

**PARTS OF Nos. 90 & 90M CONTROLLERS—Cont.**

Style No.	Parts per Controller.	Description.	Price.		
			£	s	d.
3173	2.	Pin for No. 3153 and 3154, $\frac{5}{16}$ " x $1\frac{5}{16}$ "...each	0	0	3
3168	1.	Spring stud for No. 3154, $\frac{9}{16}$ " x $1\frac{1}{4}$ ".....	0	0	4
3225	1.	<b>Spring with hooks for main and rev. pawls</b> .....	0	2	
3229	1.	Spring without hooks for No. 3225 .....	0	0	
724	2.	Hooks for No. 3225.....each	0	1	
3154	1.	<b>Rev. drum ratchet pawl complete</b> .....	0	4	6
3167	1.	Pivot stud for No. 3154, $\frac{7}{8}$ " x 1" .....	0	0	6
3228	1.	Lower pivot stud for No. 3154, $\frac{1}{2}$ " x 2".....	0	0	4
3168	1.	Spring stud for No. 3154, $\frac{9}{16}$ " x $1\frac{1}{4}$ ".....	0	0	6
725	1.	Roller for No. 3154, $1\frac{1}{16}$ " x $\frac{9}{16}$ " .....	0		
3155	1.	<b>Rocker arm</b> .....	0	1	
3172	2.	Pivot stud for No. 3155, $\frac{7}{16}$ " x $1\frac{1}{4}$ "...each	0	1	
3169	1.	Roller stud for No. 3155, $\frac{3}{8}$ " x $1\frac{1}{16}$ " .....	0	0	
3164	2.	Roller for No. 3155, $\frac{3}{4}$ " x $\frac{7}{16}$ " .....	0	0	3
3175	1.	Pin for Nos. 3155 and 3158, $\frac{5}{16}$ " x $1\frac{11}{16}$ "..	0	0	3
3475	2.	Cotter for No. 3169, $\frac{3}{32}$ " x 1" ...per doz.	0	0	3
8871	2.	Cotter for No. 3175, $\frac{3}{32}$ " x $\frac{3}{4}$ " ...per doz.	0	0	3
3158	1.	<b>Rack carrier with racks</b> .....	0	6	
3159	2.	Rack .....	0	1	9
3170	4.	Rivet for Nos. 3158 and 3159 ...per doz.	0		
3160	1.	Split eccentric block .....	0		3
3161	1.	<b>Interlocking shaft and pawls complete</b> .....	0		1
3239	1.	Interlocking shaft for No. 3161.....	0	0	7
3242	1.	Fullerboard and mica tube for No. 3161.	0	0	7
3240	1.	Cut out interlocking lever and pawl.....	0	0	7
3241	1.	" " " pawl .....	0		
3166	1.	Spring for No. 3161 .....	0	0	7
3171	2.	Taper pin for No. 3161, No. 1 x $1\frac{1}{4}$ "...per doz.	0		
3182	1.	Bearing for No. 3161.....	0		4
3112	1.	<b>Reversing Handle</b> .....	0	3	
3243	1.	Reversing shaft extension 26 a.....	0	1	1

