R. S. WILLIAMS.

MACHINE FOR FOLDING GOLD-FOIL FOR DENTAL PURPOSES.

No. 186,914. Patented Jan. 30, 1877.

Fig: 1.

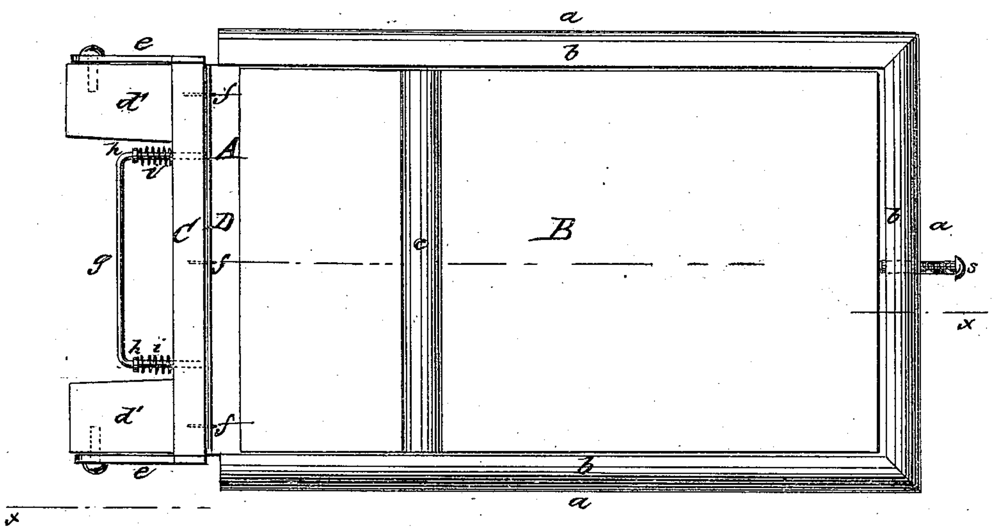


Fig: 2.

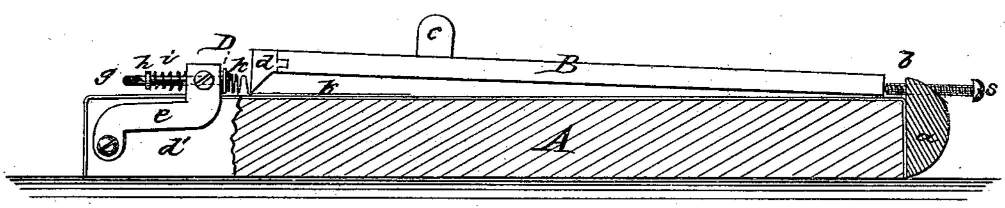
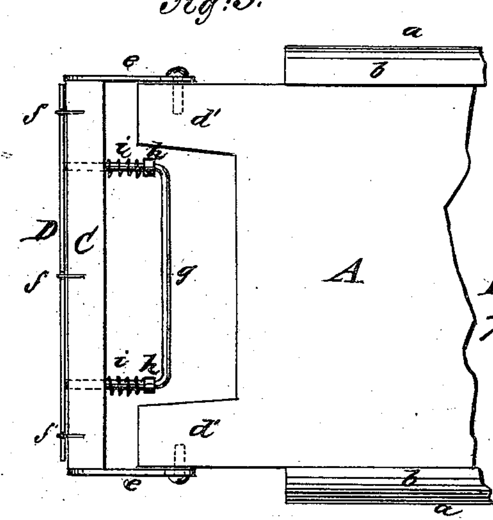


Fig: 3.



Witnesses:

Inventor:

R. S. Williams

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UNITED STATES PATENT OFFICE.

RICHARD S. WILLIAMS, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR FOLDING GOLD-FOIL FOR DENTAL PURPOSES.

Specification forming part of Letters Patent No. **186,914**, dated January 30, 1877; application filed December 28, 1876.

To all whom it may concern:

Be it known that I, RICHARD S. WILLIAMS, of the city, county, and State of New York, have invented a new and Improved Machine for Folding Foil; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in machines for folding foil for dentists' use; and the invention consists in a machine for folding dental foil, constructed with a bed-plate, three of the sides thereof surrounded by a guiding-frame, within which is fitted a folding-plate, one end of the bed-plate having affixed to it a hinged stop provided with serrations, and combined with a device whereby the foil, after it is folded, may be detached.

In the accompanying sheet of drawings, Figure 1 is a plan or top view of my machine; Fig. 2, a part longitudinal section of same; and Fig. 3, a detail view, showing stop extended.

Similar letters of reference indicate like parts in the several figures.

It is well known that the sheets of dental foil, before being used by dentists, are folded, or in some other way put into a convenient form for filling the teeth.

