

(No Model.)

F. S. BARTRAM.
BRUSH.

No. 574,873.

Patented Jan. 12, 1897.

Fig. 1.

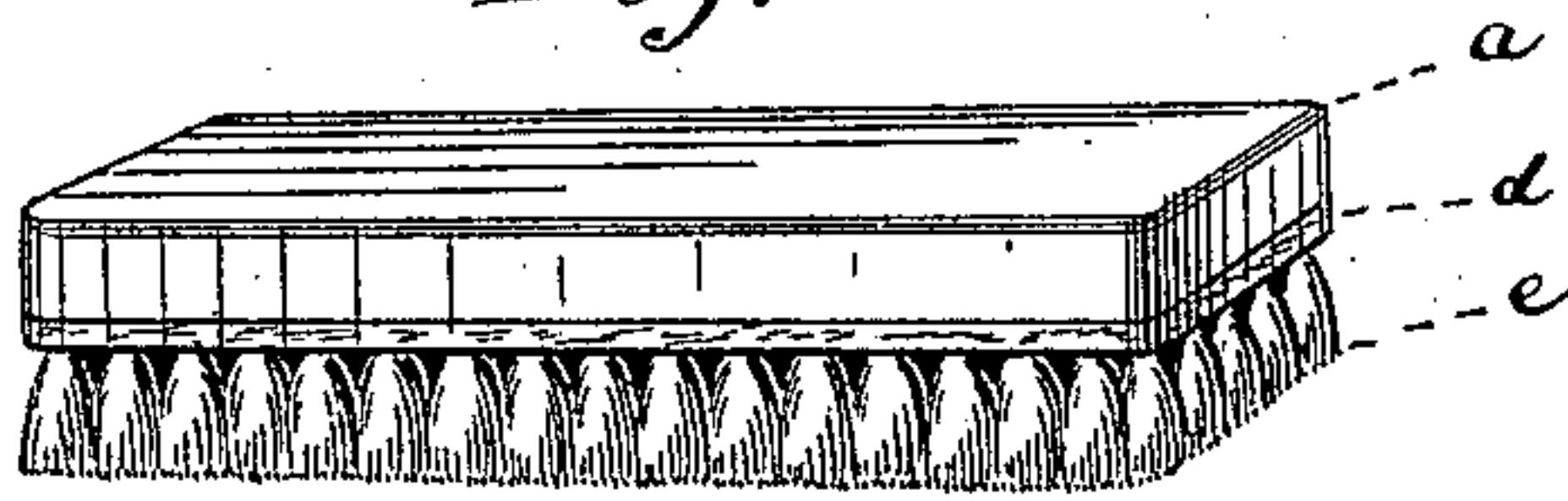


Fig. 2.

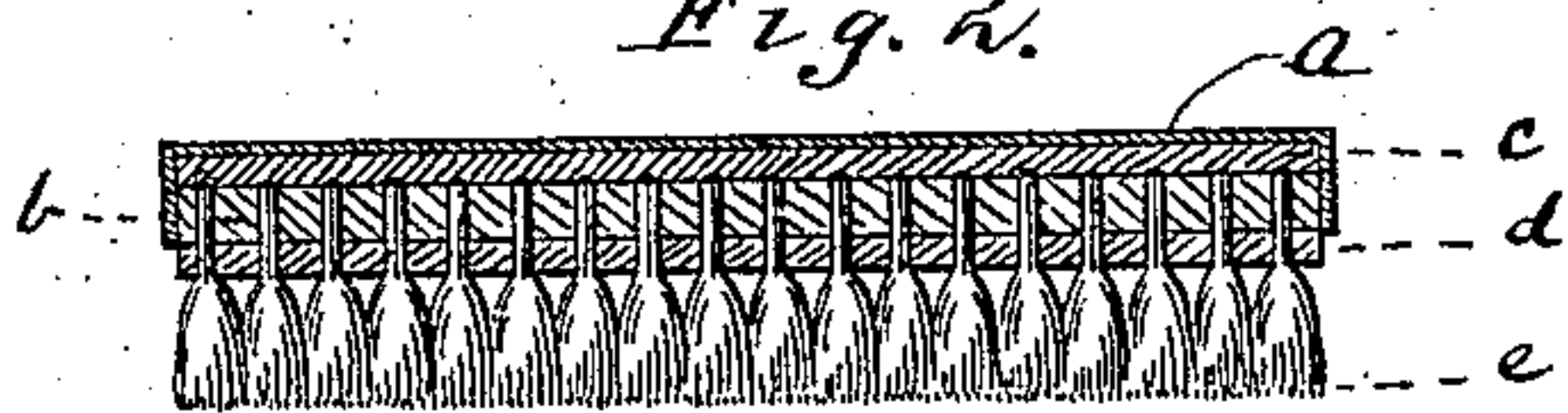


Fig. 3.

