Reminder 1) The bow must grasp the two strings simultaneously on beginning each stroke in order that the two tones may be heard from the very start.

Reminder 2) Each of the two tones produced in a double stop, or, in a series of double stops, must be clear and even throughout the length of its duration; double tones should resemble single sounds produced on two instruments at the same time.

Reminder 3) The change of stroke and the passing of the bow to neighboring strings must be accomplished with extreme delicacy and smoothness, the player should guard against any exaggerated movement of the hand and arm as this would in either case produce an unintended accent.

Exercises for Drawing the Bow Across the Open Strings

Slowly

W.B.

Exercises for Smooth Changes of Stroke

Fr.  W.B.  Pt.  W.B.

Mid  W.B.
Exercises for Crossing Smoothly to Neighboring Strings

Reminder 4) Clear tones in double stopping, so far as the fingers are concerned, can be obtained only by placing the “higher” finger (numerically higher) on the string in such an attitude as not to interfere with the string upon which the “lower” finger is placed, e.g. the higher finger must lean as much as possible towards the string not in use. The same rule applies to double-notes one of which is represented by an open string, the latter taking the place of the lower finger.

The following examples will further illustrate the directions just given. The star (*) will indicate the note stopped by the higher of the two fingers.

Exercises in which one of the two notes is represented by a Lower Open String

This mark +, wherever it appears in this book, will indicate that the part or the line is also to be practiced on the other strings.
Exercises in which one of the two notes is represented by a Higher Open String

Exercises in which the Open String is made use of on Either side of the Finger
True Intonation

True intonation in double stops calls for a well-developed feeling for pitch-sense. The principal problem involved here is that of judging at the same time the pitch of the two tones separately, and their pitch-relation to each other: that is, to hear whether each of the two tones is correctly pitched from its preceding tone, and whether each of the sounds forming the double stops is in tune with the other; although it might seem that attention to the intonation of the two sounds individually would ensure their correct intonation, it is found, nevertheless, that consciousness of the pitches in both single and combined aspects is necessary; for notes apparently in tune when heard singly will often show themselves to be slightly false when combined, the otherwise imperceptible falsity being then magnified.

*Reminder 5*) The difficulty of mastering true intonation in double stops is greatly reduced when the student is previously familiar with all the intervals, or at least, with those commonly found to follow each other in succession—such as thirds and sixths. The student should, therefore, make a thorough study of the mental exercises which will appear in this book for this purpose.

*Reminder 6*) The study in intervals must be carried far enough to bring about the result that at sight of a double stop the player instantly recognizes the distance between the two finger-placings involved.

The following illustration will make this clear.

*Illustration:* The interval G–B is a major third, the interval G–B is a minor third. The student will bear in mind that the fingers' separation in a major third is half a tone smaller than in a minor third.

The interval E–C is a major sixth, the interval E–C is a minor sixth. In this interval the fingers' separation is a half tone wider in the major than in the minor.

The interval C–F is an augmented fourth, the interval C–F is a perfect fourth. In this interval the fingers' separation is a half tone wider in the perfect than in the augmented.

*Reminder 7*) The recognition of intervals is of a two-fold nature. Namely: simultaneous recognition of the kind of interval (major, minor, perfect or augmented) and a mental picture of the fingers as they would appear on the fingerboard. Nothing short of this double recognition will ensure accuracy in finger-placing.

### Mental Exercise for Recognizing Intervals

#### Thirds

The student should recite to his teacher the following exercise. First naming the interval, next stating whether it is major or minor and then whether the fingers' separation is large or small.
Preparatory Exercises in Thirds (first position)

Fingers must remain on the strings whenever possible.

* The first and third fingers must remain on the strings while the second and fourth are in use.
Exercises for Independence of the Fingers

(A ten-fold repetition is recommended each time a repetition sign occurs.)
Exercises in which Two Fingers are Raised and Lowered Simultaneously

The little notes are to be stopped but not sounded— as an aid to true intonation.
Mental Exercise for Recognizing Intervals

Sixths
Reminder 8) In playing successive sixths, the finger stopping the higher note in the first double note is made use of for stopping the lower note in the second double-note.

