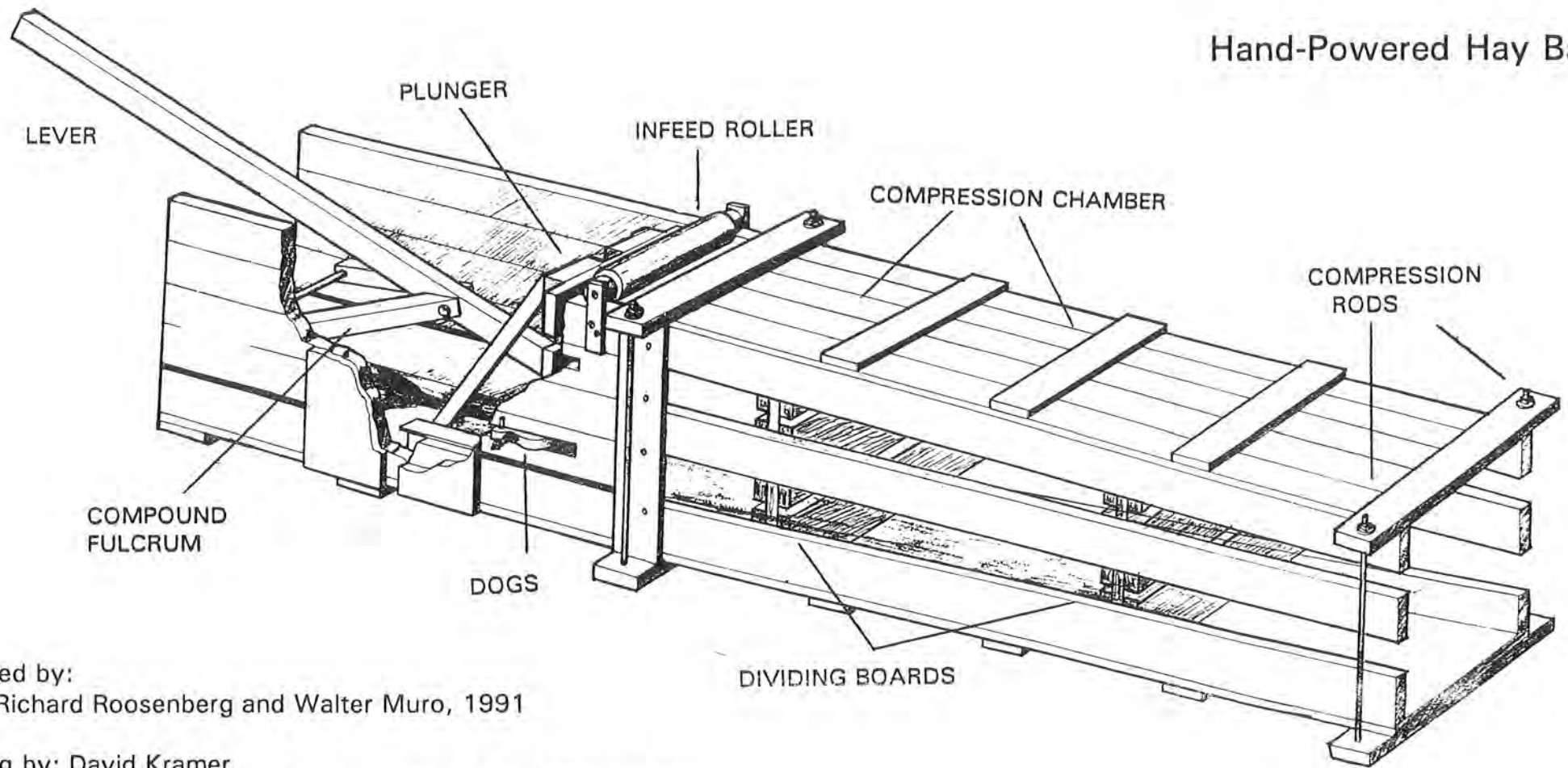


Small Construction Drawings to Scale

for the *Themis* - Tillers

Hand-Powered Hay Baler



Designed by:
Richard Roosenberg and Walter Muro, 1991

Drafting by: David Kramer
(Construction plans also available on 18 x 24 inch sheets)

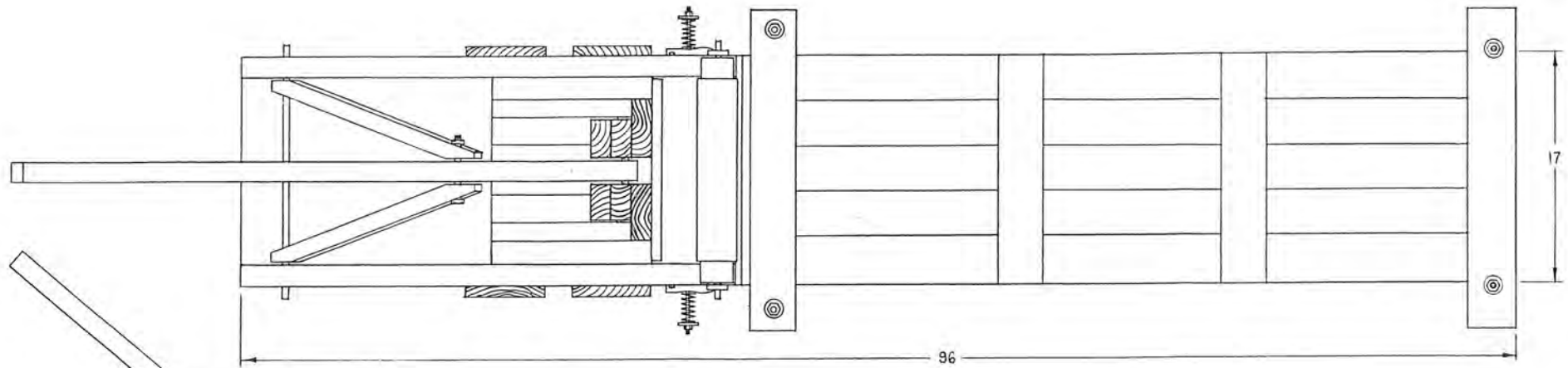
Perspective/ isometric drawing by: Debra Reich

