

1,005,036.

Fig. 1.

Fig. 2.

WITNESSES
L. H. Schmidt
C. E. Tramm

INVENTOR
THOMAS H. HOOD,
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS H. HOOD, OF GREENVILLE, MISSISSIPPI.

METHOD OF DISINFECTING BOOKS.

1,005,036.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS H. HOOD, a citizen of the United States, and a resident of Greenville, county of Washington, and State of Mississippi, have invented certain new and useful Improvements in Methods of Disinfecting Books, of which the following is a specification.

My invention is an improvement in methods of treating books, and consists in certain novel steps hereinafter set forth and claimed.

The object of the invention is to provide a method of treating books to thoroughly disinfect all parts of the books.

In the drawings:—Figure 1 is a perspective view of an apparatus for carrying out the process, and Fig. 2 is a vertical section of the upper end of the apparatus.

As is well known, books, especially those in circulating libraries, are capable of transmitting and disseminating disease, by means of the germ life, acquired from handling by persons suffering from the diseases caused by the germs.

It is extremely difficult to disinfect books, because of the difficulty in applying the medicament to the interior of the book, that is, to the surfaces of the leaves. From the nature of the books, many processes capable of doing the work, cannot be used, as for instance, heat, steam, and the like. The application of any dry disinfectants has been found futile, since to act properly upon the germ life, a certain amount of humidity must be present.

The method in question applies the disinfectant in a humid state to every part of every leaf, and is carried out as follows: The books are arranged on their ends, and with the covers open, at an angle of approximately 90°. Preferably, a series of books are so arranged with the covers of each book connected with the adjacent covers of the adjacent books. As a matter of convenience, the books so arranged are placed on a rotatable support. The disinfectant is arranged in a container, and some means for delivering a blast or current of air is arranged adjacent to the support and in such manner that the blast delivered is tangent to the support, and plays on the edges of the leaves. The intake of the air delivering means is connected with a hood arranged above the container, and it will be evident that as the blast plays on the books,

the leaves will be opened or fluttered, so that the disinfectant, in gaseous form, and mixed with air, will reach every part of every page, and will also rotate the support to bring the books in succession under the influence of the blast. This process is continued until the books are thoroughly treated, after which they are removed, and a new lot placed on the support. It will be understood that the rotatable support for the books, and the arrangement specified above, are merely for convenience.

The method consists in spreading or opening the leaves of the book by a blast or current of air, and in simultaneously delivering to the spread or opened leaves, a disinfecting substance by the same current of air. The books may, however, be treated in the same manner, separately, or in lots, by passing the blast backward and forward over the books, and by reciprocating the books through the blast or current of air.

The apparatus shown in the drawing comprises a standard 1 mounted for rotation in a step bearing 2, on a base 3. A plurality of shelves are supported from a cap 9 rotatable on the standard by means of arms 10 extending downwardly and outwardly from the cap to a connection with the shelves. The arms 10 are braced against the top of the standard by brackets 11.

Adjacent to the frame, and on opposite sides thereof, tables or stands 28 and 28^a are arranged, and a preferably electric, fan 29 is supported on the top 33 of each of the tables. Each of the fans is provided with an inlet pipe 30 having a hood 30^a directly above a container 32 of any suitable form, and the outlet pipe 31 of each of the fans, is directed toward the books 25 on the shelves before mentioned. The direction of the air current discharged from the pipes 31, is tangential to the edges of the books, which are arranged on the shelves, standing on their ends, and with the books opened at an angle of between 45 and 90 degrees with respect to each other. The adjacent covers of the adjacent books are detachably connected by means of clamps 27 so that the books are held in the position shown.

It will be evident that when the fans are in operation, a mixture of air and atomized or gasified disinfectant as for instance formaldehyde will be drawn in through the intake 30 and discharged through the outlet 31 against the books, fluttering the leaves of

the same and discharging the disinfectant onto the leaves as they are opened or fluttered. The air currents will also rotate the frame on the standard 1, thus bringing the books in succession and intermittently under the influence of the air current.

It will be evident that any other suitable form of support might be used, or that the books might be reciprocated in front of the outlet of the fan, or that they might be subjected to the action of the air current continuously.

I claim:

1. The method of disinfecting books as herein described, which consists in spreading or opening the leaves of the books by means of a current of air and simultaneously delivering to the spread or opened

leaves a disinfecting substance by the same current of air which spreads or opens the leaves.

2. The method of disinfecting books as herein described, which consists in spreading or opening and fluttering the leaves of the books by means of a current of air mixed with a disinfecting gas.

3. The method of disinfecting books as herein described, which consists in delivering a current of air mixed with a disinfecting gas against the books, while moving the books intermittently through the current of air.

THOMAS H. HOOD.

Witnesses:

SOLON C. KEMON,
C. E. TRAINOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."