For example: In descending it is vice-versa.

In order, therefore, that the finger shall change from one string to another without producing unintentional sounds, or a break, the change must be made by a transfer. That is to say, the customary vertical (up and down) action of the fingers must be abandoned and a sidewise movement substituted. This movement is made in a rapid and decided manner.

Preparatory Exercises in Sixths (first position)

Exercises for Simultaneous Double Stopping
Mental Exercises for Recognizing Perfect and Augmented Fourths

Preparatory Exercise in Fourths

Exercises in Fourths and Sixths Combined
Reminder 9) The rules for shifting in double-stopping are the same as those which are applied to shifting in single-stopping. It is therefore unnecessary to include here rules for that part of the subject which is alike in both and with which the player should be thoroughly familiar before undertaking shifting in double-stops. If however the student has not had a thorough drilling in single-stop shifting, he should not begin here. Instead he should lay this book aside for a time and take up the problem of shifting as prescribed in the book of "Scale Technic" (in single-stopping, see foot note)*. The subject is generously treated there. The problem involved in double-stop shifting that is new to the player is:

Unequal Shifting of Two Fingers

Reminder 10) The problem of unequal shifting, that is, where two fingers stopping a double-note have to shift unequal distances in order to reach two other notes, as would be the case in the following examples, for instance: \[ \text{\begin{align*} &\text{\frac{3}{4}} \quad \text{\frac{5}{4}} \\
\end{align*}} \] is this, the two fingers having started to shift simultaneously must move unequal distances and reach their respective places at the same instant. This problem is a barrier in the path of progress to most pupils, simply because they do not know just how to avoid it. The following explanation, and the exercises, if carefully observed and practised will enable the student to make short work of this universally recognized difficulty.

The student has by this time learned to recognize at a glance whether an interval is major or minor and at the same instant to recognize whether the finger-separation is large or small. There will now only remain for him to learn the mechanical action of the fingers that will correspond to the finger-placings which he sees in his mind. In other words, in playing the following \[ \text{\begin{align*} &\text{\frac{3}{4}} \\
\end{align*}} \] the pupil should recognize at a glance 1) that the major third is followed by a minor third; 2) that the finger-separation is small in the major third and large in the minor; 3) that the third finger makes a shift of two tones and the first finger of a tone and a half. Thus the player will clearly understand that in passing from the first double-note to the second double-note the finger-separation is altered and the only question that will remain will be just when to make this alteration. The change in the finger-placing is made immediately after the shift has been started, BUT FOR PRACTICE AND IN ORDER TO DRAW THE PUPIL'S ATTENTION TO EXACTLY WHAT HAPPENS (TO THE PRECISE ALTERATION) IT IS IMPORTANT THAT THE ALTERATION SHOULD BE MADE BEFORE STARTING THE SHIFT, THUS EQUALIZING THE SHIFTING DISTANCE BETWEEN THE TWO Fingers.

The exercises which follow will illustrate this further.

Preparatory Exercises for Unequal Shifting on Double Notes

The grace notes are used here to equalize the shifting distance of both fingers in passing from one position to another.

After the above exercises have been thoroughly practised as written, the grace notes should be made but not sounded and later they should be omitted altogether.
Exercises for Crossing to Neighboring Strings

Exercises in Thirds in the First and Third Positions

simile

Exercises in Thirds in the Second and Fourth Positions
Exercises in the First, Second, Third and Fourth Positions

Exercises in Sixths in the First and Third Positions
Exercises in Sixths in the Second and Fourth Positions

Exercises in the First, Second, Third and Fourth Positions
Exercises in Thirds and Sixths Combined

Chromatic Movements

Reminder II) One half tone shifts of the fingers must be made in a decided manner, so as not to have the effect of a glide.

Broken Thirds
Octaves

Reminder 12. In playing successive octaves, whether the distance of the shift is half-tone or a whole tone, it must be made with the whole hand.

Reminder 13. While the first and fourth fingers are employed (in octave playing) the second and third fingers must remain on the same string as the fourth.

Exercises in Octaves
Chromatics in Octaves

Observe carefully Reminder 12
The Twenty Four Scales and Arpeggios in Sixths