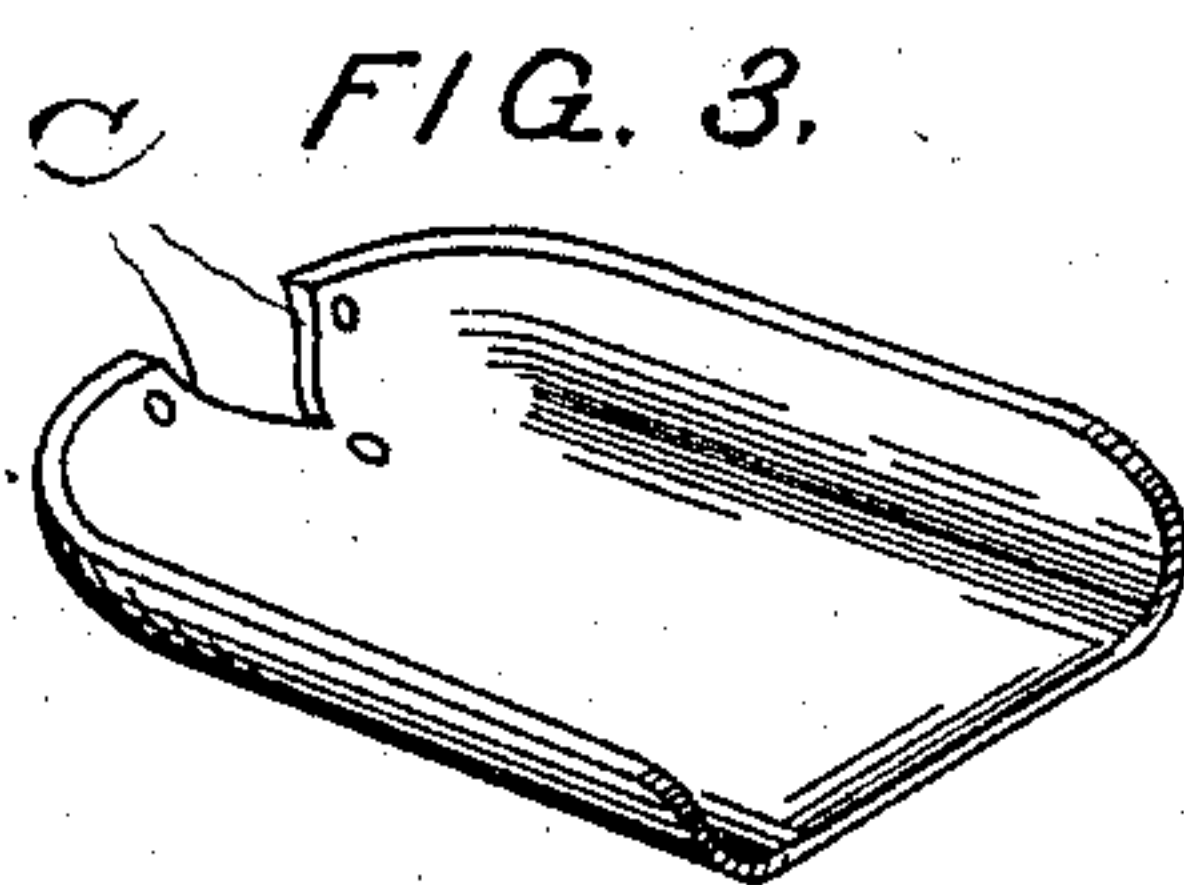
