

H. A. DORR.  
 PAPER RECLAIMING MACHINE.  
 APPLICATION FILED DEC. 22, 1909.

Patented Dec. 26, 1911.

2 SHEETS—SHEET 1.

1,012,615.

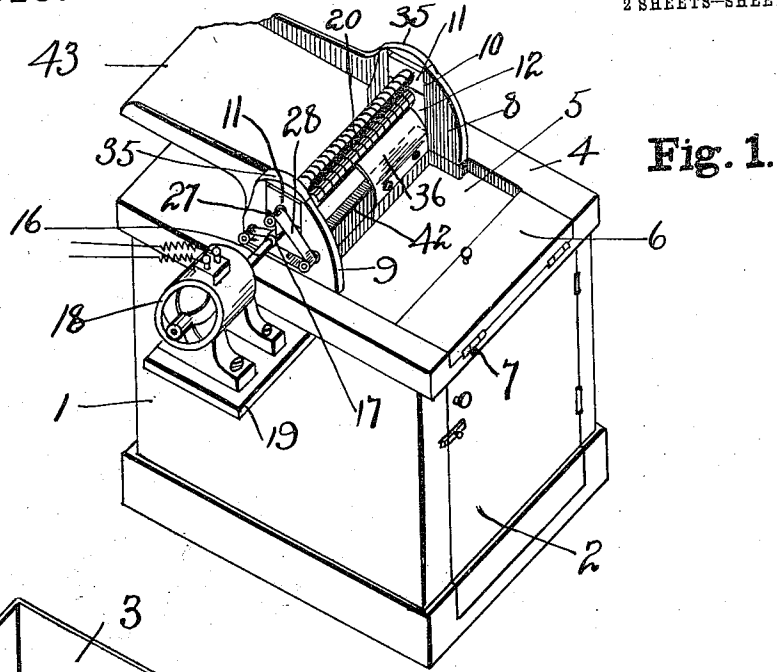


Fig. 1.

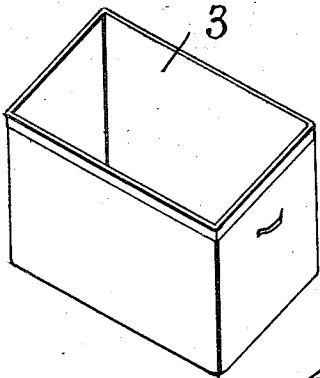


Fig. 2.

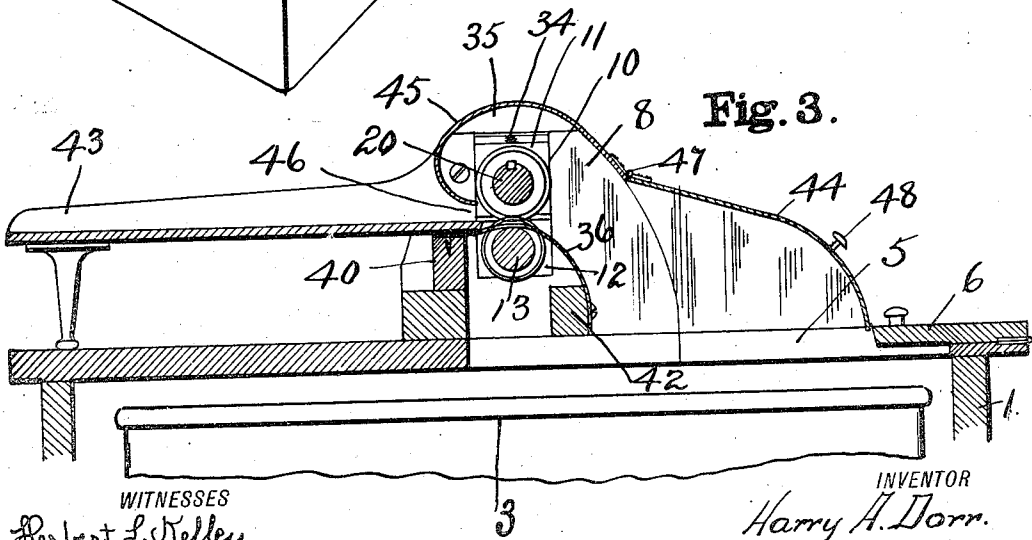


Fig. 3.

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Fig. 4.

