Changing shape of the florin, 1849–1970

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The florin had a brief life on the numismatic time scale, from its introduction in 1849 as a first step towards decimalisation through to the last issue prior to 1971 when decimalisation finally became a reality. In the intervening 120 years, the florin was made with four different diameters, three different alloys, and six different thicknesses.

There is disagreement between previously published sources purporting to provide florin diameters (Table 1), and none of them seems correct in every respect.

	Dickinson (1980)[1]	Davies (1982)[2]	Krause[3]
Godless (1849)	28.00 mm	27.75 mm	Not specified
Gothic (1852-1887)	30.00 mm	30.00 mm	Not specified
Jubilee (1887-1892)	29.50 mm	29.00 mm	Not specified
1893-1970	28.50 mm	28.00 mm	28.30 mm

Table 1: Published florin diameters

This post seeks to identify the most likely diameters, supported by archival references and experimental data, and provide an estimate of thickness.

In the various Coinage Acts and Royal Proclamations authorising the production of coins, the specifications are confined to weight and fineness, along with the permitted tolerance for these parameters, known as the "remedy allowance". The diameter of the coins is left to the discretion of the Mint, and the thickness is a function of the weight, the diameter and the density of the coinage metal.

Authoritative information on diameter is thus to be found only in the *Annual Reports* of the Deputy Master of the Mint (which only start in 1870) and Mint records in the National Archives. Even here, official references to diameter are frustratingly few and far between, and in the case of the Godless and Gothic florins almost inexistent.

For the Godless florin issued in 1849, what can be said with certainty is that it is the smallest of the florins in diameter – all florins have the same nominal weight of 11.310 g. Dickinson comes close at 28 mm, but experimental data shows that the actual diameter is always a fraction below this value. Bearing in mind that the Mint used Imperial measurements at the time, it seems likely that the nominal diameter for this coin was 1.100 inches (27.940 mm). Perhaps it is not too fanciful to suggest that the Mint thought one and one-tenth of an inch to be an appropriate diameter for a coin worth one-tenth of a pound?

When the replacement Gothic florin was introduced in 1852 (the 1851 florin is undoubtedly a pattern, but that is a story for another post), it was decided to significantly increase the

[1] Dickinson, M. J., Victorian "Godless" and "Gothic" florins – a further report, Seaby *Coin & Medal Bulletin,* No. 741, May 1980

[2] Peter Davies, *British silver coins since 1816,* 1st edition, 1982

[3] *Standard Catalog of World Coins 1801-1900* and *1901-2000,* Krause Publications

diameter. The figure of 30 mm is widely quoted, but the author's measurements (mean 1.18 inches, n=40) suggest a slightly smaller diameter, most likely 1.180 inches (29.972 mm).

The Jubilee issue of 1887 saw a reduction in the diameter, and here at last there is some official data. The Royal Mint *Annual Report* of 1891 contains a passage on the calculation of the Remedy Allowance as a function of the diameter and thickness of the coin and the density of the coinage metal. To make these calculations simpler, the Mint used metric measurements, and the diameter specified for the florin is 2.9446 cm. Assuming that this was a conversion from the nominal diameter in inches, the most likely figure is thus 1.1593 inches.

This is further supported in *Notes on the Coining Processes for Royal Mint Apprentices*, written in 1952 by P. H. Pettiford, Superintendent of the Royal Mint Operative Department, in which the diameter of the "old" florin (pre-1893) is given as 2.9446 cm rounded to 1.159 inches.

When the competition for design of the Old Head coinage was launched in 1891, a diameter of 1.150 inches (29.210 mm) was specified for the florin in the *Memorandum of requirements* sent to competitors (National Archives, MINT 7/45). However, by the time the coins were struck in 1893, the decision had been made to further reduce the diameter of the florin to differentiate it from the half-crown (1.272 inches) circulating alongside it. There is written evidence that the nominal dimension of the florin from 1893 onwards was 1.122 inches (28.4988 mm). This is to be found in *Notes on the Coining Processes* and in the Mint document *Illustrations of Designs of New Coins,* 1932-1941 (National Archives, MINT 7/43). It is further supported by the author's measurements (mean 1.122 inches, n=81).

A summary of proposed values for florin diameters is given in Table 2 with illustrations to scale in Figure 1.

	Diameter (in.)	Diameter (mm)	Rounded to (mm)
Godless (1849)	1.1000	27.940	28.0
Gothic (1852-1887)	1.1800	29.972	30.0
Jubilee (1887-1892)	1.1593	29.446	29.4
1893-1970	1.1220	28.498	28.5

Table 2: Proposed values for florin diameters, inferred for the Godless and Gothic and supported by official sources for the Jubilee issue and all florins from 1893 to 1970.

Figure 1: the changing diameter of the florin.

It is no surprise that the usually meticulous Michael Dickinson comes closest to the truth in his 1980 article, with only a 0.1 mm difference for the Jubilee florin. Peter Davies is wide of the mark for all except the Gothic florin. And Krause Publications has seeded great confusion with its

erroneous figure of 28.3 mm for florins from 1893-1970, as this mistake has been widely repeated elsewhere, apparently without the most rudimentary of checks.

As for thickness, it might be supposed that the Godless florin should be the thickest, given that it has the smallest diameter. However, this neglects the density of the different coinage metals used. Sterling silver is denser than .500 silver, which in turn is denser than cupronickel. To maintain the same weight and diameter, the thickness must increase as the density of the alloy decreases.

The theoretical thickness t of an unmarked blank can be calculated from the nominal mass m, diameter d and density ρ according to the formula:

$$t = \frac{m}{(\pi d^2 / 4)\rho}$$

To obtain the edge thickness of the struck coin, this must be multiplied by an empirical factor (here 1.25) to allow for the "rimming" or "marking" operation that raises the edge of the blank before striking.

Table 3 shows the calculated thickness of unmarked blanks and the estimated thickness at the rim of the finished coin.

	Coinage metal	Calculated thickness of unmarked blank (mm)	Estimated thickness at edge of finished coin (mm)
Godless 1849	.925 silver	1.78	2.22
Gothic 1852-1887	.925 silver	1.54	1.93
Jubilee 1887-1892	.925 silver	1.60	2.00
1893-1919	.925 silver	1.71	2.14
1920-1946	.500 silver	1.83	2.29
1947-1970	Cupronickel	1.98	2.48

Table 3: Estimated thickness of florins

This is consistent with the advice given by the Mint to makers of coin-operated machines, which specified the thickness of the cupronickel florin at 0.095-0.100 inches (2.41-2.54 mm).

As can be seen, the Gothic florin is the thinnest and the cupronickel coins are by far the thickest.

It is entirely to be expected that individual specimens will differ from the nominal weight, diameters and thicknesses given here, due to both wear and normal variations in the manufacturing process.

This does not claim to be the last word on florin diameters and thicknesses, but it is hoped that it will engender further contributions, not least through the comments section of this blog.