

Copy: H. Sargeant

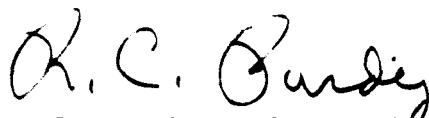
Schenectady, January 26, 1953

Mr. A. E. Lent  
Manager of Purchasing  
Home Laundry Equipment  
BRIDGEPORT

Here is the Value Analysis report of the flat plate ironer parts we have studied. It is an example of what can be done by Value Analysis. It shows that there are dollars to be taken out of some parts. At the same time, it illustrates how the pennies in other parts can mount up to considerable sums.

We believe that the most fertile fields for further work are the Buck and U-arm actuating system and the many sheet metal parts.

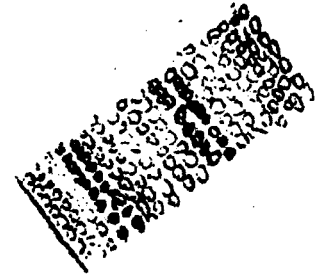
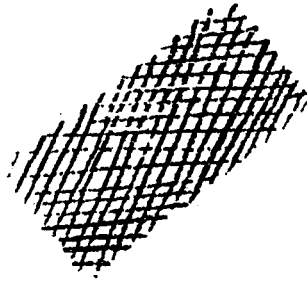
We appreciate the excellent cooperation we have received from everyone in Bridgeport.



R. C. Purdy, Value Analysis Unit, Materials Services Dept.  
Bldg. 32C--Second Floor                      Ext. 4732

RCP:AEM  
Att.

Screen  
4165709  
3000/year



PRESENT

PROPOSED

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present			
Expanded Metal	485.04	113.16	1133.79
Proposed			
Perforated Metal (Galvanized)	392.70		<u>392.70</u>
			741.09

ESTIMATED ANNUAL SAVINGS--\$2223.27

COMMENTS:

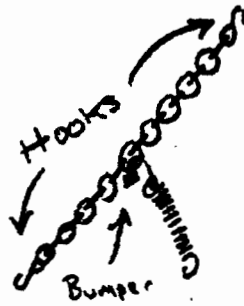
The screen acts as a porous backing for the pad on the buck. A perforated metal screen can be made from galvanized steel. No painting will be necessary.

MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
January 1953

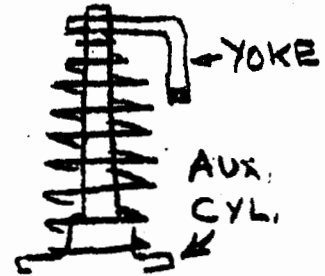
RP:AM

*Erdle & Seaford Co.*

Spring and Chain Assembly  
 5402543  
 3000/year



PRESENT



PROPOSED

	Cost/M		Shop Cost
	Material	Adjusted Labor	
Present	619.18	41.21	845.44
Proposed	102.11	9.81*	<u>158.35</u>
			687.09

Estimated Annual Savings -- \$2061.27  
 (lots of 5000) \$2145.81

\*Estimated

COMMENTS:

The spring and chain assembly limits the travel of the shoe and U-arm when the motor is stopped. The spring takes the shock.

Proposed:

Purchase a spring to fit over the piston rod between the yoke and the auxiliary cylinder housing. This will perform the same function as the spring and chain assembly.

*Callace Barnes Co.*

MATERIALS SERVICES DEPT.  
 VALUE ANALYSIS UNIT  
 January 1953

RC:AM

Spring  
5400407  
3000/year

QMMMMMMMMMMMMMM

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	65.93		65.93
Proposed (1500 lots)	40.29		<u>40.29</u>
			25.64

ESTIMATED ANNUAL SAVING--\$76.92  
(In lots of 5000) \$132.45

COMMENTS:

This is the lock bar spring.