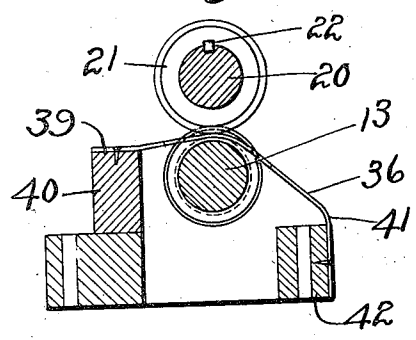


Fig. 6.

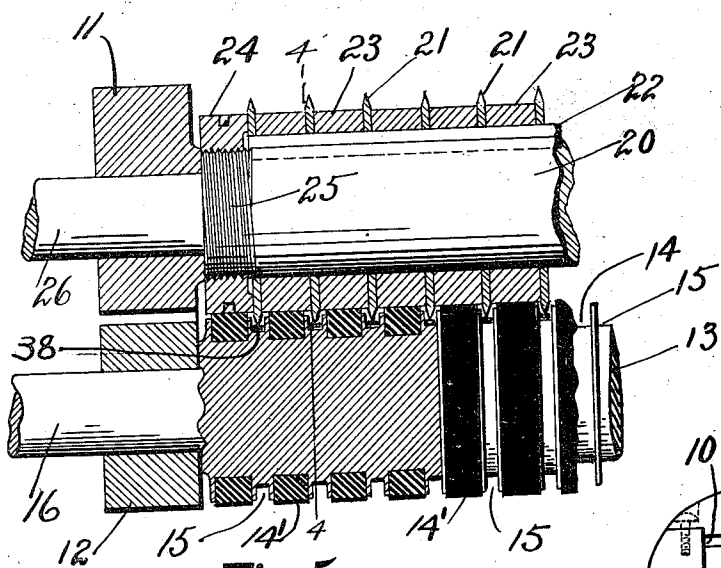
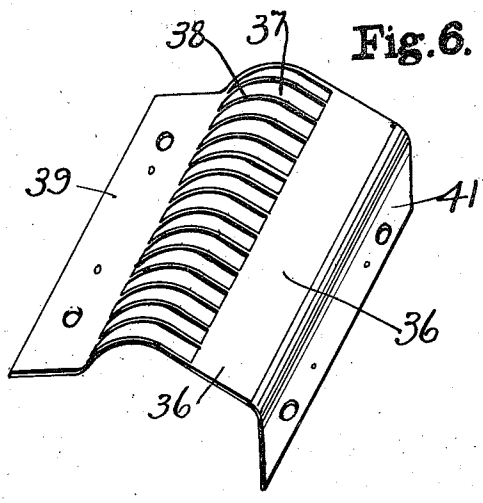
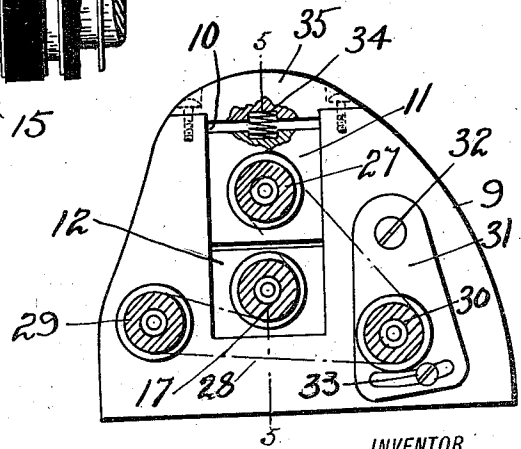


Fig. 5.

Fig. 7.



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# UNITED STATES PATENT OFFICE.

HARRY A. DORR, OF PROVIDENCE, RHODE ISLAND.

PAPER-RECLAIMING MACHINE.

1,012,615.

Specification of Letters Patent. Patented Dec. 26, 1911.

Application filed December 22, 1909. Serial No. 534,408.

To all whom it may concern:

Be it known that I, HARRY A. DORR, a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Paper-Reclaiming Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a paper reclaiming machine and has for its object to provide simple, practical and effective means for operating more particularly on high-grade paper, such as correspondence or letter paper, and the like, for the purpose of mutilating or destroying the legibility of the writing upon its surface rendering it impossible to ever again decipher the communication written thereon, so that this paper may be collected, without fear of disclosing its contents, and returned to the paper mills to be made over again into the same high-grade of paper as before.

