

(No Model.)

W. G. HOWELL.

NAIL.

No. 271,983.

Patented Feb. 6, 1883.

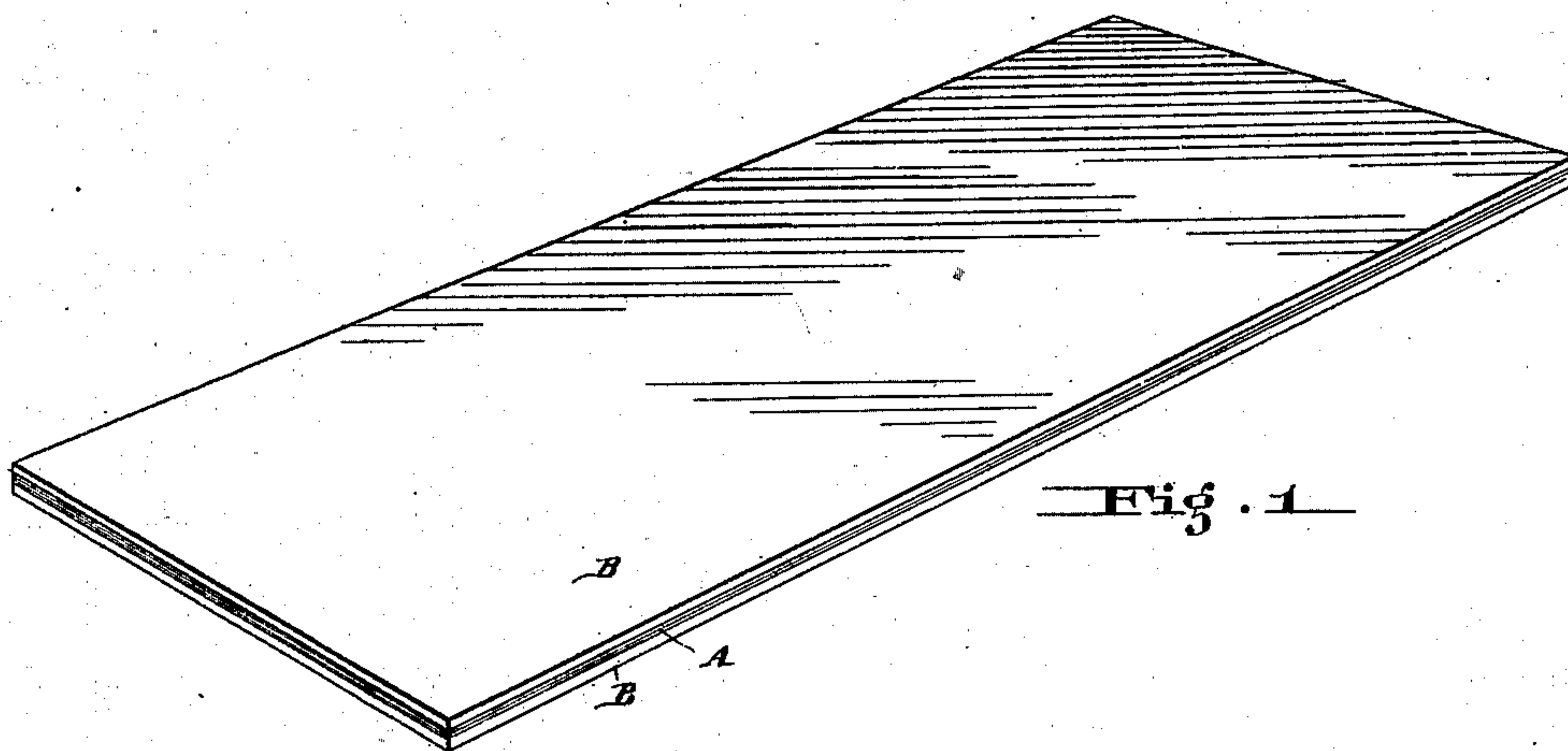


Fig. 1

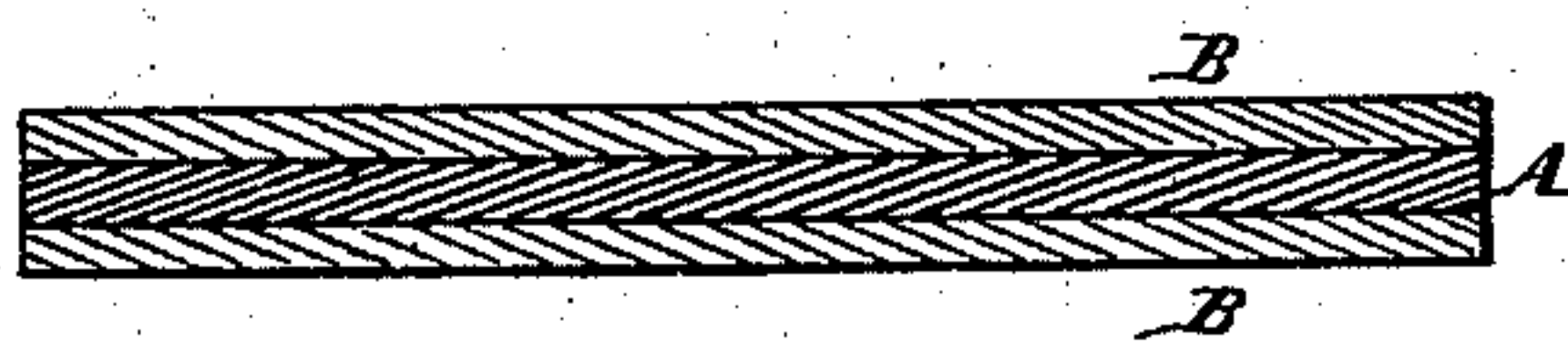


Fig. 2

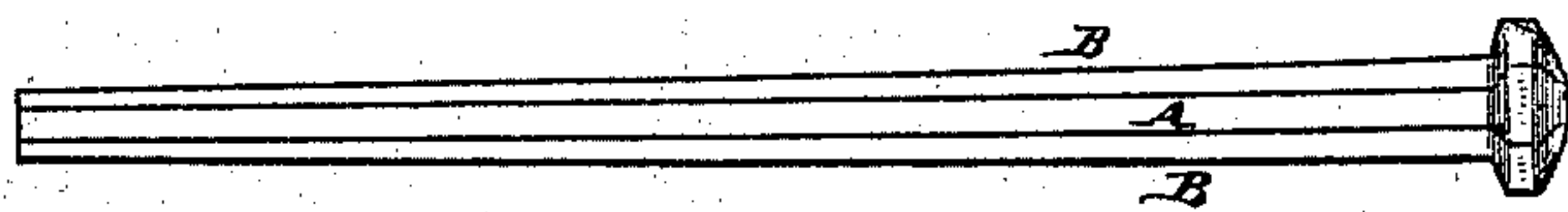


Fig. 3

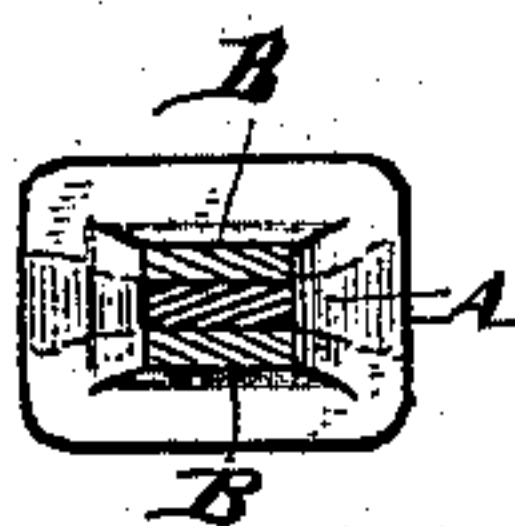


Fig. 4

Attests

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# UNITED STATES PATENT OFFICE.

WILLIAM G. HOWELL, OF PHILADELPHIA, PENNSYLVANIA.

## NAIL.

SPECIFICATION forming part of Letters Patent No. 271,983, dated February 6, 1883.

Application filed June 30, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM G. HOWELL, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in the Manufacture of Nails, of which the following is a specification.

Heretofore nails, spikes, &c., have been chiefly made from wrought-iron sheets rolled to the desired thickness and cut by the well-known machinery in use by nail-makers. Nails have also been made from steel sheets, which steel nails have many points of advantage over the ordinary iron nail; but unless a special kind of steel adapted particularly to this manufacture is used the nails will not be of uniform quality and strength, and many will be found so brittle as to be substantially useless. A source of great difficulty and expense in the manufacture of steel nails is the liability of the cutters of the nail-cutting machine to become worn and dulled. This difficulty, great in all cases, although differing with various qualities of steel, has proved almost prohibitory to the manufacture of steel nails. I have discovered that by cutting nails from a sheet of iron-covered steel—that is, of a sheet consisting of a steel center with iron on both sides of it, and