Proposed:

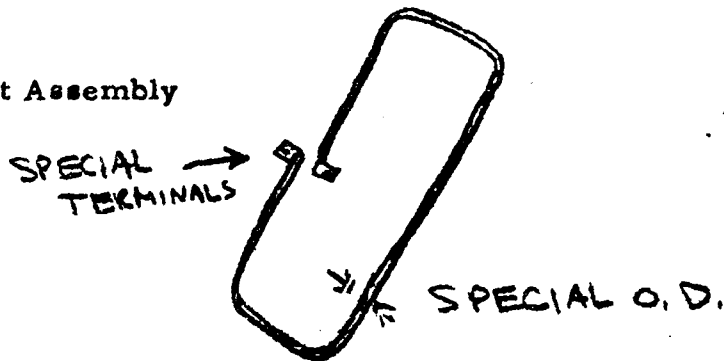
More than enough wire is now being used to perform the function performed by this spring. A vendor has quoted on a shorter spring. The bracket used to anchor the spring will have to be relocated.

MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
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Wallace Barnes Co

RP:AM

Heating Element Assembly  
5405696G1  
3000/year



	Cost/M		Shop Cost
	Materials	Adjusted Labor	
Present	2903.65		2903.65
Proposed	2585.83		<u>2585.83</u>
			317.82

ESTIMATED ANNUAL SAVINGS: \$953.46

\*Vendor's Estimate

COMMENTS:

When the Value Analysis of the ironer was undertaken, it was found that a special diameter calrod was being used and that special terminals were being used.

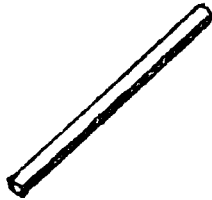
Mutual cooperation between the vendor, Bridgeport, and the Value Analysis Unit has brought about the use of the standard diameter calrod.

Use of standard terminals is pending.

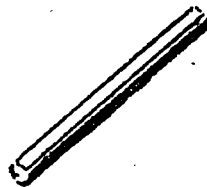
MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
January 1953

RC:AM

Pin  
5404320 P1  
3000/year



PRESENT



PROPOSED

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present			
Machined pin (Plated)	18.36		18.36
Proposed			
Roll Pin (Unplated)	2.18		<u>2.18</u>
			16.18

ESTIMATED ANNUAL SAVINGS--\$48.54

COMMENTS:

This pin is used to hold the thrust ball in the valve seat. Since the valve seat is not plated, there is no need to plate the pin.

*Σna*

MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
January 1953

RC:AM

Acorn Nuts  
N220P21E  
1/4-20  
12,000/year



	<u>Cost/M</u>		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present			
Machined from bar stock	21.16		21.16
Proposed (Lots of 6000)			
Die Cast	8.67		<u>8.67</u>
			12.49

ESTIMATED ANNUAL SAVINGS--\$149.76

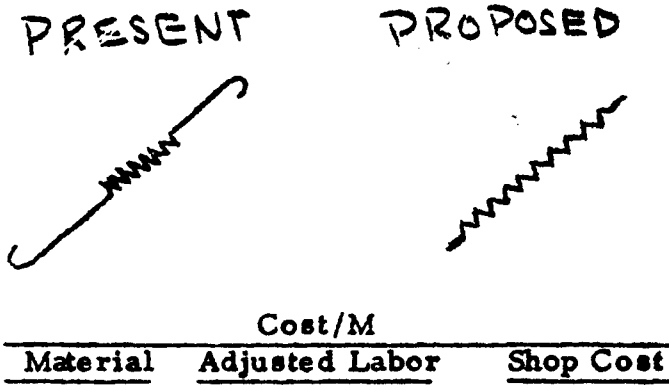
COMMENTS:

A die casting vendor stocks these acorn nuts.

MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
January 1953

RC:AM

Spring  
5404310  
6000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
<b>Present</b>			
Extended end loops	82.67		82.67
<b>Proposed</b>			
Open coils over the full length and end loop at side.	51.41		<u>51.41</u>
			31.26

ESTIMATED ANNUAL SAVINGS--\$187.56  
(Lots of 4000)

COMMENTS:

These springs hold the buck and piston to the cylinder. Extended end loops require extra operations.

