



CRC

for

Premium

Quality

Wool

Combing: Latest Developments & Future Trends

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Trends in Comb Speed

<u>Year</u>	Comb Speed (cycles/min)		
	NSC	SAN	Leisnig
1996	240	280	250
1981	210	210	230 (1992)
1974	185		
1971	165		
1967	160		
1956	125		

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Future Trends: Speed

- **Physical process a barrier**
 - Combing the original open-end process
- **Sources of incremental advances**
 - exotic materials
 - altered working cycles
- **Economic Restraints**

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VM Removal

VM Particle Size (mm)	Removal Efficiency (%)
0 to 3	96
3 to 10	98
10 to 20	98

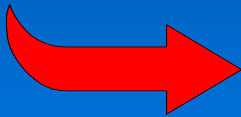
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Future Trends: VM Removal

- Machine Efficiency already high at more than 96%

Reduced scope for improvement



Possibilities

- Finer & longer pinning on Front Comb
- Further increase in the pinned arc of the circular comb
- Improved nipper brush design and operation
- On-line monitoring

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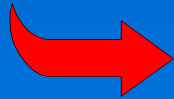
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Future Trends: Noil

- Extremely desirable to reduce noil.
- 0.5% noil reduction
Savings of \$12.5k / comb / year



Possible?

How?

- Reducing the entanglement in the scoured wool
 - Reduce fibre breakage during carding and gilling
 - Improve fibre alignment in the prepared sliver
- Research required

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Materials Handling

Input

Output

Bobbins

Cans

Cans

Rail-Road

Laps

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SAN P90 Comb: Bobbin-Feed



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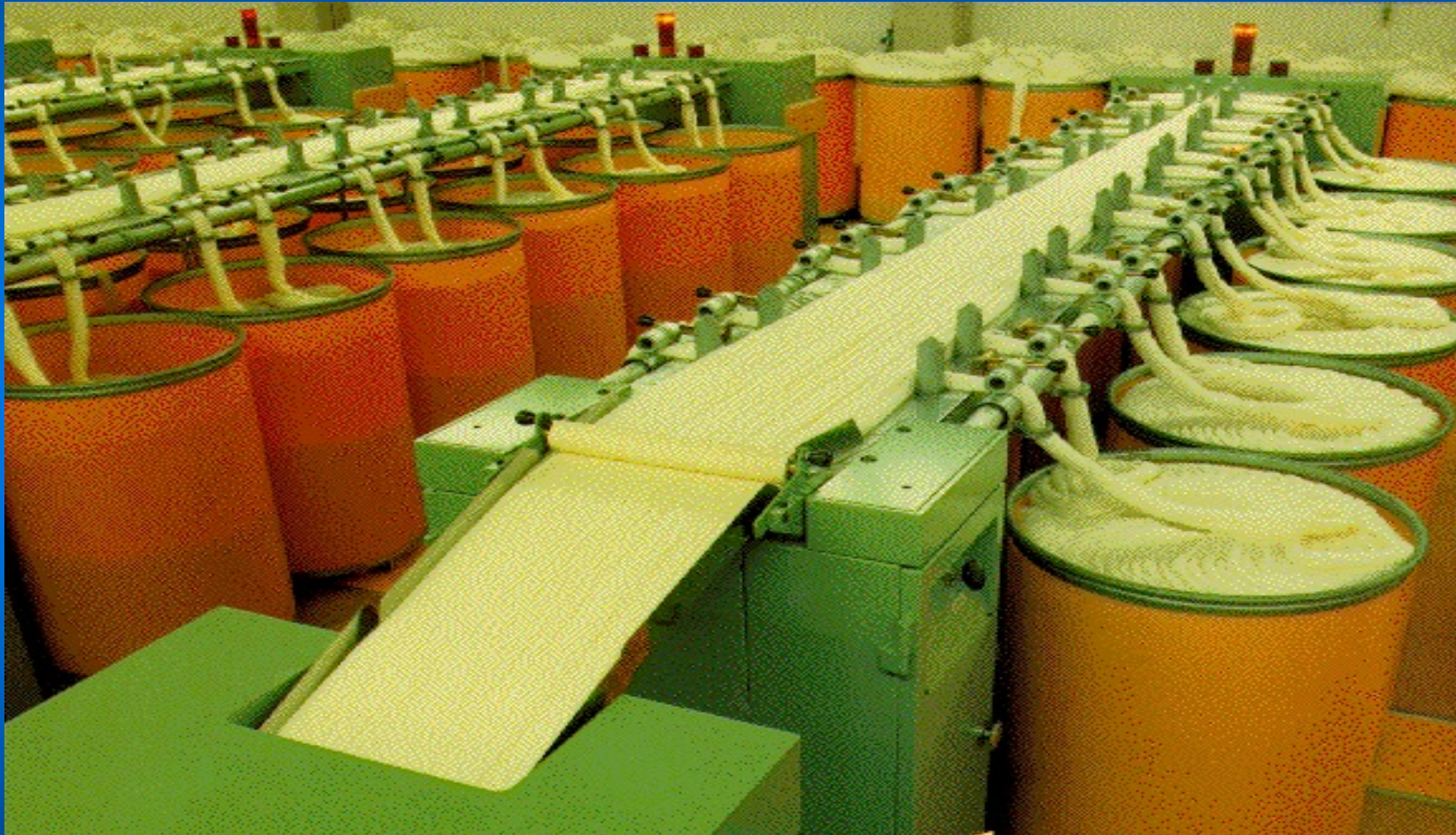
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NSC PB32: Can Feed