See **TechGuide** for Suggestions on Construction and Use

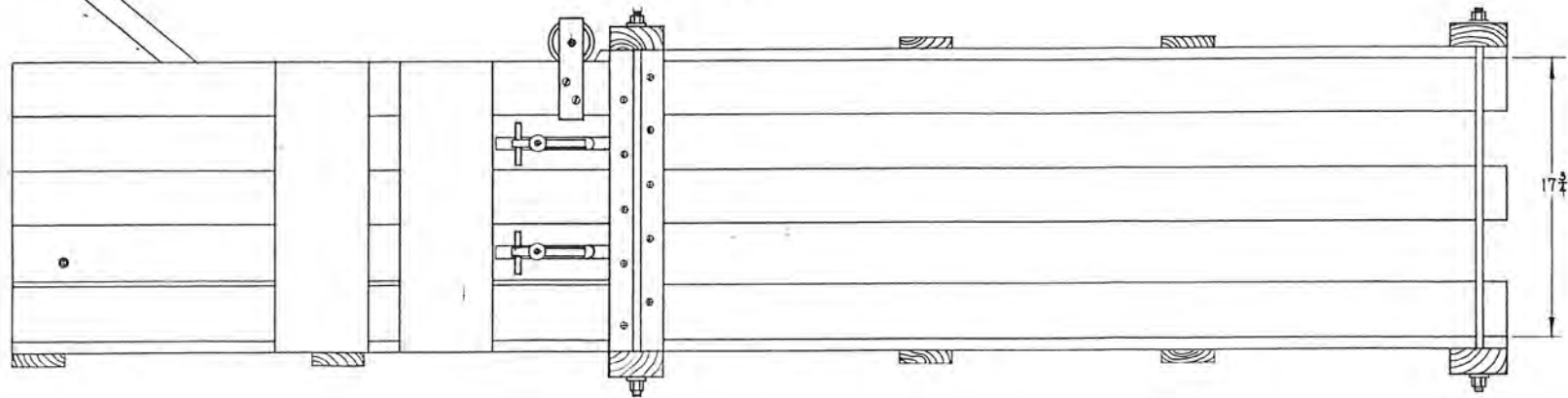
TILLERS International, 10515 East OP Avenue, Scotts, Michigan 49088 USA

ASSEMBLY

TOP



SIDE



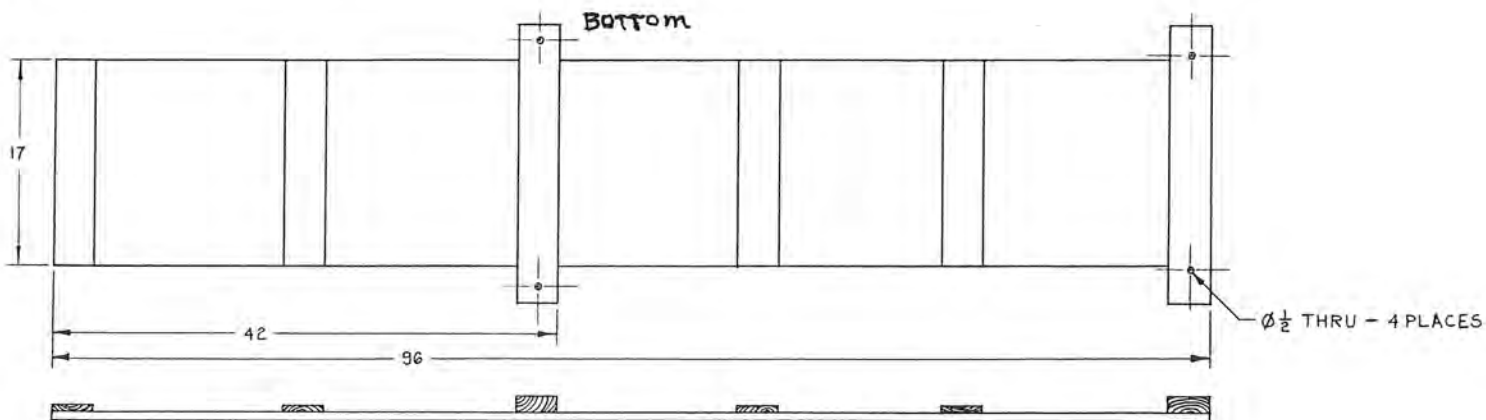
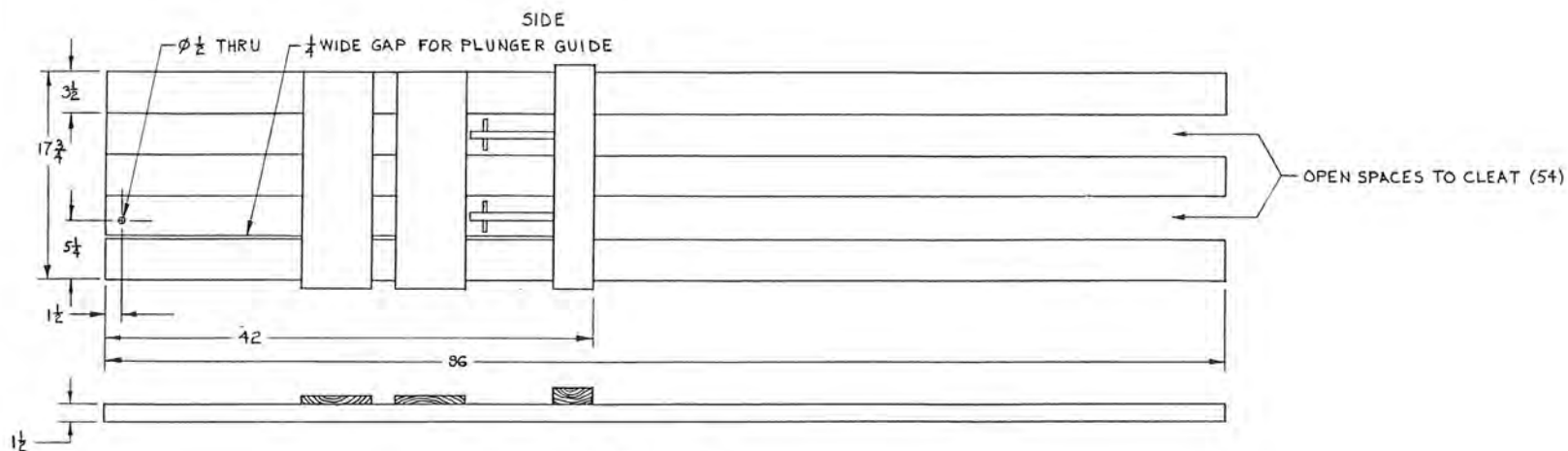
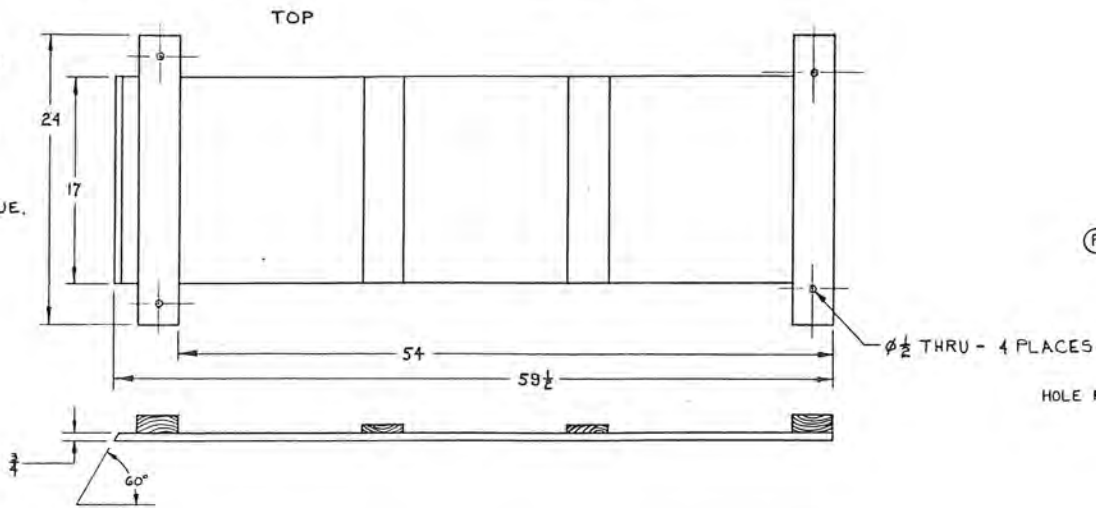
THEMI - TILLERS		
SCALE: 1:12	APPROVED BY:	DRAWN BY D. KRAMER
DATE: 27 SEPT. 91	DIMENSIONED IN INCHES	REVISED
MANUAL HAY BALER		
3 RD ANGLE PROJECTION		DRAWING NUMBER # 1