Proposed:

Use open loops to full length. Use one end loop at side to get required clearance.  
(Ref.: G. E. Design Data Standards Section G33.4 Page 7)

*Wallace Barnes*

MATERIALS SERVICES DEPT.  
VALUE ANALYSIS UNIT  
January 1953

RC:AM



Bumper  
 5400489  
 Screw  
 Cap Nut  
 6-32  
 9000/year



PRESENT

PROPOSED

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
<b>Present</b>			
Screw-in rubber bumpers	26.46	9.43	80.52
<b>Proposed</b>			
Snap-in rubber bumpers	9.61	3.77*	<u>31.23</u>
			49.29

ESTIMATED ANNUAL SAVINGS--\$443.61

\*Estimate

COMMENTS:

These rubber bumpers are located on the cover and prevent scratching of the table when the cover is closed.

Proposed:

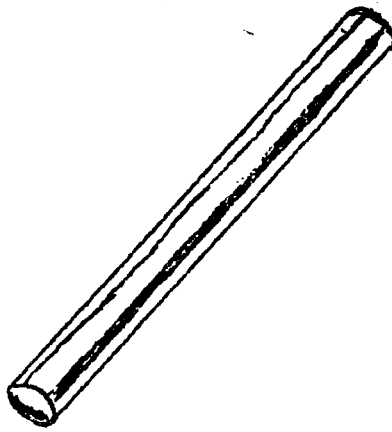
Snap-in rubber bumpers will do the same job and are more easily assembled into the cover.

*1-10 Confield.*

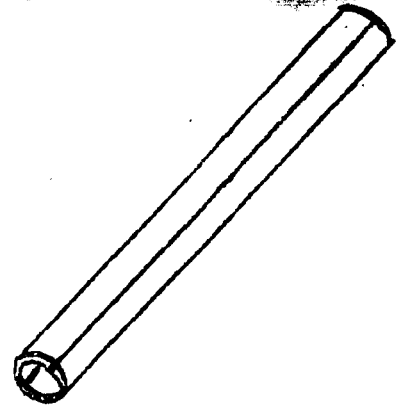
MATERIALS SERVICES DEPT.  
 VALUE ANALYSIS UNIT  
 January 1953

RC:AM

Swivel Post  
5400421  
3000/year



Present



Proposed

	Cost/M		Shop Cost
	Material	Adjusted Labor	
Present	180.52		180.52
Proposed	48.96		48.96
In 5000 ft. lots			<u>131.56</u>

ESTIMATED ANNUAL SAVINGS -- \$394.68

COMMENTS:

The swivel post supports the cover and acts as an axis when opening or closing the ironer.

Proposed:

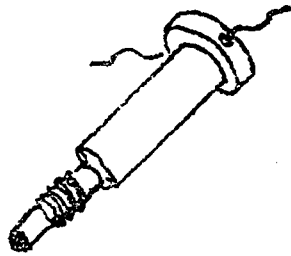
Use a lock-seam tube instead of a solid post.

*Roller Form Products  
OHIO*

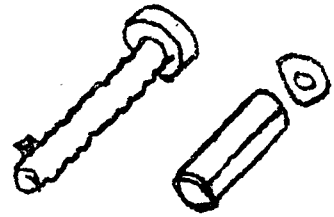
VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

Shoulder Screw  
5402393  
6000/year



Present



Proposed

	Cost/M		
	Material	Adjusted Labor	Shop Cost
Present Shoulder Screw and Lock Wire	106.66	1.58	111.48
Proposed (lots of <del>parts</del> ) Nylok Screw	33.93		<u>33.93</u>
Spacer (plated)			77.55
Washer			

ESTIMATED ANNUAL SAVINGS -- \$495.30

COMMENTS:

These shoulder screws attach the piston to the buck. A spring slips over the shoulder.

Proposed:

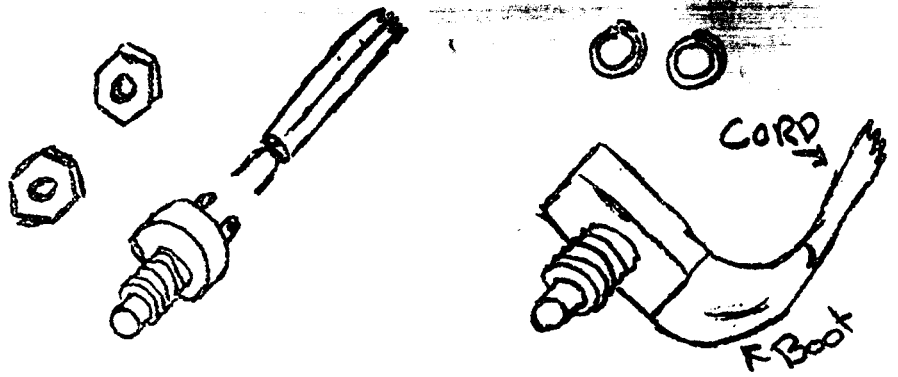
A Nylok self-locking screw, a washer, and a spacer will perform the same function. Use of the spacer will necessitate the use of a spring with a slightly larger I. D.

