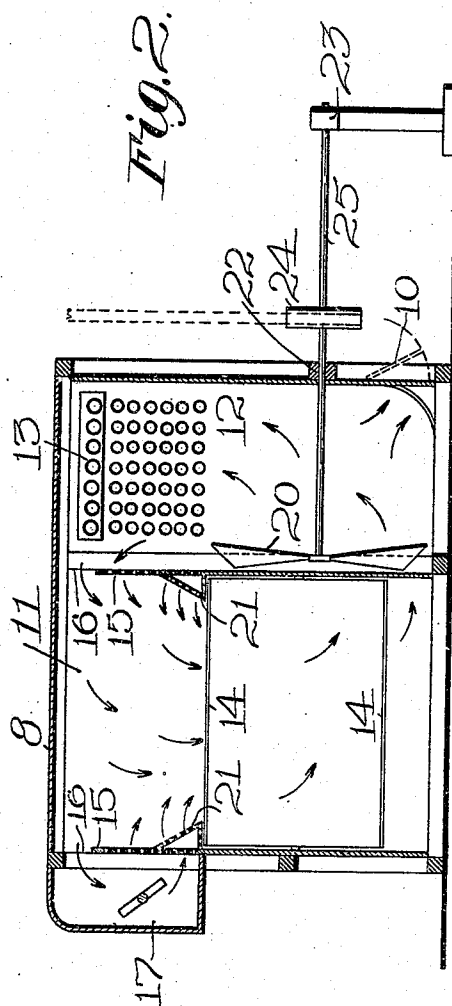
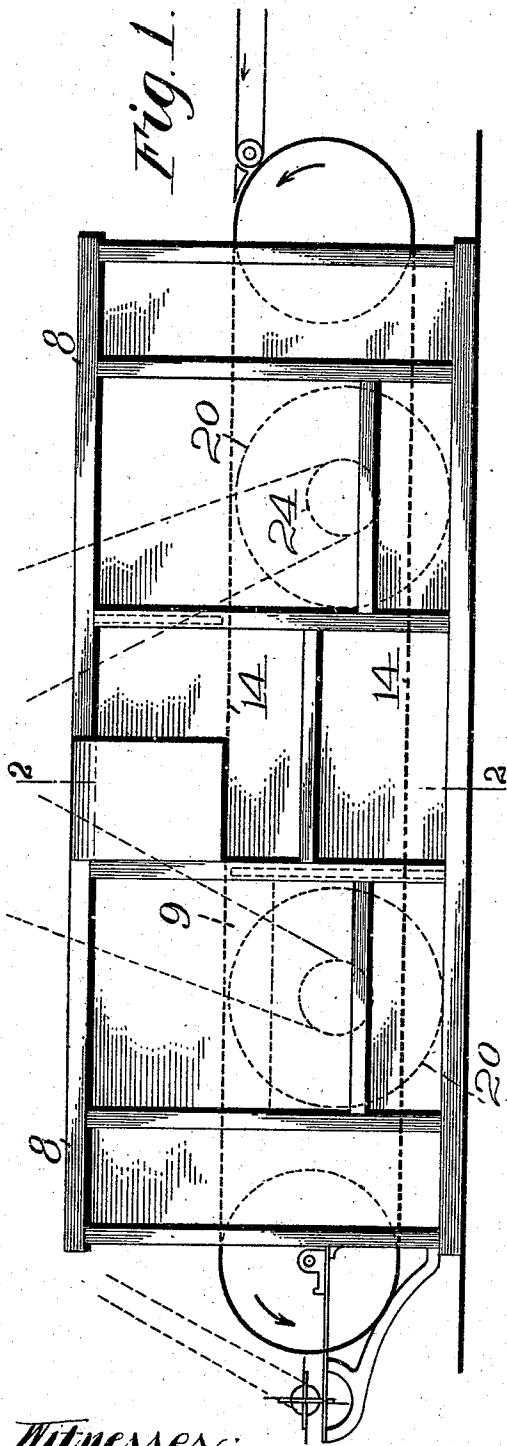


F. G. SARGENT.
DRIER.
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932,499.

Patented Aug. 31, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT, OF WESTFORD, MASSACHUSETTS, ASSIGNOR TO C. G. SARGENT'S SONS CORPORATION, OF GRANITEVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

DRIER.

932,499.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed March 6, 1909. Serial No. 481,800.

To all whom it may concern:

Be it known that I, FREDERICK G. SARGENT, a citizen of the United States, residing at Westford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Drier, of which the following is a specification.

This invention relates to a drier for wool and other fibrous materials.

The principal objects of the invention are to provide for improvement in the circulation of the air through the material to be dried, whereby the air will come into more intimate contact with the stock as it passes through the drier; and more specifically to introduce the air into the sides of the stock as well as down through from above thus getting additional efficiency from the drying currents of air; also to provide improved means whereby the stock may be kept on the apron or other support therefor as it travels without interfering with the above mentioned drying operation and to provide improved means for supporting the circulating fans.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a side elevation of a drier constructed in accordance with this invention, and Fig. 2 is a sectional view of the same on the line 2—2 of Fig. 1.