Order by Style Number

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Style No.	Parts per Controller.	Description.	Price.		
			£	s.	d.
90M 3189	I.	Water cap for No. 3243.....	0	3	9
90 8832	I.	" " " " .....	0	3	9
3477	I.	Set screw for No. 3189, No. 14—24 x $\frac{7}{8}$ " .....per doz.	0	0	6
3133	I.	<b>Reversing drum ratchet</b> .....	0	5	9
3320	I.	Pin for No. 3133, No. 4 x $1\frac{1}{2}$ " taper .....per doz.	0	1	6
3134	I.	<b>Shaft and pinion for reversing drums</b> .....	0	5	6
3244	I.	Shaft for No. 3134.....	0	2	6
3245	I.	Pinion " " .....	0	3	4
3138	I.	Pin for No. 3245, No. 4 x $1\frac{1}{4}$ " ..per doz.	0	1	6
90M 8852	I.	<b>Reversing Drum complete, No. 1 Motor</b> .....	0	17	1
90 3126	I.	Reversing drum complete No. 1 motor... ..	0	17	1
90M 8853	I.	Hollow insulated shaft and cam for No. 8852.....	0	5	4
90 3127	I.	Hollow insulated shaft and cam for No. 3126 .....	0	5	4
3226	2.	Hollow insulated shaft for Nos. 8853, 3127, and 3132.....each	0	3	6
90M 3597	I.	Cam for No. 8853 .....	0	1	9
90 3176	2.	" " " 3127.....each	0	1	9
3251	4.	Rivet for Nos. 3597, 3176, and 3177, $\frac{1}{8}$ " x $\frac{5}{16}$ " ..per doz.	0	0	3
3255	2.	Wooden drum for Nos. 8852, 3126, and 3131 .....	0	1	1
3247	2.	Contact strip Nos. 1 and 3 for Nos. 8852, 3126, and 3131.....each	0	0	7
3248	I.	Contact strip No. 2 for Nos. 8852 & 3126 .....	0	0	7
3249	I.	" " " No. 2 for No. 3131 .....	0	0	7
3250	5.	" " " Nos. 2 and 3 for Nos. 8852, 3126, and 3131 .....	0	0	7
3253	24.	Wood screws for contact strips No. 10 x $\frac{5}{8}$ " .....per doz.	0	0	4
3254	6.	Wood screws for cams Nos. 3597, 3177, and 3176 No. 6 x $\frac{5}{8}$ " ..per doz.	0	0	3
3130	2.	Locking flange for Nos. 3126 and 3131..	0	1	1

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3252	4.	Rivet for No. 3130— $\frac{1}{8}$ " x $\frac{1}{4}$ " ... <i>per doz.</i>	0 0 3
3137	1.	Spacing collar.....	0 0 4
3131	1.	<b>Reversing Drum complete, No. 2 Motor</b> .....	0 16 1
3132	1.	Hollow insulated shaft and cam for No. 3131.....	0 5 4
3177	1.	Cam for No. 3132 .....	0 1 10
3180	1.	Top bearing for R.D. shaft extension ...	0 1 1
3179	1.	Intermediate bearing for R.D. shaft.....	0 1 1
3181	1.	Bottom bearing for R.D. shaft .....	0 1 1
3230	2.	Tap bolt for Nos. 3180 and 3181, $\frac{3}{8}$ "— $16 \times 1\frac{1}{4}$ " .....	0 0 8
3232	2.	Tap bolt for No. 3179, $\frac{3}{8}$ "— $16 \times 2\frac{3}{4}$ " .....	0 1 4
3128	2.	Cut-out plug for reverse drums .....	0 1 1
3129	2.	Spring for plug Nos. 3128, No. 22... <i>each</i>	0 0 3
90M 3595	1.	<b>Finger base block (main drum) complete with finger bases</b> .....	1 15 6
90 3125	1.	Finger base block (main drum) complete with finger bases.....	1 15 6
90M 3596	1.	Finger base block (main drum) complete without finger bases .....	0 3 4
90 3235	1.	Finger base block (main drum) complete without finger bases .....	0 3 4
3471	4.	Screws for fastening base block... <i>per doz.</i>	0 1 0
3196	1.	Fullerboard under base block, $2\frac{1}{2}$ " x $23\frac{1}{4}$ "	0 0 7
3197	1.	" " " " finger bases, $2$ " x $23\frac{1}{4}$ "	0 0 7
2269	1.	Pressed asbestos finger shield, $2\frac{1}{2}$ " wide..	0 0 7
2270	1.	" " " " $1\frac{3}{16}$ " wide	0 0 4
2272	1.	Pressed asbestos finger shield, $4\frac{3}{4}$ " wide..	0 0 10
2271	1.	" " " " $1\frac{7}{16}$ " wide	0 0 4
2273	3.	Pressed asbestos finger shield, $4\frac{1}{2}$ " wide .....	0 0 10
2274	1.	Pressed asbestos finger shield, $1\frac{1}{8}$ " wide	0 0 4
3195	1.	Fullerboard on finger shields.....	0 0 7
90M 3147	1.	<b>Base block (special), complete with three bases</b> .....	0 4 7

Order by Style Number.

