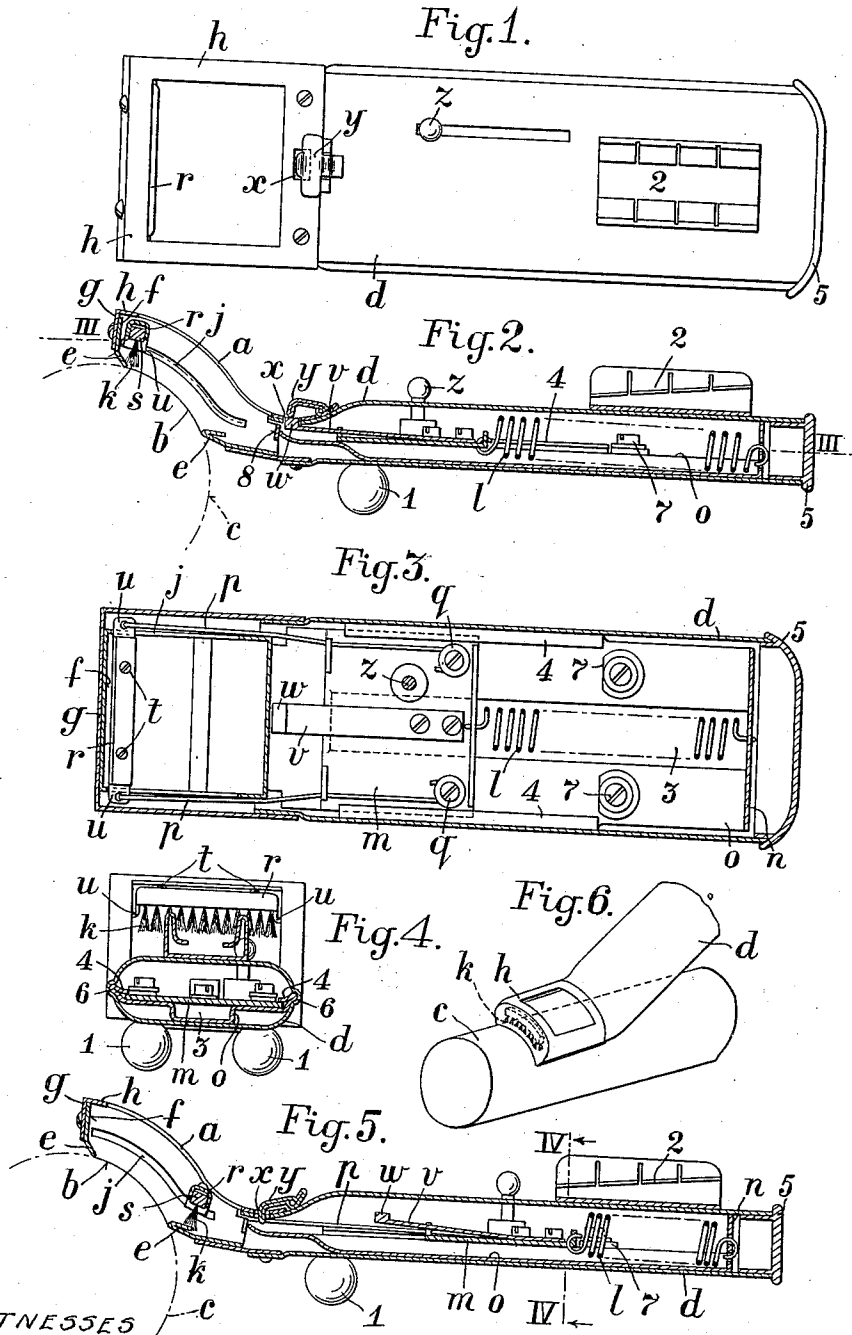


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ERASURE DUST COLLECTING INSTRUMENT.
APPLICATION FILED JUNE 12, 1911.

1,043,282.

Patented Nov. 5, 1912.



WITNESSES

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ERASURE-DUST-COLLECTING INSTRUMENT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY HERBERT YELF, a subject of the King of Great Britain, residing at Southsea, in the county of Hampshire, England, have invented new and useful Improvements in Erasure-Dust-Collecting Instruments for Collecting the Debris Resulting from Erasures Effected in Type-Writing Machines, of which the following is a specification.

This invention relates to improvements in instruments for collecting the debris resulting from an erasure effected in a typewriting machine.

It has been discovered that many of the defects which arise in connection with typewriting machines are due to the use of the eraser in the machine. For example, the eraser is employed for removing characters from the paper while the latter is still around the platen and hard particles of the eraser are freed and fall down into the working parts and on to the bearings and pivots of the type bars or levers. In the subsequent use of the machine the particles abrade the bearing parts so that the pivots become loose before they have suffered any considerable wear and tear and defective alinement is the result.

