Sept. 23, 1924.

1,509,673

E. B. KERST ET AL

ROLLER CLOTH CARBONIZER

Filed Sept. 27, 1922

3 Sheets-Sheet 1

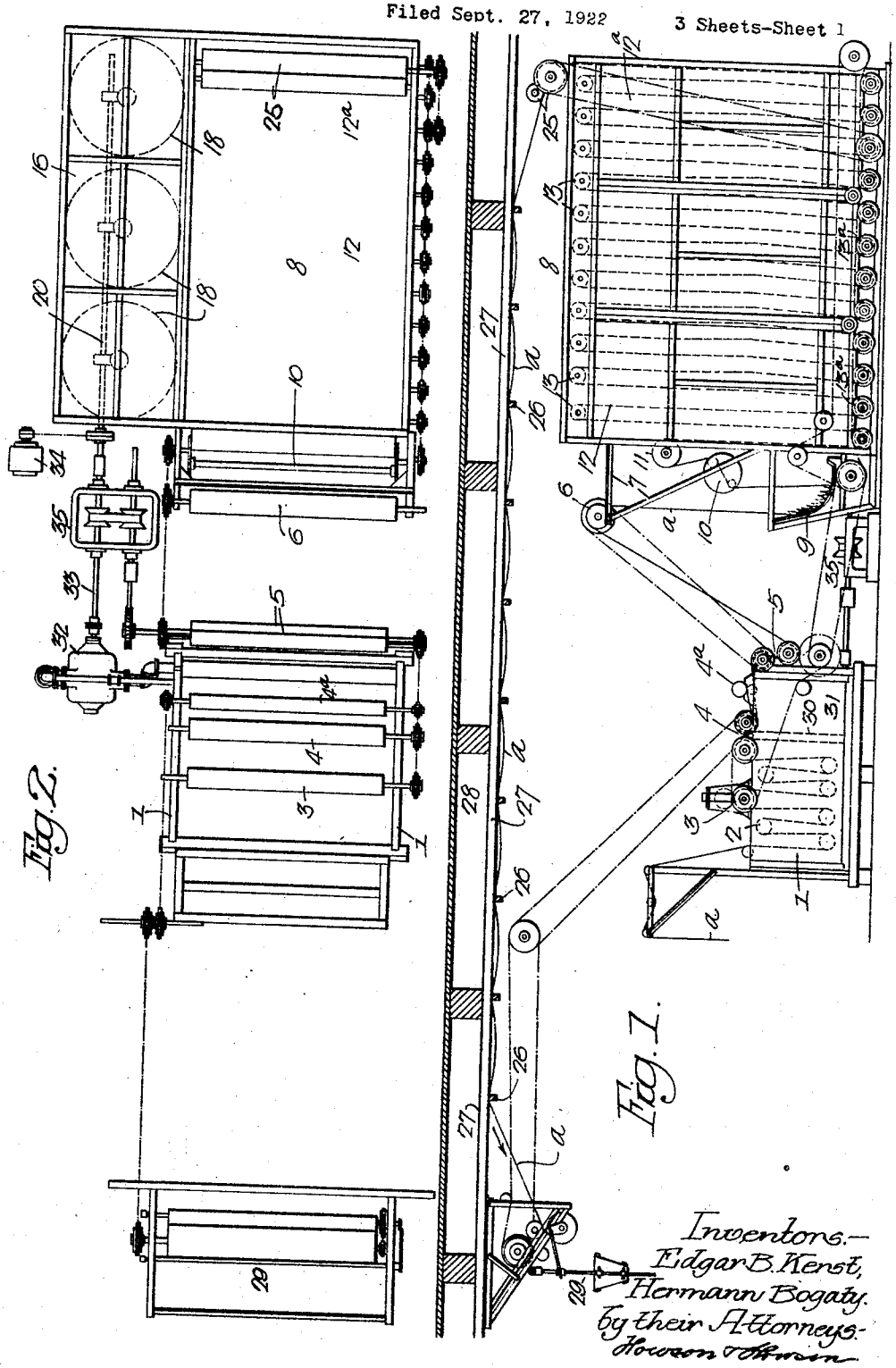


Fig. 2.