SCALE 1:16

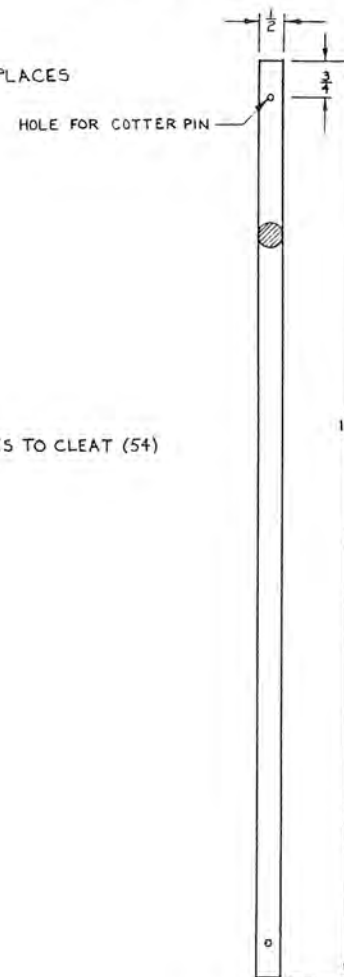
DETAILS

SCALE 1:4

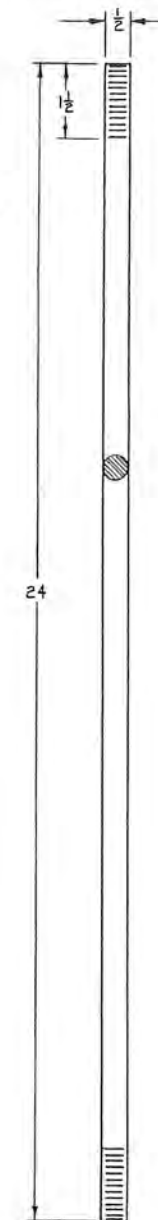
- CONSTRUCT TOP AND BOTTOM FROM $\frac{3}{4}$ " THICK SOFTWOOD BOARDS OF AVAILABL WIDTHS.
- CONSTRUCT SIDES FROM STANDARD 2x4'S ($1\frac{1}{2}$ x $3\frac{1}{2}$ " AFTER PLANING)
- ATTACH CLEATS WITH SMALL BOLTS, SCREWS, OR NAILS AND GLUE.



