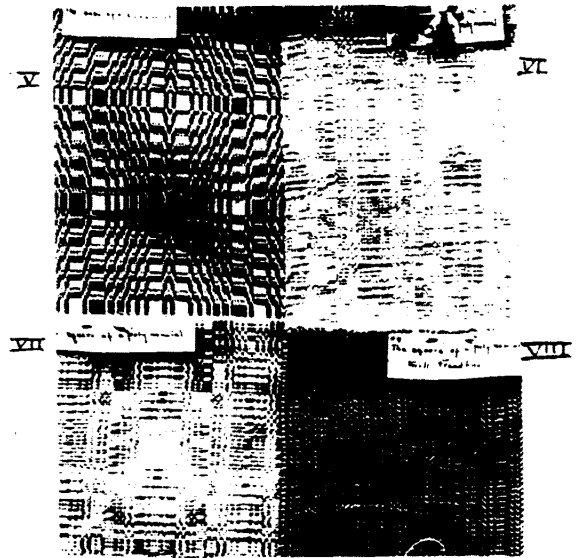
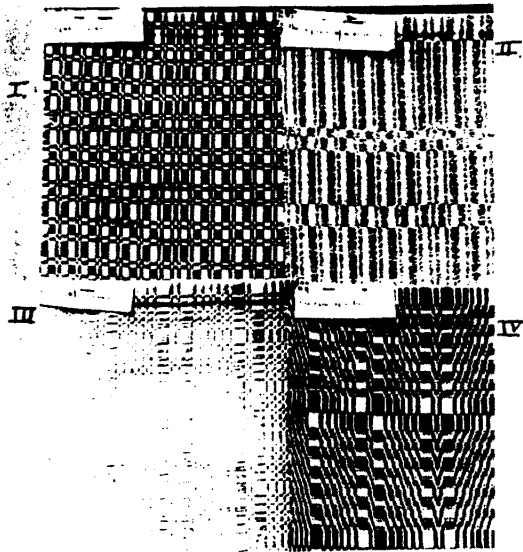


HANDWEAVING NEWS



ALGEBRAIC FORMULAE FOR DRAFT WRITING

DURING THE COURSE OF THE YEARS, THERE HAVE BEEN SEVERAL DIFFERENT METHODS GIVEN FOR THE DRAFTING OF ONE'S OWN THREADINGS. I HAVE ALWAYS FELT THAT ONE OF THE REAL JOYS OF WEAVING WAS TO BE ABLE TO PLAN AND MAKE PATTERN DRAFTS ONESELF.

SO THE OTHER DAY WHEN I RECEIVED A LETTER FROM MISS ADA DIETZ, OF 324 SANTA ANA AVE, LONG BEACH, CALIF, SAYING THAT SHE HAD DEVISED A NEW WAY OF MAKING DRAFTS, I AT ONCE WROTE TO ASK HER IF SHE WOULD NOT WRITE IT OUT, AND SHARE IT WITH OTHERS WHO MIGHT BE INTERESTED, THROUGH HANDWEAVING NEWS. SO HERE THEY ARE, JUST IN TIME FOR THE JULY ISSUE, - 8 SAMPLES WHICH ARE PHOTOGRAPHED ABOVE, AND HER NOTES ON HOW TO MAKE THE DRAFTS.

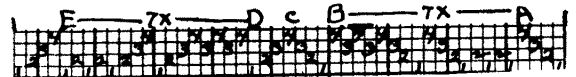
TO QUOTE FROM MISS DIETZ' LETTER, - " YOU MAY BE INTERESTED TO KNOW HOW I CAME TO DO THIS. I HAD ALWAYS WONDERED WHY PATTERNS WERE GIVEN THE NAMES THEY HAD. I HAD NO NAMES FOR MOST OF MY DRAFTS. SO ONE DAY, I DECIDED I COULD TRANSFER SOME FORMULARS FROM ALGEBRA TO GRAPH PAPER AND WEAVE THEM. FIRST I TRIED THE "CUBE OF A BINOMIAL". I HAD 240 THREADS ON "MARY JANE'S" SPOOLS, (THE NAME SHE CALLS HER LOOM) SO I PUT A TWILL BETWEEN EACH PATTERN REPEAT AND AT THE END TO MAKE IT FIT. WHEN WOVEN I FOUND THE PROPORTIONS WERE PLEASING, AND I LIKED ITS REGULAR IRREGULARITY. AFTER TRYING OUT DIFFERENT TREADLINGS ON THIS FIRST ONE, I MADE ONE ON THE "SQUARE OF A BINOMIAL", AND THEN TO THE "SQUARE OF A POLYNOMIAL". THERE ARE UNLIMITED POLYNOMIALS THAT COULD BE USED, DEPENDING ON THE NUMBER OF HARNESSES

ON THE LOOM."

EXPLANATION OF THE METHOD OF USING THE FORMULA "THE SQUARE OF A BINOMIAL", - $(x+y)^2$ IS $x^2+2xy+y^2$ TAKE X AS ONE UNIT, AND Y AS THE SECOND UNIT. FOR EACH X, PUT ONE WARP THREAD ON HARNES 1, AND THE 2ND ON HARNES 2. FOR EACH Y, PUT ONE THREAD ON HARNES 3, AND ONE THREAD ON HARNES 4.

