

W. ZIMMERMAN & J. B. WATERSTON.
Book Binder's Gold Brushing Machine.

No. 235,328.

Patented Dec. 7, 1880.

Fig 1

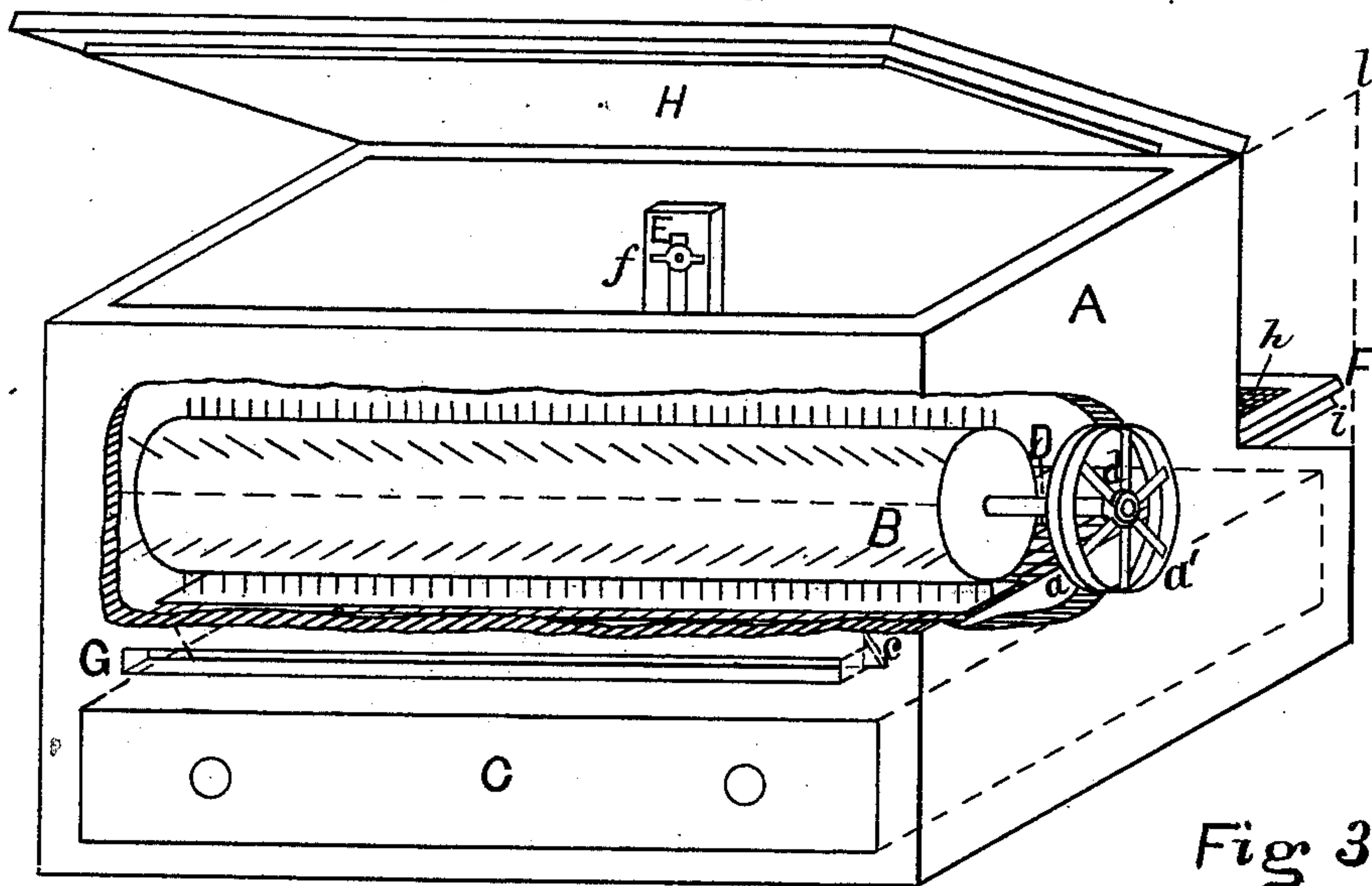


Fig 3

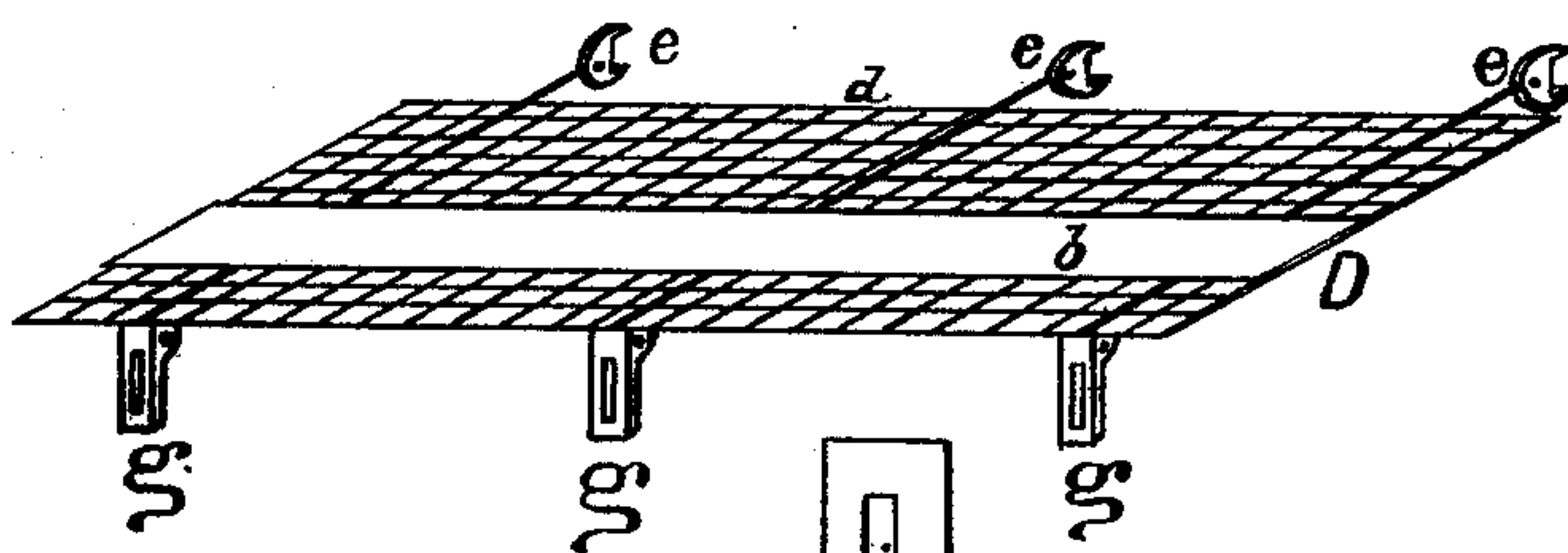


