

混打綿工程

(2) 型機

綿室 ()

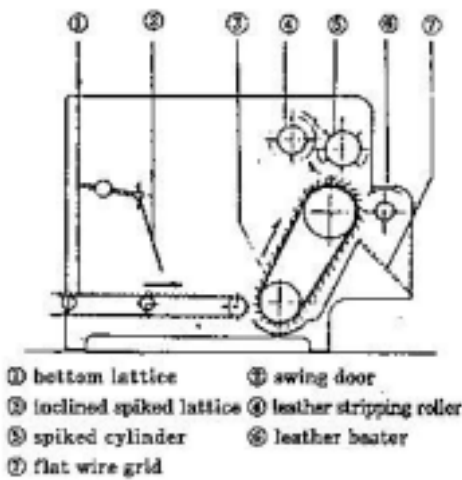
가) (Hopper Bale Breaker : 1.4)

開俵作用 BO(bale opener)가 混綿作
用 ,
가
(horn)

가
除塵

가 ,

內



〈그림 1.4〉 호퍼 베일 브레이커

) (Hopper Mixer), (Hopper Opener)

HO

HM

HM

HBB

開綿度

가

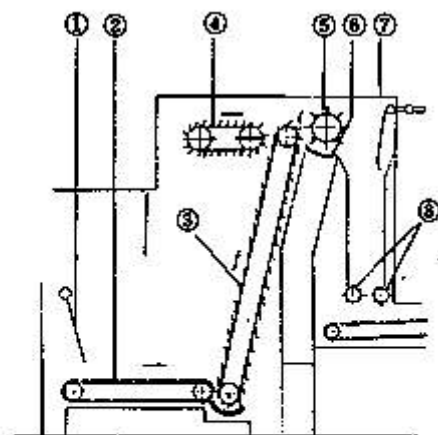
) (Hopper Feeder : 1.5)

HM, HO

가 가

(lap)

(Overflow Hopper Feeder)



- ① swing door ② bottom lattice
- ③ spiked lattice ④ evener lattice
- ⑤ beater ⑥ grid bar
- ⑦ rake ⑧ delivery feed roller

〈그림 1.5〉 오버플로타입의 호퍼피더

(3) 型機

가) (Crighton Opener : 1.6)

主軸 6 가

가 逆 ,

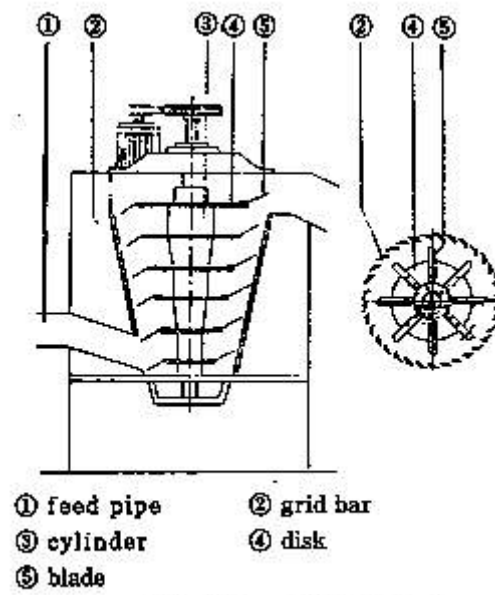
母線

가

가

長 綿用 가 短

가



〈그림 1.6〉 크라이톤 오프너

) (Superior Cleaner : 1.7)

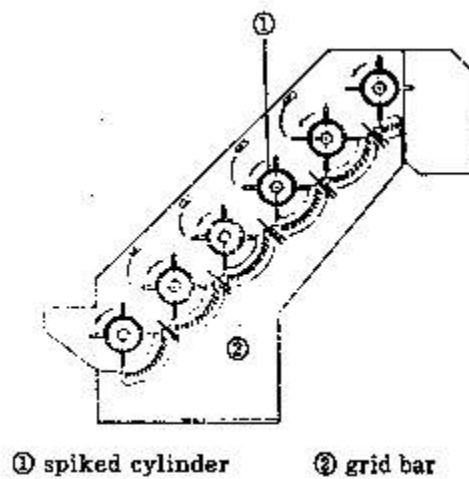
45 °

6

가 (arc)

(super cleaner)

(step cleaner)



① spiked cylinder ② grid bar

〈그림 1.7〉 슈퍼리어 클리너

(4) 型機

가) (Bale Opener : 1.8)

(creeper lattice)