Fig. 1.

Inventors.—
Edgar B. Kerst,
Hermann Bogaty.
by their Attorneys.
Howson & Howson

Sept. 23, 1924.

1,509,673

E. B. KERST ET AL

ROLLER CLOTH CARBONIZER

Filed Sept. 27, 1922

3 Sheets-Sheet 2

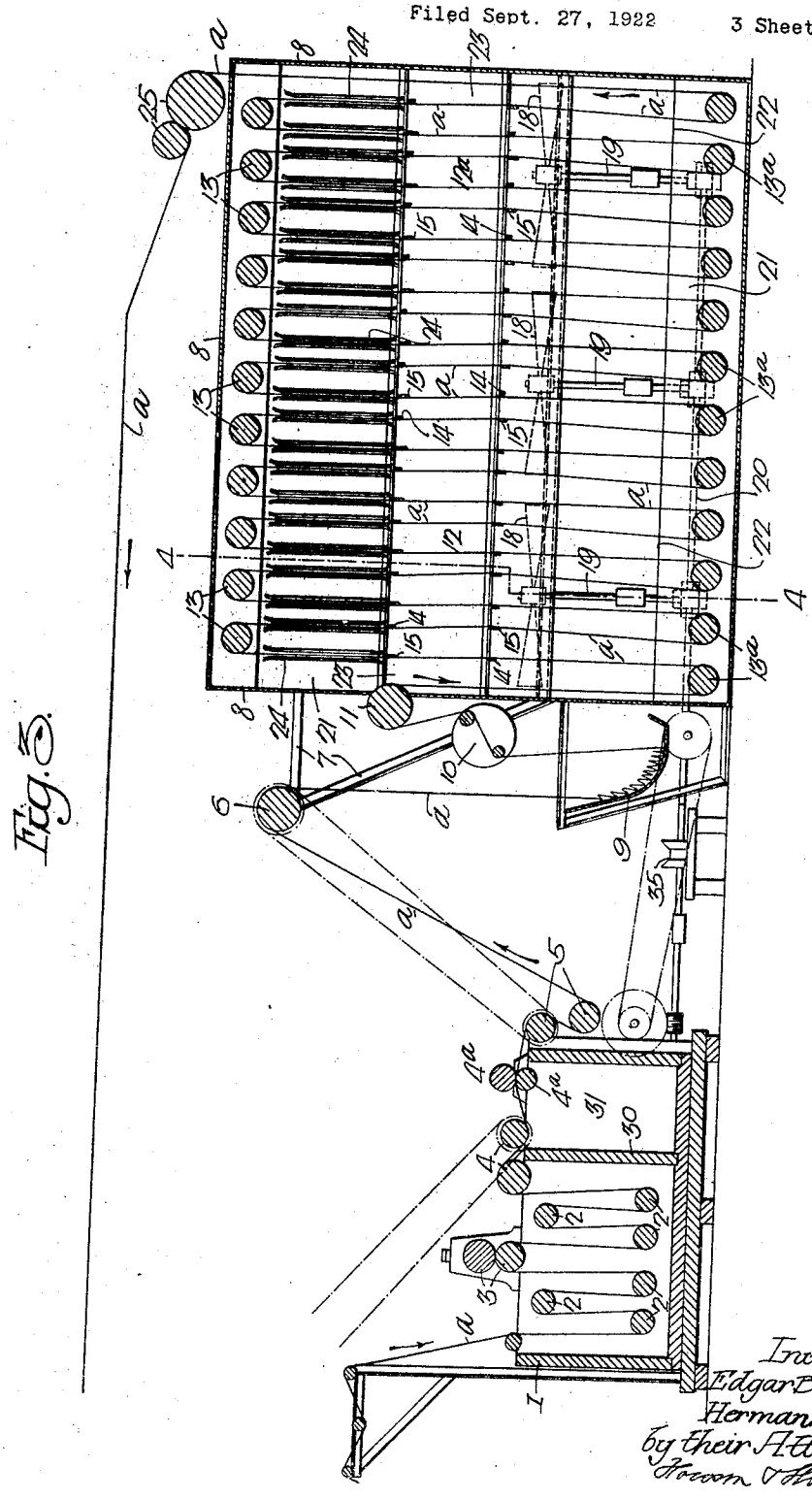


Fig. 5.

Inventors.-
Edgar B. Kerst,
Hermann Bogaty.