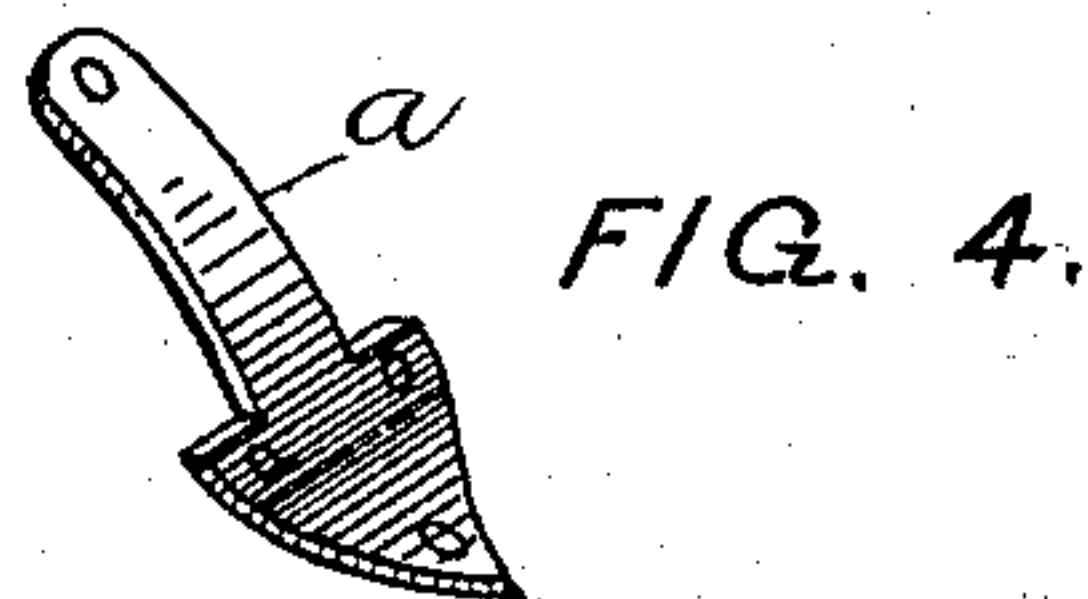
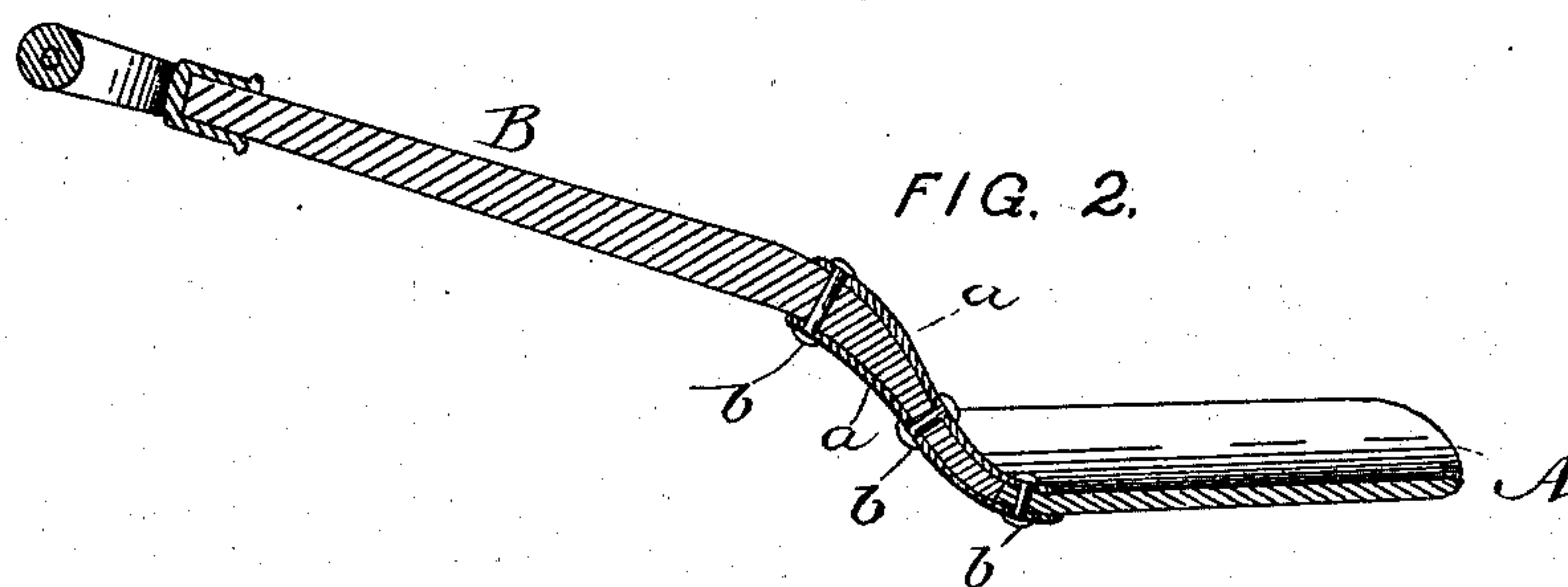