The present invention has for its object to provide an instrument which will prevent the dispersal into the machine of the particles of eraser and other debris produced during the act of erasing and thereby not only protect the working parts but also make for general cleanliness. The new or improved instrument collects the debris at the end of such act of erasing, and safely contains the collected debris so as to prevent the latter from being blown or otherwise accidentally transported into the machine. The problem however is not only to provide an instrument having these functions, but also to provide such an instrument which is simple and can be readily manufactured and not easily put out of order by rough usage.

According to this invention the instrument broadly speaking, comprises a container and what may be termed a guard or shield portion thereon, the latter being applicable to the platen or platen roller of the machine at the place where an erasure is to be made, and adapted to prevent the dispersal of the debris resulting from the abrasive action between the eraser and the paper

lying within the shielded area. The container may constitute as it were the handle for the shield or guard, and a brush or scraper or the like is movable within the instrument in order to transfer the debris from the shielded area into the container. These are the essential elements of the improved instrument but many modifications and additions can be made to facilitate the employment of the device as for example by arranging for a spring to move the brush or scraper in one direction and by providing for readily adjusting and renewing the brush or scraper and so on.

In order to enable this invention to be readily understood reference is made to the accompanying drawings in which—

Figure 1 is a plan of a new or improved instrument constructed according to this invention. Fig. 2 is a central vertical longitudinal section of the instrument as seen in Fig. 1. Fig. 3 is an irregular section on the line III—III of Fig. 2 the section being chiefly taken in the horizontal plane. Fig. 4 is a transverse section on the line IV—IV of Fig. 5 and Fig. 5 is a view similar to Fig. 2 but showing the brush arrangement in its retracted position. Fig. 6 is a more or less diagrammatic perspective view of a modified construction.

As shown in the drawings in carrying out the invention, according to one construction, the shield or guard *a* has a part-cylindrical surface at *b* adapted to fit nicely on to the platen roller *c* Fig. 2. The said surface at *b* is formed with an aperture sufficiently large to permit of all erasures of an ordinary nature. The shield *a* is carried upon a container *d* which constitutes a sort of handle and is conveniently somewhat elliptical in cross section as seen in Fig. 4. The shield may comprise a plate *e* bent to the desired form and with an upstanding wall or flange *f* all around or along the sides. As shown the plate *e* with the walls *f* may be riveted or fastened within an outer casing or framing part *g* the edges of which may be turned over as at *h* so as to serve as a rest for the hand performing the erasure. The side walls or flanges *f* are formed with guides or guide slots *j* preferably curved to conform with an arc struck from the center of the roller *c*. In these guides a brush *k* or it might be a scraper is movable across the aperture in the surface at *b* through which the erasure has been made.

It is preferred to arrange for the brush *k* to be spring operated, that is to say the brush is movable to one position before the erasing takes place and the spring *l* is put under tension, and after the erasure has been accomplished, the brush is released and is moved by the spring *l* across the aperture so as to sweep the debris into the container *d*. Naturally however the brush might be moved in both directions by hand.

One arrangement of brush operating mechanism comprises a plate *m* slidably mounted within the container *d* or handle of elliptical cross section and connected by the spring *l* to a suitable object within the container such as the vertical end flange *n* of a frame plate *o*. The brush *k* is suitably connected with the sliding plate *m* by flexible steel wires *p* which permit the brush *k* to move over the curvilinear path *j* in the shield *a* while the plate *m* performs its rectilinear motion in the container or handle *d*. These wires *p* are connected adjustably as for example by the little clamping screws *q*, preferably to the plate *m*, so as to allow of variation in their length with a consequent shifting of the relative position of the brush *k*. The latter conveniently comprises a bent sheet metal holder *r* in which the brush back *s* is suitably secured as for example by the screws *t* and the holder *r* has end ears or lugs *u* which extend through the guide slots *j* and are perforated as shown to enable the wires *p* to be secured thereto. The plate *m* conveniently carries a spring tongue *v* formed with a hook *w* adapted to engage with a catch *x* in the wall of the container when the plate *m* is moved to the position in which the brush *k* is ready to make its sweeping stroke under the action of the spring *l*. When it is required to make an erasure the knob *z* on the plate *m* is pushed forward and the brush *k* is moved to the end of its guides *j* thereby tensioning the spring *l* and causing the spring tongue *v* carried by the plate *m* to carry its hook *w* into engagement with the aperture *x* so that the brush becomes locked in this position as shown in Fig. 2 against the effort of the spring *l*. The shield *a* is now placed upon the platen *c* in such a manner that the part to be erased can be seen within the aperture in the surface indicated at *b*. The erasure having been made, the instrument is held quite still and the pivoted dog *y* is depressed thereby pushing the hook *w* out of the aperture *x* and liberating the spring tongue *v*, whereupon the tensioned spring *l* quickly pulls the brush *k* across the aperture, the brush carrying with it the debris and sweeping the latter into the container *d*.