*Nylok people*

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

Switch Assembly  
 5402510  
 3000/year  
 Hex Nuts  
 6000/year



Present

Proposed

	Cost/M		
	Material	Adjusted Labor	Shop Cost
Present Separate Switch Two Nuts and Cord	488.21	62.63	678.62
Proposed Assembled switch and cord with nuts and boot	507.76*		507.76
			170.86

ESTIMATED ANNUAL SAVING -- \$512.58

\*Vendor's Estimate

COMMENTS:

The foot switch, hex nuts, and cord are now bought separately. The cord and switch are assembled in our plant.

Proposed:

A vendor will provide the switch and cord assembled, along with the nuts. The soldered connections will be covered with a boot.

VALUE ANALYSIS UNIT  
 MATERIALS SERVICES DEPT.  
 January 1953

RCFAEM

Piston Rod  
5402380  
3000/year



Present



Proposed

	Cost/M	
	<u>Material</u>	<u>Adjusted Labor</u>
		<u>Shop Cost</u>
<b>Present</b>		
Milled End Rod	1224.00	1224.00
<b>Proposed</b>	135.15	<u>135.15</u>
Eliminate Milling		1088.85

ESTIMATED ANNUAL SAVINGS -- \$3266.55

COMMENTS:

The present pistonrod has a special milled end which serves no function.

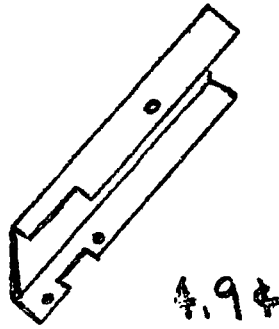
Proposed:

Eliminate the milling.

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
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RCP:AEM

Foot Switch Cover  
5400479  
3000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	48.96		48.96

Eliminate

ESTIMATED ANNUAL SAVINGS -- \$146.88

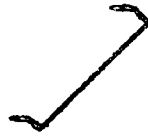
COMMENTS:

Since the switch and cord can be purchased assembled with a boot covering the connections, this cover is no longer necessary.

VALUE ANALYSIS UNIT  
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RCP:AEM

Guard Wire  
5400787  
6000/year



Present

Proposed

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	122.60		122.60
Proposed	97.95		97.95
			<u>24.65</u>

ESTIMATED ANNUAL SAVINGS -- \$147.90  
(In lots of 5000) \$261.00

COMMENTS:

These guard wires are used on the front of the shoe. They help to prevent burning of the fingers.

Proposed:

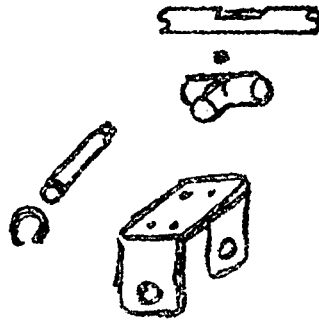
Eliminate one bend. Lengthen the short dimension to compensate for the bend. Use a slightly thinner wire.

VALUE ANALYSIS UNIT  
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RCP:AEM

Present

Trunion Block  
 Pivot Shaft  
 Swivel Post Bearing  
 4161983  
 4161761  
 4165973  
 3000/year



Proposed

	Cost/M		
	Material	Adjusted Labor	Shop Cost
Present			
Milled Slot	228.27	20.18	343.97
Trunion Block			
Set Screw			
Pivot Shaft			
Swivel Post Bearing			
Retaining Ring			
Proposed			
Hole	110.10	12.00	178.90
Bracket			
Rollpin			
			165.07

ESTIMATED ANNUAL SAVINGS -- \$495.21

comments:

The five parts along with the milled slot in the swivel post attach the swivel post to the table assembly.