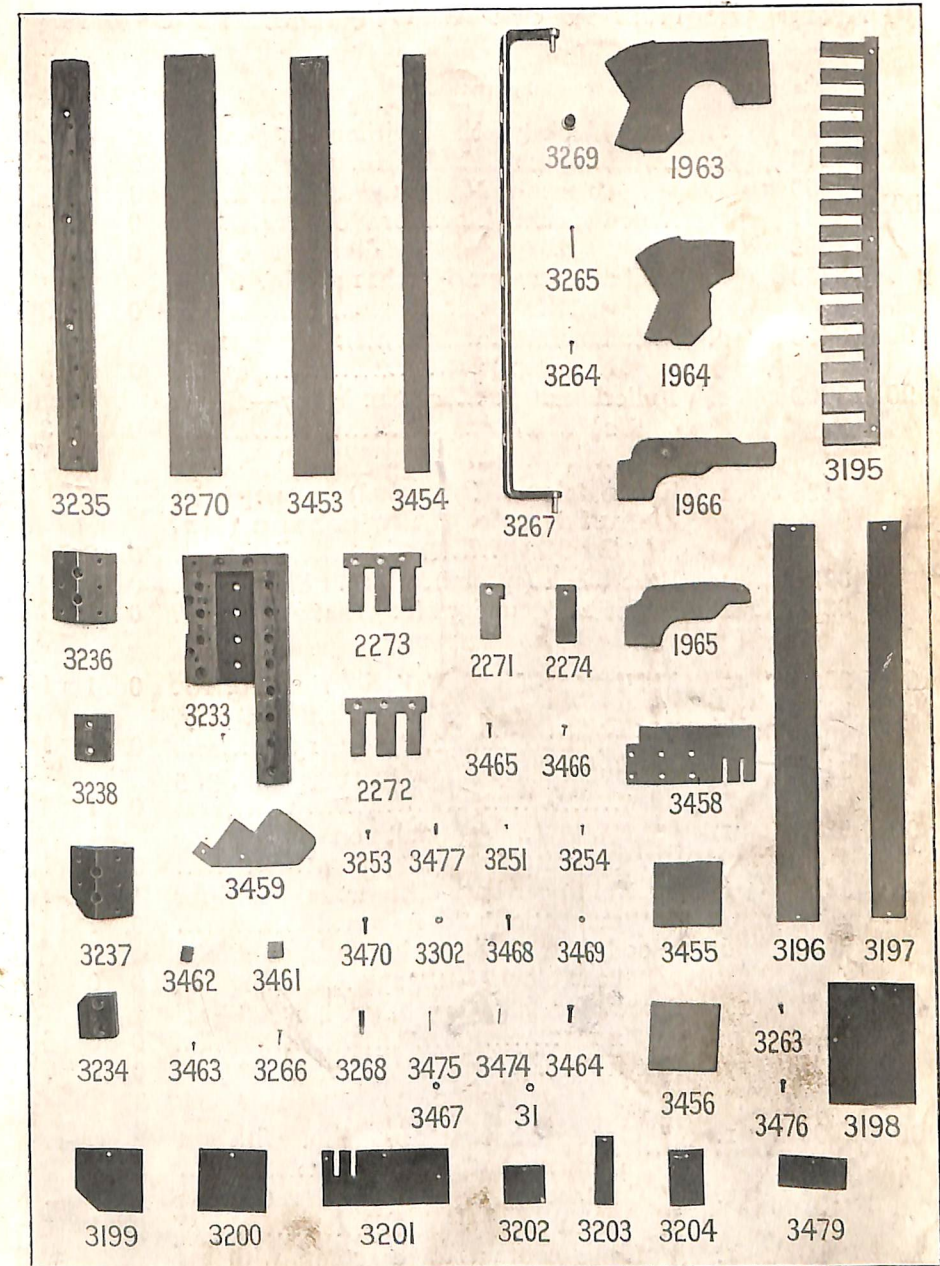


FIG. 5.

PARTS OF Nos. 90 & 90M CONTROLLERS—Cont.

