

# UNITED STATES PATENT OFFICE.

HOWARD KIRK AND JAMES WINSMORE, JR., OF PHILADELPHIA, PA.

## IMPROVEMENT IN ROOFINGS MADE OF FELT AND CEMENT.

Specification forming part of Letters Patent No. 130,376, dated August 13, 1872.

Specification describing a certain Improvement in Roofing, invented by HOWARD KIRK and JAMES WINSMORE, Jr., of the city of Philadelphia, in the State of Pennsylvania.

Our invention relates to the substitution of coarsely granulated or broken fragments of granite, gneiss, or other like hard natural stone for the sea-shore gravel or other rounded pebbles heretofore extensively used as the exterior coating for cemented felt roofing; the object of our invention being to provide a coating for cemented felt in the roofing of buildings that will not be liable to be decomposed or disintegrated by exposure to the weather, and that will, in consequence of the rough irregular surface and angular form of said granulated or broken fragments of the hard natural stone, be less liable to become detached from the cemented felt and blown away by strong wind-storms.

To enable others skilled in the construction of gravel-roofs to use our invention, we will proceed to describe it.

We take the large broken fragments of granite, gneiss, or other like hard stone, chipped off in dressing the stone in quarries and stone-yards, and by means of suitable

stamping machinery reduce or granulate them to fragments about the sizes of the sea-shore gravel at present used as the final coating in cemented-felt roofing. These granulated fragments we then heat and apply to the cemented felt in the well-known manner practiced in the production of gravel roofs.

We are aware that sand has been used as the final coating for roofs of cemented felt; and also that the granulated slag of furnaces has been used for the same purpose; and therefore we do not desire to claim, broadly, the use of rough, angular fragments in the final coating of cemented felt roofing; but what we desire to secure by Letters Patent is confined to the following claim, viz:

We claim as our invention—

The coarsely granulated or broken fragments of granite, gneiss, or other like hard and durable natural stone, as and for the purpose set forth.

HOWARD KIRK.

JAMES WINSMORE, JR.

Witnesses:

JNO. B. LOBER,

BENJ. MORISON.