Fig 2

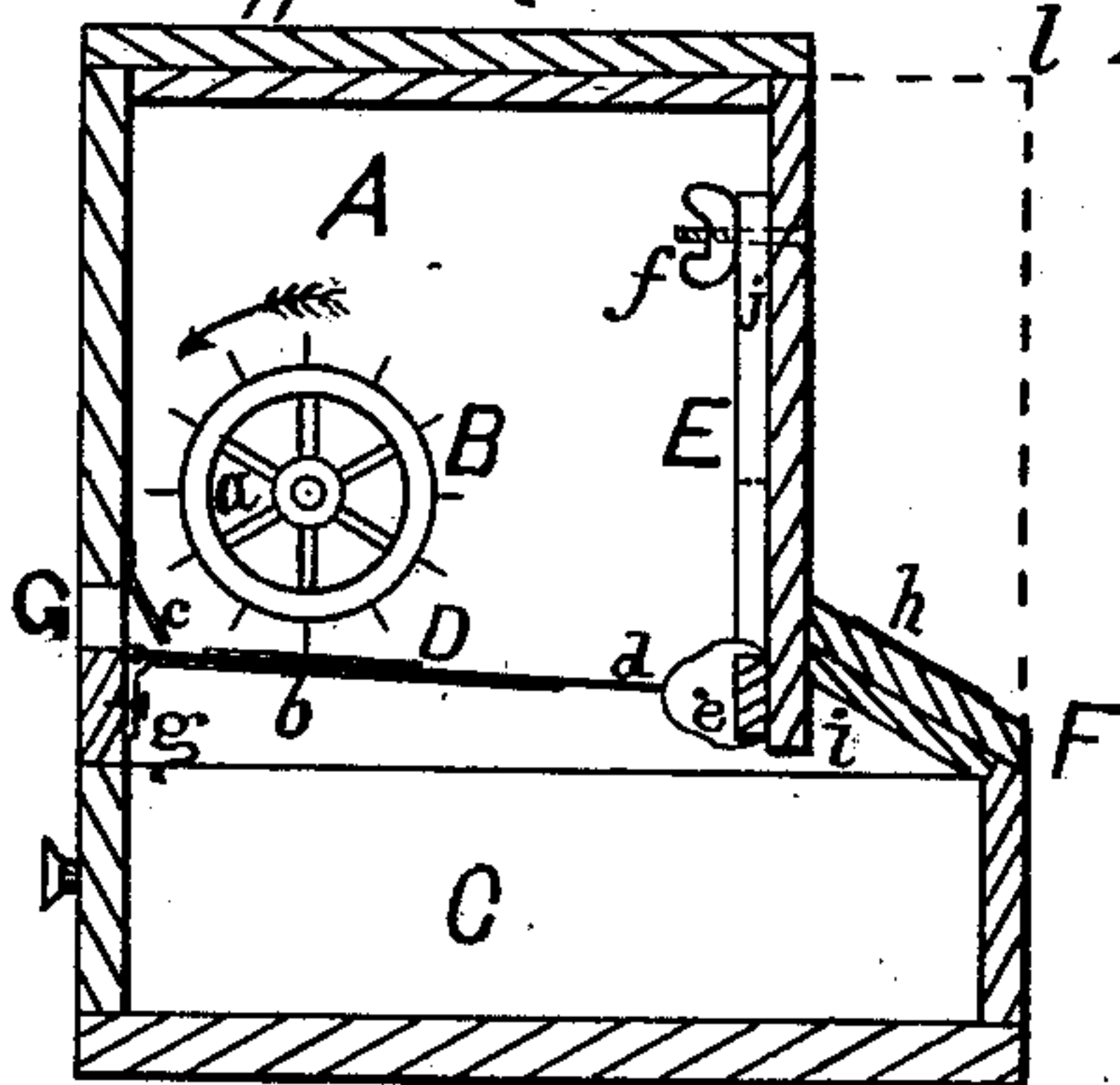
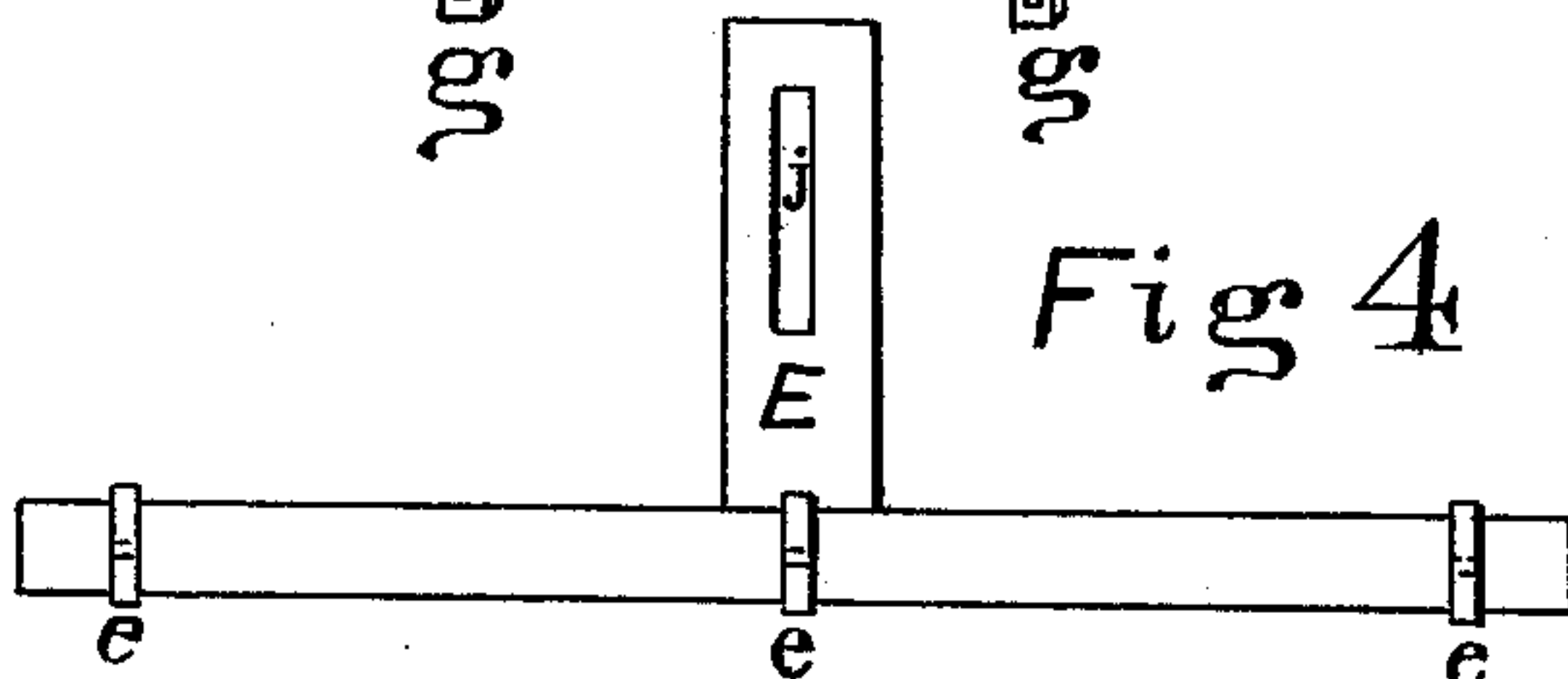