In order to secure effective engagement of the catch *w* of the spring tongue, the container, is preferably depressed so that its

wall presents a curve leading to the point at which the aperture is formed. This is seen in Figs. 2 and 5 from which it will be obvious that as the catch *w* moves forward it will strike the curved part of the wall and be gradually depressed until it arrives beneath the aperture *x*. When not in use the instrument preferably stands in an inclined position with the shield end raised so that the debris shall not be readily tipped out. For this purpose the underside of the instrument may be fitted with little knobs or feet 1. It is to be noted however that the brush *k* or scraper in the inner position to which it is pulled by the spring *l* Fig. 5 acts as a bar to the escape of the contained debris. The container *d* or handle may be fitted with a suitable spring or other clip 2 for securing an eraser or an eraser holder. Stops 7 which may be adjustable as to position, if desired, are provided on the plate *o* for limiting the inward motion of the plate *m* under the influence of the spring *l*. The plate *o* carries practically all of the working parts. As seen in Fig. 4 this plate is depressed in the middle at 3 so as to accommodate the spring *l* and has its edges turned over as at 4 to provide guides for the plate *m* to slide in. The end of the container *d* is closed by a plug or cover 5 the removal of which enables the container to be emptied of the debris and also enables the mechanism to be removed by sliding the plate *o* out. Guide grooves 6 may be formed on the casing *d* to facilitate the entry and removal of the plate *o*. As will be obvious, the opening in the surface *b* is to permit access to be had to the matter to be erased, and it is to be understood that various modifications of the same can be resorted to to accomplish this purpose, the example shown being one simple and economical expedient.

The instrument may be constructed as shown so that the shield *a* is adapted to be applied with the container or handle *d* lying perpendicularly or at an angle to the axis of the platen roller *c*, or it may be arranged for the shield *a* to be held with the handle *d* in alinement with the axis of the roller *c* as indicated in Fig. 6. In the former case the brush performs preferably a part circular movement about the platen but in the latter case the brush performs a straight line movement parallel with the axis of the platen roller the brush being bent as indicated in dotted lines so as to conform with the curvature of the platen.

The instrument is not only applicable to machines of all kinds in which a platen roller is employed, including all down-strike, up-strike and front-strike varieties but is also applicable to machines such as book typewriting machines in which a flat table or true platen is employed. In such application the shield would be flat instead

of being curved. In most cases it is convenient to arrange the handle or container *d* at an angle to the shield *a*. In order to allow of the adjustment for wear the brush *k* may be secured in the clip or holder *r* in one of several positions.

The brush *k* may be of any suitable construction and may consist of a combination of hair and bristles or may consist of
10 bristles only, arranged in one or more rows.

It may be noted that in the course of manufacture the shield and container are suitably formed from sheet metal and then the plate *o* on which are mounted the plate
15 *m*, the spring *l*, the spring tongue *v* and the wires *p* for connection with the brush *k*, is simply inserted into the container *d* until the forward edge of the plate *o* meets a suitable stop flange 8 whereupon the cover
20 5 is applied and after connecting the wires *p* with the brush *k* the instrument is ready for use. Thus the parts of the instrument can be cheaply manufactured and assembled in very simple manner.

25 What I claim is:—

1. An erasure-dust collector for type-writing machines, comprising a receptacle having an opening, a brush carried by the receptacle for sweeping dust therein, a
30 spring for normally holding the brush inoperative, and means for operating the brush against the tension of the spring.

35 3. An erasure-dust collector comprising a dust receptacle provided with guides, a plate slidable in the guides, a brush for

sweeping dust into the receptacle, means for flexibly connecting the brush to the plate, and means for reciprocating the plate.

3. An erasure-dust collector comprising a dust receptacle, a plate slidably mounted
40 therein, a spring connection between the plate and receptacle for opposing movement of the plate in one direction, a latch carried by the plate for engaging the receptacle, means carried by the receptacle for releasing
45 the latch, a brush operated by the plate for sweeping dust into the receptacle, and means for operating the plate.

4. An erasure-dust collector comprising a dust receptacle provided with guides, a cap
50 sealing one end of the receptacle, a base plate slidable in the guides and adapted to be removed from the receptacle when the cap is removed, a brush for sweeping dust into the receptacle, and means carried by the
55 base plate for operating the brush.

5. An erasure-dust collector comprising a dust receptacle provided with a shield shaped to fit a platen roller, said shield being provided with a dust admitting opening
60 and with an opening permitting access to be had to the matter to be erased, a sweeper carried by the shield for discharging dust into the receptacle, and mechanism carried
65 by the receptacle for operating the sweeper.

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Witnesses:

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