FIGURE No.1 "SQUARE OF A BINOMIAL"
 $3(1Y^2+2XY+x^2)A$

FIGURE No.2 THREADING USED SAMPLE 1&2



ARRANGMENT OF PATTERN FOR THE LOOM.

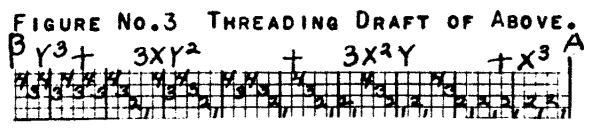
THREAD SELVAGE 1,2,3,4	- 4	THREADS
ONE REPEAT IS A TO B	- 16x7	- 112 "
B TO D, CENTER IS WRITTEN		
1,2,3,4,3,2,1	- 7	"
D TO E, 16 x 7	- 112	"
END SELVAGE 4,3,2,1	- 4	"
TOTAL	239	"

USE THE REGULAR 6 TREADLE TIE-UP OF THE HARNESSES. TREADLE 1 TIED TO HARNES 3&4
 " 3 " " " 1&2
 PLAIN WEAVE IS A " " " 1&3
 AND B " " " 2&4

FOR SAMPLE No.1 ABOVE, USE A PLAIN WEAVE SHOT AFTER EACH SHOT OF THE PATTERN WEFT, IN FOLLOWING ORDER, - TREADLE 1- 6 TIMES, 3-2x, 1-2x, 3-10x. REPEAT FOR LENGTH DESIRED AS SHOWN.

TO WEAVE SAMPLE No.2 "THE SQUARE OF A BINOMIAL," TREADLE 1 WITH ALTERNATING SHOTS OF PLAIN WEAVE, REPEATING FOR THE LENGTH DESIRED THEN TREADLE 3, THE SAME WAY. WEFT FOR SAMPLE No.1 WAS OF No.10 MERCERIZED COTTON ROSE FOR THE PATTERN, AND No.20/2 COTTON FOR THE PLAIN WEAVE. IN No.2, WEFT WAS A BLUE AND BROWN FLECKED BOUCLE' FOR PATTERN AND FINE NYLON FOR THE PLAIN WEAVE SHOTS. A SIMPLE, BUT VERY EFFECTIVE PIECE.

"THE CUBE OF A BINOMIAL" $(X + Y)^3$ EQUALS $X^3 + 3X^2Y + 3XY^2 + Y^3$. SAMPLES No. 3, 4, AND 5. TO EXPLAIN HOW THE FORMULAR WORKS, - IF X IS 1&2, X^3 IS WRITTEN 1,2,1,2,1,2. IF Y IS 3&4, $3X^2Y$ IS 1,2,1,2,3,4, REPEATED 3 TIMES, AND $3XY^2$ IS 1,2,3,4,3,4, " 3 "



ARRANGMENT OF THREADING DRAFT FOR No.3,4,5.
 THREAD TWILL 1,2,3,4 - 4 TIMES - 16
 THEN A TO B, ONE REPEAT 48 THREADS - 48
 THEN TWILL 1,2,3,4 ONCE - 4
 AGAIN A TO B, ONCE, ONE REPEAT, - 48
 CENTER, HERRINGBONE OR 1,2,3,4,3,2,1 - 7
 THEN B TO A, ONE REPEAT - 48
 TWILL 4,3,2,1, - 4
 AGAIN B TO A, ONCE - 48
 END WITH TWILL 4,3,2,1 - 4 TIMES - 16
 TOTAL 239 WARP

SAMPLES 3,4, AND 5 ARE ALL WOVEN WITH THE PLAIN WEAVE AFTER EACH PATTERN SHOTS.

TO WEAVE SAMPLE No.3. - TREADLE 1-10x, 3-2x, 1-4x, 3-2x, 1-4x, 3-2x, 1-2x, 3-4x, 1-2x, 3-4x, 1-2x, 3-10x, CENTER, REPEAT BACK TO BEGINNING IN SAME ORDER.

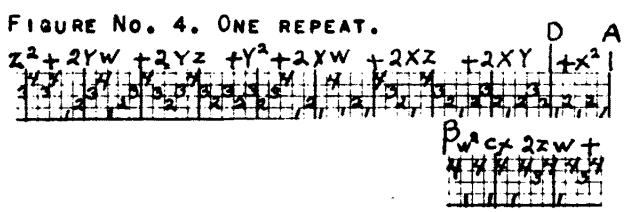
TO WEAVE SAMPLE No.4 TREADLE 1-10x, 4-2x, 3-2x, 2-2x, 1-4x, 4-2x, 3-2x, 2-2x, 1-4x, 4-2x, 3-2x, 2-2x, 1-2x, 4-2x, 3-4x, 2-2x, 1-2x, 4-2x, 1-10x; BEGIN AGAIN AT BEGINNING WITH 4-2x, REPEAT AS DESIRED.