(R) PIVOT ROD FOR COMPOUND FULCRUM



(S) COMPRESSION ROD




THEMI-TILLERS

SCALE: AS NOTED
DATE: SEPT. 81

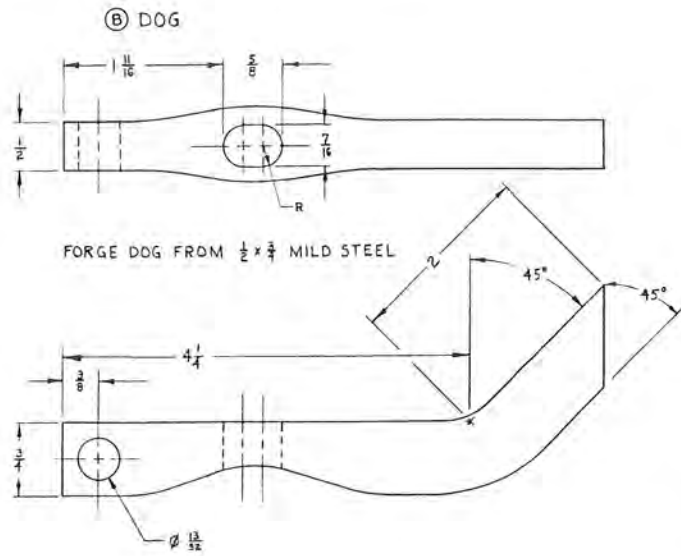
DIMENSIONED IN INCHES

DRAWN BY:
D. KRAMER

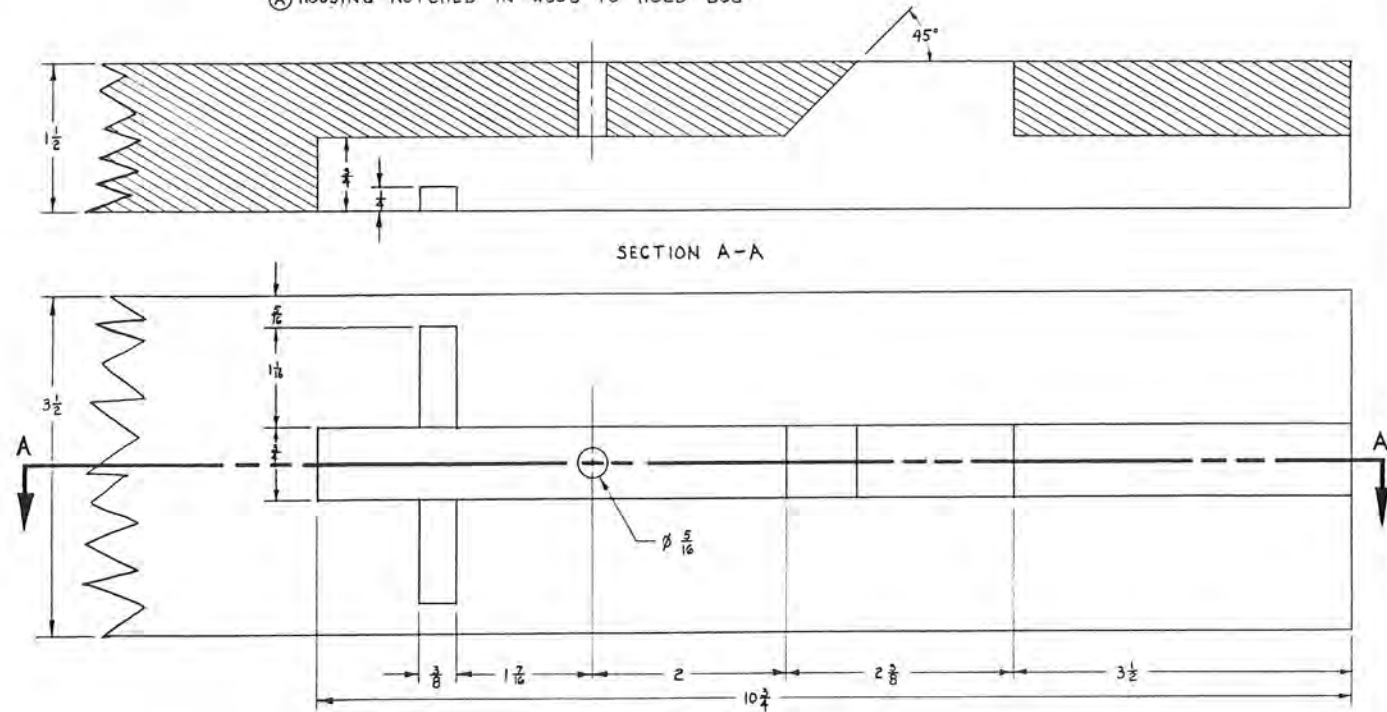
MANUAL HAY BALER

3RD ANGLE PROJECTION  #2

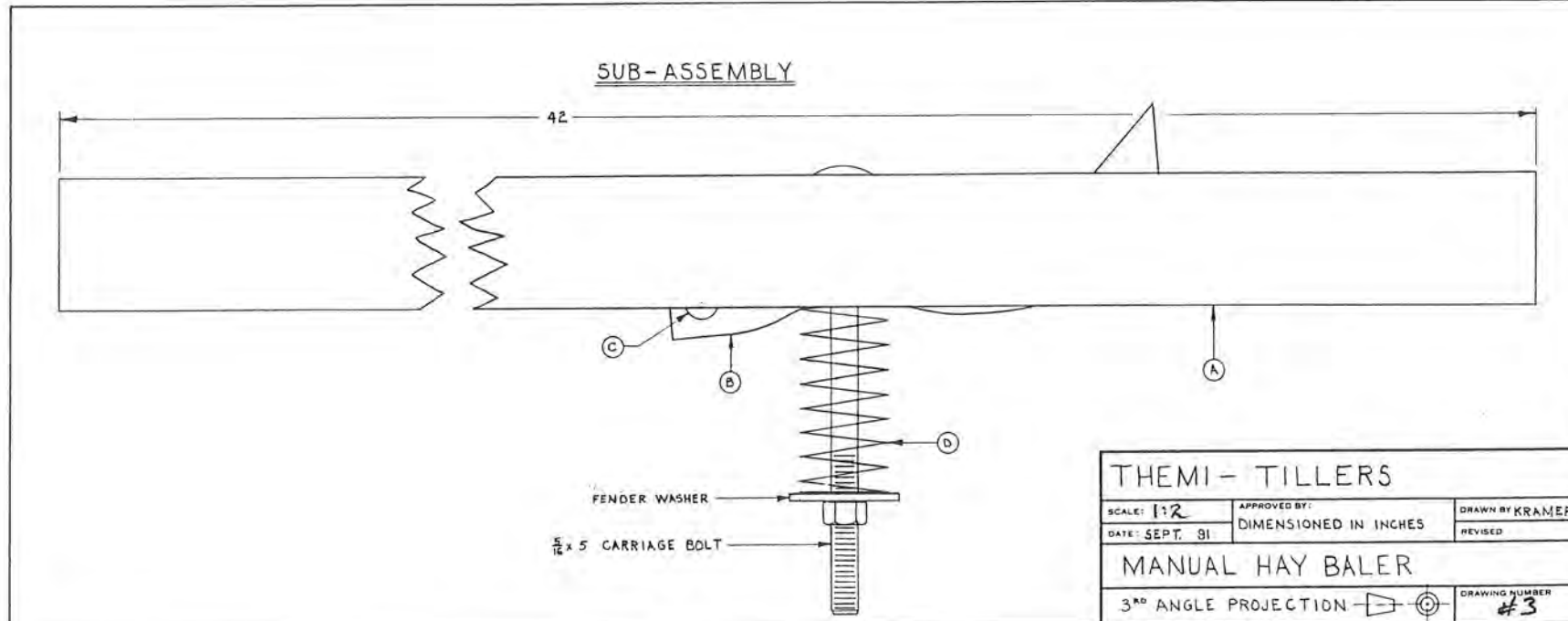
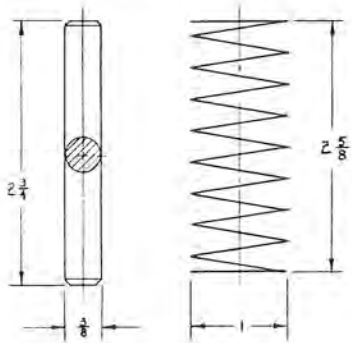
DETAILS



