

**ARCH NOTES.**

By L. H. GIBSON.

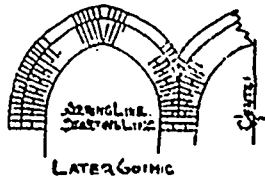
One can look around him in any city and see very few brick arches which are properly started. This seems a strange thing to say. In the business portion where there are the largest number of fine buildings the mistake is less usual though not uncommon. Take as an illustration the round arch here shown. It is almost universal to find such an arch started from the spring line. This is wrong. Every arch should be stilted. The stiling of the arches in the drawings given is two courses. That is, there are two courses straight before the lines begin to run to the common center. Where they start from the spring line without the stiling the arch always has the appearance of being sprung out at the bottom. That is, it does not appear to be a true half circle. It has the appearance of being somewhat crushed—spread out. It is a fact that very few bricklayers pay any attention to the proper method of starting an arch this way. It is due to the brick business and to the interest of all brickmakers, and as well to the people at large, that this little point be understood. There are many other things to be said about turning arches.

In the drawing herewith there is a 12-inch bonded surrounded with a 4-inch rowlock arch. In good work there is just one way to lay this arch and do it right. The bricks or the bonded arch all should be cut. One half of the arch should be laid

out full size on a board. The brick should be spaced so that a key brick will come there in the center. Then all should be cut to a pattern. Each brick should be scribed to the proper pattern, the edge pitched off and the bed cut and ground down to a true face. The pitching should be done with a chisel which has about a four-inch face. Then the joint line should be laid off on the wood center the same as they are on inside rim of the arch. A nail should be driven in the radius point or center, and as each brick is set it should be made true to the line which runs from the center. To the bricklayer who is used to cutting his brick with a trowel and setting them by guess, all this sounds like nonsense, but one who lays up an arch without this careful and exact precision never laid up two arches alike and never will. The way we have outlined is the method pursued by the best bricklayers. The outside rowlock does not need to be cut. All joints in the stilted part of the arch should be carried down the same as though they were, properly speaking, a part of the arch itself. If there is a bond or string course it should come below the starting point.

Herewith are presented drawings of two pointed or gothic arches. They are stilted two courses the same as is proper for a round arch; that is, the joint lines of the arch continue two courses above the spring line. Nothing looks worse than to see a gothic arch started directly from the spring line without the stilt. The spreading shows more conspicuously in a gothic arch than in a round arch and is altogether more objectionable. There are two kinds of pointed arches shown here. One is an early gothic arch and the other belongs to the latter gothic period. The former belongs to the early French and

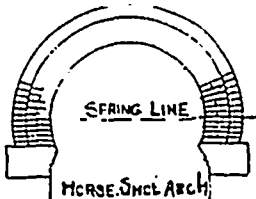
early English Gothic. The latter was characteristic of the fifteenth and sixteenth centuries and is very common in Venetian work. It makes a prettier, softer and altogether more pleasant arch than that of the early period which has a hard, sharp look. It is to be observed that the joint in a brick arch at the point is a straight line and is not in key form. Furthermore, where two arches come together as is shown in latter Gothic forms, there is a straight joint where the two arches come together at the foot. The difference in the method of turning these arches is that the center in the case of the early Gothic is taken from each side of the opening. On the other hand the centres of the latter Gothic arch are taken from a short distance each side of the middle. Thus it is flatter and rounder. In laying out an arch of this kind not only should the bonded parts of the arch be cut to a pattern, but also the rowlocks at the points and on the line where the two arches join.



LATE GOTHIC

A man who undertakes to cut an arch of this kind with a trowel is sure to botch it. A horse-shoe arch is not laid properly once in twenty times. The most natural thing in the world to do is to get it wrong. The mistake is made in laying the brick which come below the spring line so that they radiate from the center. All brick below the spring line should be exactly horizontal; that is, the joints should be parallel with all other horizontal joints in the wall, and the arch form should be given below the spring line by the cutting of the brick. The exemplification of this idea is to be found in the Alhambra and in all the architecture of that period in which a horse-shoe arch is used. Such an arch may be round, as here shown, or it may be pointed or of O G form.

The straight arch, which is shown in the accompanying cut, should never be straight on the bottom. If it is it will show as though it were settling and was low in the center. In the three-foot straight arch there should be a spring of about half an inch in the center. Then it will show straight. The brick for a straight arch should be cut the same as for any other arch before they are taken to the scaffold. It should be done with a chisel and not a trowel. The bed should be cut and rubbed smooth.



HORSE SHOE ARCH

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STRAIGHT ARCH

**YARD QUOTATIONS.**

Mill cull boards and scantling	10 00
Shipping cull boards, promiscuous widths	13 00
Shipping cull boards, stock	14 00
Hemlock canting and joist up to 16 ft.	11 00 18 00
" " " 18 "	12 00 23 00
" " " 20 "	13 00 24 00
Scantling and joist, up to 16 ft.	14 00
" " " 18 "	15 00
" " " 20 "	17 00
" " " 22 "	19 00
" " " 24 "	21 00
" " " 26 "	23 00
" " " 28 "	25 00
" " " 30 "	27 00
" " " 32 "	29 50
" " " 34 "	31 00
" " " 36 "	33 00
" " " 38 "	35 00
" " " 40 to 44 ft.	36 00
Cutting up planks, 1 1/2 and thicker, dry board	25 00 26 00
Cedar for block paving, per cord	18 00 22 00
Cedar for Kerbing, 4 x 14, per M.	5 00 14 00