Style No.	Parts per Controller.	Description.	Prices.		
			£	s.	d.
90M 3238	1.	Base block (special), without bases .....	0	1	4
3214	1.	Fibre finger shield for No. 3147 .....	0	1	0
3459	2.	„ „ piece for No. 3214 .....	0	0	7
3461	1.	Wood spacing block for No. 3214.....	0	0	6
3462	1.	„ „ „ „ $\frac{3}{4}$ " dia. for No. 3214.....	0	0	3
3463	4.	Wood screw for No. 3214—No. 6 x $\frac{1}{2}$ " .....	0	0	3
90M 3460	2.	Wood screw for fastening No. 3214—No. 6 x $1\frac{1}{2}$ " .....	0	0	3
90M 3202	1.	Fullerboard under No. 3147— $2\frac{1}{2}$ " x $2\frac{1}{2}$ " .....	0	0	3
3124	1.	<b>Base block (special), complete with one <math>\frac{3}{4}</math>" fingerbase (No. 3148)</b> .....	0	2	6
3234	1.	Base block (special), without base .....	0	0	10
3204	1.	Fullerboard under No. 3124, $2\frac{7}{8}$ " x $2\frac{1}{2}$ ".	0	0	3
90M 3590	1.	$\frac{1}{2}$ " <b>Finger base</b> opposite ring No. 16.	0	1	1
3148	12.	$\frac{3}{4}$ " „ „ „ rings 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 (2).....	0	1	1
3151	4.	1" Finger base opposite rings 1, 2, 3, 5 .....	0	1	4
90M 3213	1.	$\frac{3}{4}$ " „ „ „ special, on R.H. side opposite rings 3, 4, 5 .....	0	1	1
3219	1.	Special finger base on terminal board for magnetic brake finger.....	0	1	10
3465	6.	Wood screw for fastening bases to special base block, No. 3238 .....	0	0	3
3464	17.	Screws for fastening bases, No. 14— $2\frac{1}{4}$ " x 1" .....	0	0	6
3467	17.	Nut for No. 3464.....	0	0	6
90M 3589	1.	$\frac{1}{2}$ " <b>Contact finger</b> comp. with set screw, shunt and spring.....	0	1	0
3143	11.	$\frac{3}{4}$ " Contact finger comp. with set screw, shunt and spring .....	0	1	1
3146	1.	$\frac{3}{4}$ " Long contact finger comp. with set screw, shunt and spring.....	0	1	7

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Style No.	Parts per Controller.	Description.	Prices		
			£	s.	d.
3142	4.	1" Contact finger comp. with set screw, shunt and spring .....	0	1	4
90M 3211	1.	Special L.H. contact finger comp. for ring No. 5, with set screw, shunt and spring .....	0	1	4
90M 3212	1.	Special R.H. contact finger comp. for ring No. 3, with set screw, shunt and spring .....	0	1	4
3220	1.	Special magnetic brake finger comp. with shunt and spring.....	0	1	7
2875	1.	Washer for $\frac{1}{2}$ " fingers, $\frac{1}{2}$ " x $\frac{3}{4}$ ".....	0	1	7
2956	13.	„ „ $\frac{3}{4}$ " „ „ $\frac{3}{4}$ " x $\frac{3}{4}$ ".....	0	1	7
2873	4.	„ „ 1" „ „ $\frac{3}{4}$ " x 1".....	0	2	3
3591	1.	Clamping screw for $\frac{1}{2}$ " fingers, No. 20—18 x $\frac{1}{2}$ " .....	0	0	6
3262	19.	Clamping screw for $\frac{3}{4}$ " and 1" fingers, No. 24—16 x $\frac{5}{8}$ " .....	0	0	6
3470	19.	Set screw for fingers, No. 14— $2\frac{1}{4}$ x $\frac{7}{8}$ " .....	0	0	6
3302	19.	Brass nut for No. 3470.....	0	0	4
3615	1.	Magnetic brake finger and base complete, including Nos. 3219, 3220, 3221, 3614, 3222, 3224, 1573, and screws .....	0	9	2
3221	1.	Fibre shield for No. 3615 .....	0	1	4
3586	1.	Fibre for No. 3221—3" x 6" .....	0	0	7
3587	2.	„ „ 3221— $\frac{1}{2}$ " x 4".....	0	0	4
3588	4.	Copper rivet for No. 3221— $\frac{1}{8}$ " x $\frac{7}{16}$ " .....	0	0	3
3614	1.	Fibre shield for No. 3615 .....	0	1	4
3222	1.	Wire clip for No. 3615 .....	0	0	4
3224	1.	Wire for No. 3615. No. 5—1' 0" .....	0	0	7
1573	1.	Connector for No. 3615.....	0	0	10
3618	1.	Clamping screw for mag. brake finger No. 3220, No. 24—16— $\frac{3}{4}$ ".....	0	0	6
2995	2.	Screw for fastening base to terminal board No. 14— $2\frac{1}{4}$ x $1\frac{1}{2}$ " .....	0	0	9
31	2.	Washer for No. 2995.....	0	0	3
3466	4.	Wood screw for No. 3614, No. 10 x $\frac{5}{8}$ " .....	0	0	3

Order by Style Number.

