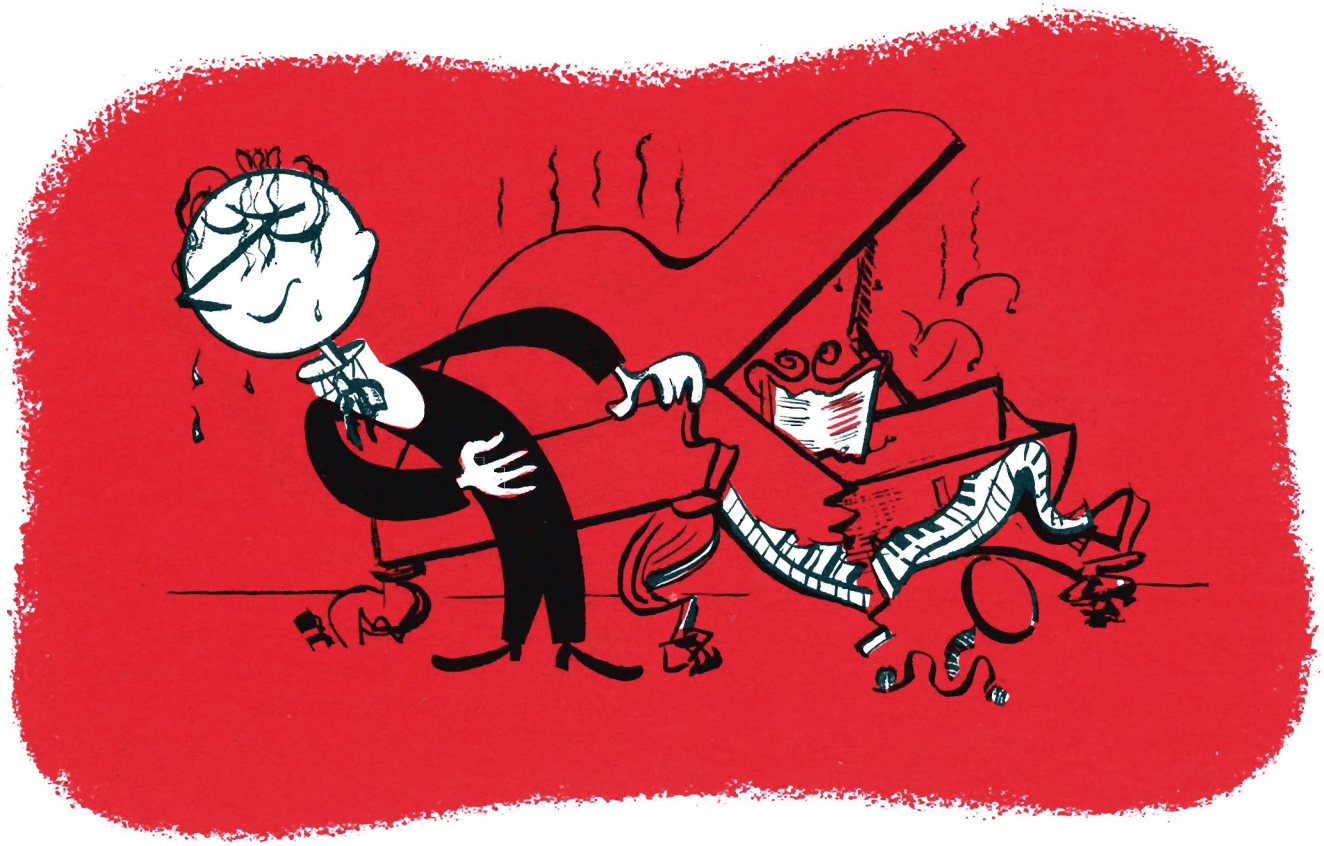
Technically, these are called Inversions of the Chord. The position you originally learned is known as the ROOT POSITION. In other words, the ROOT POSITION of a chord is that position where the lowermost key represents the name of the chord.

There is a good reason for having you experiment with these inversions. In many cases, say as in C7th, the root position is difficult work for the left hand. Any one of the inversions is easier to play. Because of this, C7th is almost always inverted into G B♭ C E instead of C E G B♭ .

Shown below are some of the already familiar chord sentences with suggestions as to the best INVERSIONS to use.

(R=root position 1=1st inversion 2=2nd inversion 3=3rd inversion.)

1. C(2) G7(R) C(2)
2. C(2) F(1) C(2)
3. C(2) D min (2) G7(R) C(2)
4. C(2) C7(2) F(1) Fm(1) C(2)
5. C(2) Am(R) Dm(2) G7(R) C(2)
6. C(1) E7(R) A7(2) D7(R) G7(2) C(1)



Yes—that was you playing. Three weeks ago a piano keyboard was a confusing mystery. Today you sit down and play—*and music comes out.*

From now on it's up to you. You have the foundation—but remember—PRACTICE MAKES PERFECT.

