



a

STRAD

model

'Cello

PLANS

H. S. Wake.

# A "STRAD" MODEL 'CELLO PLANS

with drawings by the author

Harry S. Wake

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ALSO BY HARRY S. WAKE

THE TECHNIQUE OF VIOLIN MAKING

A LUTHIER'S SCRAP BOOK

VIOLA MAKING PLANS

VIOLIN BOW REHAIR AND REPAIR

AMATEUR FIDDLE MAKERS Q and A

TO MAKE A DOUBLE BASS

TECHNIQUE DE CONSTRUCTION DU VIOLON

TO MY WIFE DOROTHY WITHOUT WHOSE  
ASSISTANCE AND UNDERSTANDING THIS  
WORK WOULD NOT HAVE BEEN POSSIBLE.





## INSTRUCTIONS

Having accumulated over a period of years quite a collection of odd scraps of paper with notes and sketches of "F's", scrolls, plate thicknesses of violins and 'cellos, etc., I finally decided to sort them out, gather together all those pertaining to my 'cello making and prepare them for documentation with a set of working drawings of the 'cello which had won highest awards in National Competition.

The making of a 'cello is closely related to the making of a violin, and this author's earlier work, "The Technique of Violin Making", covered that subject quite thoroughly, so why not suggest the use of the violin making book while building the 'cello from the drawings. This writer is himself a 'cellist of professional caliber and would therefore have a natural "feel" for a good 'cello; he has made five 'cellos to these specifications and all have won awards as follows:

INTERNATIONAL VIOLIN AND GUITAR MAKERS ASSOCIATION OF ARIZONA, Annual Convention and Competition, October 21st, 1962, competition entry number 40, 'cello by H. S. Wake, Grand Award on all points: tone, workmanship and varnish.

October 18th, 1964, competition entry number 10, 'cello by H.S. Wake, Grand award on all points: tone, workmanship and varnish.

October 24th, 1965, competition entry number 20, 'cello by H. S. Wake, Grand award on all points: tone, workmanship and varnish.

October 20th, 1969, competition entry number 39, 'cello by H. S. Wake, Grand award on all points: tone, workmanship and varnish. Also a quartet with this 'cello number 39, Grand award.

SOUTHERN CALIFORNIA ASSOCIATION OF VIOLIN MAKERS ANNUAL COMPETITION, September, 1968. First prize, tone.

Assuming that you might be about to embark on this 'cello project, I hardly think it necessary to remind you that it won't be easy. There will be a lot of wood to remove before your work begins to look like a 'cello; however, with a little patience and, I presume, more than a little help from me with this work, I am sure that you will be able to turn out a very satisfactory and, perhaps, award-winning 'cello.

The inner frame of the mold will be your first consideration and you can take the measurement and layout directly from the drawing, bearing in mind, of course, that the drawing shows only half of the frame. Transfer both halves onto a select piece of three-quarter-inch plywood.

Attach all of the two inch angle brackets (16) to both faces of the inner frame in position to receive the end and corner blocks.

Prepare the blocks from select spruce: these can be purchased as a set from the suppliers.

Attach all the blocks to the inner frame at the angle brackets with wood screws.

Attach all small support blocks adjacent to the angle brackets; both sides, with glue.

The sole purpose of these small blocks is to support the outside plates with their (the plates) top face flush or level with the finish height of the blocks. There will be no strain on these so the glue will be sufficient to hold them.

Make a thin sheet metal (Aluminum) half pattern of the mold outline and transfer a full outline onto a sheet of half inch plywood. Mark a clear centerline onto the layout. You will need two of these plates so you can, if you wish, bolt two boards together and make the layout on the top face only. Take the complete layout dimensions from the drawings. Cut out to the outline, finish with hand tools. Make the cut-outs to fit around the blocks and drill through the plates where indicated and fasten the plates to the support blocks with wood screws. Clean up your completed mold.

Make a half dozen of the clamps as shown in the drawing; if you need more you can make them later. They are fairly easy to make. You can buy the quarter inch rod at any hardware store, either threaded or plain.

With the mold fully assembled make sure that the top faces of all blocks are flush with the surface of the plates. This establishes the depth of the ribs so all blocks should be the same height.

Use the sheet metal half pattern of the mold outline that you made earlier to mark the layout of all corner and end blocks for trimming. Trim the blocks to layout lines.

Prepare the rib material for bending. Pre-soak the wood, bend over a heated pipe, fit around the mold and glue to the blocks. The procedure in these steps would be similar to those used in violin making. Ref: "The Technique of Violin Making", by this author.

Trim the edges of the ribs all around on both sides so that they are flush with the face of the mold, clean up the work and put the whole assembly aside for further attention later.

Make a sheet metal half pattern of the top plate or belly for your 'cello; this half pattern will, of course, also be used for the 'cello back.

Using the half pattern, lay out the outline on the prepared top and back wood. Instructions for the jointing and preparation of these parts will be found in the author's violin making book.

Finish the top and back to the drawing dimensions and the violin making principles described in the book. Cut the purfling groove and fit the purfling. Cut the "F's" and fit the bassbar, clean up both plates and put aside.

Return to the mold and rib assembly and remove one plate. Fit the linings around the inside edge as described in the book. Remove the other plate and fit the linings on that side. Finish trim the linings on both sides.

Remove the inner frame and trim away all excess wood from the blocks.

Glue the back to the rib frame and leave overnight to set.

Clean up all inside work and attach your label.

Glue the 'cello top in place and leave overnight to set.

You can purchase a partially finished neck and scroll from the suppliers or you can purchase a maple block and carve your own according to directions given in my book.

Cut the neck mortise at the top center of the 'cello and fit the neck, watching all angles, bridge height, etc. Drill a small hole as pilot hole at the bottom of the 'cello through the block for the end pin; follow with taper drill and ream to suit selected end pin.

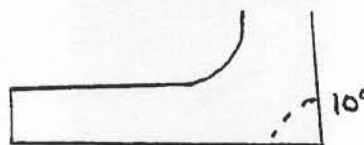
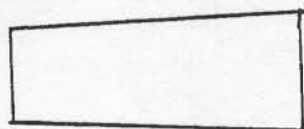
Drill and ream the holes in the scroll for tuning pegs. Purchase and fit the fingerboard and nut. Fit the ebony saddle at the bottom of the 'cello.

Fit the soundpost and bridge; add the strings and test the instrument.

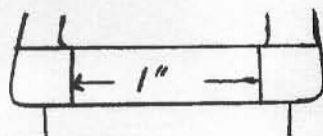
Use the 'cello "in the white" for a few weeks, then clean up and varnish.

Additional notes on 'Cello dimensions.

'Cello neck ROOT DIMENSIONS are all specified on drawing sheet No,3.



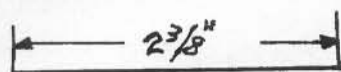
The specified neck angle of TEN DEGREES should produce a FINGERBOARD HEIGHT of TWO and ONE HALF INCHES above the top plate surface and a normal BRIDGE HEIGHT of THREE and ONE HALF INCHES.



STRING SPACING AT THE NUT should be over all; 'C'string to 'A'string ONE INCH. FINGERBOARD WIDTH AT THE TOP, ONE and ONE QUARTER INCHES.

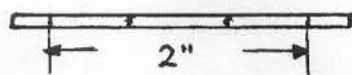
FINGERBOARD WIDTH AT LOWER END, TWO and THREE EIGHTH INCHES.

OVER ARCHING OF F'BOARD, TWO and ONE HALF INCHES.



OVER ARCH 2 1/2"

STRING SPACING ON THE BRIDGE OVER ALL 'C' string to 'A'; TWO INCHES.



FINGERBOARD THICKNESS AT THE EDGE = 5/16"

