

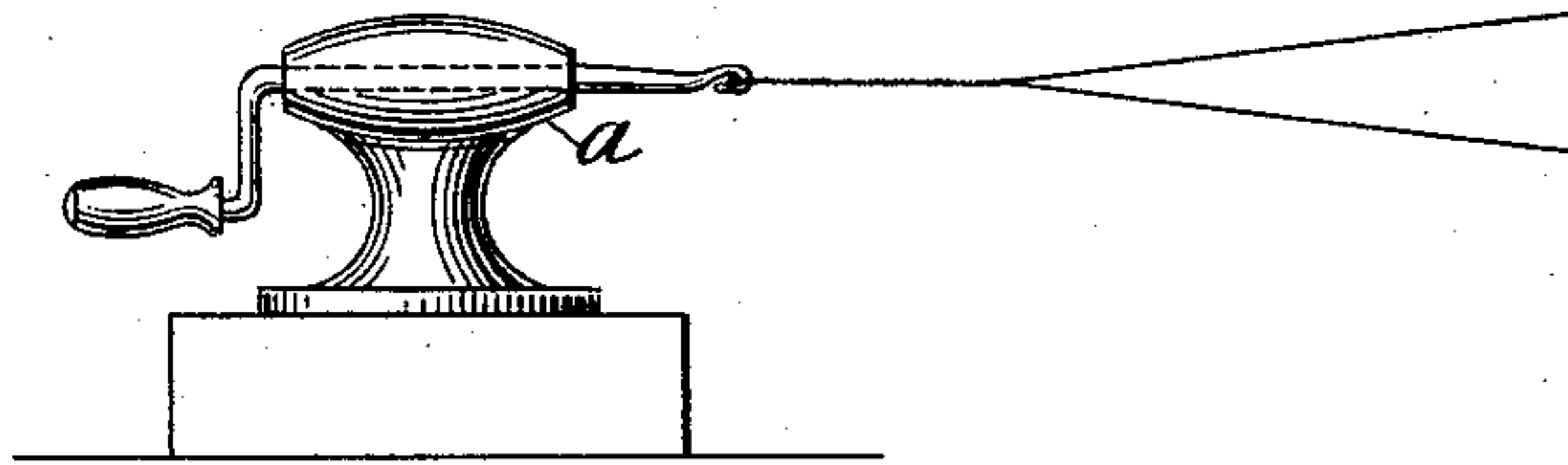
(No Model.)

H. VAN HOEVENBERGH.  
IGNITING DEVICE.

No. 567,928.

Patented Sept. 15, 1896.