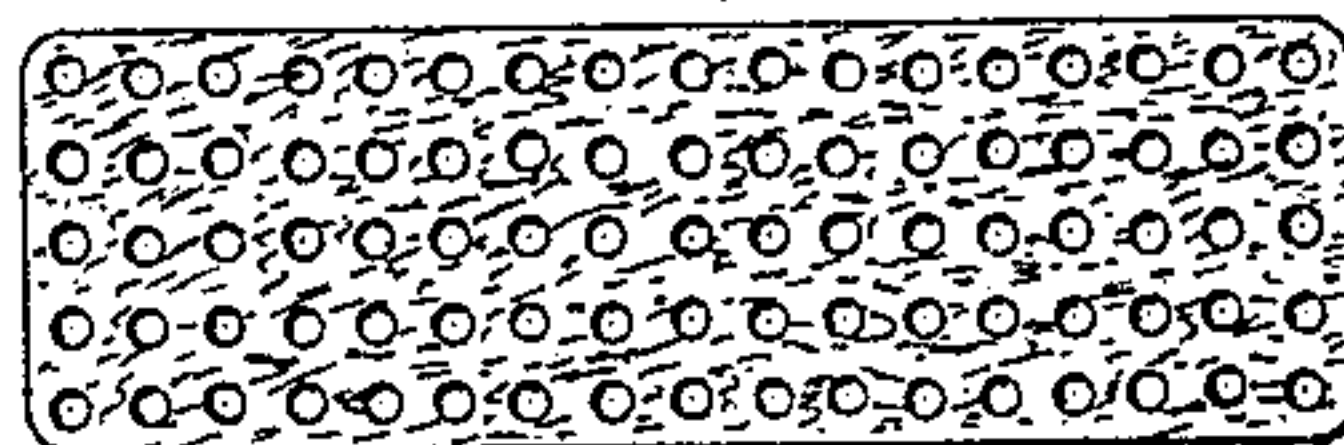


Fig. 4.

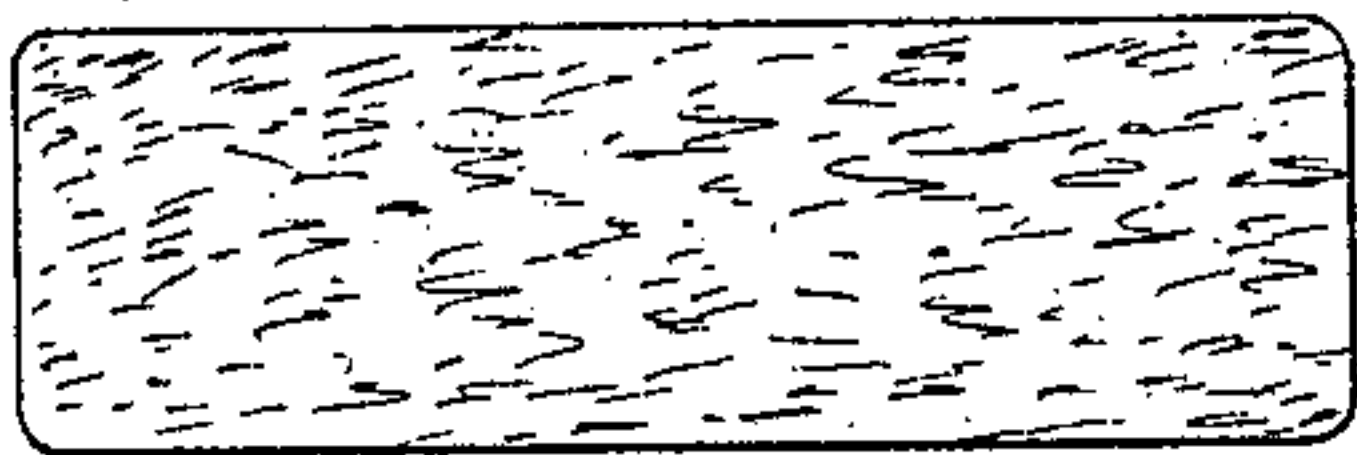


Fig. 5.