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Osaka Kiko: Lap Feed



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SAN: LINEA (Gilling Development)

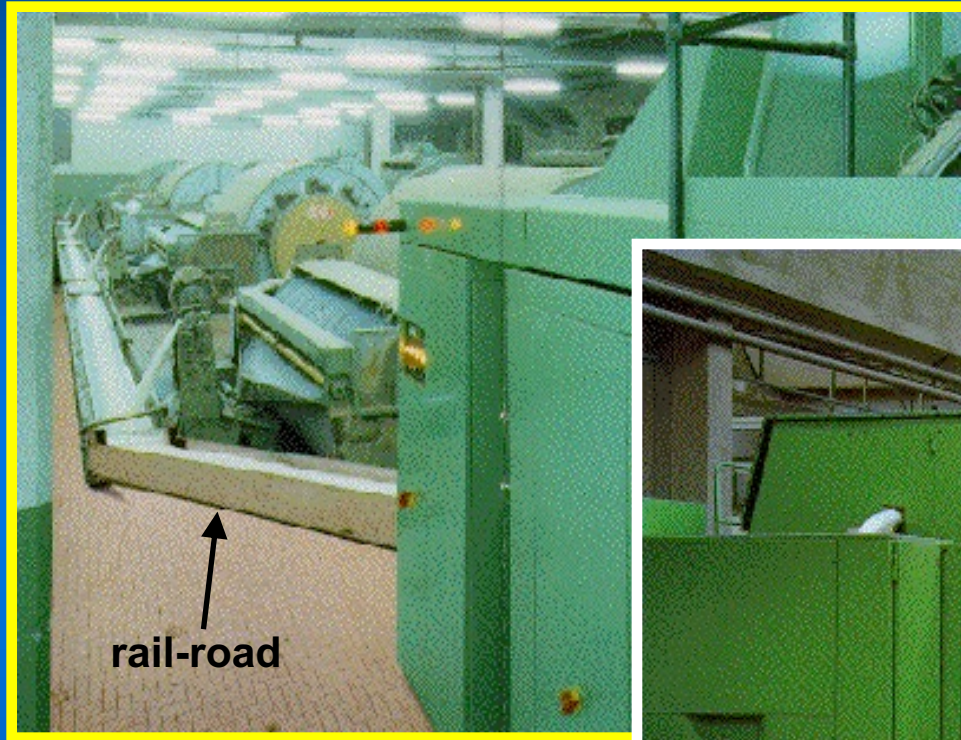
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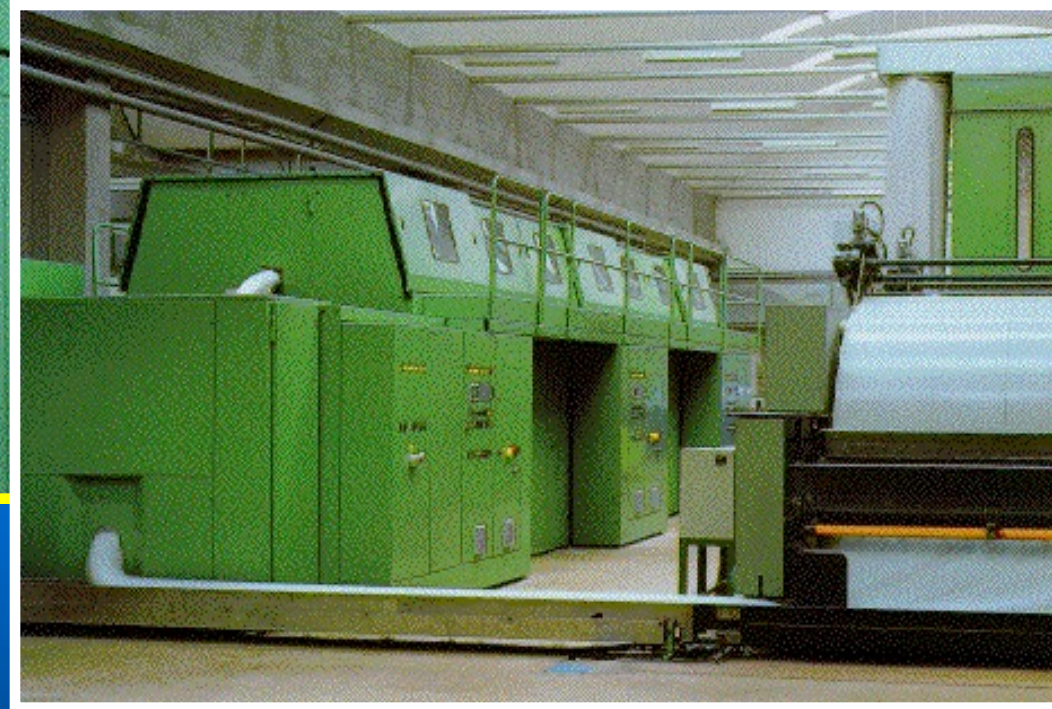
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rail-road