by their Attorneys.-
Howson & Howson

Sept. 23, 1924.

E. B. KERST ET AL

1,509,673

ROLLER CLOTH CARBONIZER

Filed Sept. 27, 1922

3 Sheets-Sheet 3

Fig. 7.

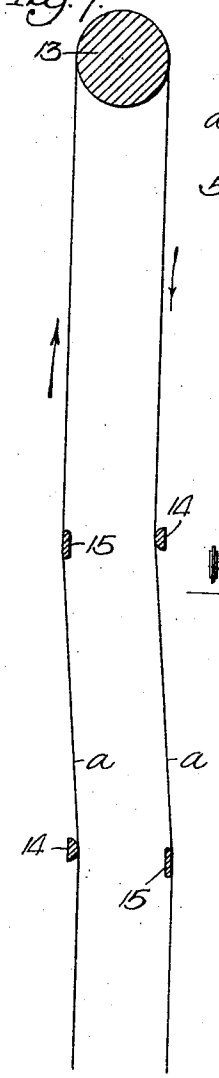


Fig. 4.

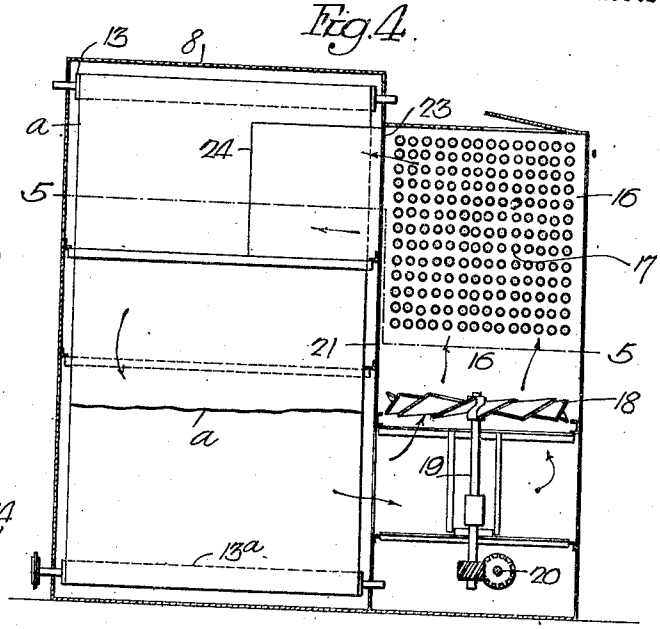


Fig. 6.

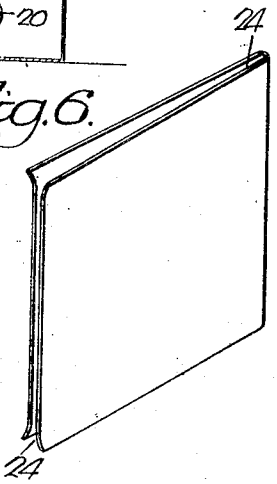


Fig. 5.