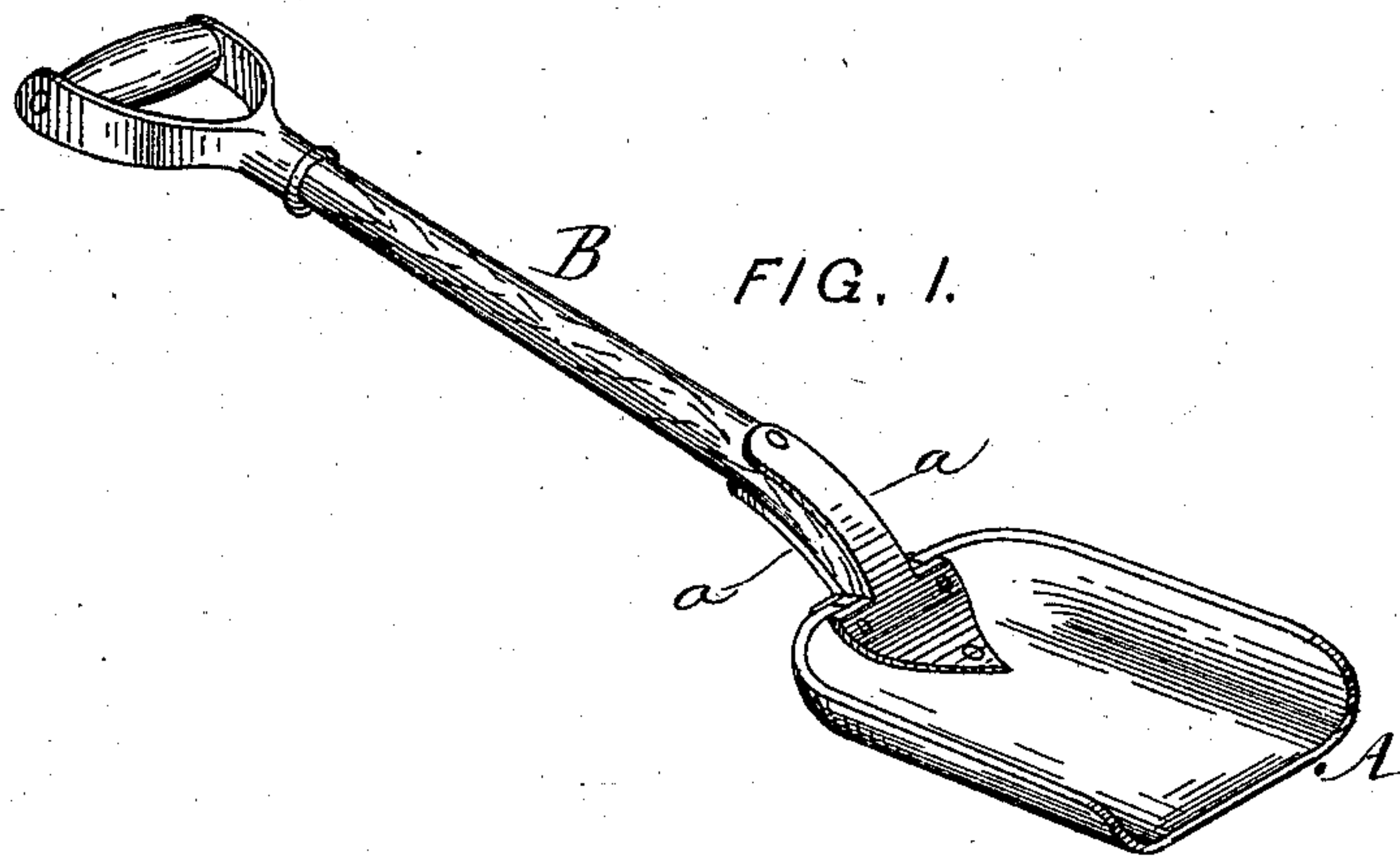