Proposed:

The present assembly can be replaced by a bracket and a roll pin. It will be necessary to replace the milled slot with a hole.

<u>Bracket Data</u>	<u>Tool Charge</u>	<u>Set-Up</u>	<u>Price</u>
Recommended Vendor	94.70	3.80	9.3
Other Vendor	571.00		8.4
Other Vendor	480.00		5.3
Bracket without welding projections	74.00	7.75	9.0

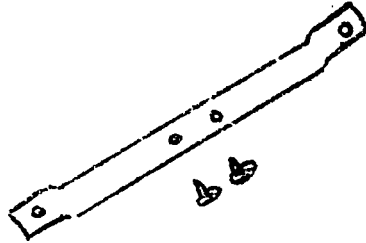
VALUE ANALYSIS UNIT  
 MATERIALS SERVICES DEPT.  
 January 1953

*Re-done  
 HPL  
 Dayton Rogers*

RCP:AEM



Handle Bracket  
5400453  
3000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present			
Bracket	71.40		71.40
Screws (2)	7.14	7.54*	<u>30.07</u>
Eliminate			101.47

ESTIMATED ANNUAL SAVINGS -- \$304.41

\*estimate

COMMENTS:

The handle bracket holds the handle on the shoe assembly.

Proposed:

This bracket can be eliminated since the other bracket, which has replaced the hinge, holds the handle on the shoe assembly.

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

U-Arm Reinforcing Strip  
 5406377  
 3000/year



Present



Proposed

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	337.20	132.53	740.10
Proposed	32.39	14.90	77.68
Cord Clamps (3)			<u>662.92</u>

ESTIMATED ANNUAL SAVINGS -- \$1987.26

comments:

The reinforcing strip strengthens the U-arm and encloses the cord to the heater.

Proposed:

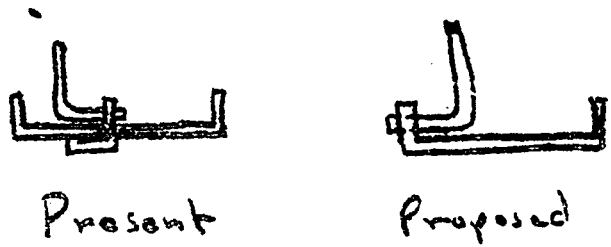
Tests on the U-arm without the reinforcing strip show that loads 50% higher than those applied in operation will give no permanent set to the U-arm. The additional deflection occurring under operating conditions is small.

Eliminate the reinforcing strip and use cord clamps to hold the cord. Since the special bumper block will no longer contact the U-arm, it could be replaced by two standard foot bumpers glued to the bottom of the back of the apron.

VALUE ANALYSIS UNIT  
 MATERIALS SERVICES DEPT.  
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RCP: AEM

U-Arm Bracket  
5402378  
3000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	44.44	13.30	84.86

ESTIMATED ANNUAL SAVINGS -- \$254.58

COMMENTS:

The yoke is attached to the U-arm with the U-arm bracket. The bracket is welded on the underside and extends up through the U-arm.

Proposed:

Eliminate bracket, welding and hole. A hole of the proper size can be pierced in the channel and the yoke can be formed in the opposite direction.

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
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RCP:AEM

Heating Element Clamp and Screw  
4168488  
N100 P1706  
27,000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	4.01	12.45	41.85

ESTIMATED ANNUAL SAVINGS -- \$627.75

COMMENTS:

Nine of these clamps and screws and one double clamp and screw hold the heating element in the groove cast into the shoe.

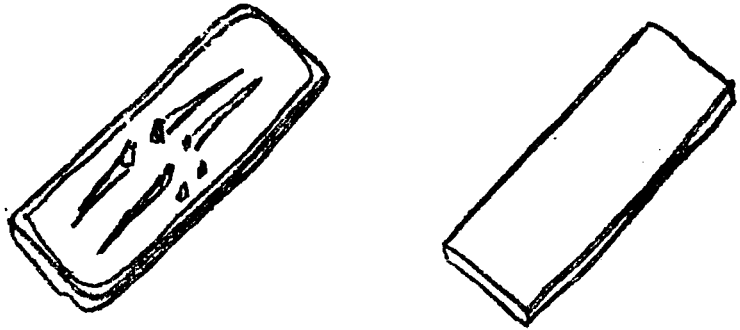
Proposed:

Eliminate five of these clamps and screws. The double clamp at the ends, the two in the rear corners, and the two in the middle of either side at the front are sufficient. Costly drilling and tapping operations will be eliminated.