The invention is fully set forth in this specification and more particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1— is a perspective view showing the machine for reclaiming paper and the cabinet on which the same is mounted. Fig. 2— is a perspective view showing the removable receptacle for receiving and readily transferring the mutilated paper. Fig. 3— is a central, longitudinal, sectional elevation of the reclaiming machine showing a portion of the cabinet and a portion of the receiving and transferring receptacle in position therein. Fig. 4— is a sectional elevation on line 4—4 of Fig. 5. Fig. 5— is an enlarged view on line 5—5 of Fig. 7 showing the feed and cutting rolls partially in section. Fig. 6— is a perspective view of the guide plate. Fig. 7— is an end elevation of the roll bearing frame showing the belt drive from the feed roll to the cutter roll.

Referring to the drawings, 1 designates the cabinet on which the paper mutilating mechanism is mounted. This cabinet may be made of wood, metal or other suitable material and of any convenient size or shape. The cabinet however is preferably made attractive in appearance and of a size convenient to be used in the ordinary business office. One side or end of the cabinet is preferably provided with a door 2 mounted

on suitable hinges through which the receptacle 3 (see Fig. 2) is adapted to be passed and positioned within the cabinet for the purpose of receiving the paper after having been operated upon by the machine. By the use of this auxiliary storing receptacle when the same has been filled it is only necessary for the attendant to remove it and at once replace it with an empty one.

The top of the cabinet 4 is provided with an opening 5 through which the mutilated paper passes. A section 6, hinged at 7 is also adapted to be opened to allow the attendant to pass his arm therethrough for the purpose of spreading out or better stowing the paper as it is deposited in this receptacle.

On the top of the cabinet are mounted the two roll end frames 8 and 9, each of which are provided with a recess 10 into each of which are fitted the two bearing blocks 11 and 12. Mounted in the lower bearings 12—12 is the feed roll 13 which is preferably provided with a series of grooves 14 arranged at intervals for the reception of bands 14' of rubber, felt or other pliable or flexible material. The roll is also provided with narrow grooves 15 between these bands 14' for the purpose of receiving the knife blades of the upper roll, said latter grooves being also made deep enough to permit the passing therethrough below the knives of a set of guide fingers hereinafter described. Each end of this roll is turned down as at 16 forming bearings on which the roll is rotated. One end of this lower roll shaft is arranged to extend some distance beyond its bearing block 12 for the purpose of receiving its driving pulley 17, see Figs. 1 and 7, and also to be coupled to the driving motor 18 which may be mounted on an auxiliary shelf 19 attached to the cabinet. The upper roll 20 is provided with a plurality of circular cutter blades 21 mounted at intervals to register with and run in the grooves 15 in the lower roll, the same being prevented from turning by means of the key 22 and are spaced longitudinally on the shaft by collars or spacers 23, the last collar 24 being threaded at 25 onto the end of the shaft for the purpose of binding the whole in position. I do not restrict myself to the construction of either of these rolls as shown and described, as the same may be made in any desired or convenient form for mutilating or destroying the legibility of the writ-

ing or characters on the surface of the paper, while it is passing between them. Both ends of this shaft 20 are also turned down as at 26 to form bearings in its blocks 11- 11, the driving end being arranged to receive the pulley 27, see Figs. 1 and 7, through which this upper cutting roll is driven by means of the belt 28 which is led from the driver 17 around over pulley 27, thence around the fixed idler 29 and also around the adjustable idler 30, which latter is mounted on the plate 31 pivoted at 32 its lower end being adapted to swing to tighten or loosen the belt and be secured in any desired position by the fastening screw 33. The upper cutting roll is pressed against the lower feed roll by the coil springs 34—34 one in either frame, which act on the upper boxes 11 from the caps 35 for the purpose of causing the rolls to grip and feed the paper.

It is found in practice desirable, in order to insure a proper feeding of the paper between these rolls, to provide a guide plate 36, see Figs. 4 and 6, a portion of which plate is cut away at intervals as at 37 forming fingers or bars 38 which are adapted to pass through the grooves 15 to guide the paper out from the grooves and prevent the same from winding upon the lower roll after having been cut. These fingers are preferably supported at their forward ends by the plate 39 which is secured to the bar 40 and at their rear ends by the plate 41 fastened to the bar 42. I do not wish to be restricted to this precise construction of guide plate, as any desired or convenient means may be employed for guiding this paper properly through the rolls.

A guide board 43 is located on the front of the machine on which the paper is fed to the rolls. A suitable casing 44 is provided, the forward end 45 of which extends over the frame work and a portion of the upper roll leaving but a small opening at 46 through which the paper may be fed. The forward extremity of said casing co-acts with the guide board 43 to form a hopper for guiding the paper to the rolls. The rear portion 44 of this casing is hinged at 47 and may be provided with a handle 48 whereby after being unfastened it may be raised in addition to the door 6 for the purpose of inserting the arm to better distribute the mutilated paper in the receptacle.