(A) HOUSING NOTCHED IN WOOD TO HOLD DOG

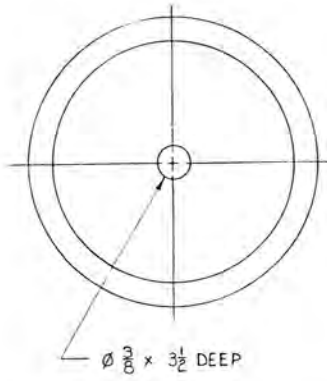


(C) M.S. PIN **(D) COMPRESSION SPRING**

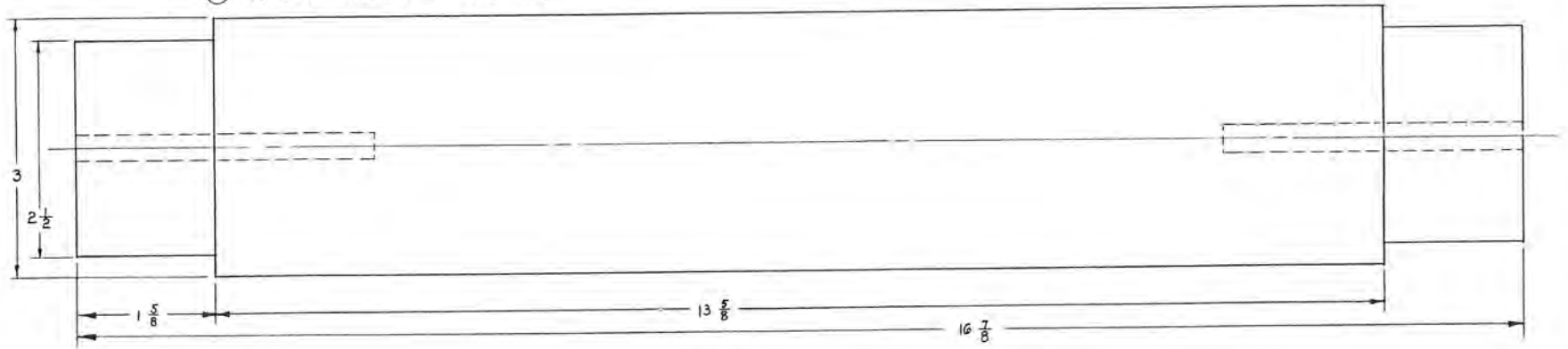


THEMI - TILLERS		
SCALE: 1:2	APPROVED BY:	DRAWN BY KRAMER
DATE: SEPT. 81	DIMENSIONED IN INCHES	REVISED
MANUAL HAY BALER		
3 RD ANGLE PROJECTION	DRAWING NUMBER	#3

