May 21, 1957 W. P. ROSE ET AL 2,792,587

AUTOMATIC VACUUM SLOT SEALER

Filed June 11, 1953

Fig. 1

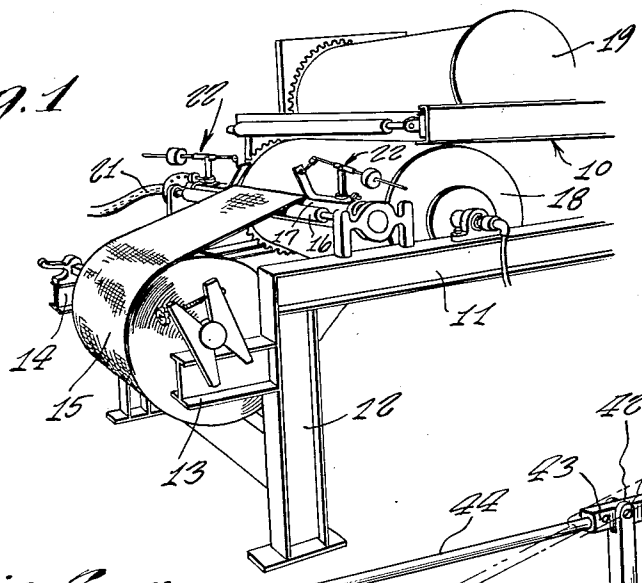


Fig. 2

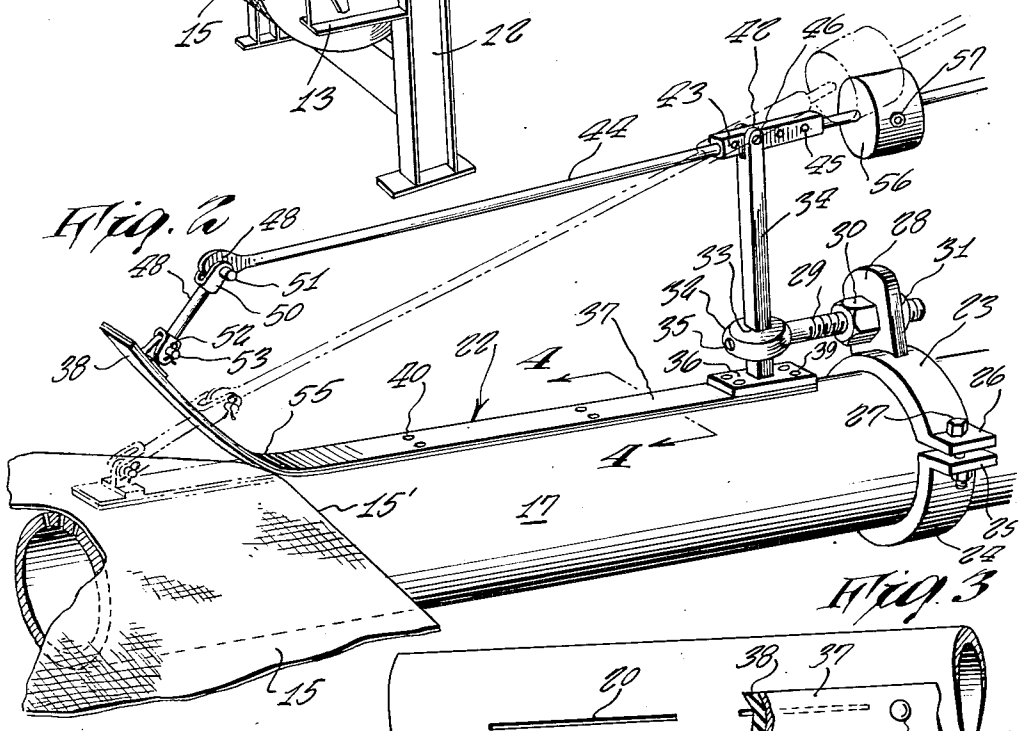


Fig. 3

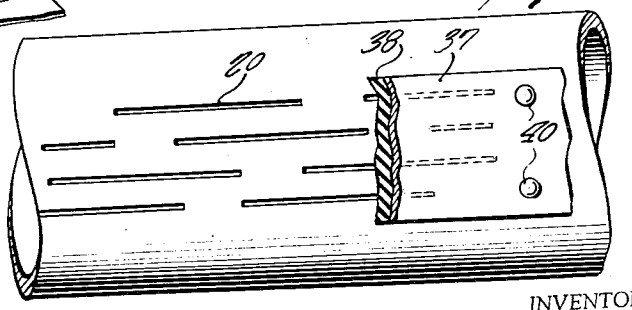
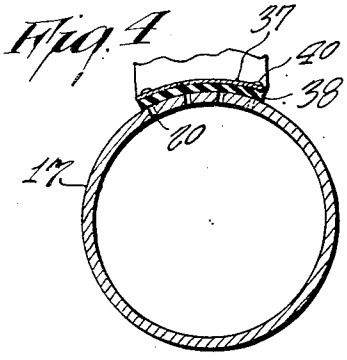