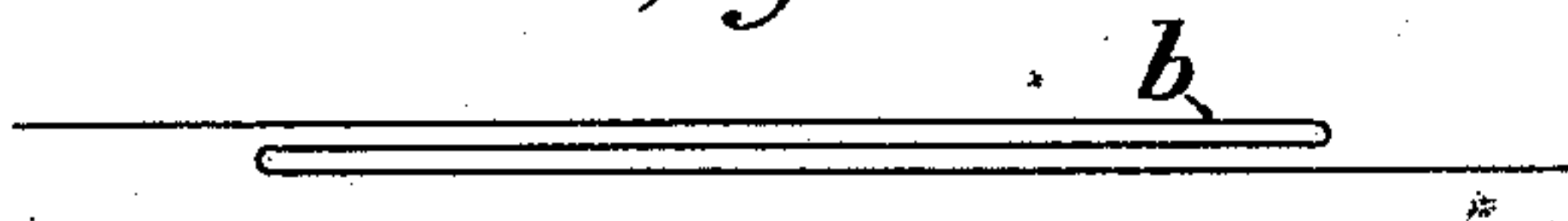
*Fig. 1.*



*Fig. 2.*



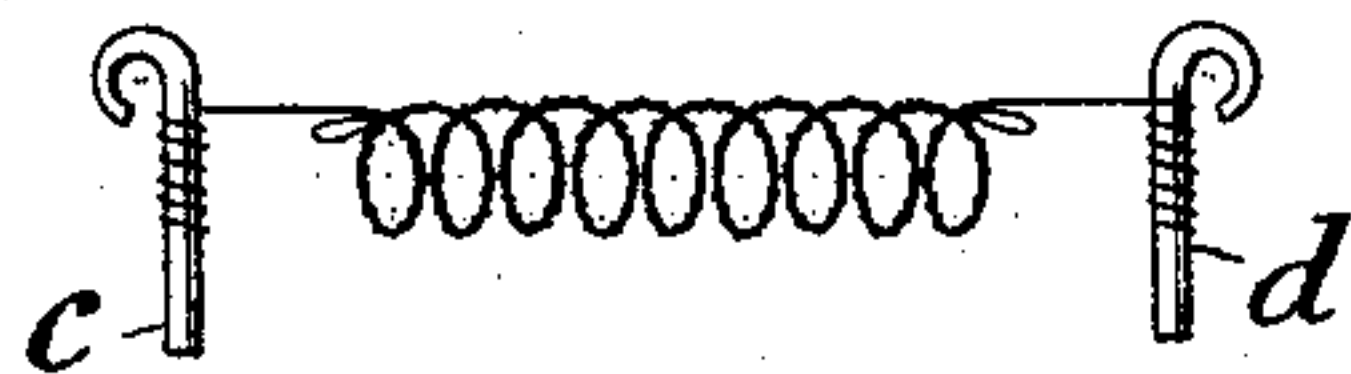
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES:

*C. E. Ashley*  
*J. R. Waterbury*

INVENTOR:

*Henry Van Hoevenbergh*  
By his Attorney  
*R. H. Head*

# UNITED STATES PATENT OFFICE.

HENRY VAN HOEVENBERGH, OF NEW YORK, N. Y.

## IGNITING DEVICE.

SPECIFICATION forming part of Letters Patent No. 567,928, dated September 15, 1896.

Application filed July 1, 1896. Serial No. 597,729. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY VAN HOEVENBERGH, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Igniting Devices for Inflammable Substances, of which the following is a specification.

My invention relates to electric igniting devices for inflammable substances, the object being to provide a simple and effective arrangement for lighting wicks saturated with oil, alcohol, or other inflammable material, or for igniting inflammable gases. In carrying out the invention I provide a fine conductor formed of a plurality of wires or filaments supported close together and preferably interlaced or twisted together to conserve the heat and give strength and durability, and mount such conductor so as to be rendered incandescent, when desired, by an electric current. The igniting devices heretofore used have been formed of a single wire or conductor supported in proximity to the material to be ignited. I find, however, that a wire small enough to be heated to incandescence by a battery small enough to be portable, as, for example, when used with a cigar-lighter or hand oil-lamp, is necessarily very fine, and is not only easily broken or displaced, but is liable to fusion when the battery has had a long period of rest and therefore yields an increased current. I have found that by using two or more conducting-wires, twisted, woven, or braided together, the conductor is not only rendered much stiffer and harder to be displaced, but the amount of heat to be obtained with a given battery is much increased.

In the accompanying drawings, which illustrate my invention, Figure 1 shows a device for twisting a wire; Fig. 2, a coil formed of twisted wire. Fig. 3 shows a modification in which three wires or lengths are used in the twisted conductor. Fig. 4 shows such a conductor after being twisted, and Fig. 5 shows a finished conductor mounted between two electrodes or circuit-terminals.

Any desired number of wires may be employed. I prefer, for convenience of manipulation, to take a sufficient length of wire of a fine gage, about .002 inch in diameter, and double it, twisting one end by a suitable tool,

such, for example, as that shown at *a* in Fig. 1. Platinum wire is preferably employed because of its high specific resistance and its durability and slowness to oxidize. If desired, the wire may be folded on itself more than once, as, for example, as shown at *b* in Fig. 3, where it is twice folded. The twisted conductor is preferably coiled in a spiral, as shown in Figs. 2 and 5, or otherwise arranged, and is finally supported between two conducting pillars or posts *c d*, adapted to be included in an electric circuit, including a suitable battery, say about two dry cells. When applied to a lamp-wick, the posts *c d* should of course be carefully insulated from the lamp-fixtures. The arrangement of several wires as described conserves the heat developed by the current, as I find when so arranged a given length of wire comes to a red heat much sooner than when different parts of the conductor are not in contiguity. Moreover, this arrangement adds greatly to the strength of the structure and therefore increases its durability. Less heat, also, is wasted in radiation and diffusion when the wires are placed close together, and consequently a current of less volume suffices to give the requisite igniting heat.

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

1. An igniting device for inflammable substances comprising a plurality of fine conductors supported in contact with one another at a number of points, for the purpose described.

2. An igniting device for inflammable substances comprising two or more fine wires supported between two electrodes of an electric circuit and twisted or woven together for the purpose described.

3. An igniting device for inflammable substances comprising a plurality of conductors supported in close contiguity throughout their length and supported between two electrodes of greater conductivity.

In testimony whereof I have hereunto subscribed my name this 29th day of June, A. D. 1896.

HENRY VAN HOEVENBERGH.

Witnesses:

C. R. WATERBURY,  
ROBT. H. READ.