

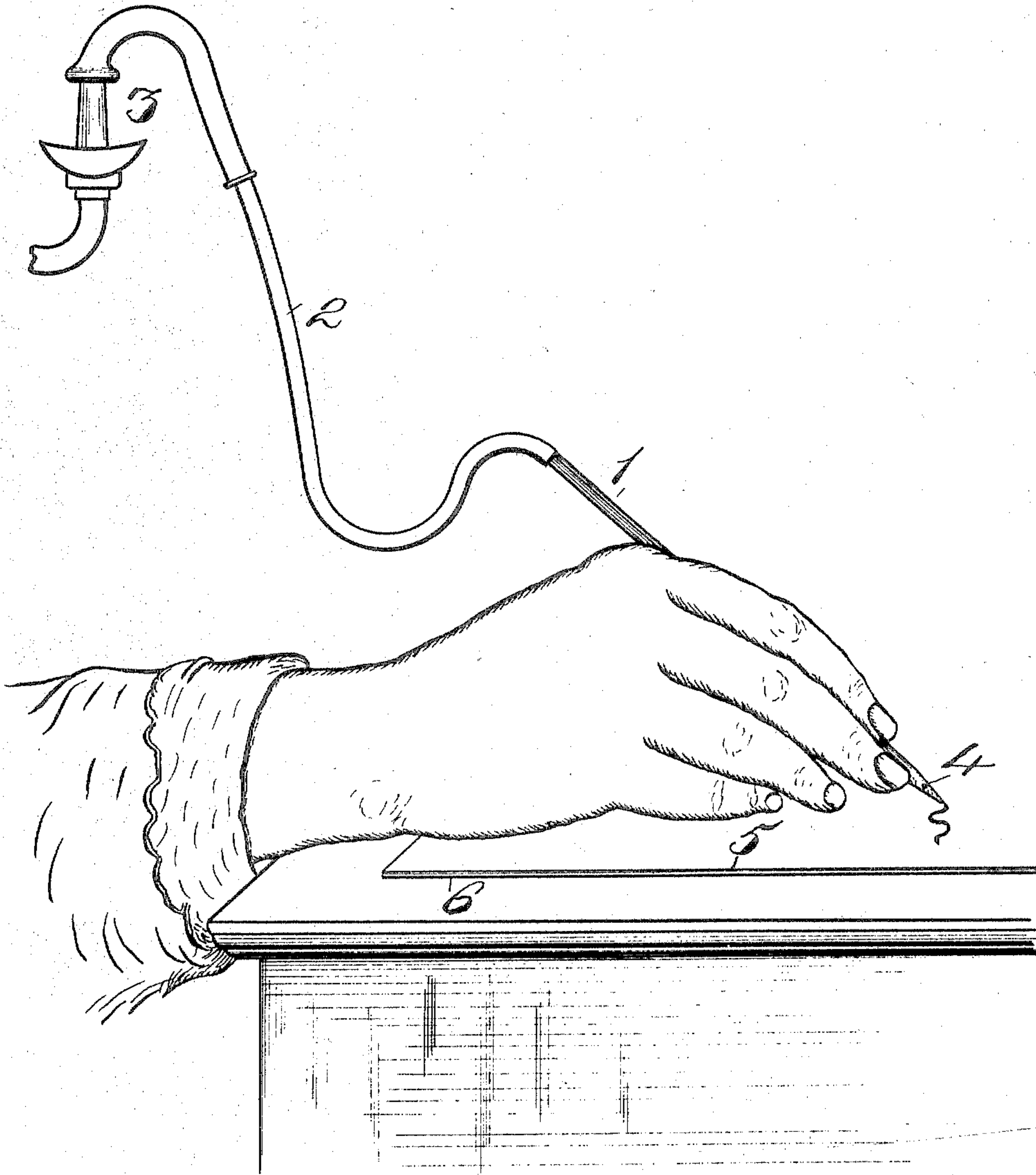
No. 817,315.

PATENTED APR. 10, 1906.

F. S. HALL.

METHOD FOR WRITING OR PRINTING WITH METALLIC LEAF.

APPLICATION FILED OCT. 30, 1905.



Witnesses:
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METHOD FOR WRITING OR PRINTING WITH METALLIC LEAF.

No. 817,315.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed October 30, 1905. Serial No. 285,093.

To all whom it may concern:

Be it known that I, FRANK S. HALL, a citizen of the United States; residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Methods for Writing or Printing with Metallic Leaf, of which the following is a specification.

My invention has relation to methods for writing, printing, or designing letters; characters, &c., upon suitable objects with metallic leaf; and the object thereof is to produce a method whereby metal leaf may be so superposed on an object that its permanency is assured.

It is well known in the art to which the invention appertains that metal leaf, such as gold-leaf, is marketed in sheets or leaves of metal of the proper thickness alternately placed between the pages of a gold-book. In using metal in this form the leaves are successively lifted from between the pages by means of a brush or other suitable tool which has been previously slightly greased by rubbing over the hair on the head of the user. These leaves, especially in the case of gold, are so thin that they are easily blown away and rendered unmanageable by the slightest draft of air on them. Hence their use requires unusual skill, and the loss attendant on this manner of handling gold is considerable. Metal leaf, and especially gold-leaf, is used extensively by bookbinders for the printing of names on bound volumes, card-cases, and other objects. The customary manner in which gold-leaf is applied by bookbinders consists in first placing the book or whatever object is to be printed in a press and then forming on the same with type an impression of the letters which are subsequently to be covered with gold-leaf. The book is then withdrawn and a proper sizing placed over the spot where the printing will occur. The sheet of gold-leaf is then laid over the place where the type will press and the book replaced in the press and the type forced onto the gold-leaf, which drives it into the outlines formerly produced by the type, and after a suitable length of time has elapsed the type is withdrawn and the surplus gold not pressed in by the type wiped away. Excepting in well-equipped binderies it is necessary to repeat this process for each line of type which is used, and the process being exceedingly slow is therefore relatively expensive. Gold-leaf can only be applied to

such articles as books by means of type which press firmly downward in one place, and in each instance type or a proper male die must be employed to shape the letter or design which is to be placed on the book in gold-leaf.

