

(No Model.)

M. P. C. HOOPER.

GRATED SHOVEL.

No. 316,623.

Patented Apr. 28, 1885.

Fig. 1.

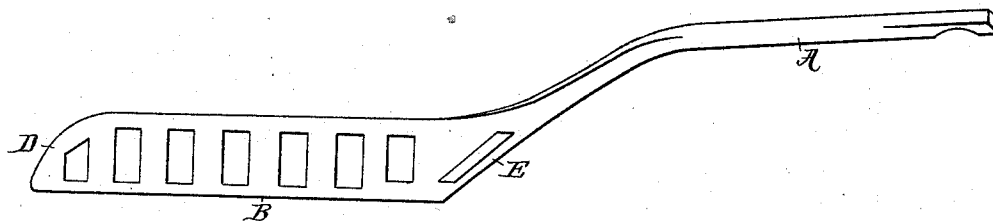
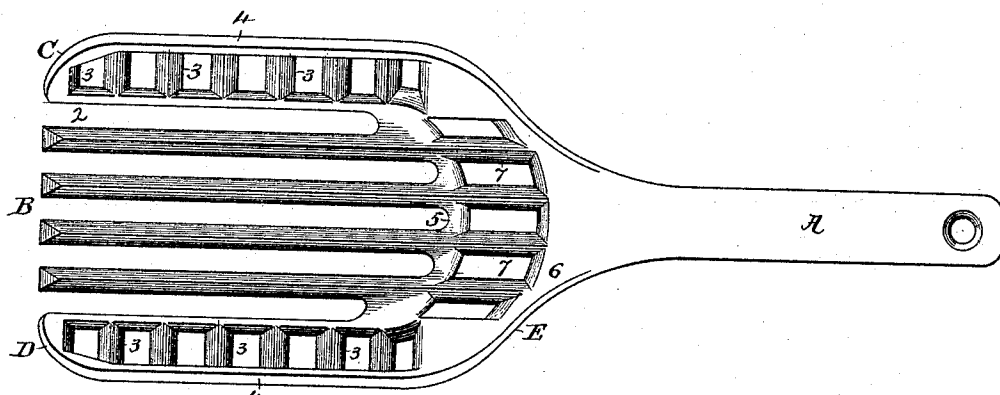


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

MARY P. CARPENTER HOOPER, OF NEW YORK, N. Y.

GRATED SHOVEL.

SPECIFICATION forming part of Letters Patent No. 316,623, dated April 28, 1885.

Application filed February 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, MARY P. CARPENTER HOOPER, a citizen of the United States, residing in the city of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Grated Shovels, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

It is the object of this invention to so construct a shovel for use in removing coal and cinders from a stove or grate that the same may be separated from the ashes without the necessity of first removing the debris and then sifting the same to recover the useful or unconsumed parts.

The invention consists in a grated shovel constructed so that it will, upon being forced into a mass of coal and ashes, pick up the solid parts and leave the ashes and small particles.

A shovel embodying this invention is shown in the accompanying drawings, which illustrate the same in Figure 1 by a side elevation, and in Fig. 2 by a plan or top view.

The shovel will preferably be made of cast metal, and may have a handle, A, formed integral with it or attached to it in any convenient manner, whether composed of metal, wood, or any other substance.

The shovel proper, as shown, consists of a bottom, B, sides C D, and a back, E, said sides and back rising from the bottom to a height suitable to adapt the shovel to hold any desired load. The bottom is composed of longitudinal bars 2 2, preferably parallel, and extending from the front edge to the point where the back E begins; but they need not necessarily extend so far, as it is quite practical to have them much shorter, and provide a portion of the bottom with bars running in other directions. These bars 2 are triangular in cross-section, thus having a structure that provides narrow bearing-surfaces, which afford no place of lodgment or support for ashes or small particles, while they are near enough together to be entered underneath large pieces of coal or cinder, to support and lift the same, and hence will preferably be provided with

truncated ends that adapt them to be readily forced under and raise the coal or cinder. The sides and back are preferably provided with similar bars, 3 7, those forming the sides standing at an angle to the direction given to the bars 2 of the bottom, and supported by connection with the outermost bars 2 and a rim, 4, while the bars 3 of the back are parallel with the bars 2, and are supported by a bar, 5, connecting the outermost bars 2, and the body piece 6, connecting the bars 4. The rim 4 and the bars 5 6 constitute the frame, and the latter may be extended into the handle A, as shown, or form a tang for securing a wooden handle. These bars 3 may of course have any direction relative to that of the bars 2; but the best results are obtained by the disposition of them shown, as will presently appear. The triangular cross-sectional formation of these bars affords the requisite strength for the parts, and at the same time presents as near a knife-edge bearing-surface as may be for the contents of the shovel, and hence a conical or other shape that will produce that result will answer the purpose.

In using the article it will be found that in forcing it into a mass of coal and dirt or ashes combined it will readily penetrate the same, but upon being lifted will discharge the ashes and smaller particles of coal, thus leaving only the coal supported by it, and that whatever ash is left adhering to the coal will be discharged by the tumbling action caused by the transverse bars 3 and 7, the mass being forced over the bars 3 as the load is made.

It is not essential that the back 7 should be grated; but that construction is preferable in order that the ash adhering to the coal that rests upon said back may be discharged, and the whole load be thus rendered entirely clean. This structure thus affords the means of cleaning the coal and cinder from a mass of ashes in the single act of inserting and lifting the shovel, and thus obviates the necessity of performing the operation of sifting in a mechanical device especially adapted to that purpose, and, as the shovel operates to pick up only the coal and large cinders and leaves the ashes, it renders it a very easy matter to clear away the debris from a stove or grate by

the use of this device for the coal and a solid shovel for the ashes.

Heretofore a shovel has been patented the structure of which consists in making the body
5 and bars of the shovel of one piece of sheet metal by slitting the bottom and stamping the strips into a curved or semicircular form, so as to give them additional strength, and also
10 to form an opening for the ashes to pass through. This bottom, however, has its front portion or end formed in an unbroken plate. While in some degree the bars of such a shovel may aid the sifting operation, the presence of
15 the solid end will operate to take up and carry with it a large quantity of ashes, and thus defeat the very purpose for which the present invention was devised.

Another combined implement has been made which consists of two fork-like struc-
20 tures hinged together to serve the purpose of a tongs as well as shovel. In that implement the bars have level upper surfaces and are of such widthwise dimensions as to capacitate them to carry a considerable quantity of ashes,
25 and thus fail to accomplish the object sought by

the structure constituting the present invention.

What is claimed is—

1. A grated shovel the bottom whereof is composed of longitudinal bars free at their
30 forward ends and having their bodies diminished to provide narrow bearing-surfaces, substantially as described.

2. A grated shovel the bottom and sides whereof are composed of bars formed integral
35 with the frame, which bars have diminished bodies providing narrow bearing-surfaces, substantially as described.

3. A grated shovel the bottom, sides, and back whereof are composed of bars formed
40 integral with the frame, which bars have diminished bodies, providing narrow bearing-surfaces, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing
45 witnesses.

MARY P. CARPENTER HOOPER.

Witnesses:

H. T. MUNSON,

T. H. PALMER.