The drier is shown as comprising a casing 8 having an air inlet 9, an outlet 10, a drying compartment 11, and a heating compartment 12. In the latter is located a heating device shown in the form of a coil of steam pipes 13. In the former is shown a support for the stock to be dried illustrated in the form of an endless apron 14. Extending upwardly from points near the edges of the apron are two walls 15. These walls extend nearly to the top of the casing and are provided with perforations preferably throughout their height but especially just above the top of the support or apron 14 to permit the air to enter the stock which is piled up on the support from one side as well as from the top. Heretofore there have been walls in this position and passages as 16 at the top thereof but that construction caused the air to come in at the top and go down through the stock directly. But according to the present construction the air enters the stock laterally as well as from the

top, consequently it penetrates it more thoroughly and the efficiency of the heated air is increased.

At the side of the main chamber opposite the heating device is shown a conduit or passage 17 which the air can enter over the passage 16 at the top as has been the case heretofore, but previously this passage which is designed to control the action of the drying currents has opened below the stock so that the air from it had no further efficiency until again circulated through the drier, but according to this invention the air which passes through this conduit reenters the drying chamber through the perforations in the left-hand wall 15 so that part of it goes laterally through the stock, thus increasing the efficiency as is the case at the opposite side. It will be seen that the air not only comes in in the same way as before but that it comes in in additional ways from both sides. All the air is then turned down through the stock back to the circulating device which is shown in the form of a fan 20.

I prefer also to provide guards 21 just above the edges of the endless apron so as to keep the stock in position thereon. These guards preferably are stationary and hollow and they are shown in the present instance as provided with perforations so as to permit the air to circulate into the stock through the sides as described above. As the guards are inclined on their inner surfaces it will be seen that the natural tendency of the air coming in through them is in a slightly upward direction at first which causes this air to traverse through a greater distance within the stock thus further adding to the efficiency of the currents of air to dry the fibers.

In order to avoid the use of internal bearings on a drier of this kind, the circulating fans 20 are shown as on a shaft 25 which projects into the casing from one side and is supported by a bearing 22 on the side wall and a bearing 23 located at a distance therefrom. These two bearings being wide apart provide an efficient means for supporting the shaft without having any bearings inside where the lint which gathers on them is liable to catch fire and they also afford a more steady means for supporting the driving pulley 24 which is used for operating the fan.

While I have illustrated and described a preferred embodiment of the invention I am aware that many modifications may be made

therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction shown and described but

What I do claim is:—

1. In a drier, the combination of a support for the stock to be dried, a heating device at one side thereof, walls located along both sides of said support and having perforations therethrough at both edges of said support, and an air circulating device for circulating air through said perforations laterally toward and through the stock.
2. In a drier, the combination of a support for the stock to be dried, walls located along both sides of said support and having a plurality of perforations therethrough at both edges of said support, and an air circulating device for circulating the air through said perforations laterally toward and through the stock from both sides and then downwardly back to the air circulating device.
3. In a drier, the combination of a support for the stock to be dried, a heating device arranged along the side thereof, a wall separating the heating device from the support, said wall being perforated all the way from the support to the top thereof, and an air circulating device located in position to force the air through all of said perforations, whereby it will descend down on the top of the stock and also enter the stock at the side and will then be drawn down through the stock.
4. In a drier, the combination of a casing, a movable support for the stock therein, a chamber at one side of the casing, a heating device in said chamber, a conduit or passage at the other side of the casing, walls extending upwardly from the edges of the support between the support and the heating device on one side and the conduit or passage on the other side, said wall being perforated at points directly above the support,

whereby air may enter the stock on the support from the heating device and from the conduit laterally.

5. In a drier, the combination of a casing, a movable support for the stock therein, a conduit or passage at the side of the casing, walls extending upwardly from the edges of the support, said walls being perforated at points directly above the support, whereby air may enter the stock on the support laterally.

6. In a drier, the combination of a support for the stock to be dried, a heating device, a wall perforated all the way from the support to the top thereof, and an air circulating device located in position to force the air through all of said perforations, whereby it will descend down on the top of the stock and also enter the stock at the side and will then be drawn down through the stock.

7. In a drier, the combination of a chamber, a movable support for the stock therein, walls extending upwardly from the sides of said support, said walls being perforated at the level of the top of the support, whereby the air can be brought through said walls laterally into the stock, and guards along the inner sides of said walls above the edges of said support.

8. In a drier, the combination of a chamber, a moving support for the stock therein, walls extending upwardly from the level of the top of the support, whereby the air can be brought through said walls laterally into the stock, and guards along the inner sides of said walls above the edges of said support, said guards being perforated whereby the air may enter the stock through them.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

FREDERICK G. SARGENT.

Witnesses:

WILLIAM F. SARGENT,
OSBORN H. CILLEY.