Work with your instructor—go through the book again—practice on harmony—reading—finger exercises.

Right now you—as a piano player—have reached the same point in your progress towards being a musician, as a soldier who has learned how to fire his Garand, has reached in his drive towards a sharpshooter's medal.

You know how to go through the motions—now, by constant practice, start hitting musical bull's-eyes.

VOCABULARY of MUSICAL TERMS

CLEFFS IN COMMON USE

The original staff contained eleven lines the middle line of which was known as "Middle C".

Later the upper five lines were identified by a "Treble Clef sign" 𝄞 and were shown separately. 𝄞

The bottom five lines were identified by a "Bass Clef sign" 𝄢 and also were shown separately. 𝄢

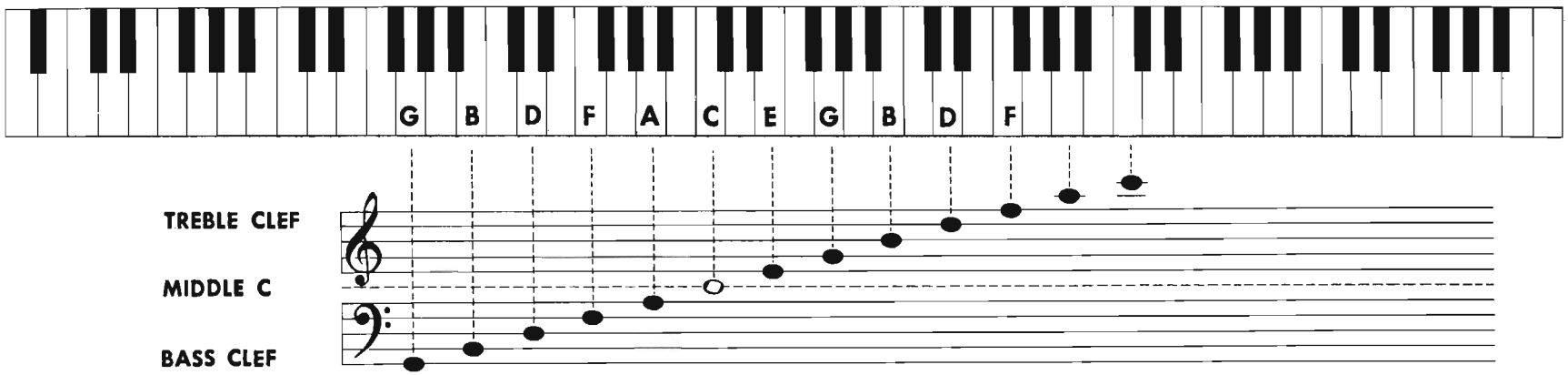
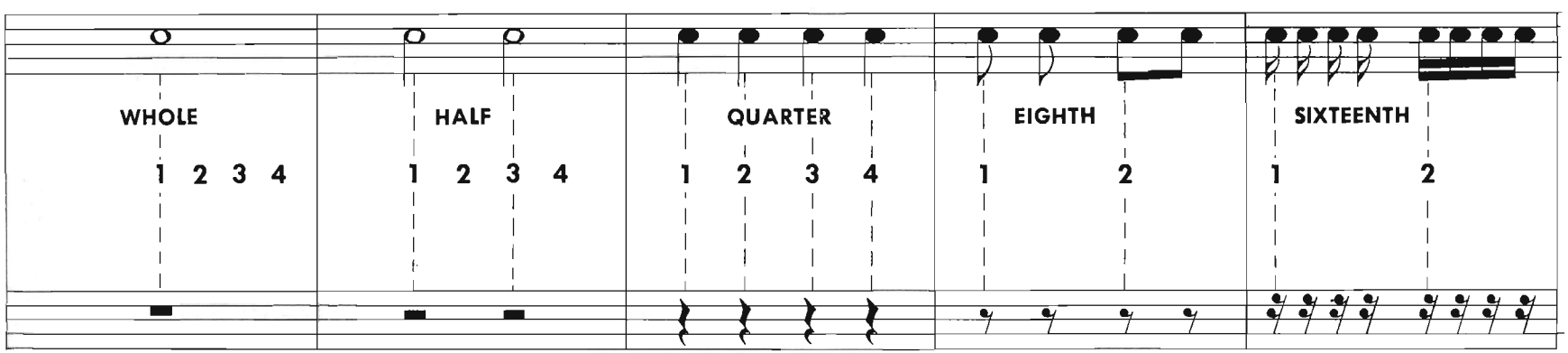


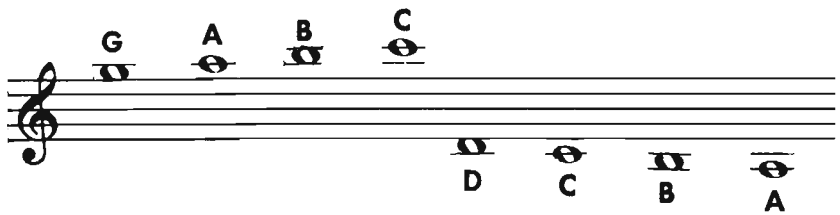
TABLE OF NOTE AND REST VALUES

Notes, besides indicating tones of various pitch, also are designed to indicate various amounts of time. Rests, are designed to denote various amounts of silence, they might be termed rhythmic periods of silence.