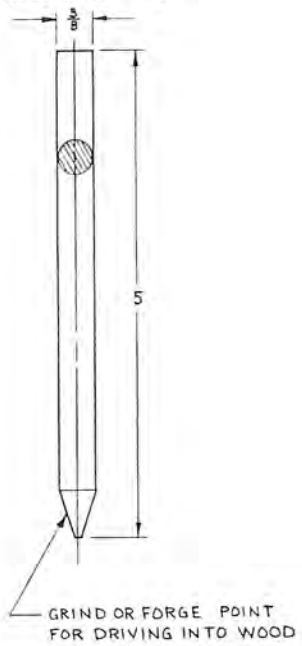
DETAILS



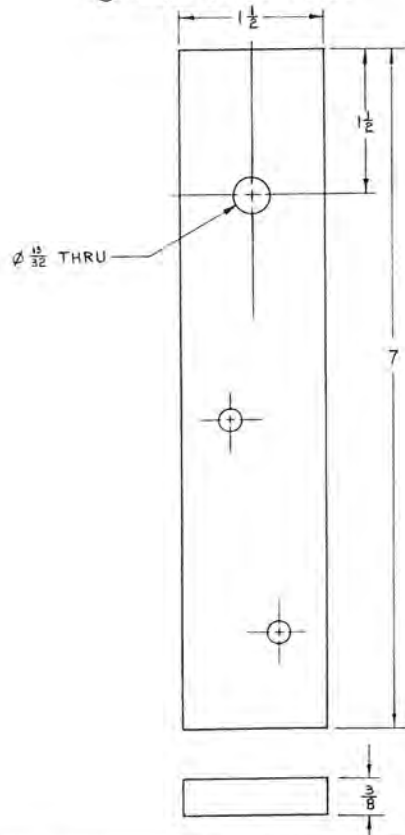
(E) INFEED ROLLER - HARDWOOD



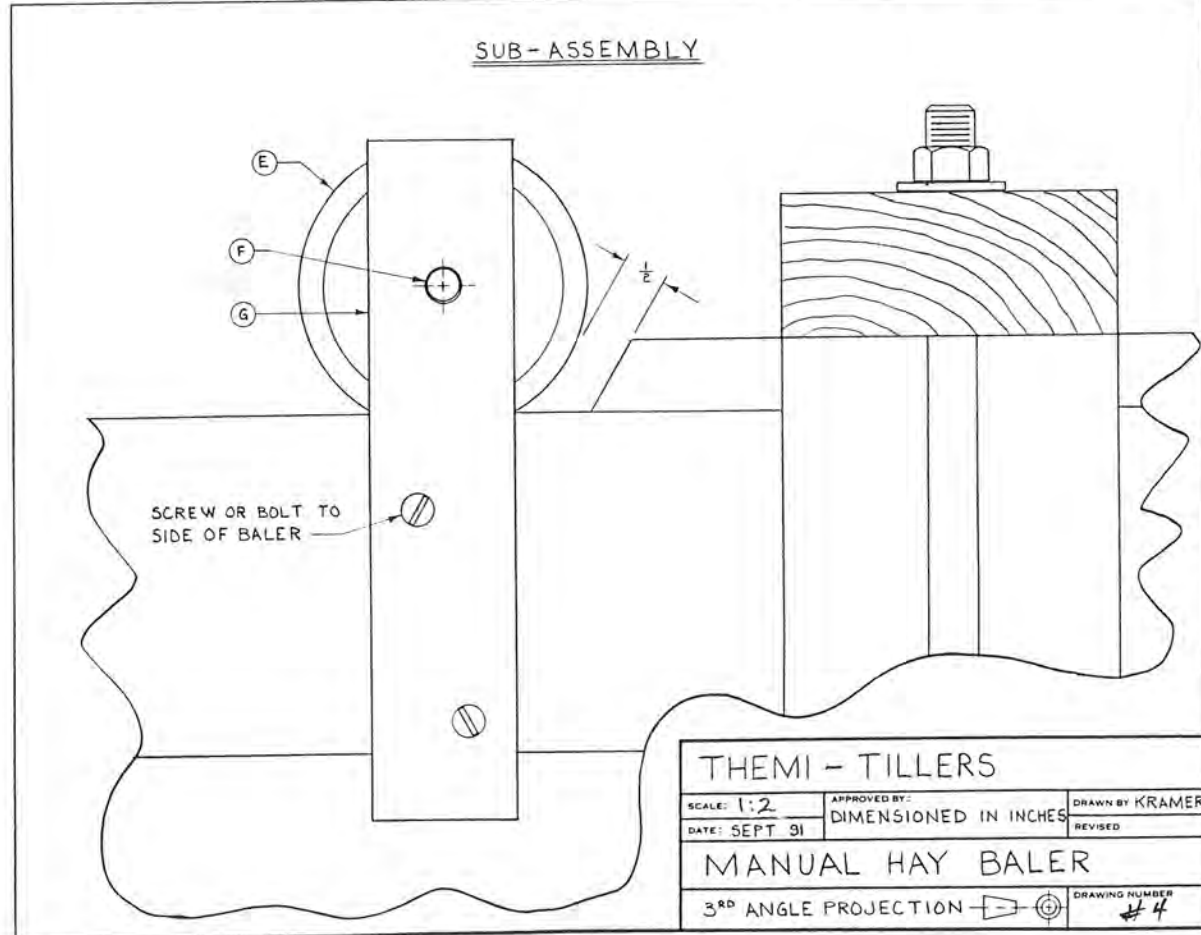
(F) MILD STEEL PIN



(G) MILD STEEL BRACE

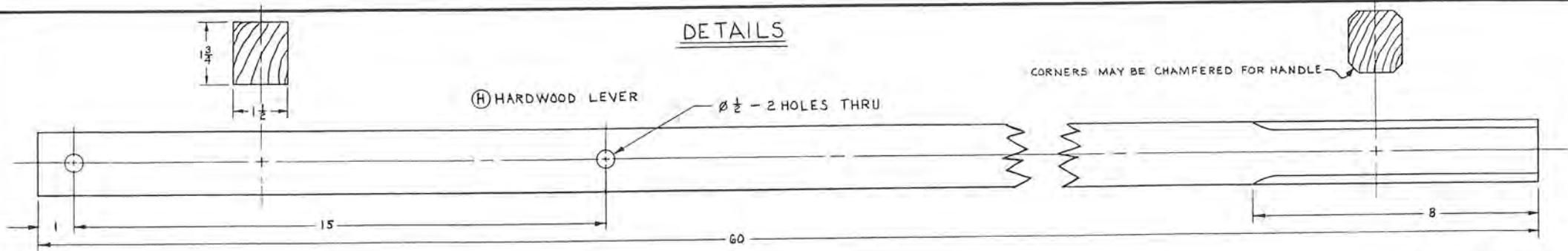


SUB-ASSEMBLY

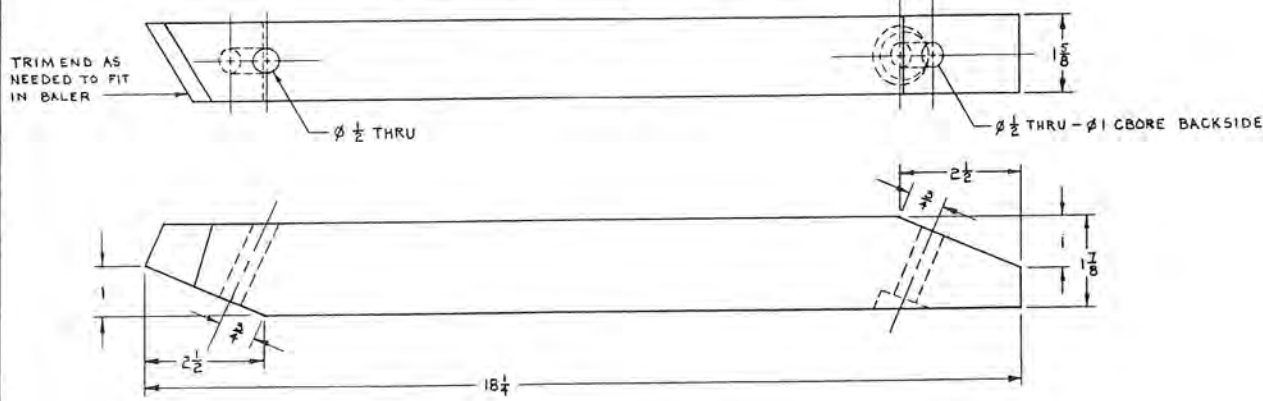


THEMI - TILLERS		
SCALE: 1:2	APPROVED BY:	DRAWN BY KRAMER
DATE: SEPT 31	DIMENSIONED IN INCHES	REVISED
MANUAL HAY BALER		
3 RD ANGLE PROJECTION		DRAWING NUMBER #4