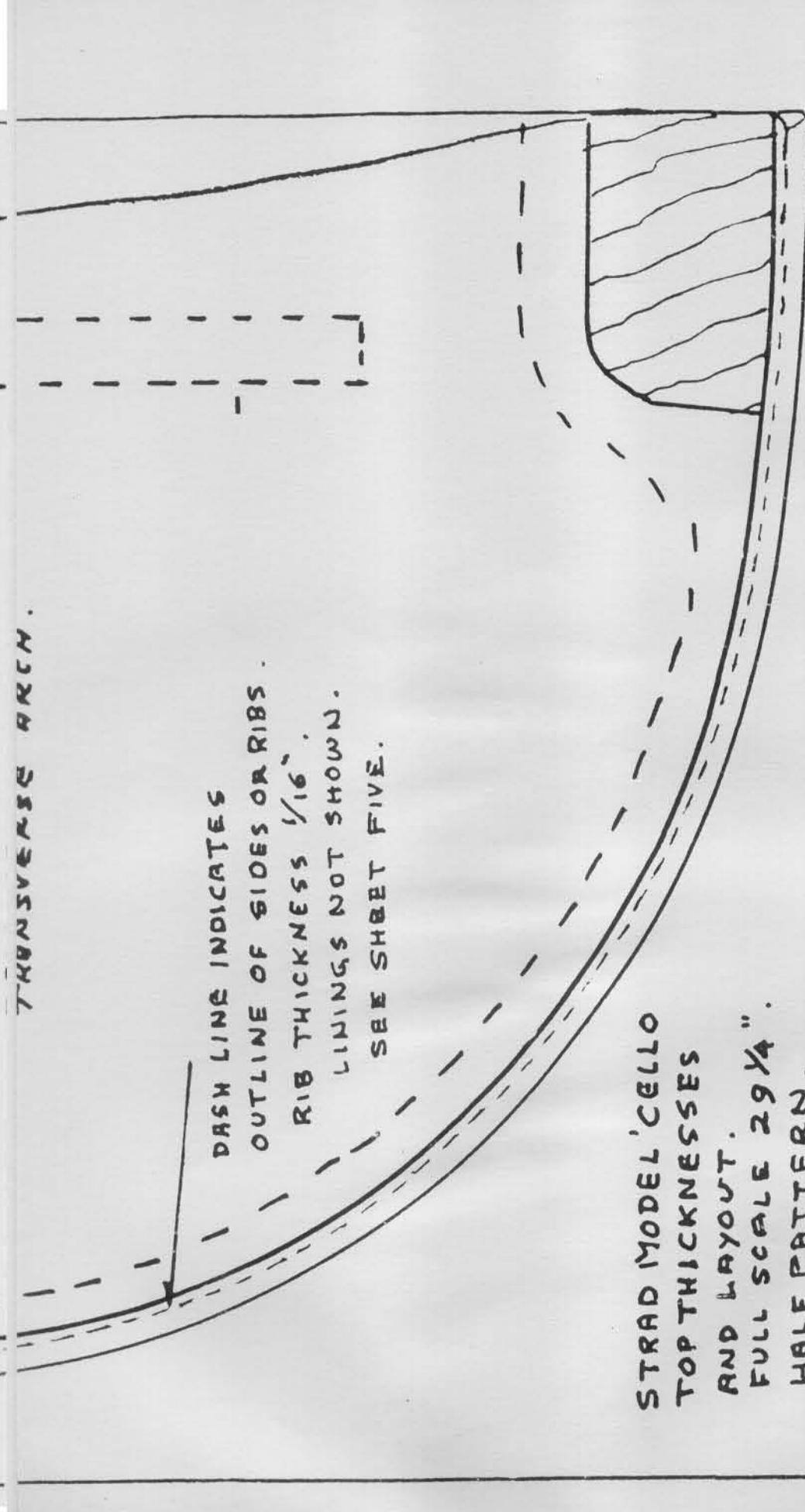
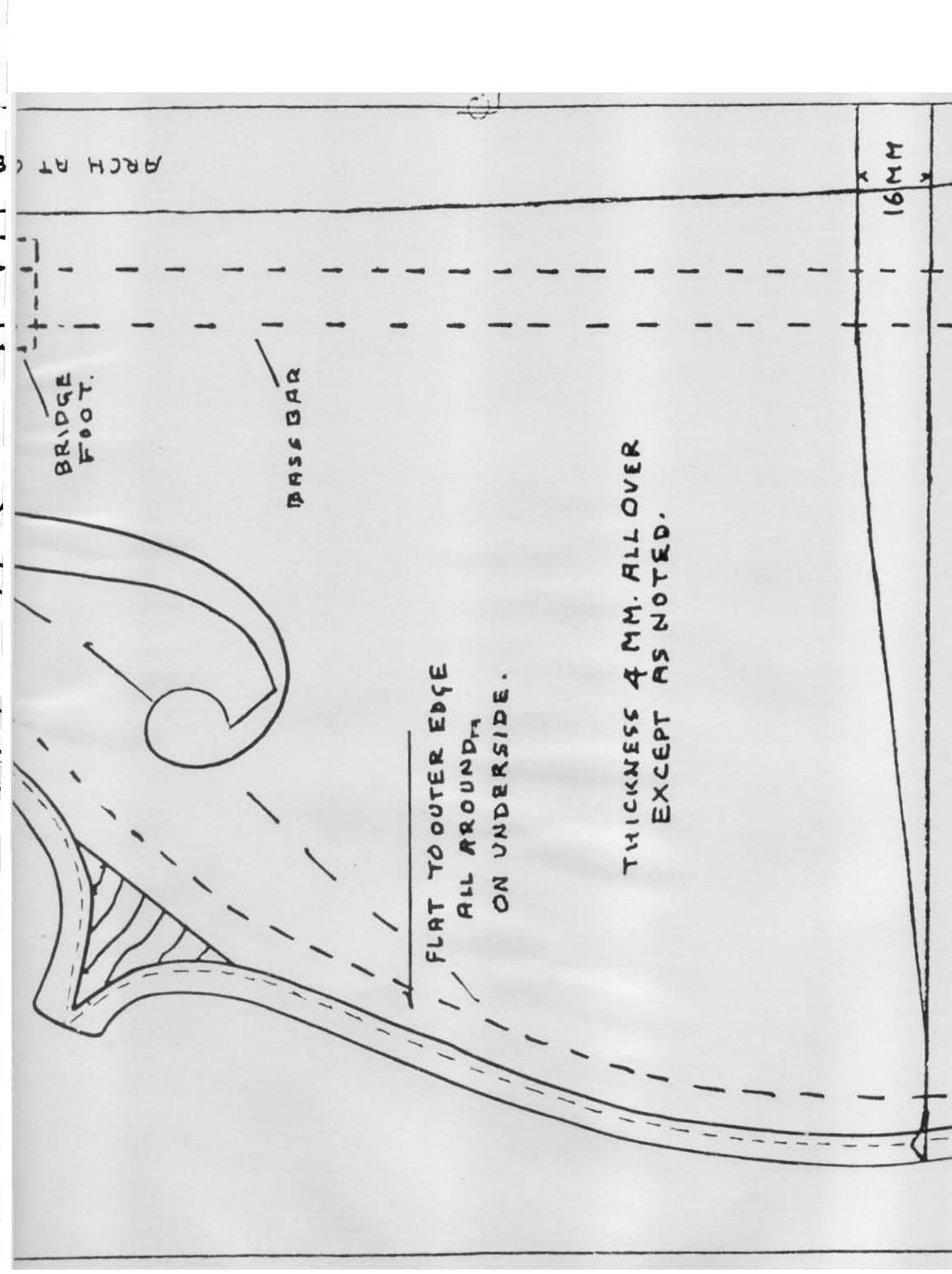
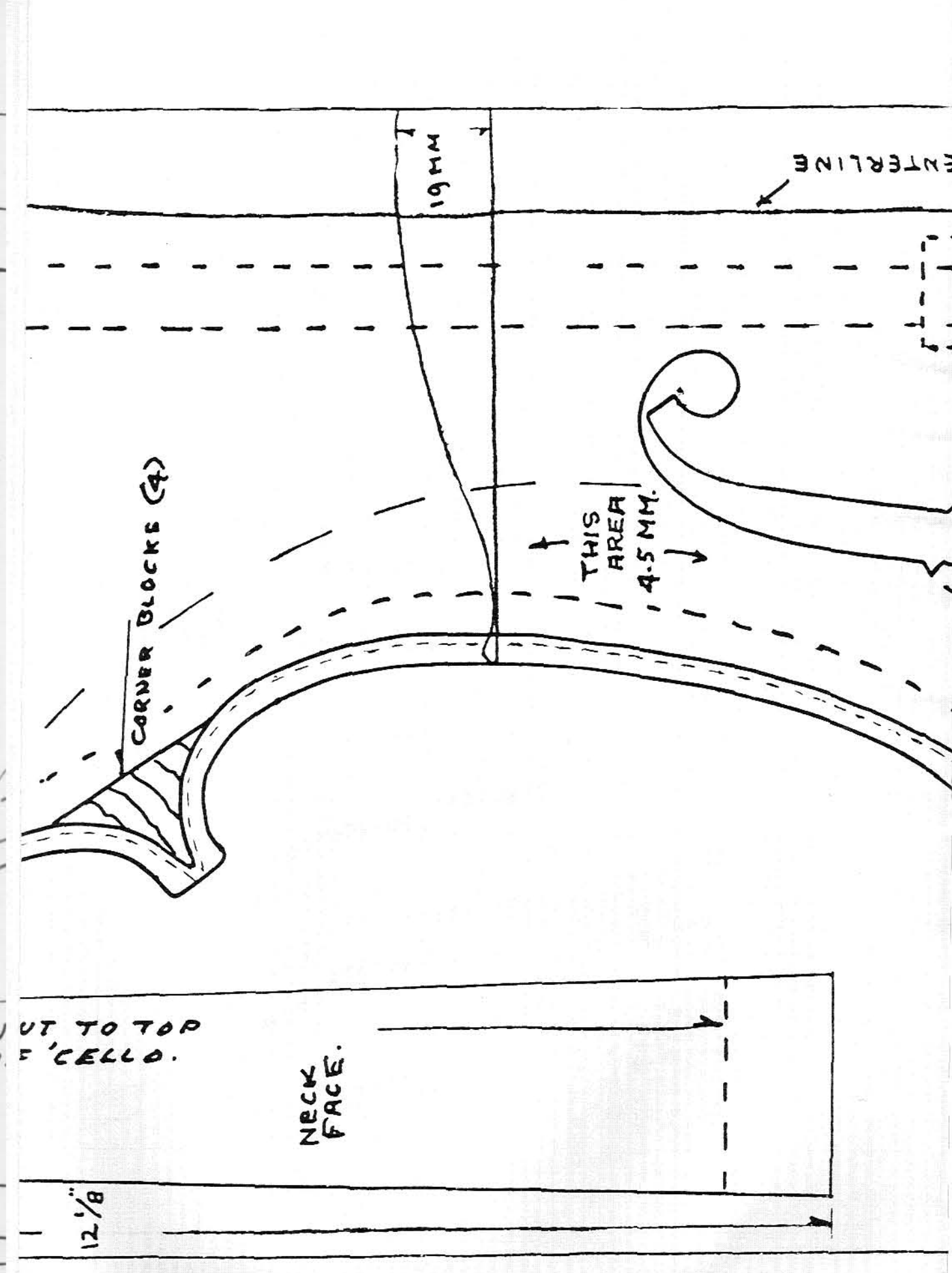
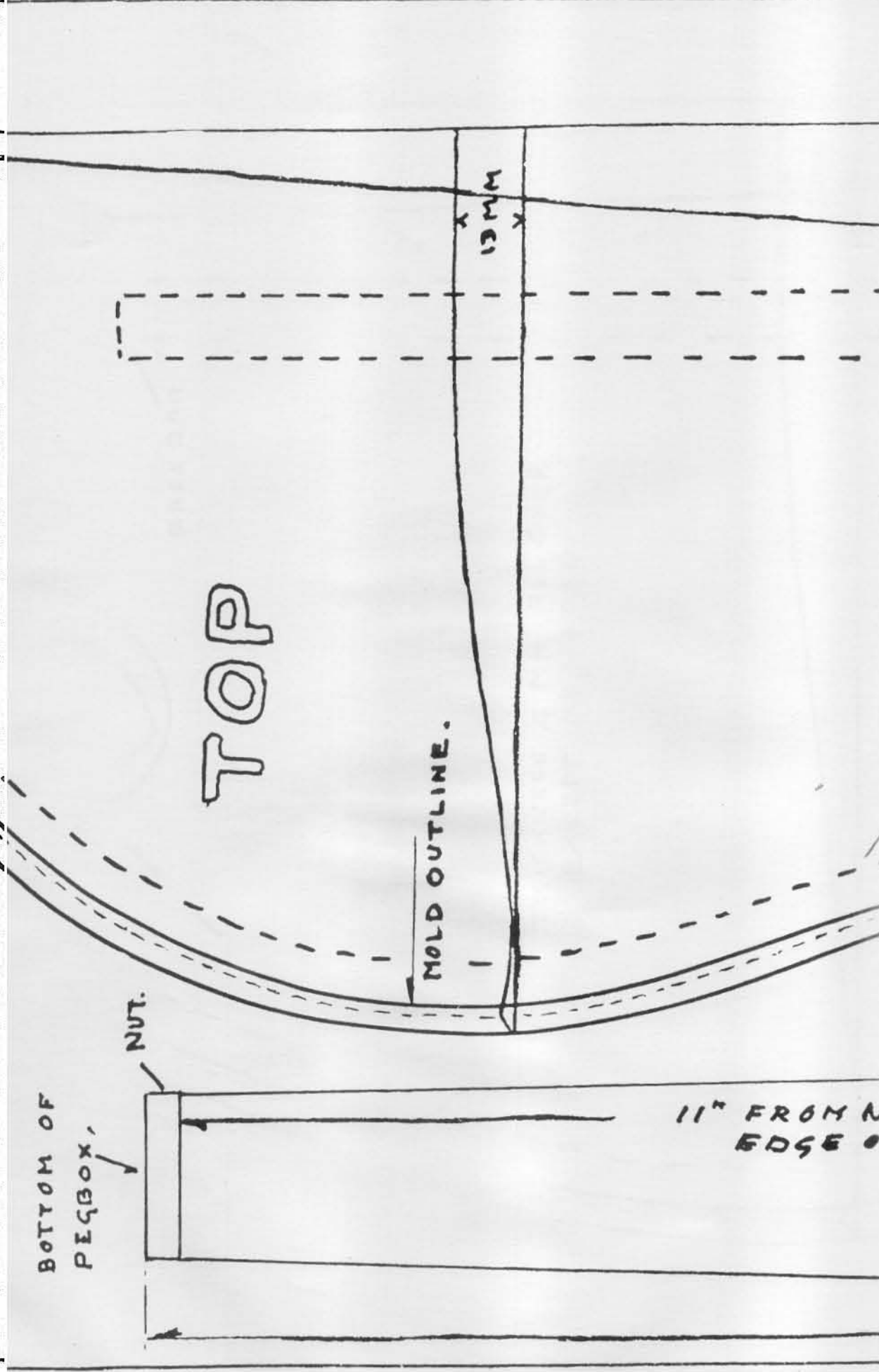
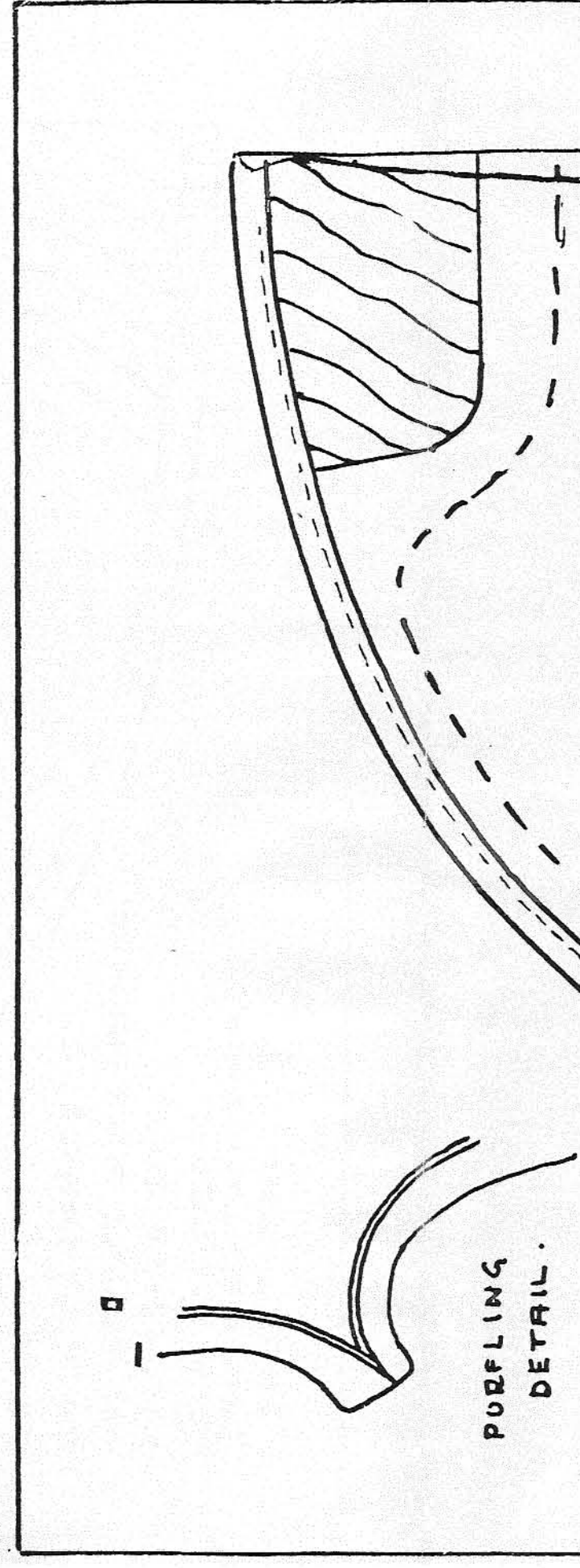
NECK THICKNESS WITH FINGERBOARD ON; AT THE TOP, ONE INCH.