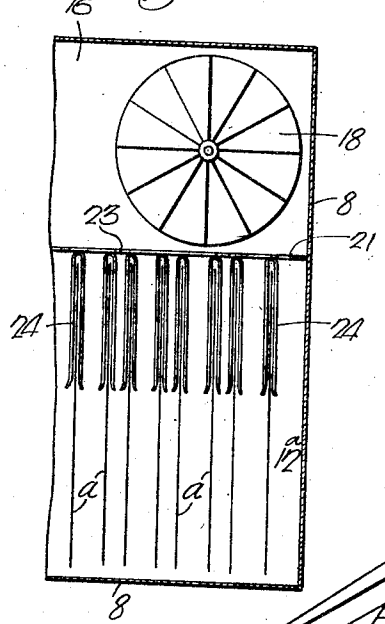
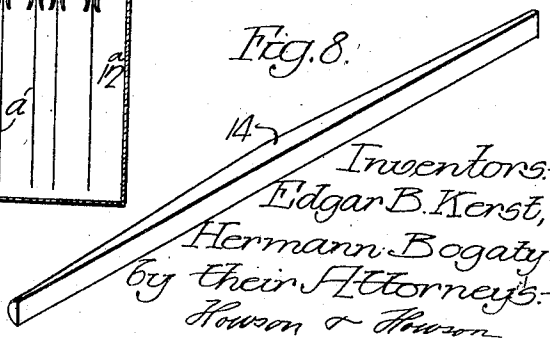


Fig. 8.



Inventors-
Edgar B. Kerst,
Hermann Bogaty.
by their Attorneys-
Howson & Howson

Patented Sept. 23, 1924. 1,509,673

UNITED STATES PATENT OFFICE.

EDGAR B. KERST, OF PROVIDENCE, RHODE ISLAND, AND HERMANN BOGATY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO PROCTOR & SCHWARTZ, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ROLLER CLOTH CARBONIZER.

Application filed September 27, 1922. Serial No. 590,947

To all whom it may concern:

Be it known that we, EDGAR B. KERST and HERMANN BOGATY, citizens of the United States, residing, respectively, in Providence, Rhode Island, and Philadelphia, Pennsylvania, have invented certain Improvements in Roller Cloth Carbonizers, of which the following is a specification.

Our invention relates to certain improvements in cloth carbonizers of the roller type, in which the cloth passes through a vat and then through a drier and carbonizer.

One object of our invention is to provide baffles to protect the edge of the cloth at the point where the air in circulation enters the drying chamber and the carbonizing chamber.

A further object of the invention is to provide means for spreading the cloth before it passes over the rollers.

The invention also relates to certain improvements in the apparatus as fully described hereinafter.

In the accompanying drawings:

Fig. 1 is a side view of our improved roller cloth carbonizer;

Fig. 2 is a plan view;

Fig. 3 is a longitudinal sectional view;

Fig. 4 is a transverse sectional view on the line 4—4. Fig. 3;

Fig. 5 is a sectional plan view on the line 5—5, Fig. 4;

Fig. 6 is a detached perspective view of one of the baffles;

Fig. 7 is an enlarged sectional view illustrating the spreaders, and

Fig. 8 is a detached perspective view of one of the spreaders.

Referring to the drawings, 1 is a vat through which the cloth *a* is passed. The cloth passes around rollers 2 in the vat and between rolls 3, 4 and 4^a, and around rolls 5, 5 to a roll 6 having its bearings on a frame 7 projecting from the casing of the drier 8. The cloth accumulates in the tray 9. The cloth then passes through a tension device 10 and over a roller 11 and enters the drying chamber 12, as shown in Fig. 3. The casing encloses the drying chamber 12 and the carbonizing chamber 12^a, which is a continuation of the drying chamber.

Between the upper and lower rolls are spreaders 14 and 15. The spreaders 14 are curved and rounded, as shown in Figs. 7 and 8, so as to spread the cloth and remove wrinkles. The spreaders 15 are flat and guide the cloth to the rolls. A pair of spreaders 14 and 15 is located in advance of each roll 13 and 13^a, as shown in Fig. 3.