Fig 4



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM ZIMMERMAN AND JAMES B. WATERSTON, OF CHICAGO, ILLINOIS,
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BOOK-BINDER'S GOLD-BRUSHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,328, dated December 7, 1880.

Application filed October 7, 1879.

To all whom it may concern:

Be it known that we, JAMES B. WATERSTON and WILLIAM ZIMMERMAN, both of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Book-Binders' Gold-Brushing Machines, of which the following is a specification.

The invention relates to that part of the book-binders' art which consists in brushing the loose gold-leaf from covers, &c., after the letters or figures have been fixed with the proper stamp or die.

As is well known, as heretofore practiced the loose gold is brushed away with a common brush into a box or receptacle so constructed as to prevent currents of air striking the work, for if not so guarded great waste results, as the gold-leaf is light and is very easily blown away.

The object of our invention is to prevent the possibility of the loss of the brushings, and is attained by brushing the articles with a revolving brush working in a closed box provided with a drawer or other proper receptacle for catching the brushings, while the current of air created by the revolution of the brush passes out through fine screens, leaving the gold behind.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of a device embodying our invention, with part of the front and one end wall broken away, showing the internal arrangement of the mechanism. Both lids also are shown open. Fig. 2 is a cross-section of end elevation of the same with both lids closed. Fig. 3 is a perspective view of the interior table or platform. Fig. 4 is an elevation of the platform-carrier.

A represents an oblong chamber, in which, near its front side, is a revolving cylindrical brush, B. To the outer end of the shaft of said cylinder are attached two pulleys, *a* and *a'*, one fixed, the other loose. Underneath the cylinder B is a platform, D, made of wire or open work, and resting upon rods which are fastened to the front side of the box by the hinges *g g g*, and are supported in the rear by the ears

e e e, fastened to the adjustable T-shaped carrier E.

Upon that part of the platform D which is immediately under the cylinder B is attached a plate, *b*, of wood or metal, preferably sheet-zinc, the object of which is to prevent the bristles from whipping themselves to pieces, as they would if allowed to strike the meshes of the platform D. The meshes of the platform D are open or large, so as to pass the gold-foil freely; but to prevent its choking up a space, *d*, is left entirely open, so that the brushings may fall through it into the drawer or receptacle C below.