AT THE LOWER END, ONE and ONE SIXTEENTH INCH.

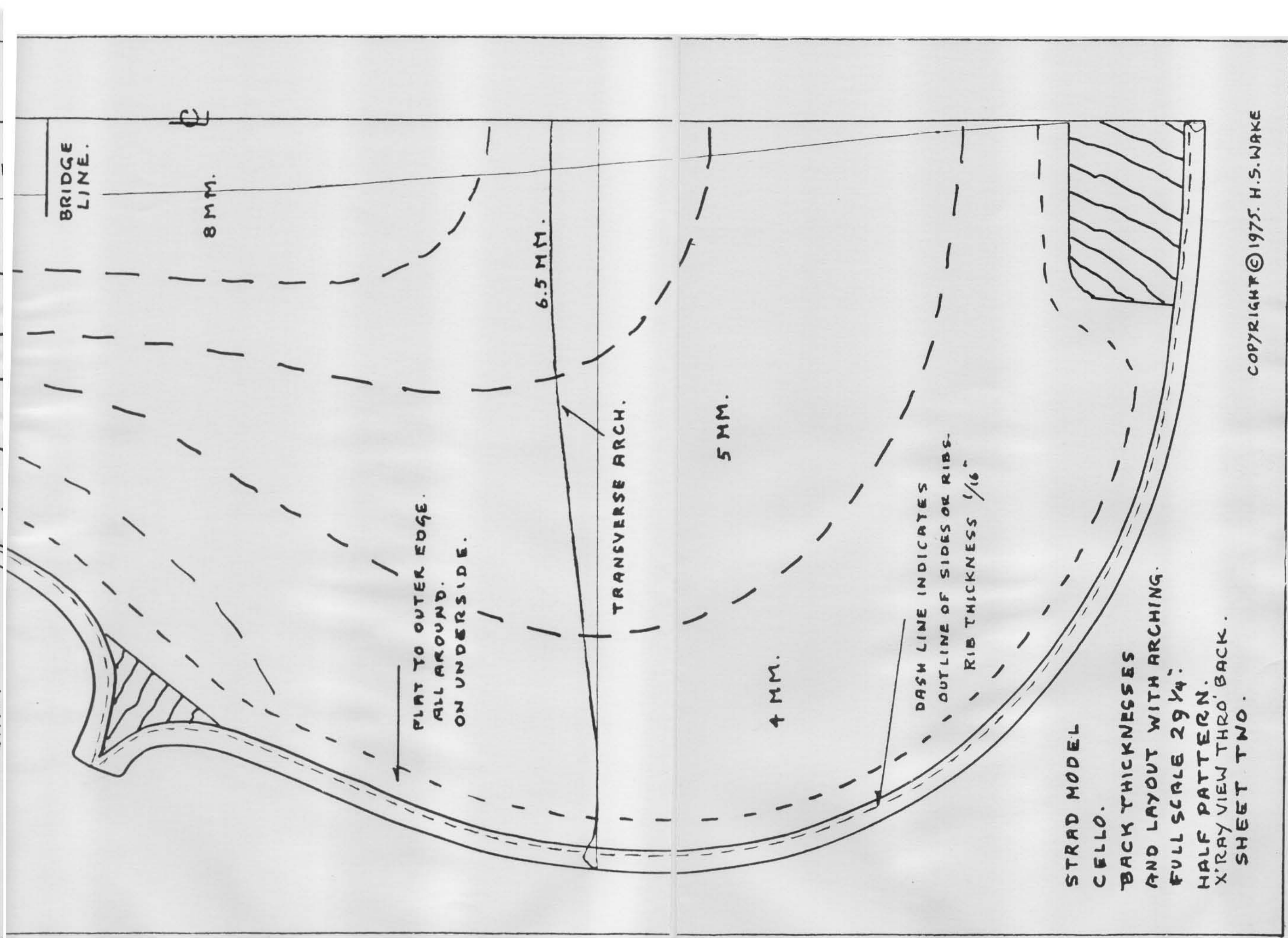
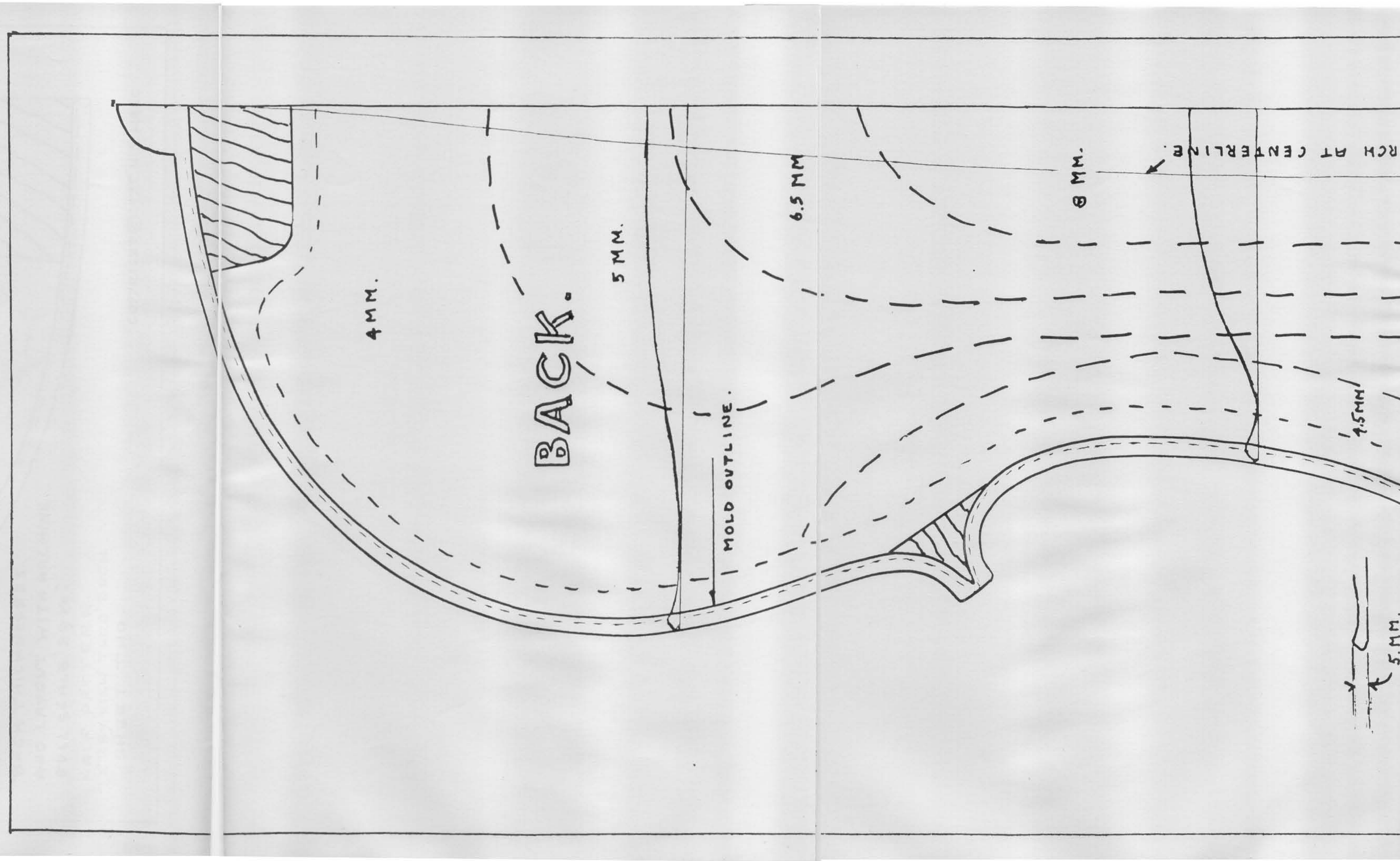
FINGERBOARD LENGTH 23".