In the operation of my paper reclaiming machine the paper, usually in sheet form, such as writing paper and the like, may be fed to the machine with great rapidity being placed by the hand of the operator upon the guide board 43, and when the forward edge is gripped by the rolls it is almost instantly drawn therethrough, mutilated, rendered illegible and deposited in the receptacle within.

By "writing paper" I wish to be under-

stood as meaning any good quality of paper on which characters or letters are formed in order to record ideas for the information of others.

A feature in the construction of this machine is that the cutters do not depend entirely upon the keenness of their edges for severing the paper into strips as it will be noted that the paper is held tightly on both sides of each cutter by the gripping flexible cushions while being severed, whereby the cutter instead of being obliged to shear as is the case of most devices for cutting paper, really breaks through the paper thereby obviating the necessity of providing a keen edge for the cutters. In other words, by my improved construction cutters arranged to break through the paper in this way will last a great length of time without re-sharpening. Another feature of this construction is that the machine, owing to its belt arrangement and driving power will run absolutely without noise, which is of importance particularly where the machine is to be used in the usual business office.

It will be understood that the invention, in a way, comprises a piece of office furniture which can be placed wherever may be most convenient, the parts being so connected that they cannot become disarranged. The device is always ready for use as a receptacle for small bits of paper, which bits will be so confined that they are even more safely kept from blowing about than as if they were in a waste basket. The cabinet constitutes a container which will receive and confine small particles of paper whether there is an inner removable receptacle or not. The top of the container supports the disintegrating mechanism, and said top is provided with an aperture through which the material disintegrated will be discharged directly into the container. So far as I am aware this idea broadly is new with me.

My invention is not restricted to the particular construction and arrangement of parts herein shown and described as any machine adapted to mutilate, deface or to destroy writing paper so as to render it illegible for the purpose of reclaiming, restoring or redeeming the same from a worthless condition to a valuable product, will fall within the spirit and scope of my invention, one practical embodiment of which has been herein illustrated and described without attempting to show the many forms in which my invention might be embodied.

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

1. The combination with a container adapted to receive and confine small particles of paper, said container having a top provided with an aperture, of a disintegrating device supported on the top of said con-

tainer, said device being located to discharge through said aperture, and a cover for said aperture having a portion inclosing said disintegrating device.

2. The combination with a container adapted to receive and confine small particles of paper, said container having a top provided with an aperture, of a disintegrating device supported on said container and movable therewith, and a sectional cover for said aperture having a portion extending over said aperture.

3. The combination with a container adapted to receive and confine small particles of paper, said container having a top provided with an aperture, a disintegrating device supported on said container, a guide board leading to said disintegrating device, and a cover for said aperture, said cover being provided with a portion cooperating with said guide board to direct the paper to said disintegrating device.

4. The combination with a container adapted to receive and confine small particles of paper, said container having a top provided with an aperture, of a disintegrating device supported on said container and movable therewith, said device being located to discharge through said aperture, said disintegrating device comprising rolls with slitting knives, a guide extending between the rolls for conducting paper to the nip of the rolls, means for rigidly securing said guide on both sides of said rolls and a hood or casing extending over the knives and over said aperture in the top of the container.

5. The combination with a container, and a top therefor provided with an aperture, of a disintegrating device supported on said

top and comprising a feed roll provided with a plurality of embedded annular bands of frictional material and grooves between said bands, and a cutting roll provided with annular blades coacting with said grooves.

6. The combination with a container and a top therefor provided with an aperture, of a disintegrating device supported on said top and comprising a feed roll provided with a plurality of embedded annular bands of frictional material and grooves between said bands, a guide plate provided with fingers fitting said grooves, and a cutting roll coacting with said feed roll.

7. The combination with a container, and a top therefor provided with an aperture of a disintegrating device supported on said top and comprising a feed roll provided with a plurality of embedded annular bands of frictional material and grooves between said bands, a guide plate having its ends supported on both sides of said roll and provided with integral fingers fitting in said grooves, and a cutting roll coacting with said feed roll.

8. The combination with a container, of disintegrating rolls mounted thereon, and a guide plate passed between said rolls and having its ends arranged at different angles and rigidly supported on opposite sides of said rolls, the portions of said plate between said rolls being slotted to form fingers.

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

HARRY A. DORR.

Witnesses:

JOHN R. WALKER,  
IRVING M. SYLVESTER.