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

Shoe  
 5405933 P2  
 3000/year



	Cost/M		
	Material	Adjusted Labor	Shop Cost
Present	7425.60	--	7425.60
Proposed	4243.20	--	4243.20
			3182.40

ESTIMATED ANNUAL SAVINGS -- \$9547.20

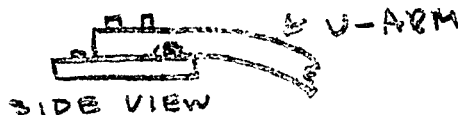
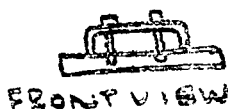
*Alcoa quoted on aluminum*

comments:

The aluminum cast shoe presses the clothe's against the buck.

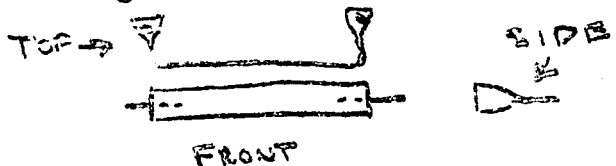
Proposed:

Use 3/8" aluminum sheet. This can be sheared to the proper dimensions at the mill. The above costs assume that the same amount of work will be done in our plant to the sheet or to the casting. The shearing lips can be removed when the shoe is sanded. The heating element can be clamped directly to the surface. Since most of the heat from the assembly is radiated to the shoe, the difference in heat transfer should be negligible. The shoe can be attached to the U-arm in this manner.



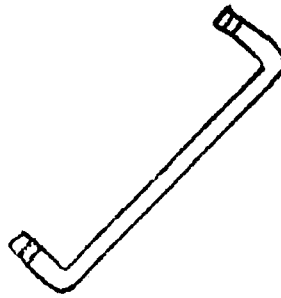
The shoe cover can be attached to the sides and the ends of the shoe. The guard wires can be replaced by strip metal guards.

VALUE ANALYSIS UNIT  
 MATERIALS SERVICES DEPT.  
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RC:AEM

Yoke  
5404446  
3000/year



	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	\$612.00		\$612.00
Proposed	\$510.00*		<u>\$510.00</u>
			\$112.00

ESTIMATED ANNUAL SAVINGS -- \$336.00

\*Vendor's estimate

COMMENTS:

The yoke is a link between the piston rod and the U-arm. The limits of U-arm travel are determined by the spring and chain assembly on one end and by the bumper block on the other end.

Proposed:

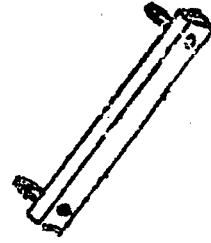
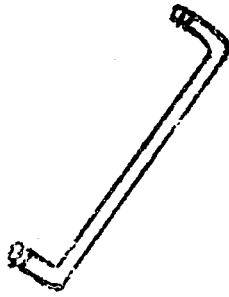
Loosen up the tolerances.

*Present Vendor*

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

Yoke  
5404446  
3000/year



Present

Proposed

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present	612.00		612.00
Proposed	255.00*		<u>255.00</u>
			357.00

ESTIMATED ANNUAL SAVINGS--\$1071.00

\*Estimate

COMMENTS:

The yoke is a link between the auxiliary piston rod and the U-arm.

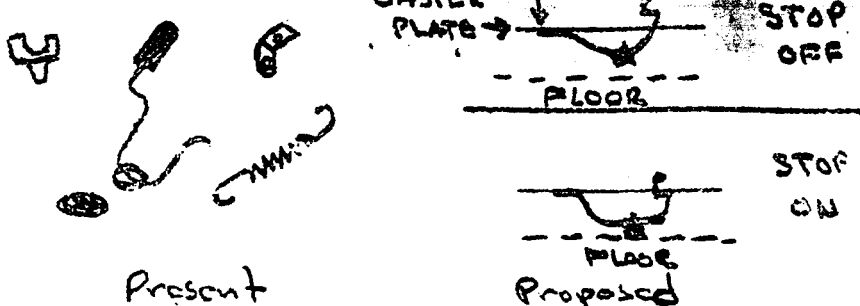
Proposed:

Replace formed wire with two short 3/8" wire studs welded to a piece of bar stock.

