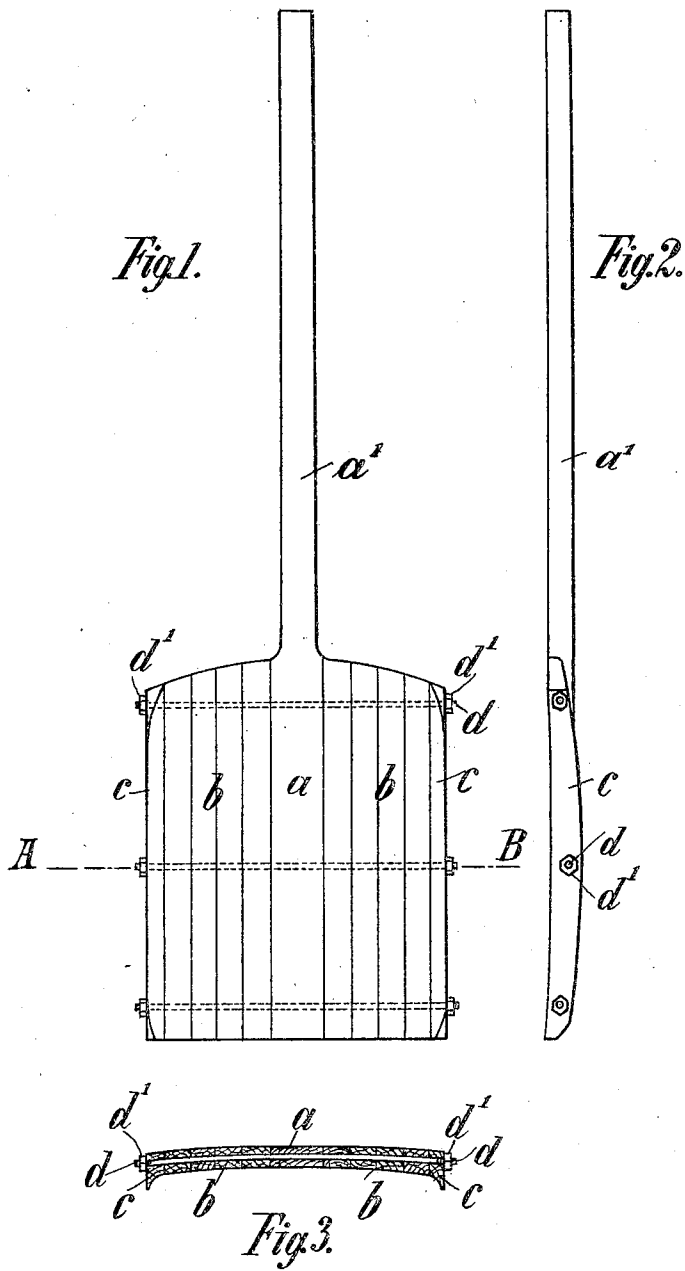


H. F. E. HOFMANN.
WOODEN SPADE.
APPLICATION FILED AUG. 1, 1905.



Witnesses.

H. L. Amer.

J. Bonimere

Inventor.

Hermann Friedrich Erich Hofmann.

by *Heine Orth* atty.

UNITED STATES PATENT OFFICE.

HERMANN FRIEDRICH ERICH HOFMANN, OF SCHLOSS FASOLTSBERG, NEAR GRATZ, AUSTRIA-HUNGARY.

WOODEN SPADE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMANN FRIEDRICH ERICH HOFMANN, a subject of the King of Bavaria, and a resident of Schloss Fasoltsberg, near Gratz, Styria, Austria-Hungary, have invented certain new and useful Improvements in Wooden Spades, of which the following is a specification.

The present invention relates to improvements in wooden spades. The object of the improvements is to procure or produce a wooden spade which can be made at a comparatively low price and will last a long time. I attain the said object by building up the blade of my improved wooden spade of a number of laths or staves held together by two edge strips and a transverse anchor wire or wires. The middle lath and the shaft of the spade are made in one piece—that is to say, the shaft forms the continuation of the middle lath, or vice versa.

In order that my invention may be more fully understood by one skilled in the art to which it appertains, I shall now proceed to describe the same in detail, reference being taken to the accompanying sheet of drawings, in which—

Figure 1 is a front side view, and Fig. 2 an edge side view, of a wooden spade constructed in accordance with and embodying my invention. Fig. 3 is a cross-section of the blade of the spade on the line A B, Fig. 1.

Similar letters of reference refer to similar parts throughout the several figures.

In the embodiment of the spade shown as an example are arranged on each side of the middle lath or stave *a*, carrying the shaft *a'*, four or other suitable number of laths or staves *b* and one edge strip *c*. The staves *a* *b* and edge strips *c* are held together by means of anchor-wires *d*, passing through the same transversely and provided at the ends with screw-threads and nuts *d'*. The laths or staves are steamed and convexed or bent slightly in longitudinal direction, whereas the binding-strips *c* are not bent. These latter in coöperation with the anchor-wires prevent the blade from straightening. The staves *a* *b* and shaft *a'* may suitably be of

pine and the edge strips *c* of ash wood. The blade can thus be made more cheaply than spade-blades made in one piece, as heretofore, sound wood being much more readily obtainable in narrow strips. The compound or built-up blade will also last longer, and if the blade be damaged in part the defect can be rectified by substituting another lath or edge piece for the injured part.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A spade comprising a plurality of strips held together by means of a rod passed transversely through them.

2. A spade comprising a plurality of longitudinally-bent strips held together by means of a rod passed transversely through them.

3. A spade comprising a shaft, a plurality of strips on each side thereof and tie-rods passed transversely through the strips and shaft, and binding means on the rods.

4. A spade comprising a central shaft, a plurality of longitudinally-bent strips, and a straight strip on each side of said shaft and tie-rods passing transversely through the strips, and means for clamping the rods to the strips.

5. A spade comprising a central shaft, a plurality of shorter longitudinally-bent strips and one straight strip on each side of the central shaft, said straight strips having a flange formed on the outer edges, and tie-rods running transversely through the strips and shaft, and means for clamping the ends of the rods to the straight strips.

6. An improved wooden spade composed of a number of separate laths or staves the middle stave carrying the shaft, and of two edge strips, the said staves and strips being shaped to form the blade and held together by means of anchor-wires, substantially as and for the purpose set forth.

HERMANN FRIEDRICH ERICH HOFMANN.

Witnesses:

RICUARA TATE,
EDUARD RAINEY.