

(No Model.)

J. W. OSBORNE.

ERASER.

No. 383,483.

Patented May 29, 1888.

Fig. 1.

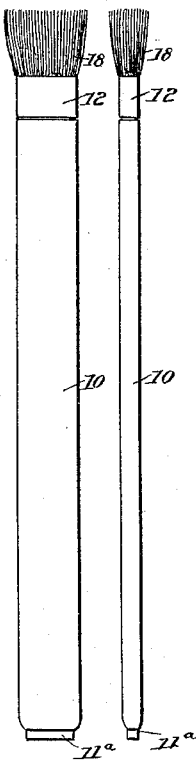


Fig. 2.

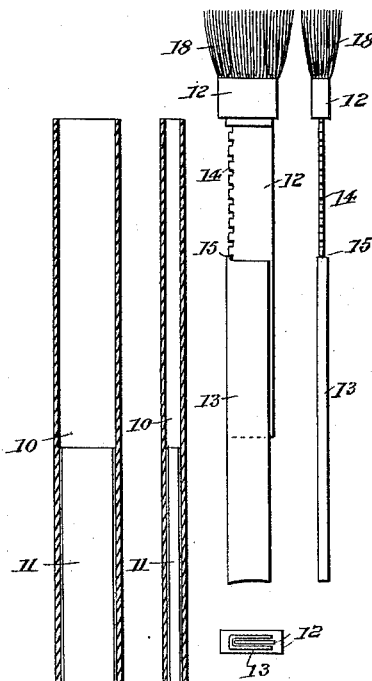


Fig. 5.

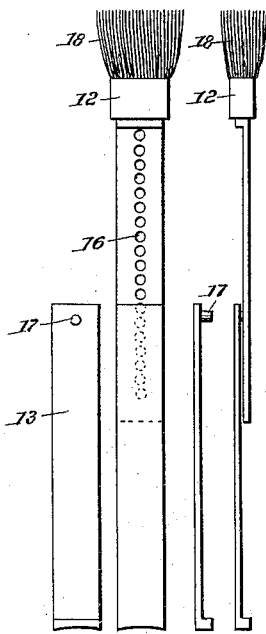


Fig. 6.

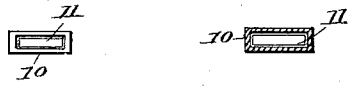
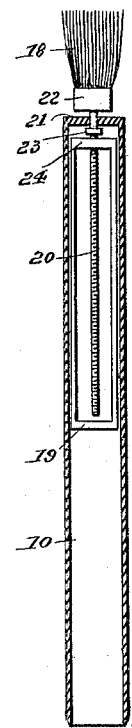
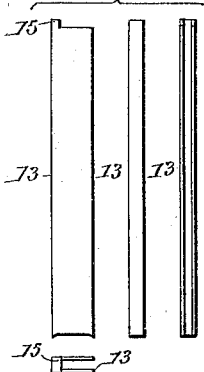


Fig. 3.



Witnesses:  
J. Clark.  
Louis A. Clark.

Fig. 4.

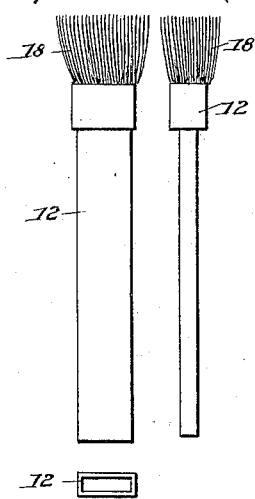
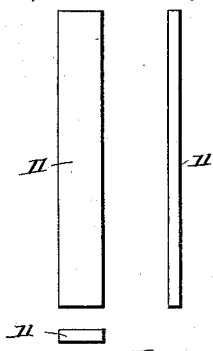


Fig. 7.



Inventor.  
J. W. Osborne.

# UNITED STATES PATENT OFFICE.

JOHN W. OSBORNE, OF WASHINGTON, DISTRICT OF COLUMBIA.

## ERASER.

SPECIFICATION forming part of Letters Patent No. 383,483, dated May 29, 1888.

Application filed September 5, 1887. Serial No. 242,815. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. OSBORNE, a subject of the Queen of Great Britain, residing at Washington, in the District of Columbia, have invented a new and useful Improvement in Erasers, of which the following is a specification.