VALUE ANALYSIS UNIT  
MATERIALS SERVICES DEPT.  
January 1953

RCP:AEM

Floor Stop Assembly  
 5402556  
 5404396  
 5400441  
 5402377  
 5400485  
 6000/year



	Cost/M		
	Material	Adjusted Labor	Shop Cost
Present Assembly	210.18	35.46	288.10
Proposed	168.34	18.99	226.08
Spring Strip with snap-in Rubber Bumper			62.02

ESTIMATED ANNUAL SAVINGS -- \$372.12  
 (Lots of 5000) \$628.92

**COMMENTS:**

The above cost figures do not include plating. It is assumed that the cost of plating for the proposed spring would be nearly that of the present assembly.

Proposed:

A spring steel strip is welded to the caster plate at one end. The free end goes through a square hole in the caster plate. Two bends and a roll are put in the free end of the spring. When the end of the spring is pushed down, the bends will hook the spring on the caster plate. The spring can be unhooked by pushing the end of the spring back. A snap-in rubber bumper acts as the floor stop. The end of the spring is rolled so that it will not damage the operators shoe.

Tools -- \$343.00

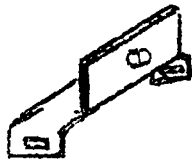
*Wallace Buses on Springs  
 Can field on Rubber Piece*

VALUE ANALYSIS UNIT  
 MATERIALS SERVICES DEPT.  
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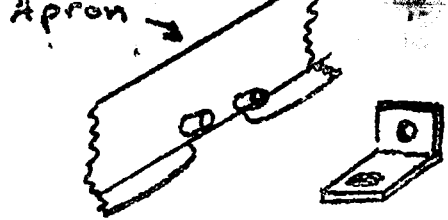
RCP:AEM



Bumper Block  
 Bumper Bracket  
 4166598  
 5406125  
 3000/year



Present



Proposed

	Cost/M		Shop Cost
	Material	Adjusted Labor	
<b>Present</b>			
Bumper Block	30.60		
Bumper Bracket	79.12		109.72
<b>Proposed</b>			
Foot Bumpers (2)	30.60		
Bracket	40.80*		71.40
			<u>38.32</u>

ESTIMATED ANNUAL SAVINGS -- \$114.96  
 \*Estimate

COMMENTS:

The bumper block and bumper bracket limit the travel of the U-arm in one direction. In addition, the bracket holds one end of the lock bar.

Proposed:

Cement two standard foot bumpers on the back of the apron where they will contact the channels of the Uarm. Use a simpler bracket to hold the end of the lock bar.

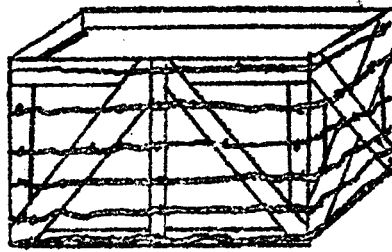
Tool Charge -- \$60.00 (Estimate)

VALUE ANALYSIS UNIT  
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 January 1953

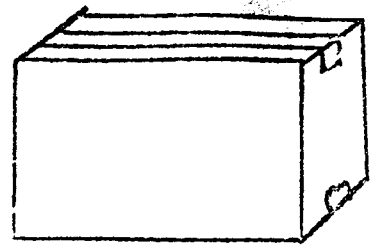
*Bumpers - Canfield*

RCP:AEM

Crate  
5406385



PRESENT



PROPOSED

	Cost/M		
	<u>Material</u>	<u>Adjusted Labor</u>	<u>Shop Cost</u>
Present Wire Bound Crate	\$3167.00		\$3167.00
Proposed Corrugated Carton	\$1902.00		\$1902.00
			\$1265.00

ESTIMATED ANNUAL SAVINGS --\$3795.00

COMMENTS:

The ironer is being returned to Bridgeport in the proposed corrugated carton.

*See Arnie Usgla*

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