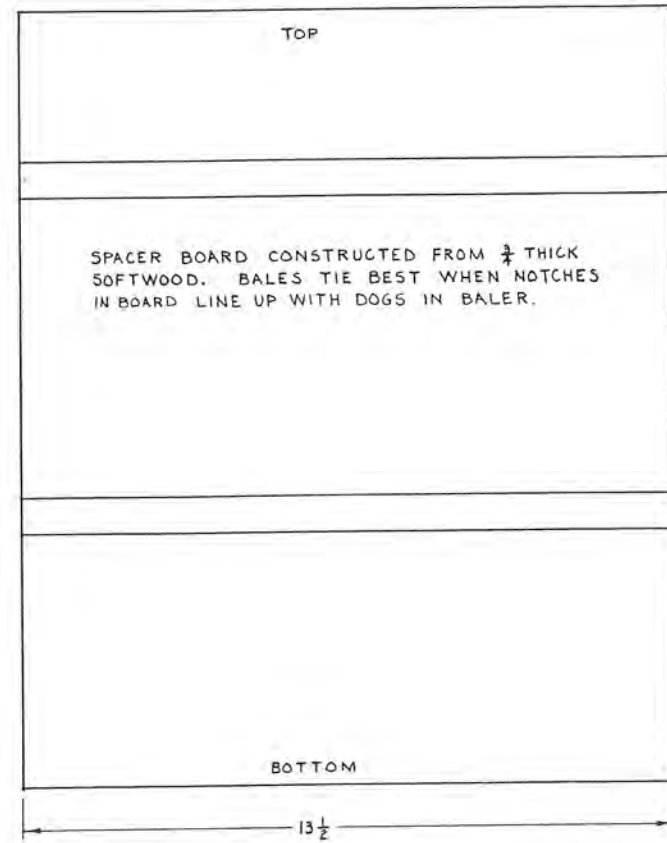
DETAILS



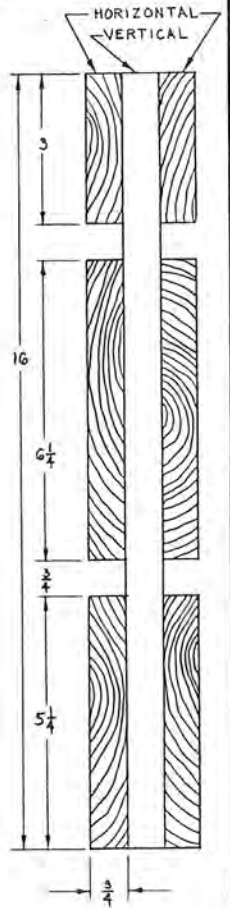
① HARDWOOD COMPOUND FULCRUM



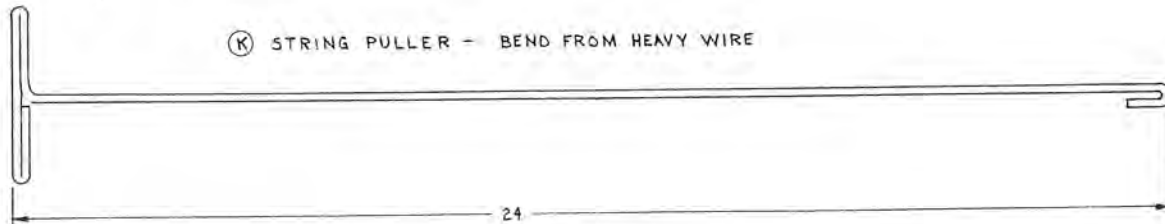
④ SPACER BOARD



ALTERNATE GRAIN DIRECTION



④ STRING PULLER - BEND FROM HEAVY WIRE



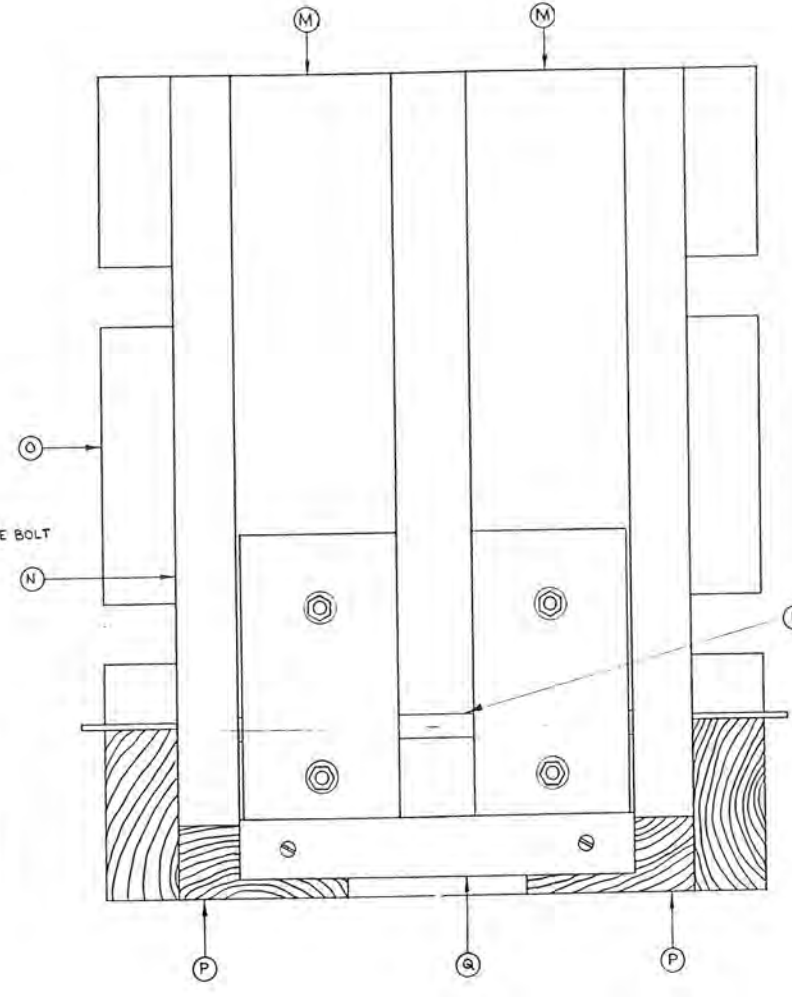
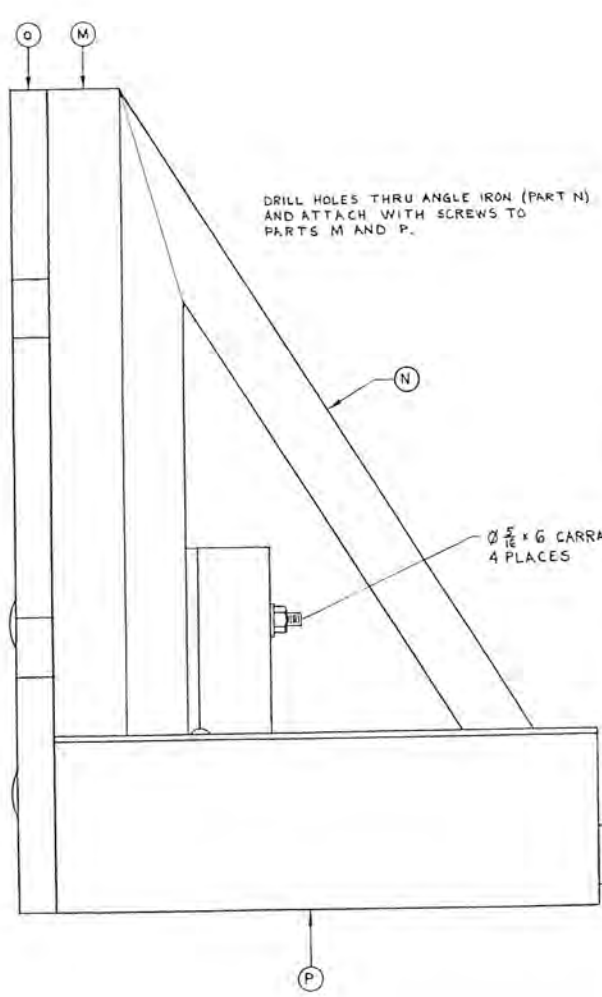
THEMI-TILLERS

SCALE: 1/4" = 1" APPROVED BY: DIMENSIONED IN INCHES DRAWN BY KRAMER
DATE: SEPT 91 REVISED

MANUAL HAY BALER

3RD ANGLE PROJECTION DRAWING NUMBER #5

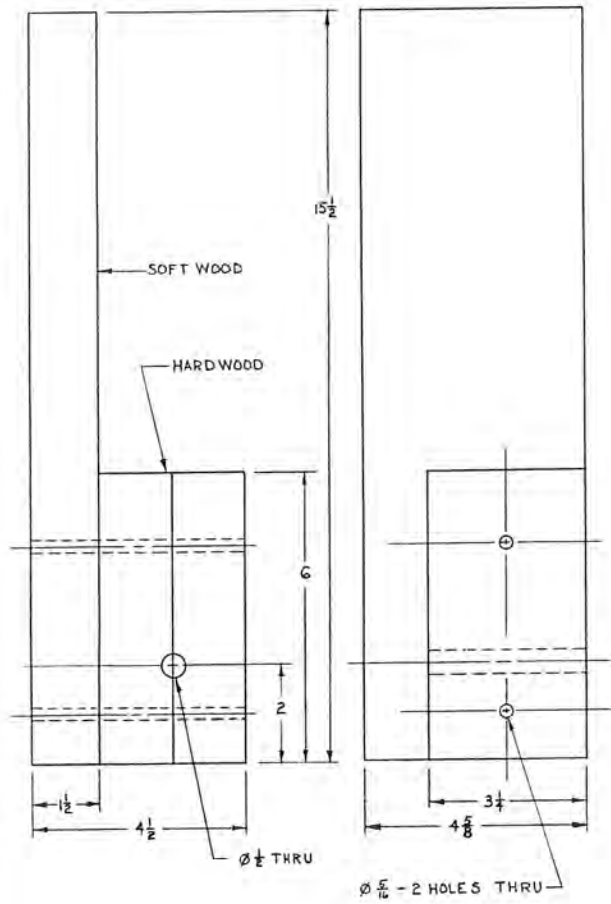
PLUNGER SUB-ASSEMBLY



FASTEN PARTS M, O, AND P TOGETHER WITH SCREWS OR SMALL BOLTS AS NEEDED.