This invention is related to a large number of devices for holding conveniently a piece of rubber for removing pencil or ink marks from paper and like material. Its special object is to provide an implement for local erasures so constructed that the rubber or similar erasing material contained therein may be fed forward from time to time as it wears away, and when exhausted altogether may be replaced by a new piece, the case or sheath remaining intact indefinitely.

In the drawings forming part of this specification, Figure 1 represents two side elevations and one end elevation of my erasing-pencil, with the strip of erasing-rubber in place. Fig. 2 shows two longitudinal sections of the tube, the strip of rubber being in place, with a cross-section of the same, also three elevations of the adjustable follower removed therefrom. Fig. 3 is the adjustable piece, which forms part of the follower, separated from the latter and shown alone in elevation from three sides and from the end. Fig. 4 shows in elevation three views of a modified way of constructing the follower. Fig. 5 represents in like manner a second modification of the same part, embracing four elevations. Fig. 6 illustrates in section the form and construction of an eraser (omitting the rubber) in which all the parts are attached together. Fig. 7 represents in three elevations a movable piece of erasing-rubber.

This invention is especially designed to facilitate the correction of type-written documents, for which purpose the pieces of rubber are best prepared of the ink-erasing kind and of about the size shown in Fig. 7; but ordinary rubber may also be used, and the size may be varied indefinitely, adapting the device for general or special use in drawing and writing of all kinds.

Figs. 1, 2, and 3 show different views of my invention in its most generally serviceable form. The case or holder may be made of

ebonite or celluloid, and then resembles externally a pen or pencil case, but of flattened quadrilateral cross-section.

In the drawings, 10 represents a tube of desired dimensions. This receives the strip of erasing-rubber 11, manufactured of suitable form and length, so that the same slips easily through the tube, but will not fall out. The follower consists of two parts, 12 and 13. When in place, this closes tightly one end of the tube, as seen in Fig. 1, and supports the erasing material, so that it projects a short convenient distance beyond the end of the tube at 11, and will then resist the pressure applied to it while erasing by reason of the abutment provided by the follower. When from use the projecting part is worn off, the erasing-rubber can be pushed forward a sufficient distance to be again serviceable. Certain difficulties are met with in accomplishing this in a perfect manner, in consequence of the generally small size of the rubber, the friction it offers, its elastic nature, and rectangular form. These I have overcome in several ways, the simplest of which is shown in Fig. 4. In this case the follower 12, which fits the end of the tube, consists of one piece only. When the projecting point of the erasing-rubber has worn away, this follower is withdrawn and its length practically added to by dropping into the tube any small object, such as a morsel of wood or paper rolled up or a few grains of shot, which last answers the purpose well. When the follower is again restored to its place, till checked by its shoulder at 25, the rubber is forced forward a distance equal in length to the thickness of the substance introduced, which has virtually lengthened the follower to that extent.

In Figs. 2 and 3 the construction of the follower I prefer is shown, by which a step-by-step elongation of the same may be effected. The greater part of the blade or shank of the piece 12 is made so thin that the width of the tube is not filled by it. The edge of this blade is provided with a number of short notches, 14, and around three sides of it is lapped as a sleeve a piece of thin sheet metal, 13, which has a little projecting tooth at 15. This tooth is made to fall into one of the notches in the blade of 12. When the strip of erasing-rubber is new

and of full length, the notch nearest the shoulder will be required; but as it wears the tooth will have to be moved from notch to notch till the end is reached and the rubber used up.

5 To make these changes, the follower is each time withdrawn. It will be seen, also, that the lower end of the piece 13 is made concave. This is done to prevent any danger of jamming the soft rubber, which is apt to take place when

10 pressure is applied in the middle, the lateral expansion then forcing the material against the sides of the tube and giving rise to undue friction. My device permits the displaced rubber to rise in the middle in the first instance till the movement of the whole strip

15 forward begins.

In Fig. 5 a modified form of extensible follower is shown, which also works well, the series of perforations 16 in the blade 12 being

20 easily and satisfactorily made, into one of which the round tooth 17 falls. Both this and the form shown in Figs. 1, 2, and 3 are equally satisfactory when the follower is in place, for once inside the tube no shift of the movable

25 piece 13 is possible; but the latter construction is better when the follower is withdrawn for the purpose of making a change, in that the two pieces composing it do not fall apart. This is due to the elastic clasp exerted by the

30 thin folded metal 13, bearing the tooth 15, which encircles three sides of the central blade in the preferred construction. The outer part of the follower 12 is of about the same dimensions as the quadrilateral tube 10, outside measurement. This provides material for the

35 shoulder at 25, which stops the follower when pushed into the tube, and also for the stock of a little brush, 18, which, in connection with the eraser, is used for removing the dust the latter makes upon the paper. In every case

40 that part of the follower which is close to the shoulder is made to fit the inside of the tube tightly, acting as a plug for a short distance, so that the inner end of the follower, forming the abutment against which the rubber presses

45 when in use, cannot dislodge it.