consolidated and combined together by rolling—a nail may be made of uniform and very superior quality, and that qualities of steel may be used in such sheets which if used alone would be totally unfitted for the manufacture of nails and spikes. Such sheets, moreover, I have found do not dull the cutters as steel sheets do, nor to any greater extent than do the ordinary iron sheets in general use.

The nails and spikes made in this way have the strength of steel nails, &c., of the best quality, without the brittleness which has proved so great an objection to the use of steel for this purpose. They are easily clinched, and are very cheap, since the butts or ends of steel rails may be used in the manufacture of the combined sheets, thus making such sheets less costly than either iron or steel sheets of ordinarily good quality would be.

In the drawings, in which similar letters designate similar parts, Figure 1 is a perspective view of the nail-sheet ready for cutting. Fig. 2 is a cross-section of the nail-sheet. Fig. 3 is a view of the nail on the side where it is cut off from the sheet; Fig. 4, a cross-section of the nail.

A in each of the drawings is steel, and B is iron.

I am aware of the patent granted to Rogers, No. 255,816, of 1882, and claim nothing therein set forth or claimed.

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

As a new article of manufacture, a nail, spike, &c., made of combined iron and steel, the steel being interposed between two surfaces of iron and welded thereto and exposed upon opposite sides, substantially as set forth.

In testimony of which invention I hereunto set my hand.

WM. G. HOWELL.

Witnesses:

R. S. CHILD, Jr.,  
JAMES F. DONAHUE.