

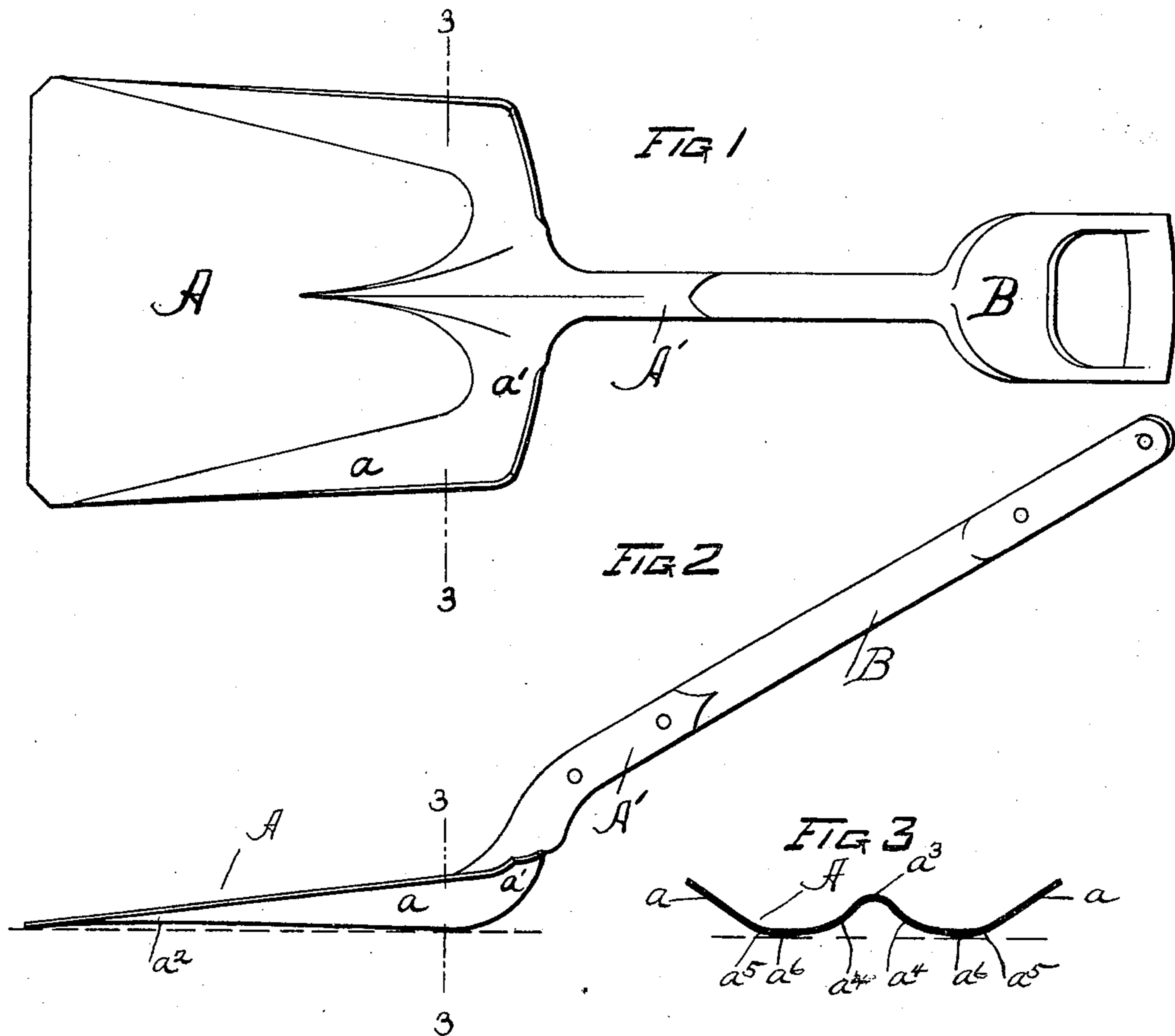
No. 629,456.