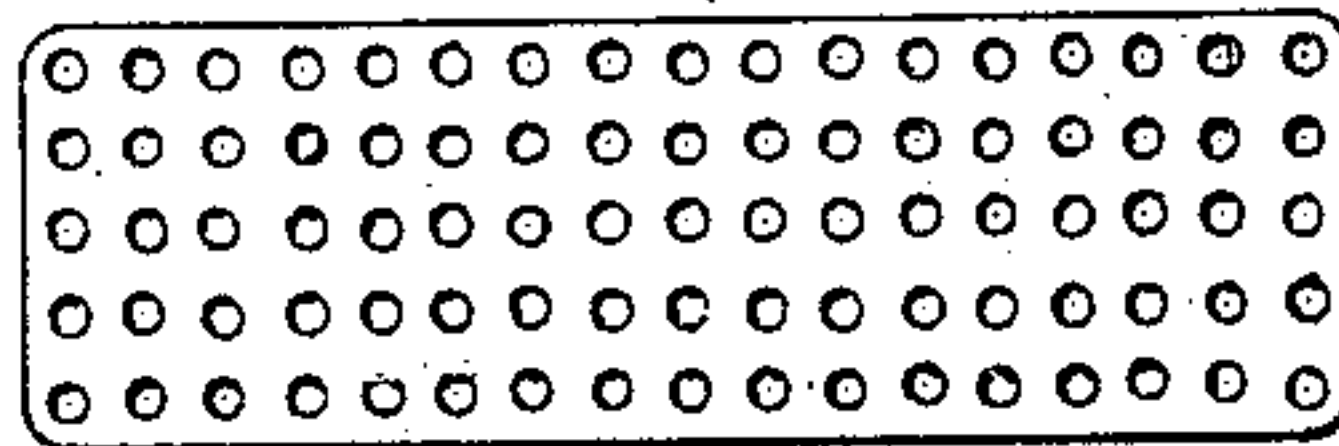


Fig. 6.



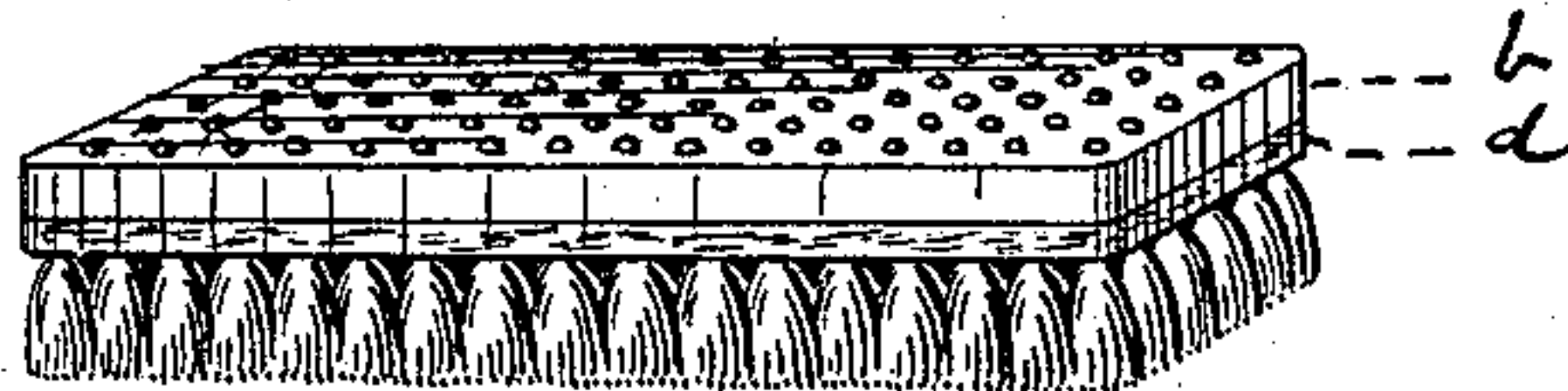
Fig. 7.



Fig. 8.



Fig. 9.



WITNESSES:

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BRUSH.

SPECIFICATION forming part of Letters Patent No. 574,873, dated January 12, 1897.

Application filed September 25, 1896. Serial No. 606,943. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND S. BARTRAM, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Absorbent-Fluid-Retaining Brushes, of which the following is a specification.

My invention consists of an improvement in brushes which may be used for various purposes, but is particularly adaptable to the uses of printers. It is simple and inexpensive.

It relates to the removal of printer's ink from type-forms, electrotypes, and rollers in the most expeditious and practical manner. It is clearly applicable to the removal of ink from "forms" while on the press when rapid cleaning is necessary or colors are to be changed and from type on galleys when a series of proofs are required in quick succession, also from "dead" matter prior to its distribution.

This device consists of one or more absorbent pads, layers, or cushions of any absorbent material upon either side of the bristle-frame, through which the bristles are passed and through which the fluid passes to the pads, where it is retained by these absorbent surfaces or pads and dispensed in moisture only upon the bristles to the surface of the type, the bristles acting and aiding also to detach the released ink instead of permitting it to pass downward from the face of the type to the spaces, interstices, and body of the same.