PARTS OF Nos. 90 & 90M CONTROLLERS—Cont.

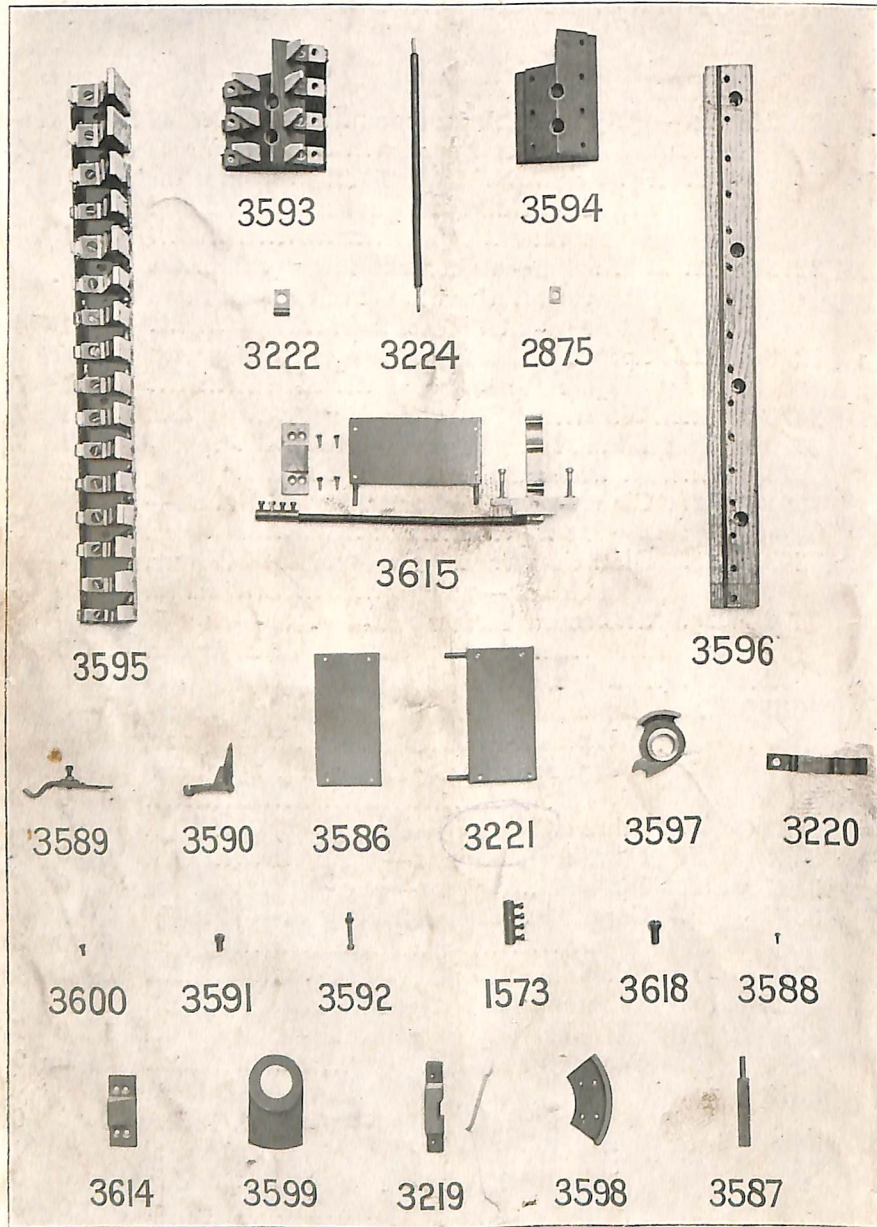


FIG. 6.