Fig. 4



INVENTOR

WERNER P. ROSE

and ROBERT E. KUHN

BY L. S. Saulsbury

ATTORNEY

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AUTOMATIC VACUUM SLOT SEALER

Werner P. Rose, Oakland, and Robert E. Kuhn, Saddle River, N. J., assignors to Somatex, Inc., Passaic, N. J.

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2 Claims. (Cl. 15—307)

This invention relates to an automatic vacuum slot sealer for cloth treating machines.

It is an object of the present invention to provide an attachment for a suction pipe of a cloth treating machine which is automatically controlled by the side edge of the cloth as it is moved over the suction pipe.

It is another object of the invention to provide an automatic vacuum sealer for suction pipes of cloth treating machines which can be easily adjusted and adapted for operation and use upon the suction pipe and wherein at all times the open slots not traversed by the cloth will be automatically kept closed.

Other objects of the invention are to provide an automatic sealer for cloth treating machines which is of simple construction, inexpensive to manufacture, easy to install upon the suction pipe, easy to adjust, compact, self-supporting, has a minimum number of parts and effective and efficient in use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a fragmentary perspective view on one end of a cloth treating machine having the automatic vacuum sealers attached to the suction pipe of the machine adjacent the opposite side edges of the cloth;

Fig. 2 is an enlarged fragmentary view of the suction pipe and with the attachment of the present invention shown on an enlarged scale and in perspective;

Fig. 3 is an enlarged top plan view of the suction pipe showing the suction slots therein and a fragment of the sealing member that is extended thereover;

Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 2.

Referring now particularly to Fig. 1, **10** represents a cloth treating machine having a frame **11** with upright leg portions **12** serving as supports and from which there extends brackets **13** and **14** for supporting a roll of cloth **15** for rotation and so that cloth can be delivered over a guide roll **16** and a suction pipe **17** to large treating rolls **18** and **19**.

The suction pipe **17** has a plurality of staggered parallel slots **20** extending throughout its length and on the top surface thereof and over which the cloth **15** is passed. This pipe is connected to a vacuum pump by a pipe **21** so that constant suction force is effected through the slots **20** in such a manner as to extract any water or liquid from the cloth prior to being passed to the treating rolls **18** and **19**.

In order to effectively and efficiently remove the liquid from the cloth and to be assured of proper suction action at all times, it is necessary that the ends of the suction pipe be kept closed off up to the edges **15'** of the cloth. The cloth edges vary in their position on the pipe **17** as they travel thereover and the width of the cloth varies. In order to have an automatic closing of the slots **20** for any varying of the position of the edges **15'**

of the cloth passing over the suction pipe, there has been provided a present automatic sealer which is mounted on the suction pipe **17** at the end thereof and which is generally indicated at **22**. There is one of these devices, as shown in Fig. 1, disposed at each end of the suction pipe. This sealer is so constructed that it will automatically seal off the slots in a manner to be hereinafter described.

Each automatic sealer comprises separable upper and lower clamp members **23** and **24** having respectively outwardly projected ends **25** and **26** which are secured together by bolt means **27**. These projections extend from the opposite sides of the clamp members so that the members can be secured to the suction pipe without dismounting the pipe from the machine.

Extending upwardly from the clamp part **23** is an upstanding projection **28** into which there is secured an adjusting screw **29**. This screw can be adjusted to different longitudinal positions and is fixed to the projection **28** by locking nuts **30** and **31**. On the forward end of the adjustable screw **29** is an enlarged portion **32** having a square opening **33** into which a square pedestal or fulcrum support **34** is fitted. This pedestal **34** can be adjusted to different elevations and is held in its adjusted position by a set screw **35** in the enlarged portion **32**.