TO WEAVE SAMPLE No.5 TREADLE 3-10x, 4-2x, 2-2x, 3-4x, 4-2x, 1-2x 2-2x, 3-4x, 4-2x, 1-2x, 2-2x, 3-2x, 4-2x, 1-4x, 2-2x, 3-2x, 4-2x, 1-4x, 2-2x, 3-2x, 4-2x, 1-10x, CENTER, REPEAT BACK IN REVERSE ORDER TO THE BEGINNING.

THERE ARE MANY OTHER WAYS OF WEAVING THESE THREADING DRAFTS WHICH CAN BE DEvised. IT IS ALSO POSSIBLE TO WRITE THE DRAFTS JUST AS THEY WORK OUT FROM THE FORMULA, WITHOUT ADDING THE TWILL BETWEEN EACH REPEAT AS IN THE ABOVE DRAFTS. ALSO AS THEY WORK OUT FROM THE FORMULAS, THEY HAVE NO CENTER. THIS SEEMS TO ME TO GIVE A VERY MODERN EFFECT, WHICH COULD BE USED IN MANY DIFFERENT WAYS.

ONE WAY TO USE THIS WOULD BE TO EITHER USE WARPS OF DIFFERENT KINDS OR OF DIFFERENT COLORS FOR THE PATTERN BLOCKS. HERE TOO IS A LARGE FIELD FOR EXPERIMENTS WITH THESE.

"SQUARE OF A POLYNOMIAL" AS AT SAMPLES 6,7, AND 8. THIS FORMULA IS $(x+y+z+w)^2$ EQUALS $x^2+2xy+2xz+2xw+y^2+2yz+2yw+z^2+2zw+w^2$.



IN THIS DRAFT, WE HAVE THE COMBINATIONS FOR ALL 4 HARNESSES. SO X IS HARNESSES 1&2, Y IS 2&3, Z IS 3&4, AND W IS 1&4. FOLLOW THE UNITS AS THEY ARE WRITTEN OUT ON THE ABOVE DRAFT. THERE ARE UNLIMITED POLYNOMIALS WHICH CAN BE FOUND IN ANY ALGEBRA. ALSO IF DESIRED THESE COULD BE WRITTEN USING THE UNITS OF THE "SUMMER AND WINTER" WEAVE, M'S AND O'S, AND THE "CRACKLE" WEAVE, FOR MANY DIFFERENT DRAFTS.

ARRANGMENT OF DRAFT FIGURE No.4 FOR A WARP OF 240 THREADS, -
 THREAD B TO A - 64 THREADS
 THEN D TO C - 56 "
 C TO D - 55 "
 A TO B - 64 "
 TOTAL 239 " LAST HEDDLE IS THREADED DOUBLE TO USE THE EXTRA WARP FOR A TOTAL OF 240 THREADS.

AS THIS IS ARRANGED THERE ARE TWO CENTERS MADE, BUT THE DRAFT COULD BE THREADED JUST AS GIVEN WITHOUT ANY CENTERS, WHERE THE PATTERN WOULD REPEAT BACK ON ITSELF.

TREADLING FOR SAMPLE No.6.
 TREADLE 4-6x, 3-2, 4-2x, 3-6x, 4-2x, 2-2x, 4-2x, 2-2x, 3-2x, 2-2x, 3-2, 2-6x, 4-2x, 1-2x, 4-2x, 1-2x, 3-2x, 1-2x, 3-2x, 1-2x, 2-2x, 1-6x, 2-2x, 1-2x, 2-2x, 1-2x, 2-2x, 1-2x, 4-2x, 2-2x, 4-2x, 1-2x, 4-2x, 1-2x, 3-2x, 2-6x, 3-2x, 2-2x, 3-2x, 1-2x, 3-2x, 1-2x, 3-6x, 4-2x, 3-2x, 4-6x; - CENTER, REPEAT BACK IN REVERSE SAME ORDER.

SAMPLE No.7 TREADLE 4-6x, 3-2x, 4-2x, 3-2x, 1-2x, 3-2x, 1-2x, 3-2x, 2-2x 3-2x, 2-6x, 3-2x, 1-2x, 4-2x, 1-2x, 4-2x, 2-2x, 4-2x, 2-2x, 1-2x, 2-2x, 1-2x, 4-2x, 1-6x, -CENTER, REPEAT BACK IN REVERSE ORDER TO THE BEGINNING ETC.

SAMPLE No.8 ONLY ONE SHOT ON EACH SHED, AND NO PLAIN WEAVE BETWEEN IN THE FOLLOWING ORDER, TREADLE 3,4,1, AND 2. REPEAT.

THERE IS A GREAT DEAL CONTAINED IN A SMALL SPACE IN THIS NEWS. I HOPE I HAVE MADE IT CLEAR, AND THAT YOU WILL WISH TO TRY OUT SOME OF THESE SUGGESTIONS. MISS DIETZ WILL BE GLAD TO HEAR FROM ANY OF THOSE OF YOU WHO WISH TO ASK HER FURTHER ABOUT HER NEW METHOD OF MAKING DRAFTS. IF THERE ARE OTHERS WHO WISH TO SHARE SOME OF THEIR IDEAS, I DO HOPE YOU WILL WRITE TO ME.