

CONTINENTAL'S VERTICAL FLOW DRIER AND REPLACEABLE INSERT RIB

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With each year that passes I become a greater believer in a couple of old adages: 1. History always repeats itself, and 2. The more things change, the more they stay the same. These have evidently proven themselves true for centuries, and they are not limited to historical events or one particular industry. These adages do not imply that major improvements in technology have not been realized, only that there are some incredible resemblance's to the past.

Let's consider a few examples. Have you ever noticed that your new Dodge Ram has many similarities in body style to the Dodge of the 50's? Have you paid attention to the national news recently and made the comparison between a few of the new models for the year 2000 and the models of the late 50's and early 60's? How about the new Volkswagen Beetle? How many times has the double-breasted suit come and gone? (You might want to hang on to that suit and give it to a grandson or great-grandson to wear 40 or 50 years from now.) How many more times will we change the widths of our ties? And to my total dismay, who would have ever dreamed that bellbottom jeans and flower print neon colored fabrics of the 60's and early 70's would return accompanied by three-inch high platform shoes? Every time I see my 14 year old niece, I have to wonder how peculiar I must have looked to so many others of the "older generation" in my younger days. But let me ask you, can you "digit"? "Do you get my drift?" Isn't it just so "cool"?

To the contrary, Continental's latest contribution to the industry which resembles the past has nothing to do with being "cool". It's down right HOT!

Continental Eagle's Vertical Flow Drier resembles one of the best dryers this industry has ever experienced, the Counterflow Drier of the early 1950's. Once again the old adages have been proven true and history has repeated itself. As before, there are no implications that product quality or efficiency are unchanged, there is only a resemblance. The Counterflow had capacity limitations since material and air flowed in opposite directions. The Vertical Flow Drier has overcome this weakness and is not only far superior to the old Counterflow, but we believe it will be superior to any system our industry has experienced the past four decades.

The Vertical Flow Drier fully supports the principle that applying a larger volume of air per pound of material

optimizes the drying process utilizing lower temperatures. The drier stands approximately 16' - 0" in height, 10' - 0" in width and can handle air volumes in excess of 32,000 CFM. It consists of seven roller assemblies, six finger mount assemblies, six access panels, and is powered by a 10 HP motor. The capacity is yet to be determined. At one installation in the states, up to 50 BPH was processed through one machine and it dealt with moisture contents in excess of 18%. We guarantee that the drier was not the limitation to capacity.

Why is the Vertical Flow a better drier? Because it is doing the right thing at the right time. As we all know, cotton can't be cleaned until it is dried, and it can't be dried until it is loosened and fluffed allowing hot air to penetrate every fiber. This drier maximizes these processes and even allows for a time delay that so many believe is critical.

Both material and hot air flow in the same direction; through the inlet transition at the top with both discharged out the bottom. Seed cotton enters the drier matted, moist and trashy. As the material enters, it is first splattered on the back wall and then falls onto the first directional roller assembly which is positioned to break up the wads and begin the creation of a thin stream of product. The material then progresses through the machine, passing over the finger assemblies and across the top of the remaining directional roller assemblies which alternate the flow of material from one side to the other. It is this action that further creates and maintains a thin stream of product, increasing the exposure of the heated air to the material, thereby maximizing both effectiveness and efficiency. There are no shelves, screens or grids to roll and twist the cotton before it is dry, only the opening and fluffing action of each directional cylinder.

Another benefit of this drier is the reduced pressure drop across the machine. In all nine installations for 1998, the pressure drop never exceeded two inches of water column and in 80% of our measurements was approximately one inch of static. What does this mean? This means that less energy (horsepower) is required to move the air through the machine. The draw on your pull fans will be less than with conventional systems.

Our testing of this machine has shown some dramatic reductions in the amount of heat required to dry the fiber. Let me present one simple set of numbers to demonstrate this point.

	Inlet	Outlet	Incline Discharge
Air Volume (CFM)	14,700		16,650
Temp. (°F)	140	102	100
Wet Bulb (°F)	103		73
Moisture Cont. (%)	10.5	6.8	

Simply translated, this tells us that 3.7% of the moisture in this machine picked seed cotton was removed with only 140 degrees of heat applied. Numbers like these were repeated

many times. This drier maximizes moisture removal with minimal heat applied.

