

ART X.—*Elizabethan Weights in the Carlisle Museum.*
By LINNÆUS E. HOPE, F.L.S.

Read at Carlisle, May 1st, 1919.

I HAVE the honour to exhibit parts of two distinct sets of Standard weights of Elizabethan date formerly belonging to the Corporation of Carlisle. These weights were issued to a certain number of the principal county towns of the kingdom of England in the thirtieth year of the reign of Queen Elizabeth (1558).

The first of these are two brass bell-shaped Avoirdupois weights, respectively the standard for 1 and 2 pounds, and of approximately the same shape and pattern as the standard weights of to-day.

The 2lb. weight is stamped on one side with an inscription in four lines as follows :—first a Tudor rose ; then the letters A N (in capitals) with a large round stop (or abbreviated O) ; in the centre an Imperial Crown (extending through the first and second lines) and then the letters D O followed by another Tudor rose. The second line consists of the date 1588, two figures on each side of the crown ; the third line has the letters E L (larger than the others) ; the fourth line begins with a Tudor rose, A with a large stop (or abbreviated O), another rose, R E G , rose, space, rose, X X X and a final Tudor rose. The X X X signifies the thirtieth year of the reign of Queen Elizabeth. The opposite side bears a *fleur-de-lis* with four Tudor roses, one on each side, above and below. On the top in front it is stamped II in Roman numerals, with the sign of the pound and an A, signifying 2lbs. Avoirdupois ; also on the top it is stamped twice E L with a crown above. There is no mark or stamp on the bottom but it has been adjusted by the addition of a blob of lead.

The one-pound weight has a similar inscription on the front differing only in having more Tudor roses as stops, which occur on each side of every single letter, figure or abbreviation, and on each side of the crown. There is also a *fleur-de-lis* in the centre of the lowest line and numerous annulets above and on each side of the roses. On the opposite side there is a crown and E L in the centre; on the upper part a small *fleur-de-lis* with attendant Tudor roses and annulets. These two weights were formerly in the possession of the late Mr. W. Carrick of Carlisle, who took them with him when he left Carlisle for Haltwhistle; the Museum Committee has now purchased them from his grandson at Darlington.

The second set consists of six Troy weights ranging in multiples of ounces from four to one hundred and twenty eight ounces, individually weighing 4, 8, 16, 32, 64, and 128 ounces. In shape they somewhat resemble a modern flower-pot and each weight fits closely inside its multiple—the whole forming a nest of weights.

The inscription on each is similar to that on the Avoirdupois weights (they were issued the same year 1588) in three lines:—a crown above E L —A N—D O—1588—R E G X X X. This interesting set has been lent to the Museum by Lieut.-Col. J. P. D. Wheatley.

The old Troy weight table is as follows:—24 grains = 1 pennyweight; 20 pennyweights or 480 grains = 1 ounce; 12 ounces or 5760 grains = 1 pound. One grain Troy is equal to one grain Apothecary's weight and one pound Troy is equal to one pound Apothecary's or 5760 grains; whilst one pound Avoirdupois is equal to 7000 grains of Troy or Apothecary's, and this is the only basis by which an equivalent can be obtained in the three tables. The Elizabethan 11lb. Avoirdupois however weighed 7002 grains Troy. This may or may not have been primarily an error due to careless workmanship in producing the standard weights, as in the case of the Eliza-

bethan measures of capacity or in those of the reign of King Henry the VII. The Elizabethan standard Quart kept in the Exchequer contains 70 cubic inches, which leads to a Gallon of 280 cubic inches ; and whilst it was stated to contain 282 cubic inches the Gallon measure actually only contained 271 cubic inches. The Bushel of the same date is not a multiple of either the Gallon or the Quart. Thus we see that in the matter of weights and measures much error crept in, chiefly due to carelessness.

The earliest laws relating to weights and measures are contained in some undated acts supposed to be of the 51st year of the reign of Henry III (1267) and of the 31st year of Edward I (1303). These were published in Statutes of the Realm by George III, but in 972 A.D. Edgar, the first sole monarch of England, directed that standard measures should be kept at Winchester. In the 9th year of Richard I (1197) standard weights and measures were provided for the whole Kingdom of England by the Sheriffs of London. In 1353 Edward III ordered that there should be one weight, measure and yard throughout the Kingdom, and the first statute directing the use of Avoirdupois weight occurred during the reign of Henry VIII in 1532. In 1758 a Troy Pound was constructed and by direction of Parliament was deposited with the Clerk of the House of Commons. When the Houses of Parliament were burned down in 1834 this weight was lost, and in 1795 Troy weight was abolished except the Troy ounce, its multiples and divisions ; and weights and measures were ordered to be examined by the Justices at Quarter Sessions—this being in the 35th year of the reign of George III—and in 1800 further regulations were enacted. In an act of the year 1824 the term "Imperial" as applied to weights and measures first appears. In 1853 in the 16th year of the reign of Queen Victoria an act was passed regulating the weights for

plate and bullion and adopting the Troy ounce for the purpose and that is how it stands at the present day. The one-ounce Troy of 20 pennyweights or 480 grains, is used for gold, silver and precious stones, except diamonds and pearls. For expressing the purity or fineness of gold the "Carat" table is used. A carat pound is equal to half an ounce Troy, that is the 24th part of a Troy pound; a carat is a 24th part of a carat pound. Our gold coinage of the present day consists of 22 carats pure gold and 2 carats alloy in the carat pound.

An act passed in 1893 abolished all local weights and measures.

The Carlisle Standard weights and measures have passed through some vicissitudes. The Elizabethan measures of capacity apparently remained in the possession of the Corporation until they were handed over to the Old Museum sometime before the removal of the collection to Tullie House. The weights were apparently disposed of in some fashion at present unknown, but by kind permission of the Chief Constable of Carlisle and the Inspector of weights and measures for the City, I am permitted to read to you copies of two interesting documents now in their possession which throw some light on the kind of thing which used to happen. The first of these is a letter to the one time Inspector of weights and measures from the Mayor of the City:—dated November, 1864.

To Clement Skelton Inspector of Weights and Measures for the
City of Carlisle.

I Thomas Nanson, Esqr., Mayor of the City of Carlisle, hereby require you to restore and surrender up to Mr. George Edward Bent, Chief Constable of the said City—All and every the Standard and other weights and measures in your possession and custody as Inspector of weights and measures for the said City and all stamps, brands and scales and boxes or cases belonging thereto committed to your charge. And in default of the same being delivered up immediately the bond given by you and Messrs.

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William Brown and Thomas Harris your sureties to Her Majesty the Queen will be put in suit against you and your said sureties.

Dated this fifteenth day of November, 1864,

Thomas Nanson, Mayor.

The second is dated 1868 and is a minute of the Watch Committee.

CITY POLICE OFFICE.

Carlisle, 2nd July, 1868.

Minute of Watch Committee.

That as Clement Skelton the Inspector of Weights and Measures has suffered part of the Standard Measures to be seized and sold for rent it be recommended to the Council to dismiss him from his office.

(Note in pencil)

Imperial Bushel

Scales

2 . 15 . 6.