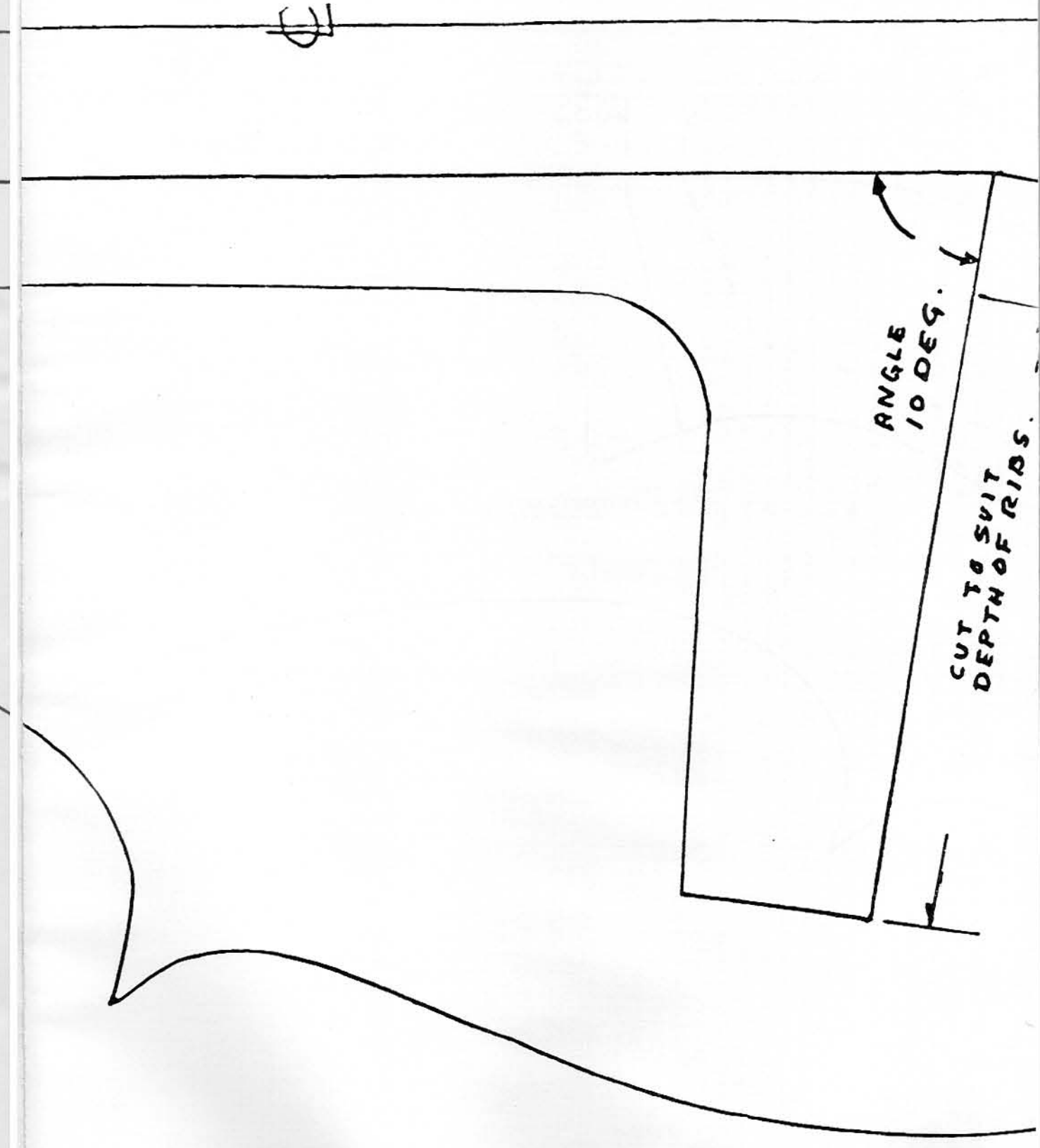
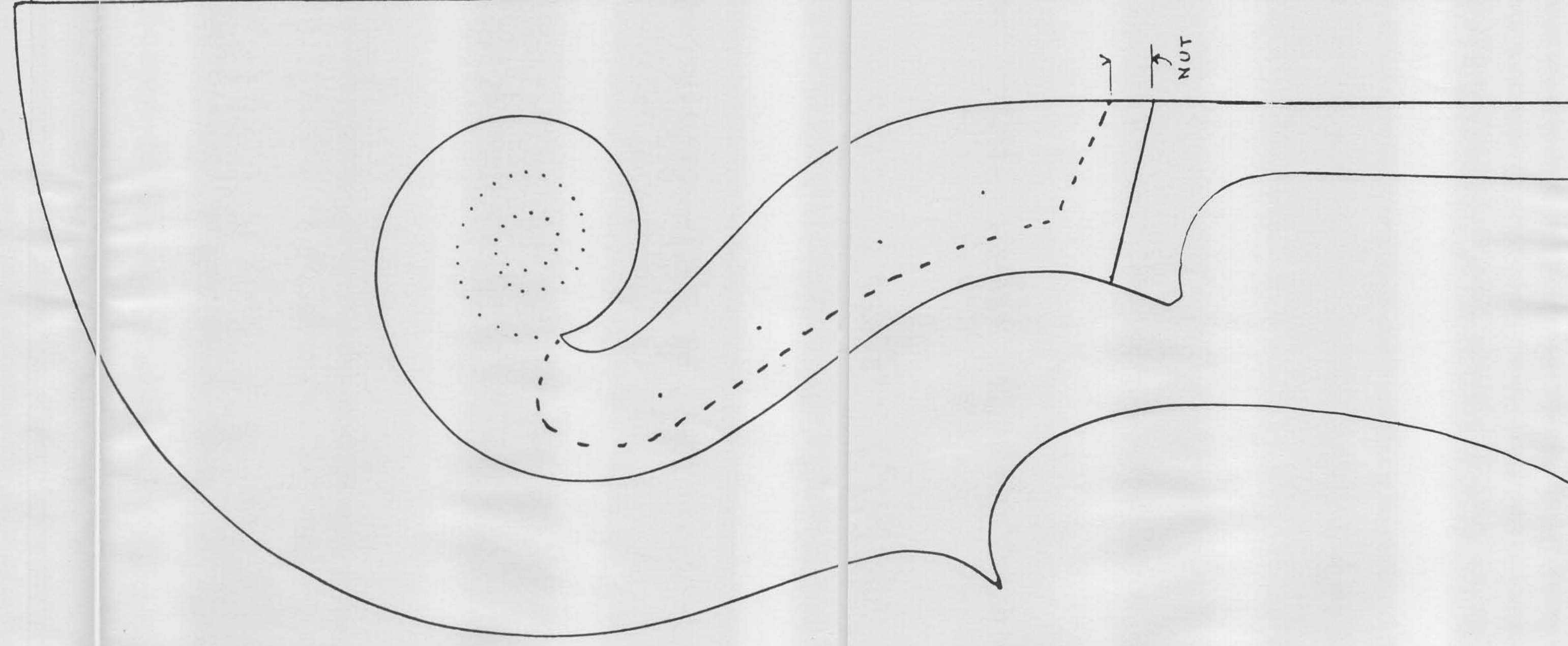
THE BRIDGE HEIGHT WOULD BE ADJUSTED TO SUIT THE PLAYER.







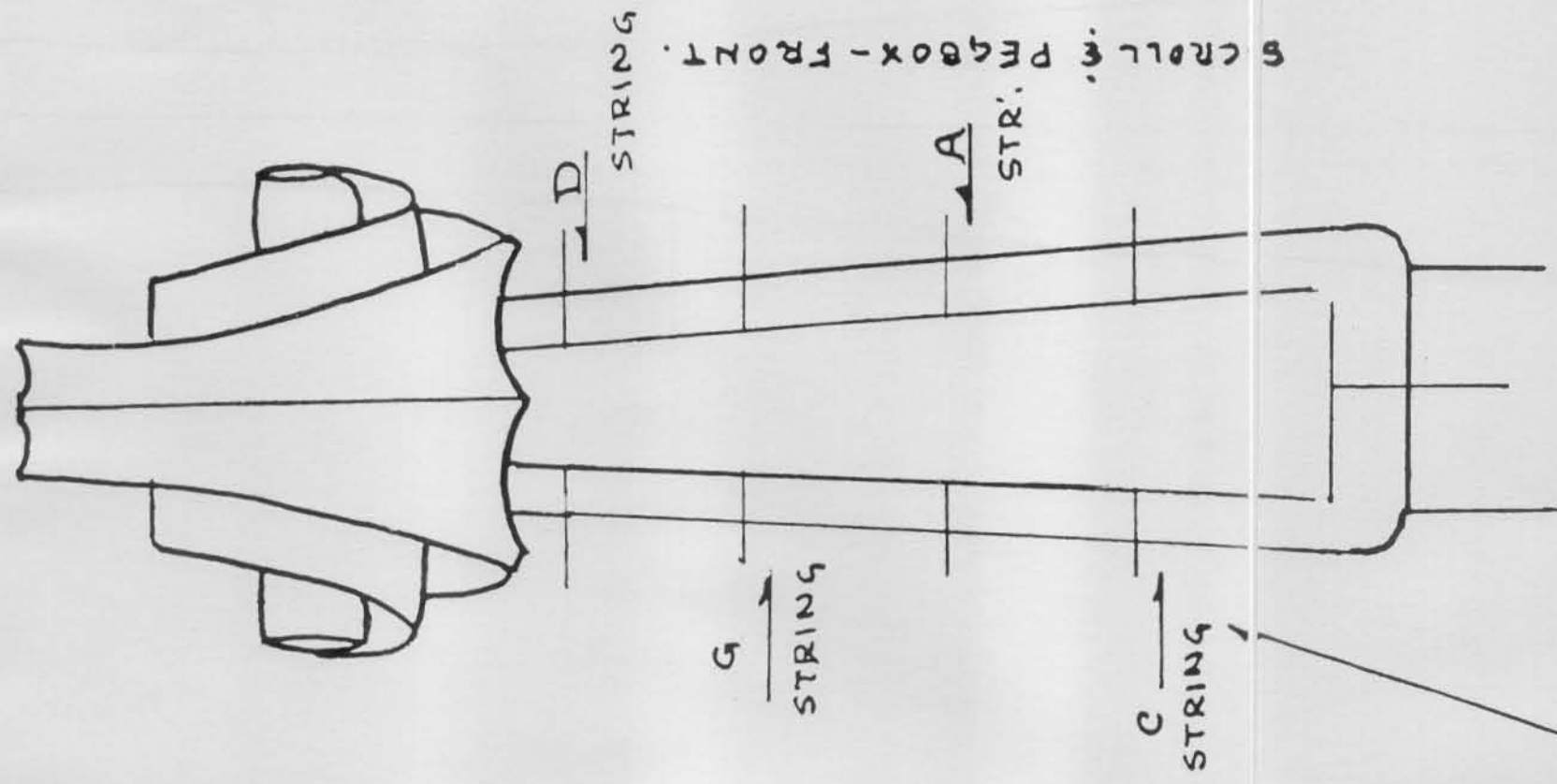




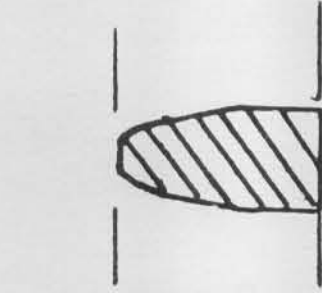
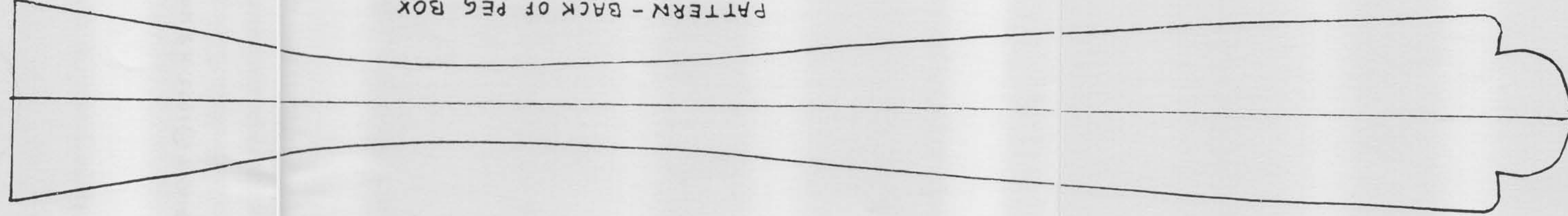
ANGLE  
10 DEG.  
CUT TO SUIT  
DEPTH OF RIDS.

STRAD MODEL 'CELLO  
OUTLINE OF MOLD.  
HALF PATTERN.  
FULL SCALE. WITH  
NECK AND SCROLL PROFILE.  
FOR OTHER NECK DIM. SEE SHOT ONE.





DRILL & TAPER REAM IN  
DIRECTION INDICATED  
FOR TUNING PEGS.  
FOUR PLACES.