LEGER LINES

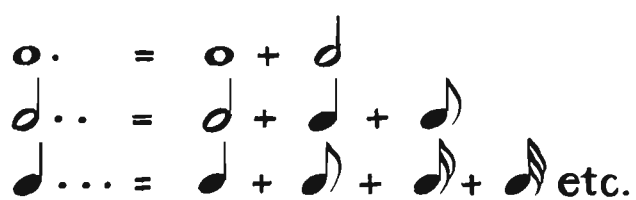
When the music extends beyond the range of the staff the notes are placed on or between short lines called LEGER LINES:



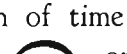
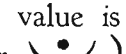
Notes which would require more than four or five leger lines above the treble or below the bass clef, or passages that average very high or low are written one octave lower or higher than the actual sound and marked 8va.....(over treble) or 8va bassa.....(under bass).

DOTS

A DOT to the right of a note or rest increases its value by half, and each succeeding dot increases the value of the preceding dot by half:

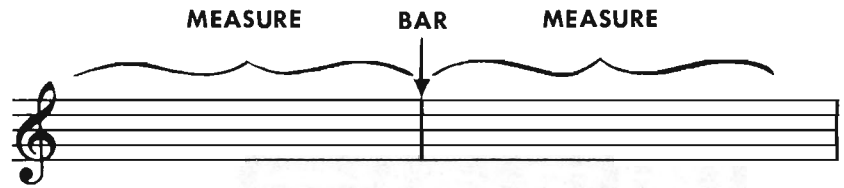


Three dots are rather uncommon, and more than three are never used.

An indefinite extension of time value is indicated by the FERMATA or HOLD ( or ) above or below a note or rest.

BARS, DOUBLE BARS AND REPEATS

Vertical lines cutting the staves are called BARS; the spaces between them are MEASURES

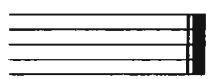


indicates the end of a strain or section.

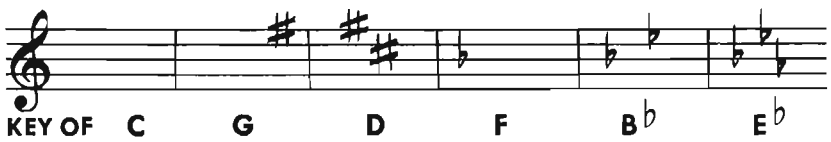
means to repeat the preceding.

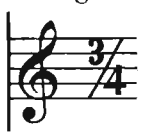
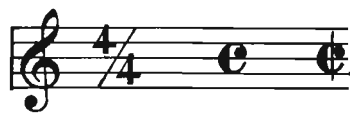
means to repeat the following.

means to repeat both preceding and following.


indicates the end of a composition or movement.

KEY SIGNATURES

Invariably a song is written to conform to some *SCALE*. The scale can be built starting from any tone. Already you have discovered by manipulating your SCALE-CHART, that, in order to conform to the Do, Re, Mi, interval (with the single exception of the C scale) certain notes have to be sharped or flatted. In music, those tones which should be sharped or flatted to conform to the desired scale are so indicated at the signature. When thus indicated, they affect every note of the same name unless some temporary change is indicated by an ACCIDENTAL. Signatures of the most common keys are listed on the next page.

TIME SIGNATURES

The number of beats to be given to each measure is indicated in the signature by various signs the most common of which are shown.

WALTZ TIME

SWING TIME

= three beats per measure

= four beats per measure

TIES

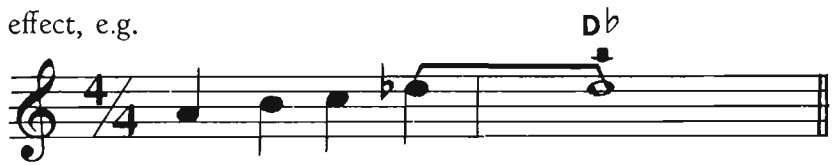
A tie (or) which connects two notes on the same line or space indicates that the first note absorbs the value of the second and is to be sustained for the entire value of both.

ACCIDENTALS

The SHARP (♯) raises a note one half-step; the double sharp (𝄪), two half-steps.

The FLAT (♭) lowers a note a half-step; the double flat (𝄫), two half-steps.

The NATURAL (♮) restores a note previously affected by one of the above accidentals or by the signature.

Accidentals affect all notes on the same line or space throughout one measure only, except that when a note affected is tied into the next measure the accidental is understood to be still in effect, e.g.

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