Another marked advantage is the preparation of the seed cotton for the first stage of cleaning. With the product opened and fluffed entering the first stage of preplanning, we have seen an increase in the cleaning potential and capacities for these machines. We maintain a rectangular duct configuration from the drier discharge to the Inclined Cleaner inlet. Not only does this present the product better prepared, but allows for a full and even distribution of material across the width of the cleaners.

So, once again, what are the advantages of the Vertical Flow Drier?

1. Full preparation of fiber.
2. Increased exposure of heated air to material.
3. Maximized moisture removal at low temperatures.
4. No risk of fiber damage.
5. Less process energy demanded.
6. Increased cleaning and capacities of precleaning machinery.

At Continental, we are excited about these results and are confident that this success can be repeated with Ultra Narrow Row cotton or stripper harvested cotton. The potential for this drier is untapped.

The second item I want to mention is nothing new to the industry. We are only presenting a major improvement in materials and application. For some of us we may think that the insert ginning rib dates back forty or fifty years. Would you be surprised if I told you that the first insert rib was patented in 1841 by Mr. A. Washburn. You read it correctly! - 1841! Once again, the old adages prove themselves true. The more things change the more they stay the same. History always repeats itself.

Continental's replaceable insert ginning rib was designed with three primary goals in mind.

1. Design a rib that installs properly aligned each and every time without some of the more typical installation hassles.
2. Provide an insert that allows for replacement at minimal expense in labor.
3. Develop an insert that will extend the wear life of the complete rib assembly at least twice that of our conventional ginning rib.

Once again, our objective has been met. The replaceable insert ginning rib is an investment cast rib that installs aligned each time. Made of a steel alloy, it will not break risking damage to flues or conveyors. The precision of the cast and coating eliminate the typical start-up hassles of roll resistance, rib tags, and fires.

The insert requires minimal labor for replacement. It does not require the removal of the complete assembly, only the removal of one set screw at the top of the rib. The insert remains clamped at the opposite end by a slotted chevron. Field test have shown no tendencies of tagging at the chevron and no evidence of vibration removing the set screw.

The insert design allows the flexibility to experiment with various materials to determine the best option to extend the life to a beneficial time frame.

An additional positive aspect with this design is that we did not tamper with the relief point. What does this mean for the ginner? You will not pull mature seed through the ribs as is the tendency with other inserts on the market today.

This rib should be available for full production by mid-year for the Golden Eagle 161 Saw Gin. Production for the 141's and 141 Double Eagle's should follow close behind.

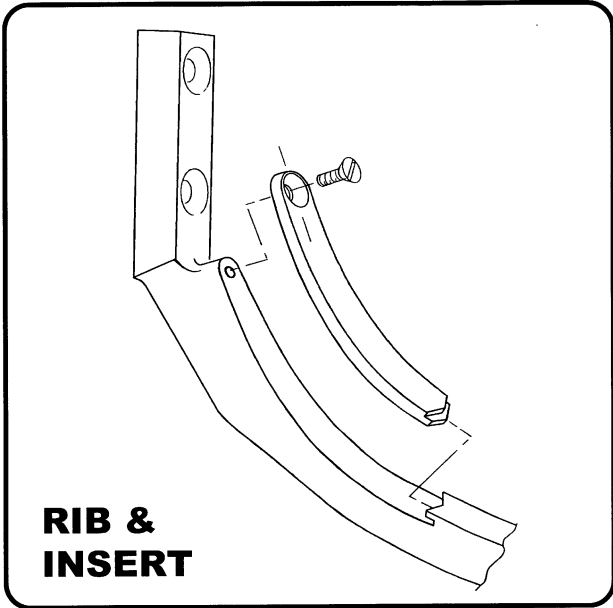
Again, the more things change, the more they stay the same. We've definitely made it better!

The last item I will mention is a first in the industry and we're confident that others will try to imitate it's success. Continental has introduced "GIN-CENTIVES", a new incentive program developed to reward valued customers for choosing Continental Eagle for their replacement parts needs. This program allows you to earn discounts each time you purchase a part from Continental Eagle. It works quite simply! Just buy any retail item or manufactured item and earn discounts to be applied to future parts purchases. The more parts you buy, the more discounts you earn. Continental will keep track of everything for you and your discounts will be applied automatically to the following months part purchases.

Three levels of discount potentially exist, and this program provides for some significant savings by planning your purchases. If you have any questions regarding how you can enroll, please call your local Continental branch office or see me after this session is complete.

