

# On Her Majesty's Service

WASC 550



INSTRUCTIONS FROM WILLIAM CONGREVE

~~MUSEUM~~



**Instructions from William  
Congreve, of the Royal  
Laboratory, Woolwich, for  
the manufacture of gunpowder  
at Waltham Abbey, following  
the purchase of the Mills by  
the Government in 1787.**

Royal Powder Mills  
Faversham 8. July 1788.

Sir,

You will make use of the following  
Proportion of Ingredients in the Gunpowder which  
you Manufacture at Waltham Abbey until further  
Orders.

|            | Wt.         | Lb. |
|------------|-------------|-----|
| Salt Petre | 75.         |     |
| Sulphur    | 10.         |     |
| Charcoal   | 15.         |     |
|            | <u>100.</u> |     |

You are to Corn your Powder from Cake  
and Dust of the Mill Charges Pressed together a sufficient  
time to bring it into a firm Body - The Dust which  
is produced from Corning this first Powder (called the  
first Dust,) after having the fine Grain separated  
from it, is also to be Pressed & Horned, & its Dust,  
(called the second Dust,) after having the Fine Grain  
separated therefrom, is to be Pressed & Horned. Great  
Care must be taken that both Dusts are Pressed  
sufficiently firm to prevent the Powder from being  
of a rotten Grain. The remains of Dust after working  
the second Dust into Gunpowder is to have the Fine  
Grain separated from it. & is then to be sent to a Mill  
to be Worked one Hour & a Half - You must be  
particularly careful that the several Ingredients are  
pulverized as near as possible to the same degree of fine-  
ness. They are to be put into a charge Tub in  
alternate layers - to be well blended with a Stier, &  
then to be passed thro' a fine wire sieve to make

as Intimate a Mixture as possible - Your Charges of Green Composition are never to be worked less than three Hours, exclusive of the time required to load, & unload the Mills, & as much longer as you may find it necessary, from time to time to bring it into a proper state. After the Powder is Corned, it is to be Moderately Glazed, It is then to be Stove Dried with such a degree of Heat, that the Thermometer in the Door of the Stove may not be less than 90 degrees when the Stove is at the hottest - The Powder is never to be Barrelled up from the Stove until it is sufficiently cool, & has been passed thro' a Powder Screen.

I am, Sir,

D<sup>S</sup>

Your humble Servant,

W<sup>m</sup> Longwe

Deputy Comptroller.

You will please to observe that if hereafter you should have any Stone Mills erected, or any New Water Mills whose Runners cannot go at the Rate of Six Revolutions in a Minute, as your present Mills are capable of doing, you must never think of working your Charges so short a time as three Hours, but must Work them in Proportion to the weight of such New Runners, & the Velocity with which they move, compared with the weight & Velocity of your present Runners. I think it necessary to give you this caution - because two hours & a half the time you formerly worked your Charges, was not sufficient to incorporate your Ingredients so as to make a durable Grain.

W<sup>m</sup> Newton, Master Worker at the Royal Powder Mills at Waltham Abbey.