**D. M.**

1 1/2 inch flooring, dressed, F. M.	28 00 31 00
1 1/2 inch flooring rough, B. M.	18 00 22 00
1 1/4 " " " " " dressed, F. M.	25 00 28 00
1 1/4 " " " " " undressed, B. M.	18 00 19 00
1 1/4 " " " " " " dressed	18 00 22 00
1 1/4 " " " " " " undressed	12 00 15 00
Beaded sheeting, dressed	22 00 35 00
Clapboarding, dressed	12 00
XXX sawn shingles, per M, 16 in	2 65 2 75
Sawn lath	2 00 2 70
Red oak	30 00 40 00
White	35 00 45 00
Basswood, No. 1 and 2	18 00 20 00
Cherry, No. 1 and 2	70 00 70 00
White ash, No. 1 and 2	25 00 25 00
Black ash, No. 1 and 2	30 00 30 00
Dressing stocks	16 00 22 00
Picks, American inspection	40 00
Three uppers, American inspection	50 00

**BRICK—P M**

Common Walling	\$7 50
Good Facing	9 00
Sewer	8 50 9 00

**Pressed Brick:**

Plain brick, f. o. b. at Milton, per M.	\$17 00
" " " 2nd quality, per M.	13 00
" " " 3rd " " " " " "	10 00
Hard Building	8 00
Moulded and Ornamental, per 100	\$3 to 10 00
First quality, f. o. b. at Campbellville, per M	18 00
2nd " " " " " " "	13 00
3rd " " " " " " "	10 00
Hard Building	8 00
Ornamental, per 100	\$3 to 10 00
Tiles	24 00

**Stone.**

Common Rubble, Per Taise, delivered	14 00
Large flat " "	18 00
Foundation Blocks, " Cubic Foot.	35
<b>Slate: Roofing (V square).</b>	
" red	16 00
" purple	9 00
" unslating green	9 00
" black slate	7 50
Terra Cotta Tile, per sq.	25 00
Ornamental Black Slate Roofing	8 00

**Sand.**

Per Load of 1 1/2 Cubic Yards	1 25
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**P-AINTS. (In oil, 1/2 lb.)**

White lead, Can zinc, Can	6 25 6 50
Red lead, Eng	6 1/2 7 50
" venetian	5 1/2 6 1/2
" vermilion	1 60 1 75
" Indian, Eng	90 1 00
Yellow ochre	10 12
Yellow ochre	5 10
Yellow chrome	15 20
Green, chrome	7 12
" Paris	25 40
Black, lamp	15 25
Blue, ultramarine	15 35
Oil, linseed, raw (& Imp. gallon)	78 70
" " " boiled	72 75
" " " refined	78 80
Putty	2 1/2 2 1/2
Whiting, dry	75 1 00
Paris white Eng., dry	90 1 25
Litharge, Am.	6 1/2 8
Sienna, burnt	15 20
Umber	8 1/2 12

**CEMENT, LIME, etc.**

Lime, Per Barrel of 2 bushels, Grey.	40
" " " White	55
Plaster, Calcined, New Brunswick	2 00
" " " Nova Scotia	2 00
Hair, Plasterers', per bag	1 00
Cement, Portland, per bbl.	2 80 3 00
" Thorold, " " "	1 50
" Queenston, " " "	1 50
" Napanee, " " "	1 50
" Hull, " " "	1 50

**HARDWARE.**

**Cut Nails:**

American Pattern, 1 1/2 inch, per keg	4 00
" " 1 1/2 to 1 3/4 inch, per keg	3 30
Canadian Pattern, 1 1/2 inch, per keg	3 50
" " " 1 1/4 to 1 1/2 inch, per keg	3 00
" " " 2 " to 2 1/2 inch, "	2 00
" " " 2 1/2 to 2 3/4 inch, "	2 80
" " " 3 inch and larger	2 50
Steel nails roc. per keg extra	
Finishing nails, 1 inch, per keg	5 60
" " 1 1/2 inch, " " "	4 00
" " 1 1/2 " " " "	4 40
" " 1 1/2 " " " and larger	4 1/2 3 00

**Prices of Building Materials.**

**LUMBER.**

CAR ON CARGO LOTS.

1 1/2 and thicker clear picks, Am. ins.	\$30 00
1 1/2 and thicker, three uppers, Am ins.	37 00
1 1/2 and thicker, pickings, Am ins.	27 00
1 x 10 and 12 dressing and better	18 00 20 00
1 x 10 and 12 mill run	13 00 14 00
1 x 10 and 12 dressing	14 00 16 00
1 x 10 and 12 common	12 00 13 00
1 x 10 and 12 spruce culls	10 00 11 00
1 x 10 and 12 maple culls	8 00 9 00
1 inch clear and picks	18 00 30 00
1 inch dressing and better	15 00 20 00
1 inch siding, mill run	14 00 16 00
1 inch siding, common	11 00 12 00
1 inch siding, ship culls	\$10 00 \$11 00
Cull scantling	8 00 9 00
1 1/2 and thicker cutting up plank	5 00 9 00
1 inch strips, 4 in. to 8 in. mill	22 00 25 00
1 inch strips, common	14 00 15 00
1 inch strips, common	11 00 12 00