In Fig. 6 my invention is shown in a more elaborated form. In this modification the follower 19 is concealed within the tube 10, and

50 its control of the strip of erasing material is effected by causing it to travel forward toward the point of the tube by means of the screw 20. This tube 10 is closed at one end by a plate, 21, in which the smooth neck of the

55 screw revolves. The stock for the brush 22 forms the screw-head, while the fast collar at 23, together with it, keeps the neck in place in the end 21. The threaded part of the screw passes through a nut in the end of the follower

60 at 24, and its revolution from time to time by the hand of the operator will force the follower 19 in either direction. This form of my invention is best adapted for larger strips of erasing-rubber than those suited for the necessities of

65 the type-writer. For use with that machine, the thickness of the erasing-rubbers should be about one-tenth of an inch, so as to remove a single

letter readily without affecting those on either side of it.

The advantages secured by my invention 70 are many, for by it an eraser of convenient and uniform length is provided, the erasing material in which is always clean and pointedly exposed, and as the tube in which the rubber is contained supports it thoroughly, 75 there is a gain in rigidity and functional precision over ordinary erasing-rubber, which is important and valuable. Such material will be found, furthermore, to wear slowly, considering the amount of work it is capable of 80 doing, which is due to the fact that every particle of abraded rubber has been active in removing the letter or line to be taken out, and has not been expended on blank paper.

The pieces of erasing-rubber for my tubular 85 holder should of course be made of the right size and length and of the particular quality required, as regards abrasive power and rapidity of action, to suit the work required of them.

In the foregoing I have described the use of 90 movable strips of erasing-rubber of one form and size only; but it is obvious that many changes therein and in the construction of holders therefor may be made without affecting the principle of my invention, for it is as 95 easy to push forward from time to time an oval, square, or round strip of rubber in an erasing-pencil constructed substantially as set forth and adapted to carry such as it is to do 100 the same with movable strips of rectangular cross-section, as hereinbefore shown and described; and although I believe hard rubber or celluloid to be generally best adapted for the construction of this invention, still it is 105 certain that other substances—such as metal—can also be used, and with advantage in certain cases, the special details of construction then undergoing possible change to suit that in the material selected.

Having thus described my invention and the 110 practical application of the same, what I claim, and desire to secure by Letters Patent, is—

1. In an erasing-pencil, a tubular holder containing a movable strip of erasing-rubber, 115 in combination with an extensible follower adapted to one end of said tube, whereby an advancing abutment within the same is provided for the sliding strip of rubber, substantially as described.

2. In an erasing-pencil, a tubular holder containing a movable strip of erasing-rubber, 120 in combination with an extensible follower adapted to enter one end of said tube, and a shoulder upon the follower to limit its inward movement, substantially as described.

3. In an erasing-pencil, a tubular holder containing a movable strip of erasing-rubber, 125 in combination with an extensible follower consisting of two pieces relatively adjustable lengthwise, and adapted as a whole to enter and fit one end of said tube, substantially as described.

4. In an erasing-pencil, a tubular holder

containing a movable strip of erasing-rubber, in combination with an extensible follower consisting of a plug adapted to fit one end of said tube, with a notched blade or shank extending inward therefrom, and a folded sleeve clamping said blade or shank and provided with a tooth to engage its notches, substantially as described.

5. In an erasing-pencil, a tubular holder containing a movable strip of erasing-rubber, in combination with an extensible follower supporting the inner end of said strip in its successive positions, and with a brush forming part of said follower extending from its outer end, substantially as described.

6. In an erasing-pencil, a follower adapted to push forward the movable rubber strip, and provided with a concave end whereby impact

is made with the rubber at its edges only, substantially as described.

7. A follower adapted to push forward the movable rubber strip in an erasing-pencil, consisting of two separable pieces of stiff material sliding longitudinally upon each other, in combination with locking mechanism to effect their rigid connection in predetermined positions, and with a tubular holder whereby such connection is maintained, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. OSBORNE.

Witnesses:

PHILIP MAURO,  
C. J. HEDRICK.