New S&U Feed Comb

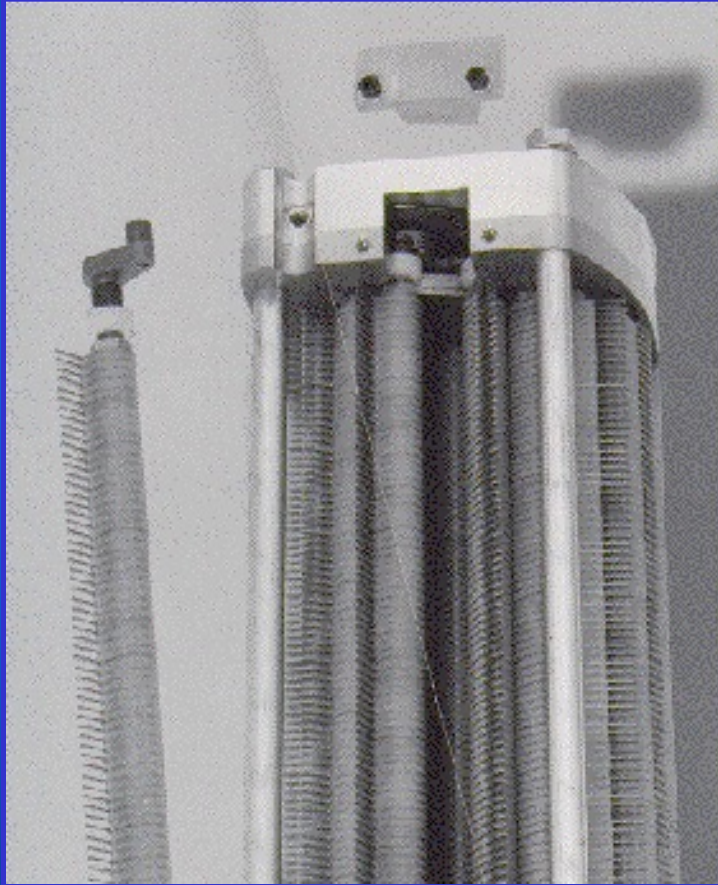
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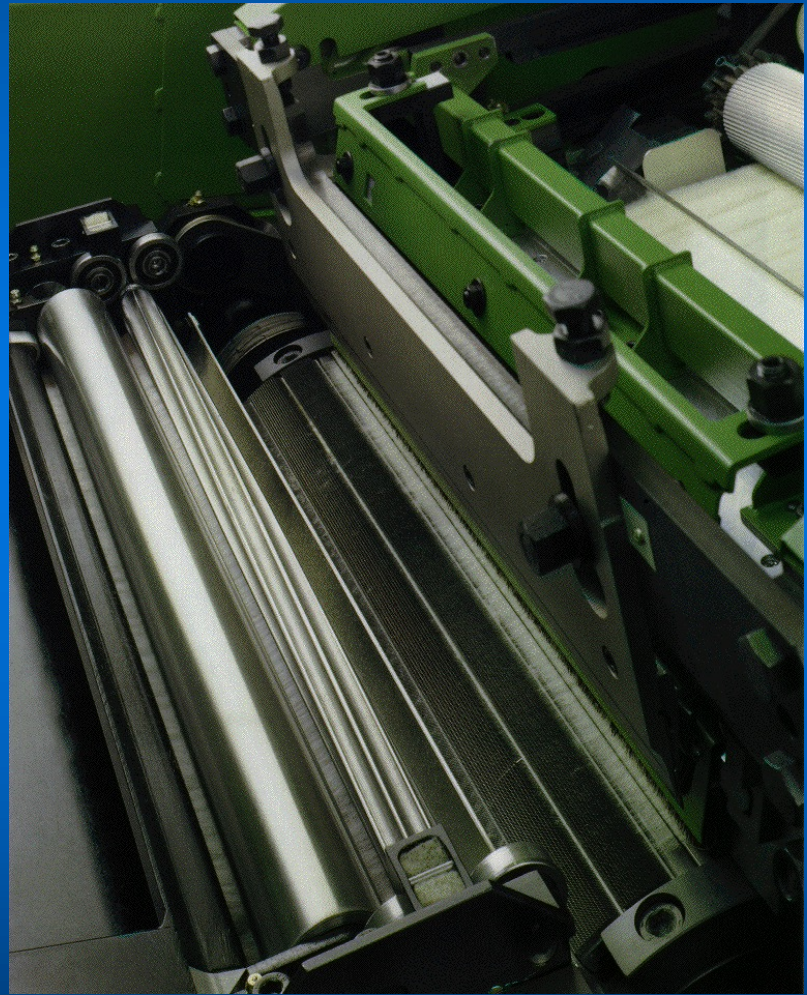
ROTAT Feed-Comb