As always, Continental Eagle Corporation will continue to seek beneficial products and improvements to the ginning process that allow for maximized fiber qualities, reduced costs, and increased yields.

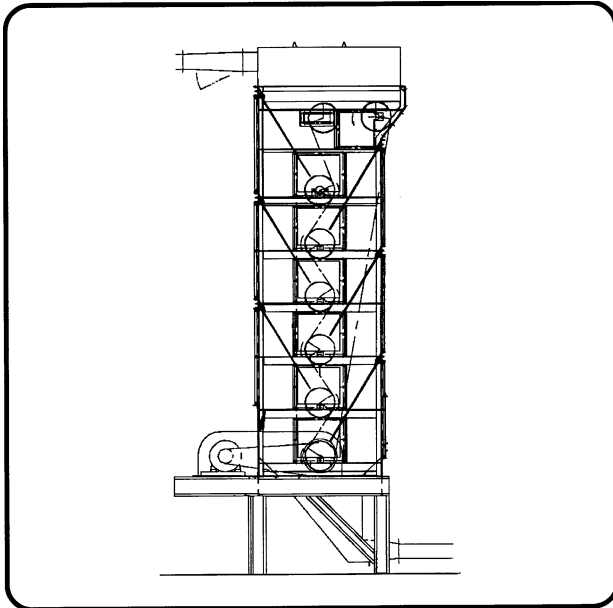
We wish to express our thanks to Mr. Rick Riley and Screvin Cotton Gin in Sylvania, GA. and the board members and friends at Floydada Coop Gin, Floydada, Texas for assisting with our field tests and for being so patient and cooperative with the disruptive procedures.



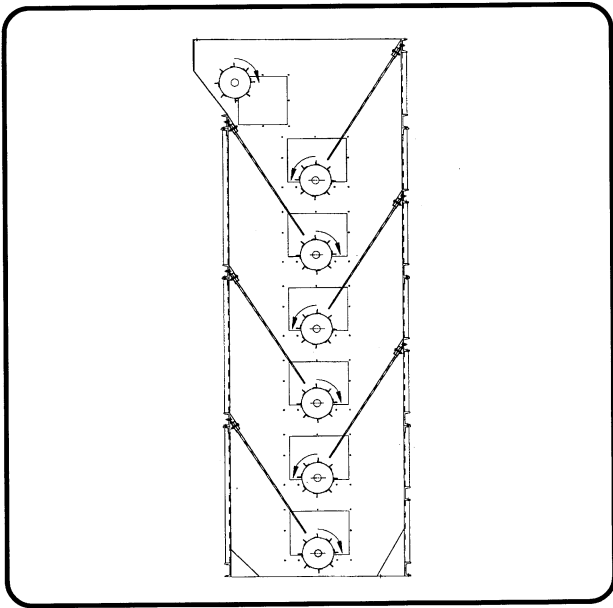
**RIB &
INSERT**



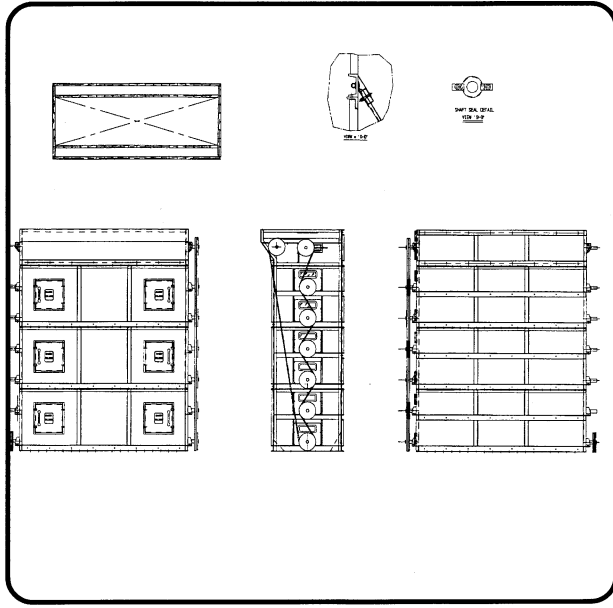
**PATENT
APPLIED**



**VERTICAL FLOW
DRIER**



**VERTICAL FLOW
DRIER**



**VERTICAL FLOW
DRIER**