APPROX. FINISHED SHAPE  
OF BASSBAR.

2 3/4"



STRAD MODEL 'CELLO  
FULL SCALE 29 1/4".  
MISC. PATTERNS.

SEE BELOW

Holes for clamps.  
as required.

DRILL 2 C'SINK.  
TWO PLACES.

CROSS SECTION VIEW  
OF RIB WITH  
FINISHED LININGS.

3/4" PLYWOOD.

RIB CLAMPS  
MAKE SEVERAL.  
DRAWING NOT  
TO SCALE.

1/4" ROD.

TAKE ALL DIMENSIONS  
FROM THE DRAWING  
FOR CORNER AND END  
CUTOUTS.

FOR OUTLINE  
USE SHEET ONE.

DRILL 2 C'SINK ON  
CENTERLINE FOR FLAT  
HEAD WOODSCREWS.  
TWO PLACES.

STRAD MODEL 'CELLO.  
FULL SCALE 29 1/4"  
HALF PATTERN FOR  
MOLD TOP & BACK PLATES.  
MATERIAL, HALF INCH PLYWOOD.  
MAKE TWO COMPLETE PLATES.  
SHEET FIVE.



END AND CORNER BLOCKS.  
ATTACH TO ANGLE BRACKETS  
WITH WOOD SCREWS.  
SEE SHEET SEVEN.

PLATE SUPPORT  
SPACER BLOCKS  
1 3/8" HIGH. NOT  
GLUED TO BLOCKS.

PLATE SUPPORT BLOCKS.  
GLUE TO INNER FRAME.  
SIX EACH SIDE.

2" X 2" ANGLE BRACKETS.  
EIGHT ON EACH FACE  
OF FRAME. TOTAL 16.

TAKE INNER FRAME DIMEN-  
SIONS FROM DRAWING.

INNER FRAME  
3/4" PLYWOOD.

NOTE-ALL BRACKETS AND  
SPACER BLOCKS TYPICAL  
BOTH SIDES OF FULL FRAME.  
TOTAL 16 OF EACH.

STRAD MODEL 'CELLO  
FULL SCALE 29 1/4"  
HALF PATTERN FOR  
MOLD INNER FRAME.  
MAT'L 3/4" PLYWOOD.  
SHEET SIX.

DEPTH OF  
CELLO SIDES.

MOLD OUTER  
PLATES.

PLATES ATTACHED  
TO ALL SUPPORT  
BLOCKS W/SCREWS.

CORNER BLOCKS.

PLATE SUPPORT  
BLOCKS.

ANGLE BRACKETS.  
ATTACH TO  
BLOCKS

INNER FRAME,

PLATE SUPPORT  
BLOCKS: GLUE TO  
INNER FRAME.

END BLOCKS.

STRAD MODEL 'CELLO  
FULL SCALE 29 1/4".  
MOLD ASSEMBLY  
SIDE VIEW.

SHEET SEVEN

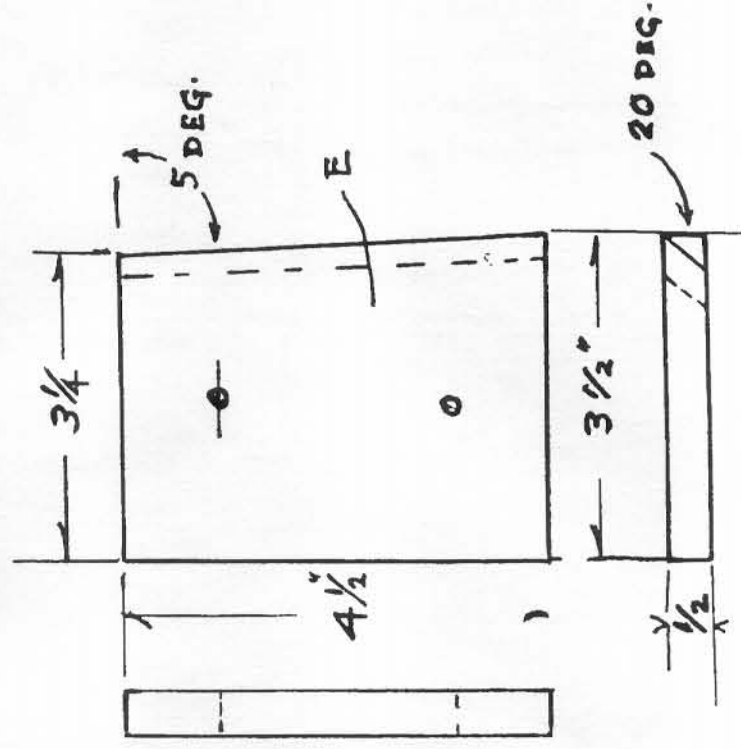
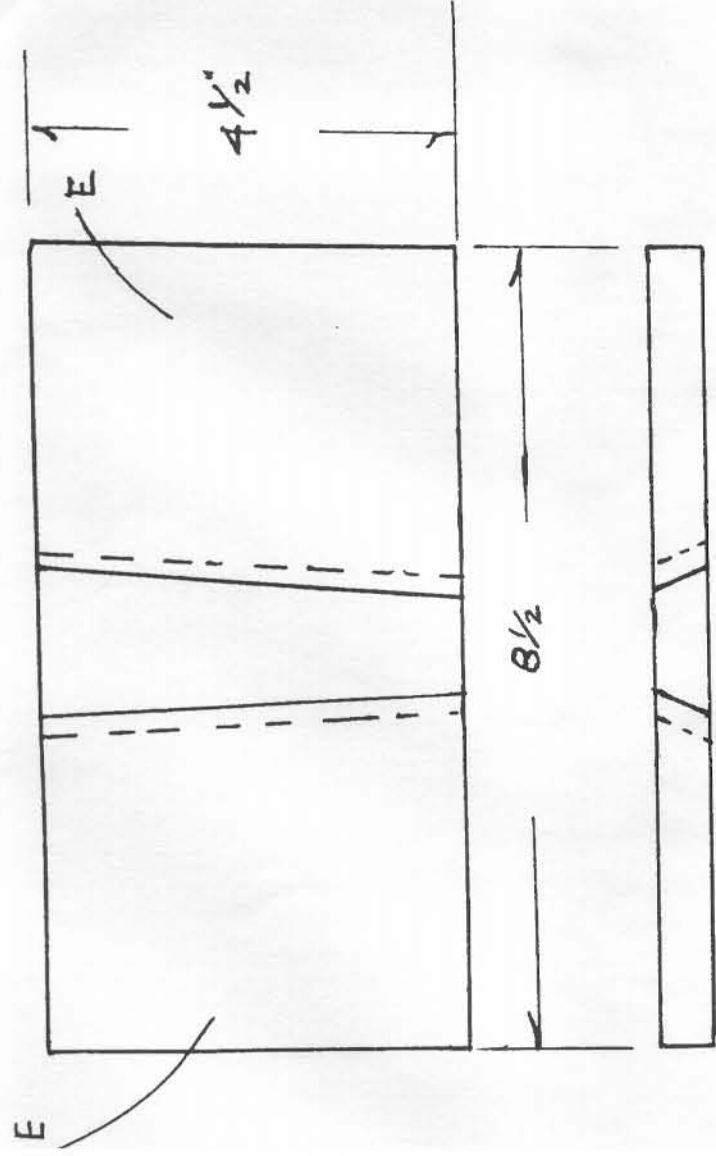
BLOCK TRIM LINE.  
COPYRIGHT © 1975 H.S. WAKE.



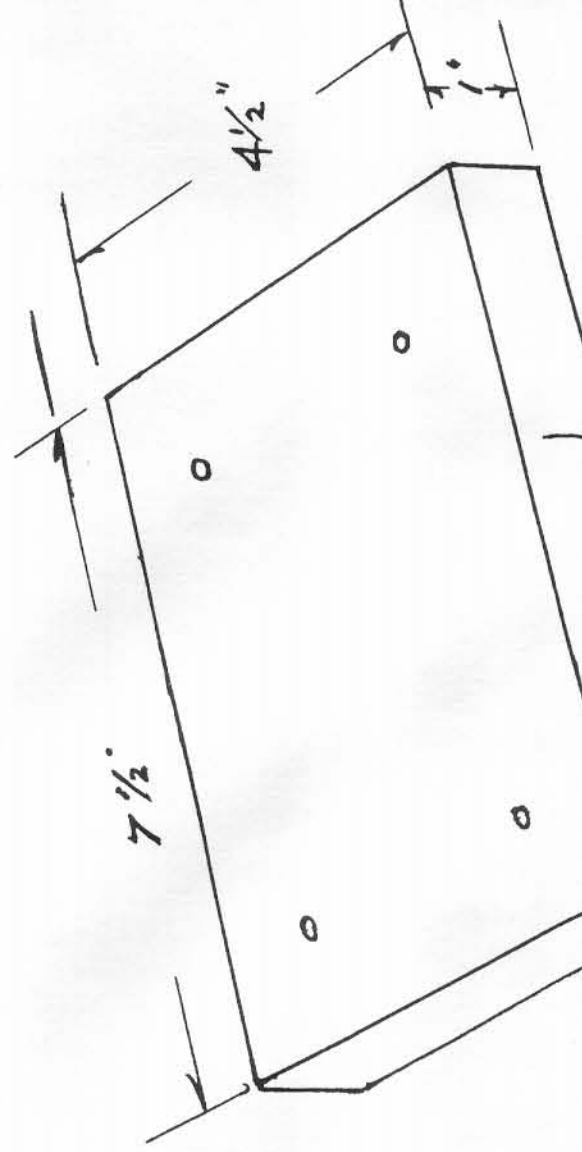
## A COLLAPSIBLE TRAVEL 'CELLO

The instrument shown in the following drawings is designed so that it can be easily and quickly disassembled, and the parts stored in its own box or body. The fingerboard is keyed to the neck in such a way that after string tension is relaxed, a slight upwards push will release it. The neck is dovetailed into the square body and the removal of one screw will release it. The endpin, strings, bridge, pegs, bow; in fact everything plus a few extras if necessary can fit right into the box. This makes it convenient for travel because it can be carried as luggage and stored in baggage compartments on plane or bus. It can be put together in a few minutes, and as the volume of sound that it produces is not very great, one can practice without fear of disturbing family or neighbors. This 'cello is also convenient for sea travel as it can be easily stored in stateroom or cabin. You can take it into the back room at home and play or practice without upsetting the rest of the family who may be watching television or listening to the radio. You will undoubtedly think of many occasions where and when you could use this collapsible 'cello. However there is yet one other feature that will appeal to some; by making a simple adaptation the sound can be amplified, making it attractive to small rock or jazz groups. The drawings show how this can be done, either with a special bridge having a built-in electronic pickup which can be purchased, or the modification can be completed yourself with a few inexpensive materials.