To facilitate this operation, and at the same time produce a ribbon of folded foil the folds of which shall be uniform and compact, and also avoid bringing the fingers in contact with the foil, (which would injure its cohesive qualities,) I construct a machine with a bed-plate, A. This bed-plate, at one end and two of its sides, is inclosed by a frame, *a*, the upper edges *b* of the frame projecting above the upper surface of the bed-plate, (or, if desired, the bed-plate may be made of cast metal, in which case it would be cast with a projecting ledge or flange above the surface of the bed-plate instead of the frame *a*.) Snugly fitting onto the bed-plate A, and within that part of the frame *a* that projects above it, is a folding-plate, B. This folding-plate may also be made of wood or metal, and it is provided with a cleat, *c*, on its upper surface, and a beveled head, *d*, at its front end. This beveled head projects slightly below the surface of the folding-plate B, and is square on its front surface, the bevel extending from its rear side to the under side of the folding-plate B. The bed-plate A projects at its front end beyond the frame *a*, and it is provided with two ears, *d'*. To these ears are affixed, by hinge-joints *e e*, a stop, C. This stop has fitted to its front face a series of serrations, *f f*, and covering the front face of the stop C is a detaching-plate, D, with slots in it to permit the serrations *f* to project beyond its outer surface. The detaching-plate D is kept in position against the face of the stop C by a detaching-bar, *g*, the ends of this bar being bent at right angles, which ends pass through the stop *c*, and to which the detaching-plate is firmly fixed. On the right-angled portions of the detaching-bar, and between the rear side of the stop and collars *h h*, affixed for that purpose, are springs *i i*.

Now, my machine for folding foil being constructed substantially as above described, it is operated by placing on the bed-plate A (which is preferably covered by chamois leather or other similar substance) a sheet of foil, *k*, which may have been previously folded in one or more leaves, or not, as desired, one side of the foil being placed in contact with, or nearly in contact with, the face of the detaching-plate D, when the stop and plate are in the position shown in Fig. 2. Then the hand, grasping the cleat *c* on the back of the folding-plate B, slightly presses the lower edge of the beveled head *d* onto the foil, and the folding-plate is moved forward against the face of the detaching-plate D, the beveled edge of the head *c* gathering up the foil, and carrying it in a fold against the detaching-plate and the serrations *f*. The folding-plate B is then carried back until its rear end is brought in contact with the raised edge or ledge *b*, secured to the rear of the bed-plate A, and again forward, and so on, each forward motion carrying a fold of foil against the detaching-plate D, until the entire sheet of foil is folded against it, where, by a slight pressure of the face of the beveled head *d*, it is compacted, the serrations *f* holding it against the surface of the detaching-plate.

The width of each fold, as it is formed, is regulated by the "throw," so to speak, of the folding-plate B, which is the distance between the front end of the beveled head *d* and the face of the detaching-plate. The plate acts in connection with the stop C, limiting its forward movement, and the rear projecting ledge or frame limits its backward movement. When it is desired to regulate the width of the fold, this may be done, to some extent, by a set-screw, *s*, projecting from the rear frame or ledge.

When the foil is fully folded and pressed against the detaching-plate D, the stop C, with the detaching-plate and foil adhering thereto, is turned outward (the hinge-joints *e e* permitting this movement) to the position shown in Fig. 3, when the detaching-bar *g* is pushed inward, forcing the detaching-plate outward, and freeing the foil from the serrations *f*, so that they no longer confine the folded foil to the detaching-plate, when the foil will drop from the plate into a suitable receptacle that may be provided for that purpose, the springs *i i* restoring the detaching-plate to its position against the face of the stop after the folded foil has become detached.

If it is desired, a device may be combined with the folding and bed plates, whereby it may be operated automatically, so far as the limit of the throw of the folding-plate and the gathering up of the foil into folds is concerned.

The foil prepared by my device, constructed and operated substantially as I have described it, is entirely prepared without necessarily coming in contact with the fingers or hand of the dentist or other person preparing it, and its adhesive qualities are therefore not impaired in any way in the course of preparation. Besides, the foil is folded with a facility and uniformity of fold that would not be otherwise attainable.

The purpose of the projecting edges *b* of the frame or ledge *a* is substantially that of guides, the edges of the folding-plate in contact with them being enabled to preserve its parallelism.

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

1. A device for folding dental foil, consisting of a bed-plate, three of its sides provided with guides, and an adjustable stop with serrations, and with a detaching-bar with springs, and a folding-plate with a beveled head and cleat, substantially as and for the purpose described.

2. In a device for folding dental foil, a sliding folding-plate with a beveled head, substantially as and for the purpose described.

3. In a device for folding dental foil, a hinged stop, substantially as and for the purpose described.

4. In a device for folding dental foil, a stop combined with a detaching-plate, substantially as and for the purpose described.

5. In a device for folding dental foil, a detaching-bar, with devices for retaining the folded foil, substantially as described.

6. In a device for folding dental foil, a bed-plate with guiding-ledges on three of its sides, substantially as and for the purpose described.

7. In a device for folding dental foil, a bed-plate with an adjusting-screw, whereby the throw of the folding-plate may be adjusted, substantially as described.

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Witnesses:
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