STAEDTLER+UHL
MADE IN SCHWABACH / GERMANY



SAN P100

- Appeared at ITMA99
- Speed to 260 cycles / min



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SAN P100

- Close-up of new Noil setting technology on the P100

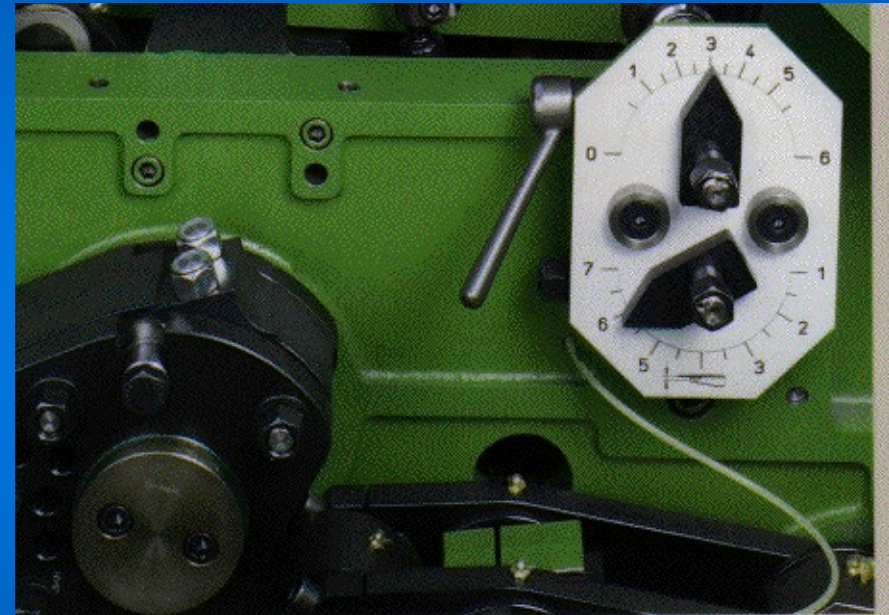
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NSC PB33

- Appeared at ITMA99

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