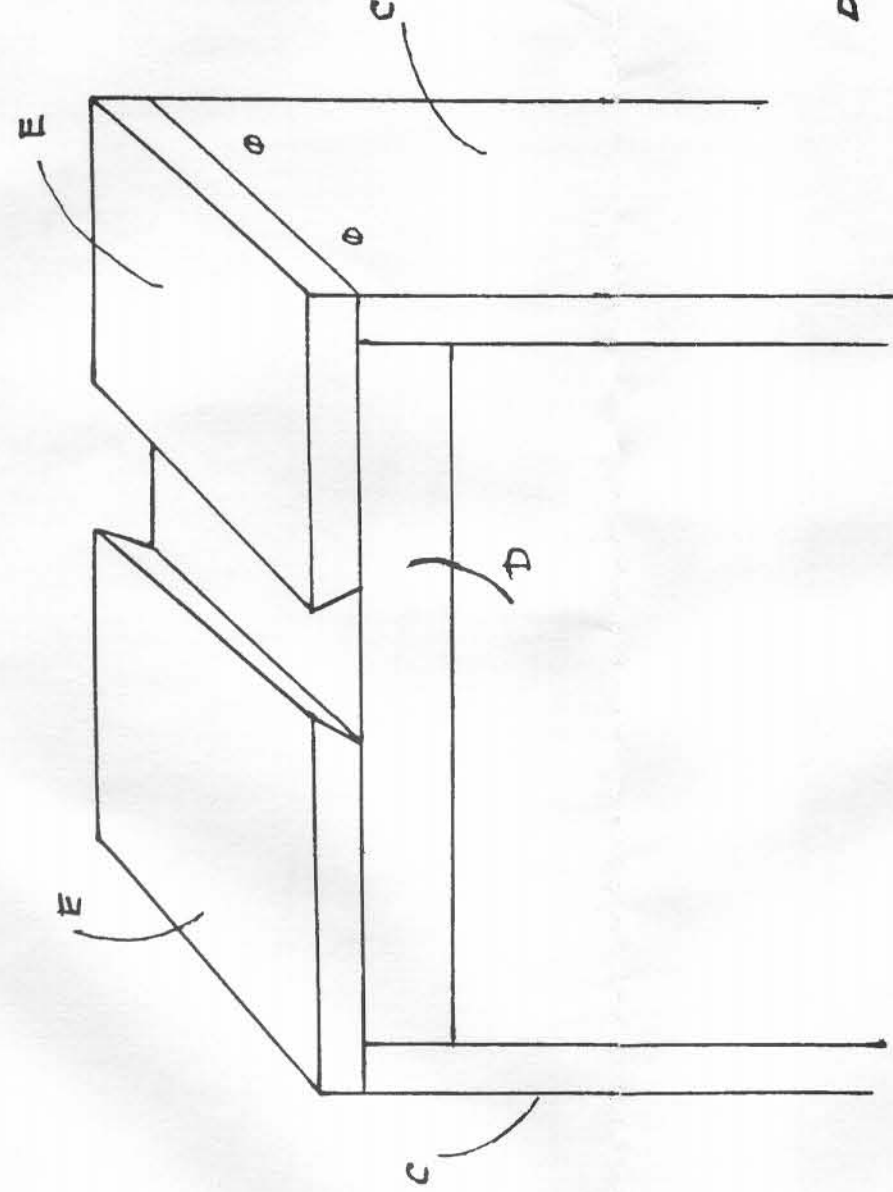
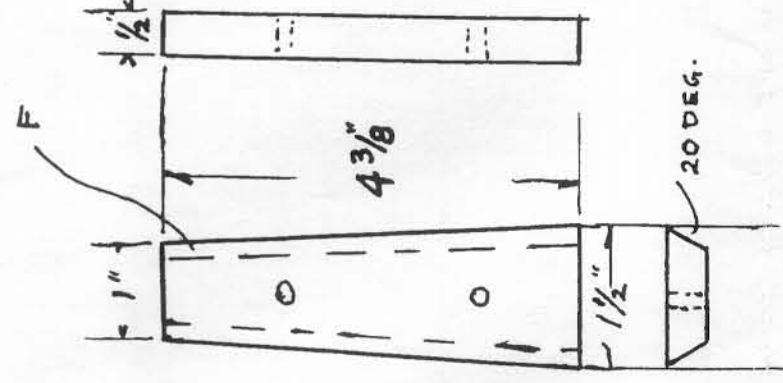
  
H.S. Wake.



NOTE: PART 'E' MAKE TWO - RIGHT & LEFT HAND. TO MATE WITH DOVETAIL 'F' AT BASE OF NECK.



D



DETAILS OF TOP DOVETAIL ASSEMBLY.

COLLAPSIBLE 'CELL' FOR TRAVEL.

SCALE, HALF SHEET ONE.

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MSL SAN DIEGO 1974

CLEARANCE  
TO SWT NECK.



1 3/4"

1 1/2"

7 3/4"

PART 'A'  
'CELLO TOP.

16"

29 1/2"

BRIDGE  
LINE.

PART 'K'

27 1/16"

BASSBAR 14" LONG  
5/16" THICK, 3/4" HIGH.

MATERIAL  
1/4" INCH PLYWOOD.

'CELLO TOP.

COLLAPSIBLE 'CELLO  
FOR TRAVEL.  
SCALE, HALF, SHEET TWO.

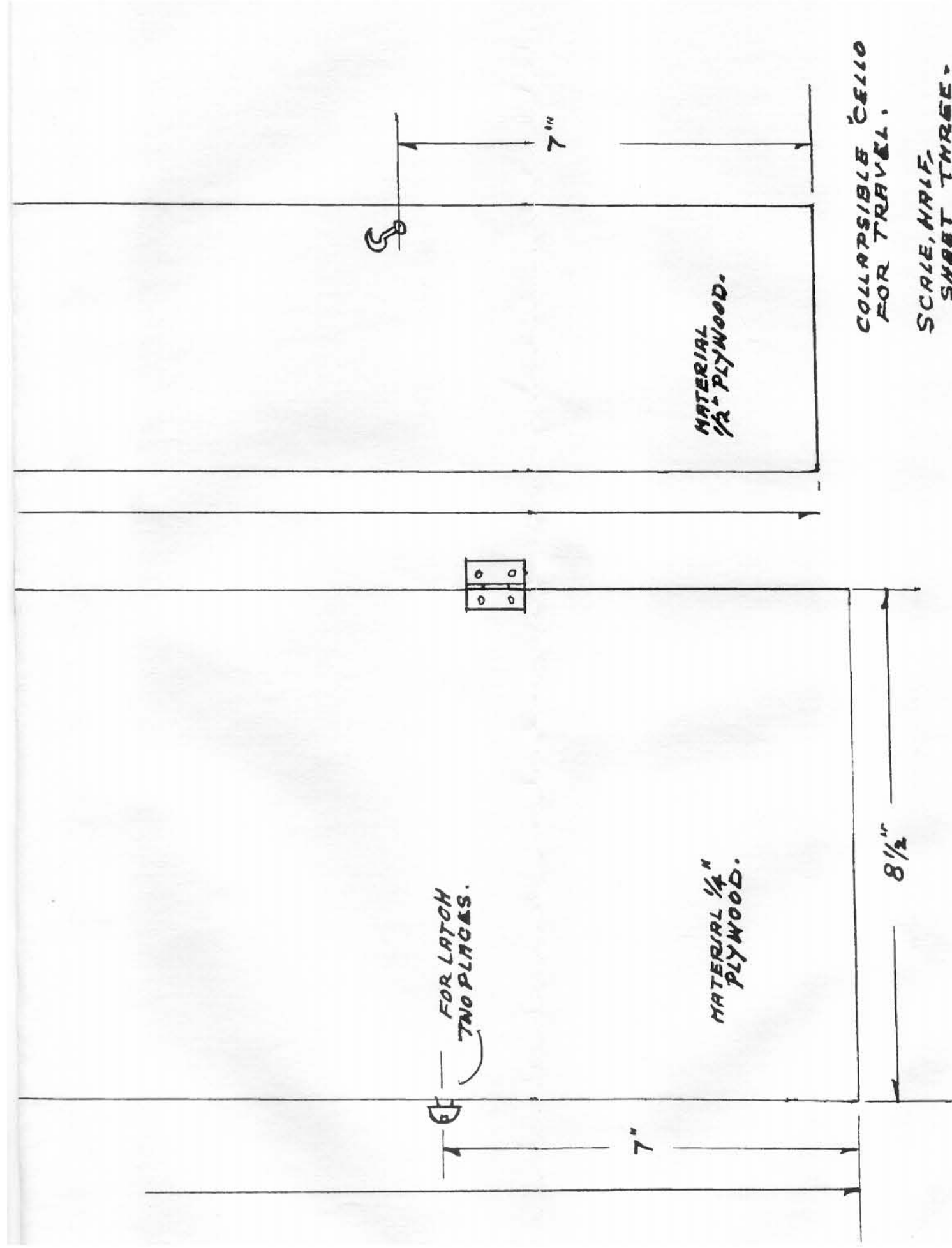
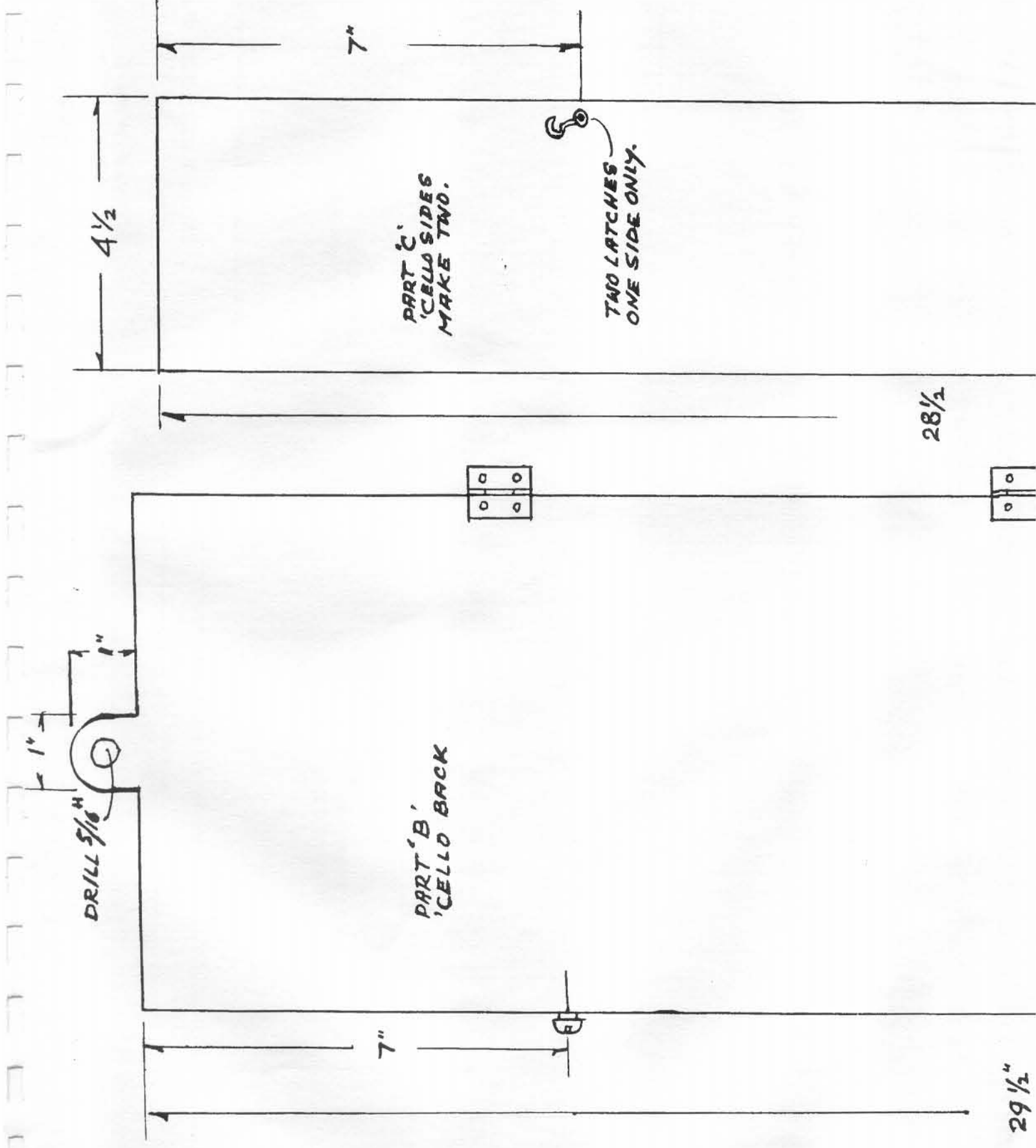
H.S.W. SANDIEGO, '74

SADDLE.