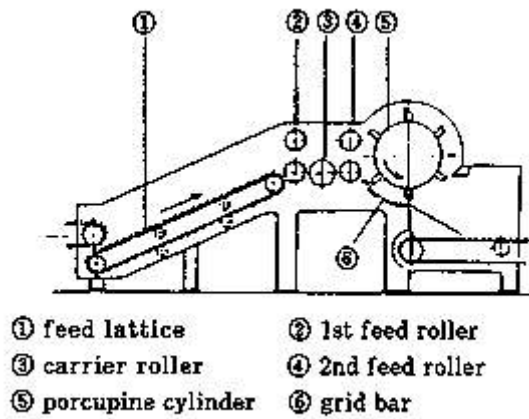
가

打綿用

가

:

600mm, : 700 800rpm



〈그림 1.8〉 베알 오프너

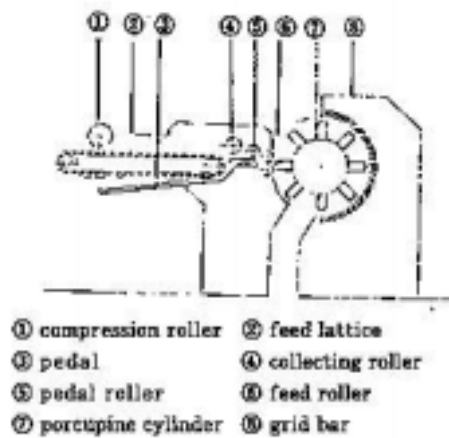
) (Porcupine Opener : 1.9)

가 ,

梳綿 가 , 가

給綿調節裝置(piano motion)가

(lattice feeder)



〈그림 1.9〉 레이스 피더
 (feed regulator + porcupine opener)

) (Double Beater Lapper : 1.10)

4

. 1st Kirschner beater(carding beater) ,

가

2nd 1st

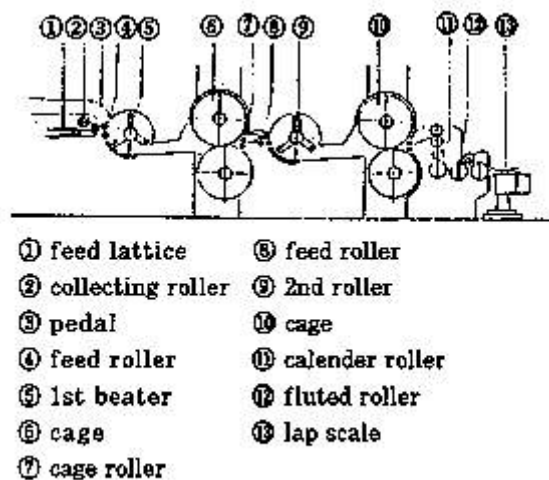
D

가 . 2nd

.((DBO) , DBL

DBO 1組 (SBL),

(SBO))



〈그림 1.10〉더블 비터 레퍼

) D (DO)
全面 가 ,
負荷 ,

(5) (Lap Machine)
打綿機

(,) 1
(給綿) 가

(6) (Chute) 給綿裝置

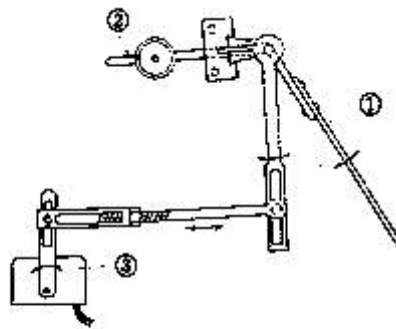
空氣
流 ,
人的

() ,
(lap licking) 가

2)

(1) (Feeling Motion : 1.11)

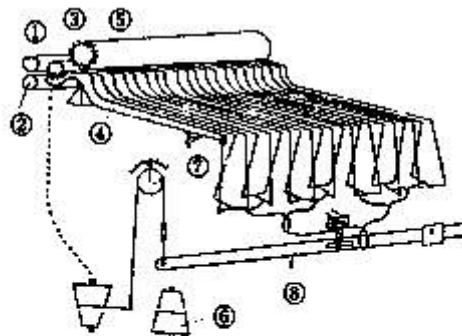
綿量



- ① swing door ② balance lever
③ feeling switch

〈그림 1.11〉 벨링모션

(2) (Piano Motion : 1.12)



- ① top feed roller ② bottom feed roller
③ regulating roller ④ pedal
⑤ collecting roller ⑥ cone drum
⑦ index plate ⑧ balance lever

〈그림 1.12〉 피아노모션

(3)

가 , (feed regulator)

(4) 送綿量

3)

(1)

異物(, ,) ,

(2) 色

(色布, 綿) ,

가 , CCD

(3)

(4)

3D 가

(5) 粗絲屑(Roving Waste)

1)