(No Model.)

W. H. MURPHY.  
Paper Pulp Shovel Blade.

No. 239,397.

Patented March 29, 1881.



WITNESSES

Harry E. Hoyt  
C. Smith

INVENTOR,

W. H. Murphy

# UNITED STATES PATENT OFFICE.

WILLIAM H. MURPHY, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF  
TO A. AMES HOWLETT, OF SAME PLACE.

## PAPER-PULP SHOVEL-BLADE.

SPECIFICATION forming part of Letters Patent No. 239,397, dated March 29, 1881.

Application filed January 27, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. MURPHY, of Syracuse, Onondaga county, New York, have invented a new and useful Paper-Pulp Shovel-Blade, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of a shovel; Fig. 2, a longitudinal section of the same; Fig. 3, one of the straps, and Fig. 4 the blade.

The drawings all show, and for illustration only, an ordinary scoop-shovel and its parts.

This invention consists in the manufacture of shovel-blades direct from the paper-pulp, and not from paper or pasteboard, by compressing the pulp into the shape of a shovel-blade between dies of suitable construction in a press. In each instance the dies must be of the shape of the kind of shovel to be manufactured.

The dies, male and female, having been properly set in the press, paper-pulp in quantity sufficient to make a shovel-blade, and of about that degree of consistency and wetness which it ordinarily has when it leaves the beating-engine or beater in a paper-mill, is put in between the dies and subjected to great pressure, by which the pulp is compacted to the desired thickness and hardness, the greater part of the water expelled, and the shovel-blade formed. It is then removed from the dies, trimmed, and dried by steam, hot air, or any other means. It may be trimmed after it is dried. Forms can be used upon which it can be secured while drying, and thereby held to its shape, and all warping and twisting obviated.

The frog in the shovel-blade may be made in the blade when it is made, or cut out at any time afterward.

The dies may be used cold or heated, and may also be perforated with minute perforations to allow the water to more readily escape while the pulp is being pressed.

The shovel-blade may be rendered waterproof by properly treating the pulp before pressing, or by painting the blade with or dipping it into a waterproofing solution at some stage of the process of manufacture. By this process the shovel-blade can also be made thicker at some parts than others, which cannot readily be done where the shovel-blade is made from compressed paper or paper-board, and which is desirable in the crown of the shovel and around the frog, where the greatest strain comes.

In the drawings, A is the shovel-blade; B, the handle; C, the frog, and *a a* the straps or plates, all held together by the rivets or screws *b b* in the ordinary manner.

I am aware that different articles have been pressed up from pulp heretofore; but I do not know that a shovel-blade has been so constructed.

What I claim as my invention is—

1. A shovel-blade manufactured of compressed paper-pulp, as a new article of manufacture.

2. As a new manufacture, a paper-pulp shovel-blade, as described, in combination with a handle and plates or straps for securing the same, substantially as set forth.

In witness whereof I have hereunto set my hand this 13th day of January, 1881.

W. H. MURPHY.

Witnesses:

C. W. SMITH,  
HARRY E. HOYT.