Figure 1 of the accompanying drawings, which are hereby made a part of this specification, represents a perspective view of my design. Fig. 2 shows a cross-section of the same. Fig. 3 illustrates the outer absorbent pad as shown at *d* in Fig. 1. Fig. 4 shows the inner absorbent pad or cushion designated at *c* in cross-section, Fig. 2. Fig. 5 shows a surface of the bristle-frame. Fig. 6 represents a cross-sectional view of the back or top of said brush. Figs. 7 and 8 show transverse sections of modified forms or constructions of said brush. Fig. 9 is a perspective view with back and inner absorbent pad or cushion removed, showing the point of contact between the ends of the bristles and the

inner absorbent pad or cushion *c* when in place.

Like letters of reference, wherever they occur, indicate corresponding parts in the several figures of the drawings.

A more detailed description and form of construction of my device is as follows: Fig. 1, constituting the entire brush, consists of several parts—viz., the back or top *a*, the perforated bristle-frame *b*, the inner absorbent pad *c*, the outer absorbent pad *d*, and the bristles *e*. The inner absorbent pad is best shown at *c*, Fig. 2. The construction does not differ materially in method from ordinary brushes except that preferably the bristles are brought entirely through the frame to its upper surface to insure more direct contact with the inner absorbent pad *c*.

The outer absorbent pad is first perforated to correspond to the perforations in the bristle-frame when they are placed faces together (holes opposite) and the bristles are drawn through both, as hereinbefore described. Next, another absorbent pad *c* is placed upon the other side of the frame, preferably in contact with the upper ends of the bristles, and the whole secured within the top or back, when the brush is complete.

The capacity of the brush may be increased or diminished by the number or thickness of the pads employed in its construction.

The mode of operation is as follows: When fluid is poured upon the bristles, (holding the brush in an inverted position,) it does not run off, as from an ordinary brush, but is absorbed, first by the bristles, which convey it to the outer absorbent pad *d* until this is fully charged. Then the fluid passes through the perforations in the bristle-frame *b* to the inner absorbent pad *c*, where it is confined by the back or cover *a*, and is there retained until the fluid from the outer pad *d* has, partly by gravitation and pressure and partly by capillarity, passed down the bristles when in action in the form of moisture to the point of contact, the face of the type, which is only moistened and not "flooded" and which is the great desideratum of the invention. The brush may be constructed and used with either one or the other pads singly in position, as shown in Figs. 7 and 8, but as both contribute

to the same result the preferable mode or form of construction is shown by Fig. 1, substantially as hereinbefore described.

Having described the manner of its application to a fixed-bristle brush, I desire to state its application to a movable-bristle brush. No other machinery or process is needed for construction, but if when the brushes are drawn through the bristle plate or frame a lesser number of bristles are used these bristles will then move vertically and automatically by contact with the article to be cleaned against the upper or inner absorbent cushion *c*, thus exciting and stimulating the absorbent fluid within said cushion to escape downward upon said bristles in the restricted manner hereinbefore referred to, while, the bristles being movable, the outward ends adjust themselves to all irregular surfaces or uneven depressions of the form or surfaces to which the brush may be applied.

In the modified form of construction in Fig. 7 the outer pad *d* only is used, as shown also in Fig. 9, while in the other modified form, Fig. 8, the inner pad *c* only is used, according to the different purposes for which the brush may be required.

The pads or absorbents constructed substantially as shown in Figs. 3 and 4 may be of cloth, cotton, asbestos, or any other absorbent fiber or material, but felt-cloth is preferable for printers' uses. The bristles may consist of hair, fiber, metal, or any suitable

substance. The top or back may be constructed of wood or metal or other proper material and the frame of wood, celluloid, metal, or other suitable substance. The brush may be made of any form or size.

In other fields it will be found possibly equally serviceable. For the removal of lint from cloths in the manufactory, and even in the household, it will be valuable, so in the manufacture of paper and other articles of use and necessity.

I make no claim of novelty or originality for any form or method of construction of a brush to embrace this device, nor for the kind of bristles nor framework nor back for the same, as my invention is applicable to almost any brush that may be made, though it may not be of especial service except in those instances where moist bristles are useful.

What I claim only as new, and for which I ask that Letters Patent be granted, is—

1. The combination of the bristle-frame, the bristle-tufts and the absorbent material, placed adjacent the bristle-frame, substantially as described.

2. In a brush, the combination of the back *a*, the bristle-frame *b*, the pads *c* and *d*, the bristles *e* all substantially in the manner described and for the purposes herein specified.

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Witnesses:

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