

UNITED STATES PATENT OFFICE.

HUGH C. NEARY, OF GROTON, NEW YORK.

FLUX.

SPECIFICATION forming part of Letters Patent No. 562,735, dated June 23, 1896.

Application filed September 23, 1895. Serial No. 563,431. (No specimens.)

To all whom it may concern:

Be it known that I, HUGH C. NEARY, of Groton, in the county of Tompkins and State of New York, have invented certain new and
5 useful Improvements in Fluxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it.

10 This invention relates to improvements in fluxes; and the object of the invention is to provide a simple, cheap, and effective welding compound.

The invention consists in the following-
15 named ingredients, proportioned substantially as stated: salt, one part; sal-ammoniac, one part; fullers' earth, one part; borax, two parts; slag or cinders, three parts; iron filings or drillings, four parts.

20 In compounding my flux the borax, fullers' earth, slag or cinders, and iron filings having been previously pulverized are mixed thoroughly together and heated sufficiently to melt the borax and fullers' earth. The parts
25 are thus thoroughly united by the molten elements, and the salt and sal-ammoniac are then added and the compound thoroughly crushed and reduced.

By practical tests I have found that the
30 compound stated, composed of the peculiar individual ingredients, constitutes a most successful flux, as the various ingredients seem to coöperate or coact toward the final end desired in the operation of welding metals. The
35 iron filings or drillings seem to hold the surfaces together and prevent slipping or moving of the same while being united. The salt and sal-ammoniac are cleansing agents and

clean and act on the metal surfaces to be united in a peculiar and advantageous way 40 when in the presence of the other ingredients going to make up my peculiar compound. The fullers' earth and slag or cinders are most powerful fluxing agents and act in a most advantageous manner in the presence of the 45 other ingredients in my flux. Also, for some reason unknown to me my flux when placed on the heated surface does not fly, scatter, or sputter, as is the case with both the fluxes now in general use. 50

Under certain conditions the proportions stated of fullers' earth and slag or cinders can be varied, as these elements are in a measure somewhat interchangeable. Also, I do not wish to limit myself to the exact proportions 55 stated of salt and sal-ammoniac, as they are both cleansing agents and coöperate toward that result most advantageously in the peculiar compound herein described.

The silicious compounds, slag and fullers' 60 earth, may also be relatively varied in proportions in accordance with the varying quantities of silica therein.

Having thus fully described my invention, what I desire to claim and secure by Letters 65 Patent of the United States is—

A flux composed of salt, sal-ammoniac, fullers' earth, borax, slag or cinders, and iron filings or drillings, mixed and proportioned 70 in the manner substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH C. NEARY.

Witnesses:

HERBERT B. TOWNSEND,
J. BECKWITH.