Patented July 25, 1899.

H. MIKKOLA.
SHOVEL.

(Application filed July 13, 1898.)

(No Model.)



WITNESSES:

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HENRY MIKKOLA, OF ERIE, PENNSYLVANIA.

SHOVEL.

SPECIFICATION forming part of Letters Patent No. 629,456, dated July 25, 1899.

Application filed July 13, 1898. Serial No. 685,869. (No model.)

To all whom it may concern:

Be it known that I, HENRY MIKKOLA, a citizen of Russia, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Shovels; 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 appertains to make and use the same.

This invention relates to shovels; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The object of the invention is to produce a shovel-blade which will be more convenient and effective to use and at the same time have greater wearing qualities than those now on the market.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 shows a plan view of the shovel. Fig. 2 shows a side elevation. Fig. 3 shows a section on the line 3 3 in Figs. 1 and 2.

A marks the blade of the shovel; a , the side walls; a' , the end wall; A' , the shank, and B the handle.

One of the principal features of my invention is the peculiar shape of the blade, which along its forward portion is substantially straight in cross-section and has the upward bend or curve back of the edge, as at a^2 . This seemingly small change in the shape of the blade from those now commonly in use increases its efficiency very greatly, because when the shovel is used for removing substances from floors this bend presses the point or front edge of the shovel into close contact with the floor, at which point it may be made to readily enter the material. At the same time this curve gives to the blade a shape which makes the edge sharper as it wears, so that a very sharp edge is readily maintained. This curve of the blade therefore has two advantages over shovels now in common use—namely, the positioning of the edge next the floor when in use and also the sharpening of the front edge by this use, so that the shovel enters the material with much greater facility than those having flat blades or blades slightly curved upwardly at the point.

The shovel-blade has the usual bend A^3 ,

leading into and from which the shank is formed. On shovels now on the market the bottom, at the bowl, makes contact with the floor or surface upon which it is used usually at the points immediately at the edge a^4 of the bend a^3 . This of course allows the shovel to tip to one side or the other, so as to contact a second point, as a^5 , at the edge of the wall a . There are two objections to this construction. One is that the shovel is liable in its tipping to jar material off from upon it. The other and more serious one, however, is the wearing of the bowl of the shovel just at the points a^4 and to some extent at the points a^5 . As the blade gets its stiffness from the angularity of the bend a^3 and the walls a to the bottom of the blade, it is manifest that the greatest strain upon the blade is just at the points a^4 and a^5 , which points in the construction now in use receive the greatest wear and are therefore most quickly weakened, so as to make the shovel useless. With my construction the bowl of the shovel is curved so as to make the contact of the bowl of the shovel upon a plane surface at points a^6 somewhere between the edges a^4 and a^5 , preferably about midway. This construction obviates the tipping of the shovel with its load, as it forms but two points of contact on the bottom of the bowl. It also receives the wear at points which are not subjected to great strain, so that the blade may be nearly worn through at these points without materially lessening its strength or efficiency.

What I claim as new is—

1. As an article of manufacture, a shovel having its front edge substantially straight, and its body curved upwardly back of the edge to insure the edge making contact with the plane surface upon which the shovel rests, and to make the edge wear in the form of a short bevel when used in contact with said surface.

2. As an article of manufacture, a shovel-blade having the walls, a , bend a^3 , and its bowl bent to make contact with a plane surface at points away from the meeting of the walls, a , and the bend, a^3 , with the bottom of the bowl for the purposes specified.

3. As an article of manufacture, a shovel-blade having the part adjacent to the front edge substantially straight in cross-section,

and its body curved upwardly back of the
edge, and having the side walls, *a a*, and the
bend, *a³*, and its bowl bent to make contact
with a plane surface at points away from the
5 meeting of the walls, *a a* and the bend, *a³*,
with the bottom of the blade, substantially as
described.

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

HENRY MIKKOLA.

Witnesses:

H. C. LORD,
JAKOB SIRONEN.