On the lower end of the shaft **34** is a base **36** to which a thin strip of spring steel **37** and a rubber layer **38** is fixed by rivets **39**. This strip **37** extends over the slots **20** of the pipe and the rubber sealing layer **38** is secured throughout the length thereof and on the bottom face by spaced rivets **40**. This spring steel strip **37** is thin and flimsy and is such that it can be easily and readily bent and yet light enough in weight so as to be easily drawn against the slots **20** by the suction force within the pipe **17**. The upper end of the pedestal **34** is bifurcated as indicated at **42** and in this upper end there is pivoted an enlarged portion **43** of a rod **44** having a plurality of adjusting holes **45**. A pivot pin **46** is removable and the rod **44** can be moved to different positions along the bifurcated upper end of the pedestal **34** and the pin **46** inserted in the different adjusting holes **45**.

The forward end of the rod **44** is enlarged as indicated at **48** and a short link **49** is connected by its bifurcated end **50** and a pin **51** to this enlarged end **48**. The other end of the rod **48** is bifurcated at **52** and it is in turn connected by a pin **53** with an upstanding bracket **54** on the outer end of the strip **37**.

As the edge **15'** of the cloth **15** arrives at different positions along the suction pipe **17**, more or less of the slots **20** will be covered. The free end of the strip **37** that overlies the edge of the cloth **15'** will be elevated as there is no suction force causing the same to be drawn through the cloth and against the suction pipe. There will always be a decided bend in the strip at the edge of the cloth as indicated at **55**. The balance of the strip **37** not lying over the cloth is drawn tightly against the suction pipe. The bent strip with the rubber sealing layer thereon will accordingly change its shape depending upon the location of the edge **15'**.

In order to make this sealing strip responsive to follow the edge of the cloth and to give a feathering action thereto, a counterweight **56** is secured to the rear end of the rod **44** by a set screw **57** at the desired location thereon and so that the outer end of the strip **37** can be lifted readily as the suction slots are covered and yet not sufficient to detract from the suction force. The location of the counterweight **56** can be tested by trial and error until the desired touch or feeling of the strip upon the suction pipe pipe is obtained.

It will thus be seen that there has been provided an automatic sealing device for use with suction pipes of

cloth treating machines which operates in response to the location of the edge traversing the top surface of the suction pipe and over the slots thereof.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What is claimed is:

1. An automatic vacuum sealer adapted to be used in connection with a longitudinally-slotted vacuum pipe of a cloth treating machine over which cloth is passed to have its moisture extracted therefrom, said vacuum sealer comprising vertical support means adapted to be secured to the vacuum pipe and to extend upwardly therefrom, a flexible sealing strip adapted to overlie the slotted vacuum pipe and anchored at one end to the vertical support, a lever fulcrumed intermediate its ends upon the upper end of the vertical support and overlying the flexible sealing strip, a counterbalance weight connected to one end of said lever, a depending link pivotally connected to the other end of said lever and pivotally connected to the anchored end of said flexible sealing strip, and means in the form of a plurality of holes in said lever and a pin carried by said vertical support means for longitudinally adjusting the fulcrum point of said lever upon said vertical support means, whereby said flexible sealing strip may be raised from its unanchored end upwardly and away from the slotted vacuum pipe so that the vacuum is prevented from acting upon said flexible strip inwardly of the edge of the cloth passing over the slotted vacuum pipe.

2. An automatic vacuum sealer adapted to be used in

connection with a longitudinally-slotted vacuum pipe of a cloth treating machine over which cloth is passed to have its moisture extracted therefrom, said vacuum sealer comprising vertical support means adapted to be secured to the vacuum pipe and to extend upwardly therefrom, a flexible sealing strip adapted to overlie the slotted vacuum pipe and anchored at one end to the vertical support, a lever fulcrumed intermediate its ends upon the upper end of the vertical support and overlying the flexible sealing strip, a counterbalance weight connected to one end of said lever, means for pivotally connecting the other end of said lever to the unanchored end of said flexible sealing strip, said vertical support means including means for releasably attaching the support means to the vacuum pipe, said releasable means having an upwardly-extending projection thereon, a member adjustably mounted on said upwardly extending projection and adapted to overlie the vacuum pipe, means for securing said longitudinally-adjustable member in its longitudinally-adjusted position, a pedestal member vertically-adjustable upon said longitudinally-adjustable member, said flexible sealing strip being anchored to the lower end of said pedestal member, whereby said sealing strip, lever and pedestal member may be adjusted longitudinally of the vacuum pipe independently of the releasable attaching means.

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