At one side of the drying chamber 12 is a heating chamber 16, in which are located steam pipes 17. 18 are circulating fans mounted on a vertical shaft 19 driven by a horizontal shaft 20. In the partition 21, which separates the heating chamber from the drying chamber, is a lower passage 22 and an upper passage 23 for the air in circulation. The air circulates in the direction shown by the arrows, Fig. 4.

To protect the edge of the cloth from damage due to the velocity of the air at the upper passage 23 where the air enters the drying chamber, baffles 24 are provided, which enclose the edge of the cloth as clearly shown in Figs. 4 and 5. Each baffle is preferably made as shown in Fig. 6, of a sheet metal plate bent into form. The upper and lower edges of the baffles are preferably flared, as shown, to provide smooth surfaces for the cloth. The baffles may be of any width desired.

When the cloth *a* leaves the drying chamber, it passes between rolls 25 and returns over the top of the drier, as clearly shown in Figs. 1 and 3, being supported by cross sticks 26 attached to stringers 27 secured to the ceiling 28 of the room. The cloth then enters the folding mechanism 29 of the usual construction.

In the vat 1 is a transverse partition 30 and communicating with the space 31 on one side of the partition is a vacuum pump 32. The shaft 33 of the pump is driven from a motor 34, which also drives the shaft 20 that is geared to the fan shafts.

35 is a variable speed gear through which the mechanism for imparting movement to the cloth is driven. The drive is shown in Figs. 1, 2 and 3.

We claim:

1. The combination of a casing enclosing a drying chamber; a heating chamber connected to the drying chamber by passages; means for circulating air in the chambers and through the passages; and baffles arranged in the drying chamber at one of said passages to protect the edges of the cloth passing through the drying chamber from

the action of air passing into the drying chamber from the heating chamber.

2. The combination in a roller carbonizer for cloth, of a casing enclosing a drying chamber and a carbonizing chamber; a series of upper and lower rollers in said chambers; a heating chamber connected to the drying and carbonizing chambers; means for circulating air in said chambers; and a series of baffles located in the drying and carbonizing chambers through which the cloth passes from one set of rollers to the other, said baffles protecting the edge of the cloth from the action of the air in circulation.

3. The combination in a cloth carbonizer of the roller type, of a casing enclosing a drying chamber and a carbonizing chamber; a heating chamber at one side of said chambers and connected thereto; a circulating fan in the heating chamber; a series of upper rolls and a series of lower rolls in the heating and carbonizing chambers; and a series of vertically arranged baffles for protecting the edge of the cloth, said baffles being V-shaped and located at the point where air in circulation enters the drying and carbonizing chambers.

4. The combination in a cloth carbonizer of the roller type, of a casing enclosing a drying chamber and a carbonizing chamber; means for circulating heated air in said chambers; a series of upper cloth rolls and a series of lower cloth rolls in the drying and carbonizing chambers; and spreaders in advance of each roll for spreading the cloth before it passes around the rolls.

5. The combination in a cloth carbonizer of the roller type, of a casing enclosing a drying chamber and a carbonizing chamber; upper and lower rolls in said chambers around which the cloth passes; and two spreaders in advance of each roll, one spreader being curved and rounded and the other being flat to spread and guide the cloth to the rolls.

6. The combination in a cloth carbonizer, of a vat; a pump therefor; guides in the vat for the cloth; squeeze rolls for the cloth; a drying chamber, a carbonizing chamber; rolls in said chambers over which the cloth passes in its passage through said chambers; means for feeding the cloth from the vat to the drier; means for carrying the cloth back over the carbonizer, drier and vat after it has passed through the carbonizer; and means for driving the pump and feeding means.

EDGAR B. KERST.
HERMANN BOGATY.