8 1/2"

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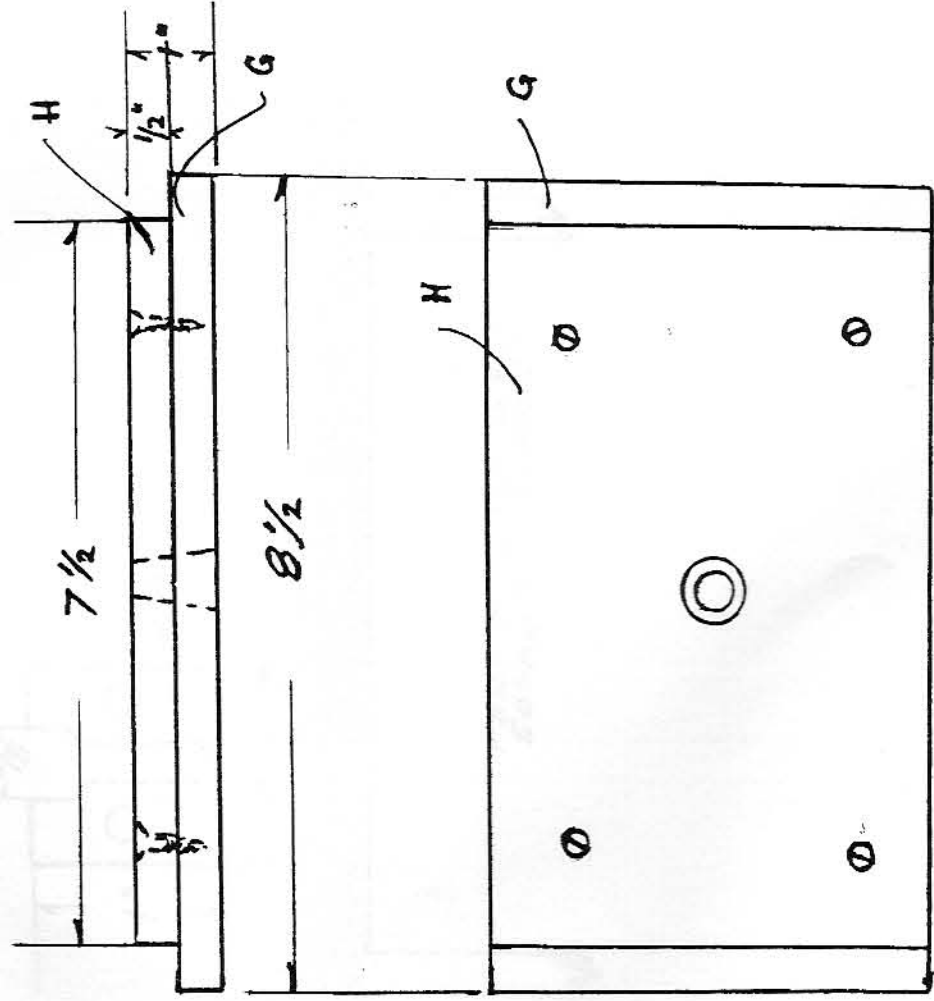
COLLAPSIBLE 'CELLO  
FOR TRAVEL.  
SCALE, HALF,  
SHEET THREE.  
H.S.W. SAN DIEGO/74

COPYRIGHT © H.S.W. WAKE. 1974.

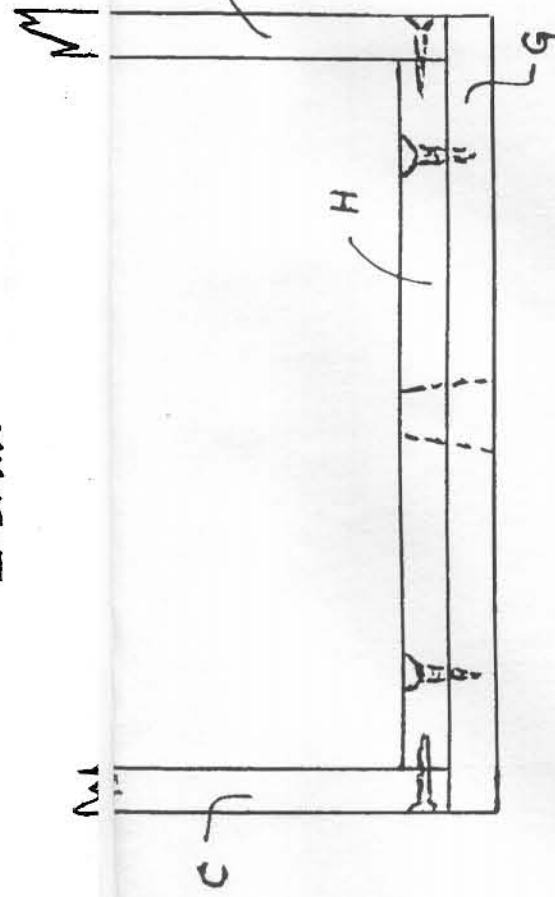
1/16" SPACE UNDER  
HEAD OF SCREW.

DETAILS OF BOTTOM, PARTS G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

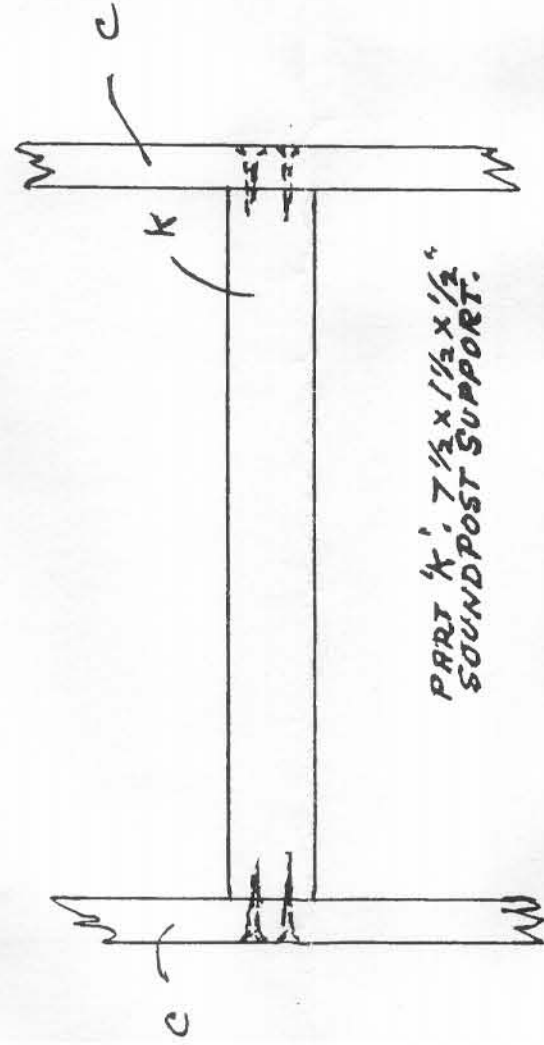
ASSEMBLE AS SHOWN.



DRILL & REAM CENTER  
HOLE FOR CELLO  
ENDPIN.



USE #10-24 MACH.  
SCREW. DRILL  
AND TAP F'BD.  
THREE PLACES.  
LOCATE TO MATE  
W/ G, H, & C. ON  
FACE OF NECK.  
SEE NOTE 'B'.



PART 'K', 7 1/2 x 1 1/2 x 1 1/2"  
SOUNDPOST SUPPORT.

FINGERBOARD,  
UNDERSIDE.

NOTE 'A', FIT NOT TO  
FINGERBOARD ONLY  
AND SECURE W/ DOWELS.

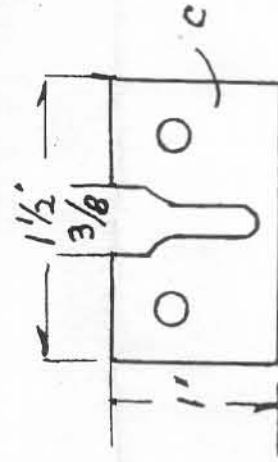
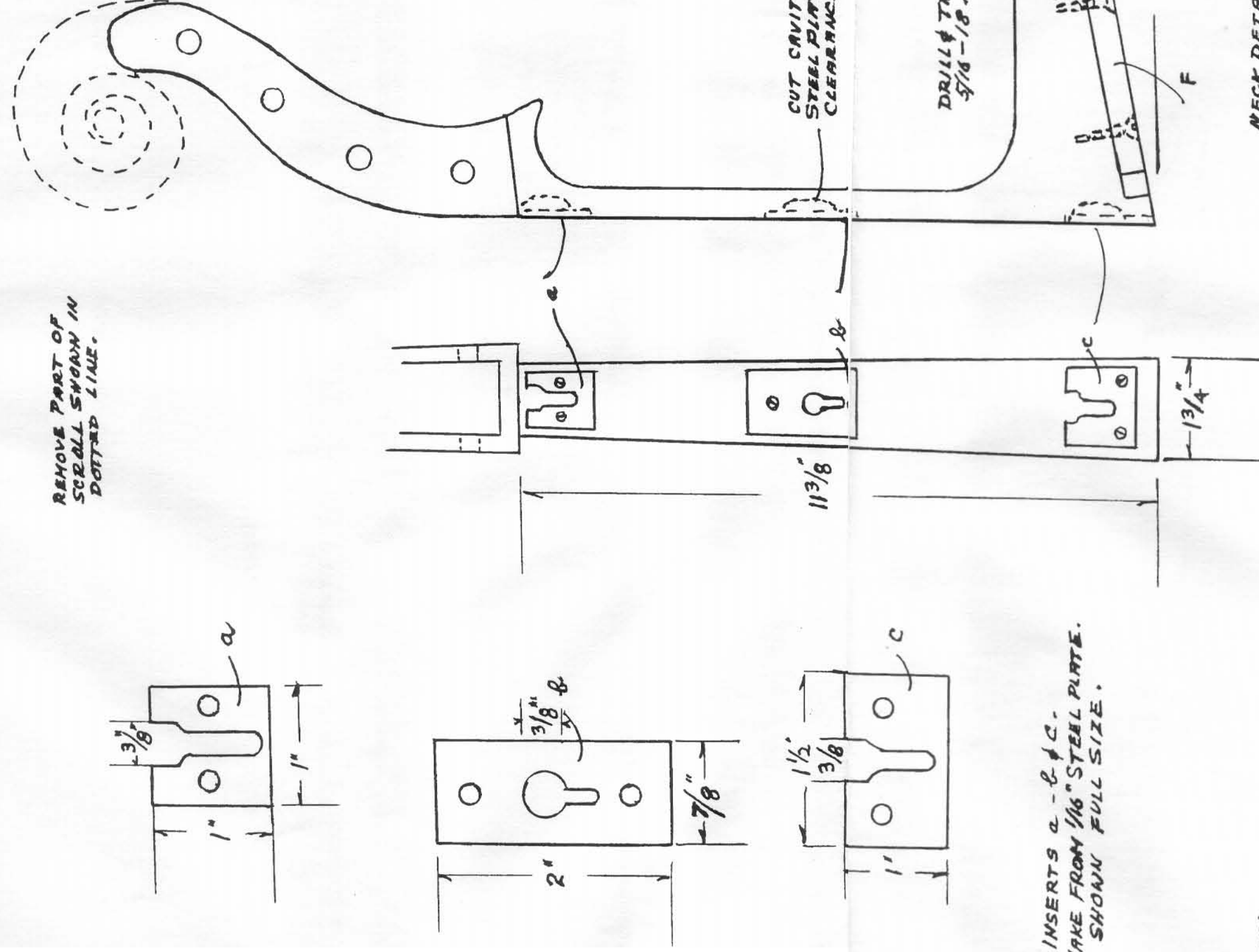
NOTE 'B', DRILL #25 RIGHT THRO'  
TAP #10-24. THIS HOLE  
ON FACE OF F'BD.

