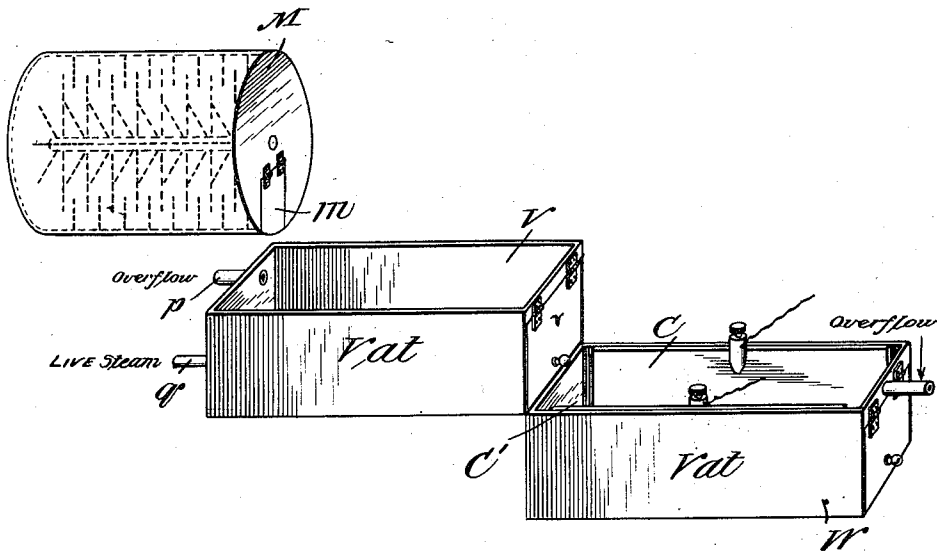


J. E. BONSER.
PROCESS OF REMOVING INK FROM PAPER.
APPLICATION FILED JULY 8, 1911.

1,008,779.

Patented Nov. 14, 1911.



WITNESSES
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JOHN EDWARD BONSER, OF ABILENE, TEXAS.

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1,008,779.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed July 8, 1911. Serial No. 637,399.

To all whom it may concern:

Be it known that I, JOHN E. BONSER, a citizen of the United States, and a resident of Abilene, in the county of Taylor and State of Texas, have made certain new and useful Improvements in Processes of Removing Ink from Paper, of which the following is a specification.

My invention relates to an improved process for removing printers' ink and analines from news, rag, linen and bond papers, and pulps thereof, and it consists in the various steps hereinafter described.

An object of my invention is to provide a process which will effectively remove the inks from papers so that the latter may be used again in the manufacture of other papers.

A further object of my invention is to provide a process by which the removal of the ink may be accomplished with great economy.

A further object of my invention is to provide a process which is comparatively simple for accomplishing the first named object.

Other objects and advantages will appear in the following specification, and the novel features of the process will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing which is a diagrammatical view showing the apparatus that may be used in connection with the process.

In carrying out my process I make use of three chemical preparations which I will designate A, B and C.

Preparation A is made as follows: turpentine 10 oz., soft soap (or hard laundry soap reduced to soft) 7 oz., water 1 gallon, mix thoroughly and set away to rest for twelve hours before use.

Preparation B: carbolic acid 1 oz., cold water 16 gallons.

Preparation C: a solution of either sodium carbonate or chlorid of lime in the proportion of 1 oz. or more to 1 gallon of water.

The paper is first soaked for some time in pure water in macerator M. Preparation A is then put into the macerator and the paper is macerated, the chemicals loosening the ink and aiding in the maceration. The macerated pulp is then dumped through the door *m* into the vat V. Here it is boiled from three to five hours during which the ink comes to the top in bubbles, pellicles and

scum, which may be removed by the overflow pipe P. In order to aid in the treatment of the pulp in vat V live steam may be passed in by means of the pipe *q*. Instead of floating off the ink or scum, it may be skimmed off.

When no more scum comes to the surface the gate or door *v* of the vat V is opened and the pulp is passed into vat W which contains preparation B. In a few moments the mass sinks to the bottom in a fluffy, spongy condition covered with a clear liquor. Vat W is arranged to receive two copper plates C and C', these forming electrodes. These plates are detachable so they can be taken out and cleaned.

As soon as the pulp has settled to the bottom in its fluffy condition the clear liquid is withdrawn and preparation C is run into the vat, the pulp being stirred so that the chemical may have access to all parts. The solution is neutralized at the end of an hour by dilute sulfuric acid. Immediately on putting in the neutralizing solution the copper plates are placed in position and electric current is turned on. Presently one of the plates becomes coated with a black deposit. The current may be passed through the mass for a longer or shorter time depending upon the condition of the pulp, at the end of which time the pulp may be removed and is then in a comparatively white condition showing that the ink has been almost completely removed. The pulp may be used in lieu of the ordinary wood pulp for making papers of various kinds, such as writing paper, wrapping paper, etc.

While I have shown apparatus which may be used, it will be understood that this is for the purpose of illustration only, and that any other suitable containers or vats might be used to carry out my process without departing in the least from the spirit and the scope of the invention.

I claim:—

1. The herein described process of removing ink from paper, which consists in washing and pulping the paper, macerating the pulp with a preparation consisting of turpentine, soap and water, boiling the pulp, removing the scum, treating the pulp with a preparation of carbolic acid and water, draining the pulp, treating it with an alkaline solution, neutralizing the solution, and subjecting the neutralized solution containing the pulp to electrolysis.

2. The herein described process of removing ink from paper, which consists in washing and pulping the paper, macerating the pulp with a preparation consisting of turpentine, soap and water, boiling the pulp, removing the scum, treating the pulp with a preparation of carbolic acid and water, draining the pulp, treating it with a sodium carbonate solution, neutralizing the solution and subjecting the neutralized solution containing the pulp to electrolysis.

3. The herein described process of removing ink from paper, which consists in washing and pulping the paper, macerating the

pulp with a preparation consisting of turpentine, soap and water, boiling the pulp, removing the scum, treating the pulp with a preparation of carbolic acid and water, draining the pulp, treating it with a sodium carbonate solution, neutralizing the solution with dilute sulfuric acid, and subjecting the neutralized solution containing the pulp to electrolysis.

JOHN EDWARD BONSER.

Witnesses:

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