THEMI-TILLERS		
SCALE: 1:4	APPROVED BY:	DRAWN BY KRAMER
DATE: SEPT 91		REVISED
MANUAL HAY BALER		
3 RD ANGLE PROJECTION		DRAWING NUMBER #6

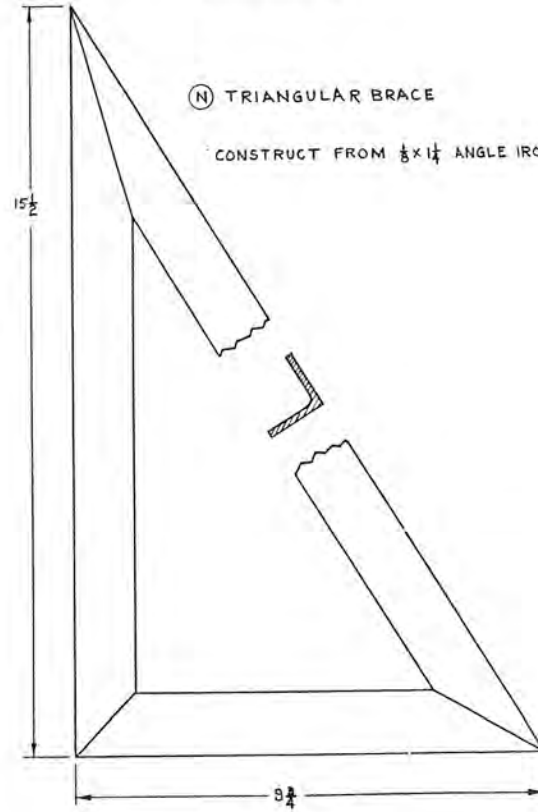
(M) PLUNGER BLOCK



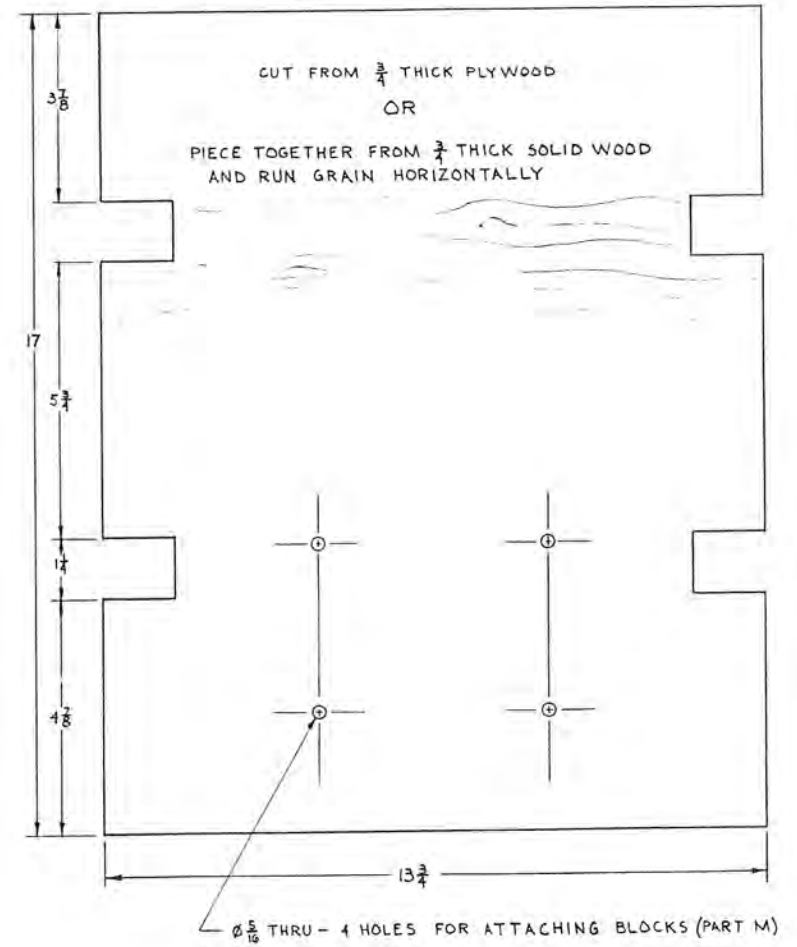
DETAILS

(N) TRIANGULAR BRACE

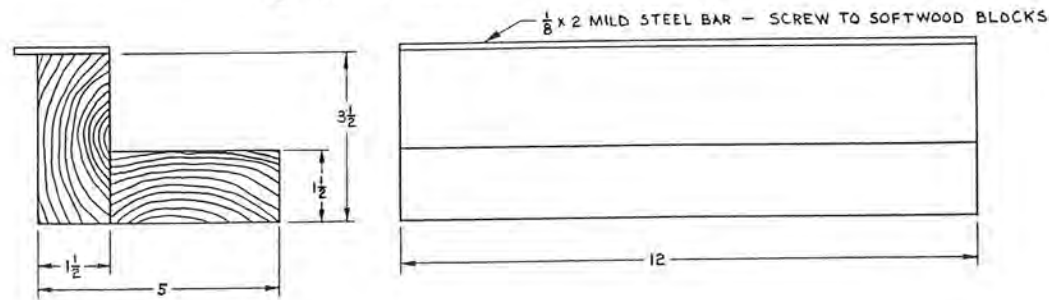
CONSTRUCT FROM 1/8 x 1/4 ANGLE IRON



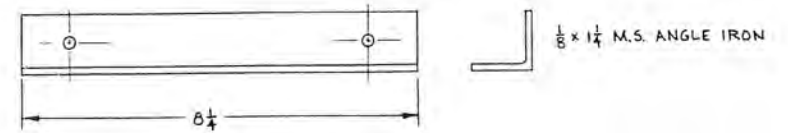
(O) PLUNGER FACE



(P) PLUNGER GUIDE



(Q) BRACE



THEMI - TILLERS

SCALE: 1:4
DATE: SEPT 91

DIMENSIONED IN INCHES

DRAWN BY: KRAMER

MANUAL HAY BALER

3° ANGLE PROJECTION



#7

THEMI-TILLERS MANUAL HAY BALER

PARTS LIST for PLANS

Letter	Name	# Pieces	Remarks
A	Compression Chamber	4	
B	Dog	4	
C	Pin (mild steel)	4	
D	Compression Spring	4	
E	Infeed Roller	1	
F	Pin (mild steel)	2	
G	Brace	2	
H	Lever	1	
I	Compound Fulcrum	2	mirror images
J	Dividing Board (Spacer Board)	2	
K	String Puller	1	
L	Bolt	1	
M	Plunger	2	mirror images
N	Triangular Brace	2	mirror images
O	Plunger Face	1	
P	Plunger Guide	2	mirror images
Q	Brace	1	
R	Pivot Rod	1	
S	Compression Rod	2	
	Top	1	
	Side	2	mirror images
	Bottom	1	

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