Style No.	Parts per Controller.	Description.	Prices.		
			£	s.	d.
90M 3593	1.	<b>Finger base block (reversing drum No. 1) complete with bases</b> .....	0	9	3
90* 3135	1.	Finger base block, reversing drum No. 1 complete with bases .....	0	6	9
90M 3594	1.	Finger base block without bases .....	0	2	4
90* 3236	1.	Finger base block without bases .....	0	2	4
90M 8737	1.	Fullerboard under No. 3593— $3\frac{3}{4}$ " x $5\frac{1}{2}$ " .....	0	0	3
3200	1.	" " " " 3135 .....	0	0	3
3203	1.	Fullerboard under bases (3) $1\frac{1}{8}$ " x 4" .....	0	0	3
90M 8738	1.	" " " " (4) $1\frac{1}{8}$ " x $5\frac{1}{2}$ " .....	0	0	3
3472	4.	Screw for fastening No. 3593 and 3236. No. 24— $16$ x $1\frac{1}{2}$ " .....	0	1	6
3149	12.	$\frac{3}{4}$ " Finger base for base blocks Nos. 1 and 2 .....	0	1	1
3464	12.	Screw for fastening bases No. 14— $24$ x $1$ " .....	0	0	6
3467	12.	Nut for No. 3464 .....	0	0	4
3144	12.	$\frac{3}{4}$ " Contact finger for drums Nos. 1 and 2 complete with shunt and spring .....	0	1	1
3262	12.	Clamping screw for $\frac{3}{8}$ " finger. No. 24— $16$ x $\frac{5}{8}$ " .....	0	0	6
3141	12.	Washer for No. 3262 $\frac{3}{4}$ " x $1\frac{1}{8}$ " .....	0	0	3
3136	1.	<b>Finger base block, reversing drum No. 2, complete with bases</b> .....	0	8	2
3237	1.	Finger base block reversing drum No. 2 without bases .....	0	2	4
3199	1.	Fullerboard under No. 3136— $3\frac{3}{4}$ " x 4" .....	0	0	3
3203	2.	" " bases $1\frac{1}{8}$ " x 4" .....	0	0	3
90M. 3206	1.	<b>Terminal board complete with terminals</b> .....	1	2	0
90 3206	1.	Terminal board complete with terminals .....	1	2	0
3233	1.	Terminal board without terminals .....	0	4	0
3198	1.	Fullerboard under No. 3233— $3\frac{5}{16}$ " x $7\frac{1}{2}$ " .....	0	0	4

\* Style Nos 3135 and 3236 are used with 90M Controllers not fitted for magnetic braking with one Motor cut out.

Order by Style Number.

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PARTS OF Nos. 90 & 90M CONTROLLERS—Cont.

Style No.	Parts per Controller.	Description.	Prices.		
			£	s.	d.
3191	4.	Wooden bushings under No. 3233—1" dia. .....each	0	0	7
3473	4.	Screw for fastening No. 3233. No. 24— 16 x 2½" .....per doz.	0	2	4
3215	3.	Terminal complete with binding screw and nut, G, F <sub>2</sub> —, T .....each	0	1	1
3216	9.	Terminal complete with binding screw and nut F <sub>1</sub> +, F <sub>1</sub> —, A <sub>1</sub> +, A <sub>1</sub> —, A <sub>2</sub> —, A <sub>2</sub> +, R <sub>1</sub> , R <sub>2</sub> , R <sub>3</sub> .....each	0	1	1
3217	2.	Terminal complete with binding screw and nut R <sub>3</sub> , R <sub>4</sub> .....each	0	1	1
90M 3218	2.	Terminal complete with binding screw and nut R <sub>6</sub> , R <sub>7</sub> .....each	0	1	1
3468	16.	Binding screw for terminals, No. 12— 24 x ¾".....per doz.	0	0	6
3469	16.	Nut for No. 3468 ..... "	0	0	4
3466	16.	Screw for fastening terminals to board, No. 10 x ⅝".....per doz.	0	0	3
3254	4.	Binding screws for terminals R <sub>6</sub> and R <sub>7</sub> , wood screw, No. 6 x ⅝" .....per doz.	0	0	6
3478	1.	Fullerboard between cables and terminal board, 2¾" x 3¼" ..... "	0	0	5

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MANCHESTER.

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