Heretofore it has been impossible to place gold-leaf upon articles in a manner equivalent to the placing of ink on paper by the pen of a writer on account of the fact that the passing of any tool over the gold-leaf itself would at once tear it and move it from position, and if it were possible to so apply gold-leaf in this manner the gold would not adhere to the article on which it was placed sufficiently firmly to be a permanent part thereof, and hence the object of this invention is to produce a method whereby a sheet or leaf of metal may be properly mounted on a suitable backing and portions thereof may be rapidly and easily transferred to any other object upon which it may be permanently placed and from which the metal cannot ordinarily be removed.

In mounting metallic leaf opportunity is given to the bookbinder to place on books and similar articles facsimile copies of signatures, &c., in gold-leaf in less time and without the use of metallic dies than it ordinarily takes to arrange a press.

In carrying out my novel and improved method I make use of certain mechanical instrumentalities, a preferred form of which is shown in the drawing, although others may be employed which will obtain equally efficient results, and I do not limit myself to the mechanism herein described, and illustrated in the accompanying drawing, as it is to be understood that changes, variations, and modifications can be resorted to which come within the scope of the claims hereunto appended.

The drawing presented is a perspective view of the mechanical instrumentalities in use, which I prefer to employ in my improved method.

It will be here stated that the description will be confined to the placing of gold-leaf on articles, for the reason that it is the customary and best metal employed in this art to illustrate the adaptability of my improved method, although other metals of suitable malleability may be employed.

In the drawing, 1 represents a hollow needle carried by the hand of an operator, to which is connected a rubber tubing 2, attached

to an ordinary gas-jet 3, so that a constant supply of fluid fuel may be supplied to the needle without interruption. This needle 1 is hollow and has near its pointed end a pair of openings 4, only one of which is shown in the drawing, and from these openings the fluid fuel constantly escapes. It will be stated that this needle, as described, does not differ materially from the ordinary pyrographic needle in common use for burning wood, excepting that the openings for the escape of the fluid fuel are placed far enough from the point thereof to heat the same sufficiently for use in my improved method, but not near enough to render the point of the needle red-hot. In using this needle the pressure of gas is greatly reduced and only a very small blue flame is allowed to exist at the openings 4. The placing of the openings 4 backward from the point also enables it to be made sufficiently strong to permit considerable pressure to be used when this tool is employed.

In carrying out my improved method I place a sheet of paper, having thereon a coating of paraffin-wax or its equivalent, over a sheet of gold-leaf while still in the book in which it is retailed, and by a slight rubbing pressure over the back face of the paraffin-coated paper the gold-leaf is caused to adhere thereto with great tenacity. This sheet of paper (indicated in the drawing by the reference-numeral 5) is then laid over any object, such as a sheet of leather, (designated in the drawing by the reference-numeral 6,) and the operator writes or draws on the rear face of the paraffin-coated paper with the heated point of the needle 1. This may be done rapidly and with a relatively slight, although firm, pressure, and after the operation of writing is finished the paraffin-coated paper is lifted up and the gold which was displaced by the heat and pressure of the heated needle will be found to be permanently adherent to the leather or other substances on which it is intended to reproduce the writings or designs impressed on the back face of a paraffin-coated paper.

It will be seen from the foregoing description that any artistic design may be placed on an object in metallic leaf without the necessity of making a metallic die therefor, and the presence of the waxed paper will keep the

point of the needle from the object on which the metallic leaf is to be placed and absolutely prevent the burning thereof.

It will be further seen that a facsimile of a person's signature may be readily placed on a book, card-case, or any other object by simply having the person whose signature it is desired to reproduce write his name on the rear face of the waxed paper, and by following the lines on the paper an accurate copy thereof will be made.

The rapidity with which this method can be used for the placing of metallic leaf upon objects commends it both on account of its comparative cheapness and the universality of its use.

While I have found that paper covered with paraffin is the best backing for sustaining the metal leaf, other materials may be employed and other means than paraffin may be used to cause the adherence of the metallic leaf thereto.

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

1. That improvement in the art of impressing metallic leaf on articles, which consists in placing the metallic leaf with a backing adhering thereto upon the article, and then subjecting said backing to heat and pressure from a manually-operated continuously-heated needle, whereby said leaf is caused to detach from said backing and adhere to said article.

2. That improvement in the art of impressing metallic leaf on articles, which consists in placing the metallic leaf with a backing adhering thereto upon the article, placing on said backing a suitable pattern or copy, and then subjecting said backing along the lines of said pattern or copy to heat and pressure from a manually-controlled continuously-heated needle, whereby said leaf is caused to detach from said back and adhere to said article.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK S. HALL.

Witnesses:

C. E. HUMPHREY,
GLENARA FOX.