COLLAPSIBLE 'CELLO FOR TRAVEL'  
SCALE, HALF. SHEET FOUR.

H.S.M. SAN DIEGO, 1974.

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REMOVE PART OF  
SCROLL SHOWN IN  
DOTTED LINE.



INSERTS a - b & c.  
MAKE FROM 1/16\"/>

NOTE: USE STANDARD FULL SIZE  
CELLO FITTINGS SUCH AS  
BRIDGE, PEGS, TAILPIECE ETC.

ALTERNATE: USE BARKUS-BERRY  
ELECTRONIC PICKUP BRIDGE  
WITH AMPLIFIER FOR FULL  
CELLO SOUND & VOLUME CONTROL.

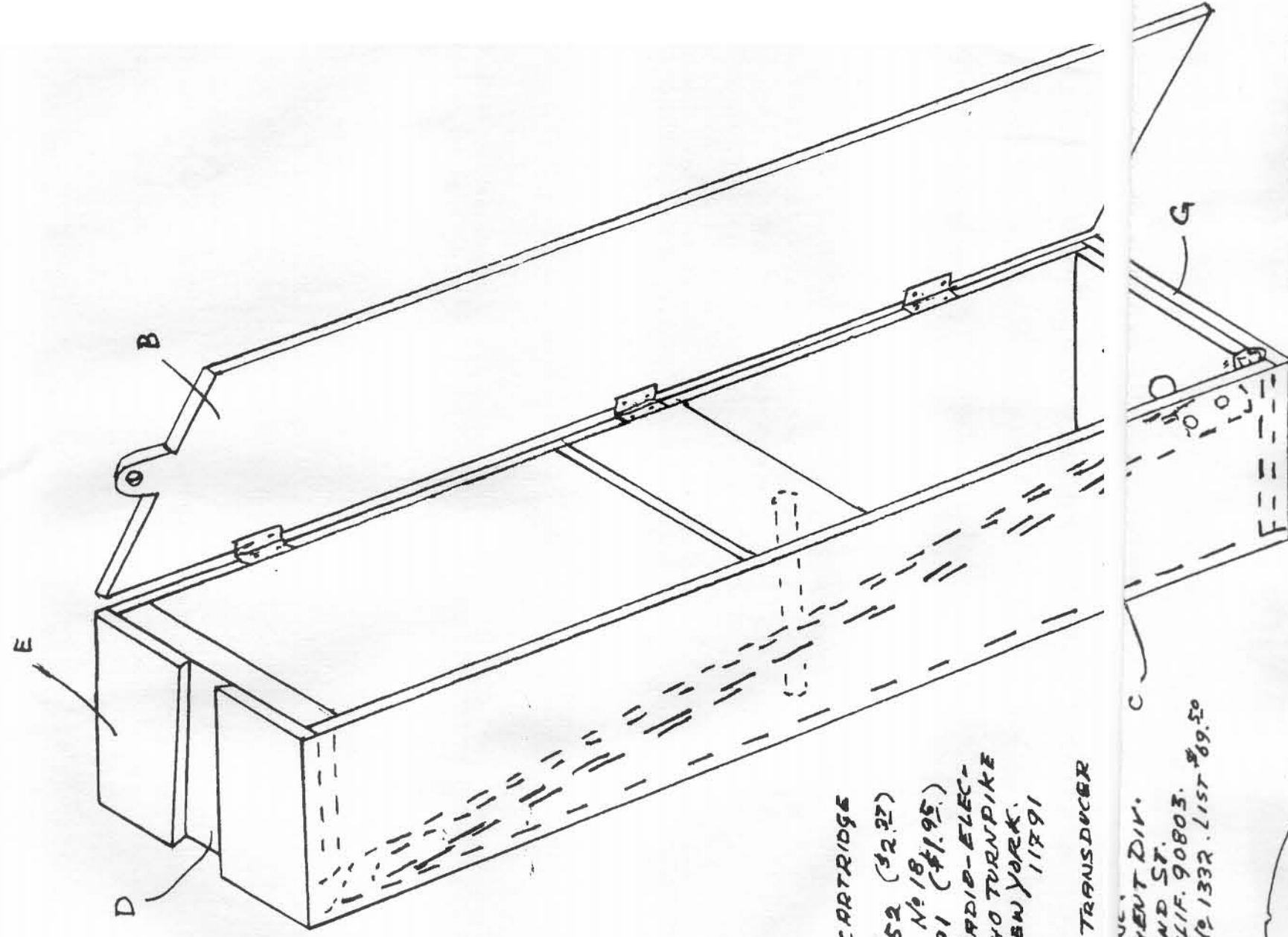
NECK DETAILS HALF SCALE.  
MAKE FROM OLD CELLO NECK.  
CUT AWAY BOTTOM OF NECK,  
AS SHOWN & ATTACH PART F.

COLLAPSIBLE CELLO  
FOR TRAVEL.

SHEET FIVE.

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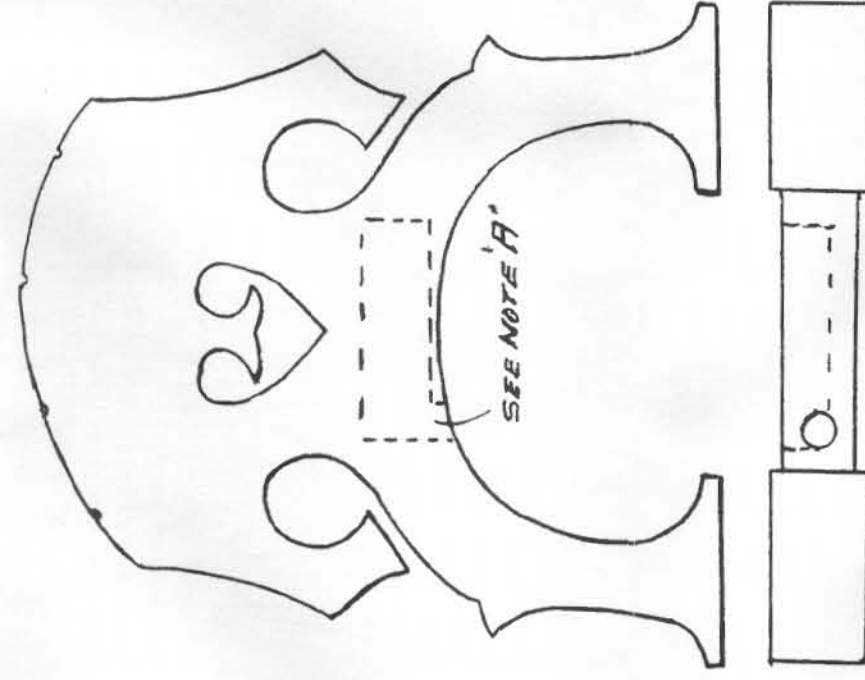
CUT SMALL CAVITY  
IN CORNER TO RECEIVE  
TIP OF BOW.

NOTE 'B'

USE MONAURAL CARTRIDGE  
ASTATIC MODEL 16.  
STOCK NO 24 P51052 (\$2.27)  
OR ASTATIC MODEL No 18  
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FROM LAFAYETTE RADIO-ELEC-  
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11791

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SEE NOTE 'A'

NOTE 'A'

ALTERNATIVE TO USING BARCUS-BERRY  
TRANSDUCER BRIDGE.

REMOVE CRYSTAL FROM MONAURAL  
PHONO CARTRIDGE AND INSERT IN  
CAVITY CUT INTO STANDARD BRIDGE.  
BRING OUT TWO WIRES FROM CRYSTAL  
TO A GUITAR AMPLIFIER.

SEE NOTE 'B'

CUT A CAVITY TO  
RECEIVE NUT OF BOW.

GENERAL PERSPECTIVE VIEW.  
ALL PARTS OF 'CELLO WILL  
FIT IN THE BOX FOR TRAVEL

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COLLAPSIBLE 'CELLO.  
NOT TO SCALE. SHEET SIX.

H.S.W. SAN DIEGO. 1974.



## ABOUT THE AUTHOR

HARRY SEBASTIAN WAKE was born in the year 1900 at Newcastle-on-Tyne, England. His father was a well-known concert violinist, and a connoisseur and collector of old master violins. He traveled a great deal around England, always on the lookout for instruments. Whenever possible, he would take his son along with him to visit violin makers, where young Harry would sit in the background taking in all the fiddle talk and observations regarding the merits of the old master makers. Little did Harry realize how these observations were being indelibly etched on his young mind to be recalled possibly fifty or more years later.

On arriving home from these "fiddle trips", the father would point out to his son the special features of his new acquisitions and dwell on the beauty of a scroll or the golden transparency of a Cremona varnish. Quite often the new instrument would need some adjustment or minor repair and through having watched so many makers and repairers at work, the father knew exactly what to do but did not have the ability to do it. It so happened that Harry could, and by age twelve was doing the work under his father's guidance. A lot of experimenting was done at this time; varnishes were made, cheap fiddles were re-graduated, and finally a few fiddles were made to the plans given in the Heron-Allen book.

At 21, Harry emigrated to the United States and worked as a professional 'cellist in New York City and later in Philadelphia. During all this time his interest in the violin and the old masters did not diminish. He was looking forward to the time when he could renew his work on them. However, now the great depression was on and there was no work for anyone, especially professional 'cellists, so it was back to school for Harry in pursuit of a degree in Engineering, a field in which he spent the next thirty years.

After his retirement from engineering, Harry has made over one hundred instruments bearing the label of H. Seb. Wake. He enjoyed an enviable reputation as a maker of fine instruments who held 37 highest awards won in national competition. As founder of the Southern California Association of Violin Makers, Harry was very active in that Association's goal: "To Encourage the Continued Development of the Art" into his late nineties.

He enjoyed his "Golden Years" by writing on the subject that he loved and knew so well, making all his own plans and sketches, and somehow finding time for some work in electronics.

Harry resided in San Diego, California, for forty-five years. His interest in violin making and the teaching of his craft to many admirers around the world through his books and videos kept him active and interested throughout his life. He always claimed that: "You will never grow old if you take up violin making."

He died in his 98<sup>th</sup> year on February 14<sup>th</sup>, 1998. His most recent violin was completed in 1996.



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**THE SOUTHERN CALIFORNIA ASSOCIATION OF VIOLIN MAKERS (SCAVM).** 1113 Big Oak Ranch Road, Fallbrook, California, 92028-4505. Founded in 1964 by Harry S. Wake. Current membership is worldwide. Monthly newsletter is free to members.  
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**Chicago School of Violin Making**, 3636 Oakton Street, Skokie, Illinois, 60076. Ph: 847-673-9545. FAX: 847-673-9546. E-mail: [csvml@aol.com](mailto:csvml@aol.com).

**The Chimneys Violin Shop**, 614 Lerew Rd, Boiling Springs, Pennsylvania 17007. Ph: 717-258-3203. E-mail: [edwardcampbell@sprintmail.com](mailto:edwardcampbell@sprintmail.com) Web: [www.promusicfind.com/chimneys](http://www.promusicfind.com/chimneys)

**Indiana University School of Music**, Musical Instrument Technology Program, Bloomington, IN 47405. TEL: 812-855-7565. Web: <http://www.indiana.edu/~vlnshop>.

**North Bennet Street School**, 39D North Bennet Street, Boston, Massachusetts, 02113. Ph: 617-227-0155. Web: <http://www.nbss.org/>.

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