- (M₁) 1,140 rpm
- 4 ¹/₂ in
- 6 ¹/₂ in
- 7 ¹/₂ × 6 ¹/₂ in

(1)

$$1,140 \times \frac{4 \frac{1}{2} \times 7 \frac{1}{2} \times 1 \times 36 \times 54}{6 \frac{1}{2} \times 6 \frac{1}{2} \times 90 \times 48 \times 55} = 7.45(\text{rpm})$$

$$7.45 \times 2 \frac{7}{8} \times \pi = 6.73(\text{in/min})$$

(2)

$$1,140 \times \frac{4 \frac{1}{2} \times 7 \frac{1}{2} \times 1 \times 36 \times 18}{6 \frac{1}{2} \times 6 \frac{1}{2} \times 90 \times 48 \times 30} = 4.55(\text{rpm})$$

$$5 \frac{1}{2} \text{ in}$$

$$4.55 \times 5 \frac{1}{2} \times \pi = 78.6(\text{in/min})$$

(3) ()

$$1,140 \times \frac{4 \frac{1}{2} \times 7 \frac{1}{2} \times 1 \times 36}{6 \frac{1}{2} \times 6 \frac{1}{2} \times 90 \times 48} = 7.59(\text{rpm})$$

$$3 \text{ in} ,$$

$$7.59 \times 3 \times \pi = 71.5(\text{in/min})$$

(4)

$$1,140 \times \frac{4 \frac{1}{2} \times 7 \frac{1}{2} \times 1 \times 36 \times 28}{6 \frac{1}{2} \times 6 \frac{1}{2} \times 90 \times 48 \times 23} = 9.24(\text{rpm})$$

$$2 \frac{1}{2} \text{ in} \quad ,$$

$$9.24 \times 2 \frac{1}{2} \times \pi = 72.5(\text{in/min})$$

- M₂, M₃ 1,710 rpm
- 6 in
- 12 in

(5)

$$1,710 \times \frac{6}{12} = 855(\text{rpm})$$

(6)

$$1,710 \times \frac{6 \times 4.8 \times 13 \times 13}{12 \times 24 \times 50 \times 50} = 11.6(\text{rpm})$$

$$9 \text{ in} \quad ,$$

$$11.6 \times 9 \times \pi = 327.8(\text{in/min})$$

， ，

(例) <表 1.1> .

2) (Draft)

纖維束 引伸 가 , 比

.

2가 가 .

(1) 計算 :

$$= \frac{\quad}{\quad}$$

$$= \frac{1}{\quad}$$

() 總 (total draft) 部分 .

(2) 實際 : , ,

$$= \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

(例) ()

$$= \frac{\quad}{\quad} = \frac{327.8 \text{ in / min}}{71.5 \text{ in / min}} = 4.58$$

$$= \frac{1\text{yd}}{\quad}$$

3 5 가 ,

- , - , - , -

.

, ,

,

(tension draft : 1.015 1.35)가 . 가

不同 .

가

.

<表 1.1> 混打綿 各機 (例)

	(rpm)		(rpm)
BO :	700 800	PO :	700 850
HBB :	150 350	CO : 1st	700 900
	300 350	2nd	500 650
	250 350	SBO :	700 900
HM :	100 150	DBL :	700 850
	300 400		800 1,000
			150 220
HF :	100 200	DO :	600 850
	300 450		
SC :	400 500		1,000 1,300

() : (rpm) = (120 ×) ÷ () × (1- 率)

: V 有効 , 平 .

3) (打數)

綿層 1in

・ ,

$$\begin{aligned} \text{/in} &= \frac{(\text{rpm}) \times}{(\text{in/ min})} \\ &= \frac{(\text{rpm}) \times}{(\text{rpm}) \times (\text{in}) \times \pi} \end{aligned}$$

, 1 ,
/ 1 = (-) . ,

.

綿量 1lb

$$\begin{aligned} \text{ /lb} &= \frac{(\text{rpm}) \times}{\frac{(\text{rpm}) \times}{36} \times \frac{(\text{in}) \times \pi}{16} \times \frac{(\text{oz/yd})}{16}} \\ &= \frac{1}{\frac{(\text{in}) \times \pi}{36} \times \frac{(\text{oz/yd})}{16}} \end{aligned}$$

4)

(),

,

$$1 \qquad = 1 \qquad \times \qquad \times$$

, 1

$$1 \qquad (\text{lb/h}) = \frac{(\text{yd/min}) \times 60}{16} \times \frac{(\text{oz/yd})}{16}$$

5)

가

HVI

가

6)

, ,

，散失 .

가 .

= + +

7) 率

8)

1 yd oz 1 in g .