The slotted carrier E, which carries the rear end of the platform, may be raised and lowered, so as to cause the brush to work as close to or far from the platform as may practically be required, and is fastened at any desired point by means of the bolt and thumb-screw *f*. The front edge of the platform may also be set to such height as may practically prove to be desirable by means of the adjustable hinges *g g*.

C is a drawer extending in its width the entire length of the box A, and its length extends back across and beyond the width of the chamber A a considerable distance. The part of the drawer so extending beyond the width of the main part of the chamber A is covered by a lid, F, along the entire width thereof. This lid F consists of a frame the under or inner side of which is covered with a screen, *i*, and the outer side of the same is again covered with a finer screen, *h*, and the space between the two screens may be packed with cotton or equivalent material, so as to catch every particle of the gold. Said screens may be of any material fine enough to prevent the fine gold from passing, while the air-current created by the revolving brush escapes through them. By thus passing the air down and then upward out through F, it will be quiet in the drawer, which will be favorable for the particles suspended in it to settle.

The wall back of the drawer C may also be continued up until of the full height of the box A, and then covered with the lid F, forming in that case a flue, as shown by the broken outline *l*.

In the front side of the box is a slot, G, extending nearly the entire width of the same and immediately above the platform D. This slot is closed on the inside of the box A by a flap or door, *c*, which closes by its own weight, thus preventing the air-current escaping through it.

The operation of the machine is as follows, viz: First, the platform D is set to the proper distance from the brushing-cylinder B by the set-screw *f* and the cylinder caused to revolve at a proper speed in the direction shown, then the work—such as book-covers—introduced through the slot G, and through it withdrawn when sufficiently brushed. More or less agitation of the air will necessarily result, which finds vent through the screens *i* and *h* of the lid F, while the air in the drawer C is comparatively quiet, thereby allowing the gold to fall and accumulate, from whence it may be withdrawn at any time without loss.

The revolving brush B may also be made adjustable to the platform D, and said platform may be fixed; or both brush B and platform D may be made adjustable.

A fixed brush may be placed against the revolving brush B to clean the same, or in lieu thereof a brush may be made to revolve against the revolving brush B.

It is not absolutely necessary that the opening to permit the escape of the air-current be placed as herein shown. In fact, it may be through the top, back, or sides of the box—in any such position as will favor or produce such condition of the air as above mentioned.

By the use of our invention the work of brushing the gold is greatly cheapened, and the great waste consequent upon brushing in the ordinary way is reduced to a minimum.

We do not claim, broadly, the working of a revolving brush against an adjustable platform, being well aware that such contrivances have been in use heretofore for various purposes; but the construction and application of the same to book-binders' work, as hereinbefore specified, are new.

We claim—

1. A book-binder's gold-brushing machine, consisting of a box or chamber provided with a cylindrical revolving brush working over an adjustable platform, a longitudinal slot immediately above and parallel to said platform, and an air-escape, all constructed and combined for the purpose as herein shown and described.

2. In a book-binder's gold-brushing machine, the chamber A, provided with cylindrical revolving brush B, in combination with the adjustable platform D, drawer or receptacle C, and screened cover F, substantially as and for the purpose as shown and described.

3. A book-binder's gold-brushing machine, consisting of the box or chamber A, provided with cylindrical revolving brush B, adjustable platform D, receptacle or drawer C, slot G, provided with hinged door or valve *c*, substantially as shown and described.

4. A book-binder's gold-brushing machine, consisting of a box or chamber, A, provided with a revolving brush, B, elastic and adjustable platform D, slot G, and an air-escape guarded by screens *i h*, substantially as and for the purpose specified.

5. A book-binder's gold-brushing machine, consisting of the box or chamber A, provided with a revolving brush, B, adjustable platform D, receptacle or drawer C, slot G, provided with valve *c*, and air-escape guarded by screens *i h*, substantially as shown and described.

6. A book-binder's gold-brushing machine, consisting of a box or chamber provided with a revolving brush working over an adjustable platform, said platform made of open or wire work, a longitudinal slot immediately above and parallel to the platform and provided with a valve, and an air-escape, all constructed and combined for the purpose as herein shown and described.

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Witnesses:

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