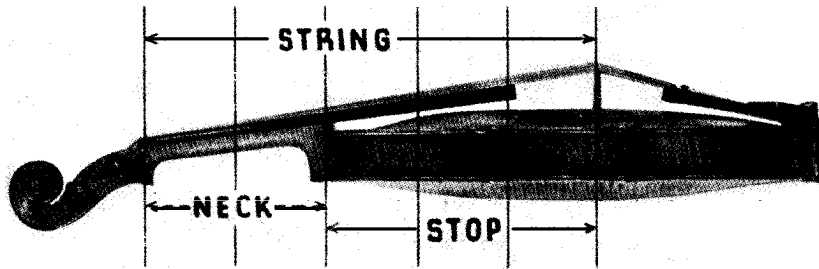


## Stop—Neck—and String Length

The question is frequently asked, what significance is attached to the measurements recorded in violin registry as the stop, neck, and string length. An article written by Helmuth Ellersieck, a violin-maker of wide experience, entitled "Correct String Length," appeared in the October November 1939 edition (No. 16) of this Journal, providing information on the subject. For the benefit of many subscribers who do not have that edition for reference, Mr. Ellersieck's article will be reprinted here following a reply to correspondents which has been generally used; also, to further clarify the matter, a plate is presented indicating the divisions named as proper....



The "stop" is that distance from the edge of the top where it joins against the neck, to the inner notch of the sound hole. Stradivari established this at 7% inches and almost unvaryingly followed that measurement, although it had also been used by his predecessor makers in general. Some makers, among which were masters of the Italian school, evidently without consideration of its importance, varied the placing of their sound-holes and, consequently, the setting of the notches. It is well to bear this in mind, but, because of such discrepancy, otherwise fine and excellently constructed instruments should not be condemned or disparaged because the "stop" does not conform with what has been established as best practice in violin-building!

Mr. Ellersieck's article:

It is a generally accepted rule that 13 inches should be the correct string length for the average full size violin, from the nut to the bridge. In my opinion this is a trifle too long and the experience I have had with numerous artists strengthens my opinion. While a length of 13 inches may be usual and allowed to pass as normal, it almost invariably has the result of stretching the fingers unnecessarily, and for that reason should not be accepted as standard. Experience has proven to me that  $12\frac{7}{8}$  inches is a better length and makes fingering easier and truer since it conforms more closely to the natural capacity of the hand than does the 13 inch length.

Of far greater importance however, than the consideration of an eighth inch in the length of the string, is that the length of the neck and that of the stop be correctly proportioned. These two distances together determine the string length. ( The neck length is the distance from the nut or saddle to the edge of the top where the neck joins it and the stop-length is the distance from that point at the edge to the small notches in the f holes between which the bridge should stand.) Violins which in these proportions are not correct are practically unusable by performers who are accustomed to correctly proportioned instruments.

Many modern repairmen in misapplied efforts to obtain the so-called correct string-length of 13 inches have placed over-long necks on violins which have short stop measurement and vice-versa ! It is plain to see that thereby wrong proportions result and a player attempting to use high positions on the fingerboard of an instrument so adjusted and placing his fingers in a manner which would be correct if the adjustments were also, would find extreme difficulty to play in tune. In fact, his intonation would be hopelessly false if such an instrument were placed in his hand to use in any combination where playing in unison with others is required. This is so because it would be natural to stop notes at the accustomed place on the fingerboard whereas they would actually be at different points according to the nature of the faulty adjustment.

The only way to adjust a violin correctly, so that an artist will immediately be at ease and have confidence when first playing upon it is to observe the long established rules of distance and ratio. On a full size violin 7% inches should be the length of the "stop," whether it be 14 inches or slightly under or over in body length. This 7 % length, should be divided into three parts, and the length of two of those parts will give the correct neck-length. Together, the combined stop-length and neck-length will fall slightly short of  $12\frac{7}{8}$  inches but in practice that is the actual length of the string itself between saddle and bridge owing to the upward slant of the string and the slight backward tilt of the bridge when set in correct position.

This is the ideal adjustment and it will be seen that if a 13 inch string length were preferable, the stop length would have to be slightly longer than  $75/8$  inches and the neck length also in proportion. The 3 (stop) and 2 (neck) proportion must always be observed if the playing adjustment of an instrument is to be correct.

Many old makers did not observe the rule of stop length which has become established as correct. When violins have a stop which is more than  $3/16$  of an inch from standard I recommend that the notches in the ff holes which indicate the point, be filled in and recut at the proper place, or, if the entire ff holes are either too high up or too low down, they be filled in and recut. If the discrepancy is less than  $3/16$ , the bridge may be moved to set at the correct point without regard to the notches.

When the old Italian masters built instruments there was no generally accepted string length. Technical advance had not reached a point which required much use of the higher positions on the fingerboard and while the neck-lengths were only approximate, the great masters as a rule adhered closely to the stop-length of 7 % inches. This was not so however with the lesser makers who seem to have given little consideration to what later became of such importance and it is because they varied in the setting of the ff holes that we find discrepancies often as great as a half inch in stop length in old instruments.

As for the necks themselves, they were all much shorter and not proportioned as we cut them now. Violin players of today could not use old Italian (or other) violins in their original adjustments with any hope of playing with true intonation unless many hours were spent to adapt themselves to the unusual proportions, and much of the involved fingering of modern music would be practically impossible even after such practice!