

英 语

第四分册

(棉纺专业用)

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棉 纺 专 业 用

上 海 纺 织 工 学 院

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Lesson One

Carding

Direct Card-feeding

In cotton-carding, direct feeding is not yet used on a wide scale, and it is still common practice to form a scutcher lap and transport it mechanically or by hand to the back of the card.

The modern scutcher has been developed to the stage at which laps weighing up to 90 lb. can be produced. Laps of this weight may not be adequate for long runs on a high-production card, and they introduce problem of handling between the scutcher and the back of the card. Lap-piecing cause irregularities, and ¹the fact that a manual operation has to be carried out means that an operative is tied to the machine at specific times to piece in a new lap.

The doffing, weighing ¹and transporting of scutcher laps has now been automated to a certain degree and improvements continue to be made. A method of removing a full lap and rethreading: the new lap end is now used, it has a system of conveying a lap to the back of the card, ²where it is automatically deposited in a reserve creel. The actual piecing-in of the new lap is still a manual operation, and the major disadvantages of the batch-feeding of material to high-speed machines are unresolved.

Continuous feeding of cotton to the card overcomes these disadvantages, and it is known from mill experience that significant improvements in running efficiency are obtained when direct card-feed systems are used. At conventional card-production rates, the direct feeding of cotton to the card involves complex problems of distribution from the opening line to multiple cards and the chances of maintaining uniform and consistent quantities at each machine are slight.

3. With high-production carding, the distribution problem is simplified, and a balanced system can be obtained with two⁴ circuits of six or eight cards linked to an opening line.

Material from the opening machine can be distributed to the card by pneumatic or mechanical means or combination of both.

The former system is gaining in popularity largely because of its flexibility and simplicity. For example, in a certain system, material is drawn from the opening line by a centrifugal fan, which blows it through circuit ducting to each card in turn. In this ducting, an aerodynamic expansion is arranged at each card chute and depending upon the amount of material in each chute, new material is deposited to maintain a constant level. After passing over each chute in turn, any excess material is returned within the system.

New Words and Expressions

direct [di'rekt] a.	直接的
card-feeding [ka:d 'fi:diŋ]	梳棉机的喂给(部分)
scale [skeil] n. 规模	on a wide scale 大规模地
common practice ['kɒmən 'præktɪs]	通常的作法
transport [træns'pɔ:t] vt.	输送
mechanical(ly) [mi'kænikəl (i)] a. (ad.)	机械的, 用机械的
hand [hænd] n. 手	by hand 手工地
modern ['mɒdən] a.	现代的
stage [steɪdʒ] n.	阶段
up to [ʌp tə]	直到, 等于
weigh [wei] v.	称, 重
adequate ['ædɪkwɪt] a.	妥当, 适当
long runs [lɒŋ rʌnz]	长时间运转
introduce [ɪn'trə'dju:s] vt.	提出, 引导
problem ['prɒbləm] n.	问题
handle ['hændl] vt.	处理
piecing [pi:siŋ] n.	接头
cause [kɔ:z] vt.	引起
irregularity [i'regju'lærɪtɪ] n.	不规则, 不齐, 参差
manual operation ['mænjuəl əpe'reɪʃən] n.	手工操作
carry out ['kæri aʊt]	执行
operative ['ɒperətɪv] n.	(技术)工人
tie [taɪ] vt.	束缚, 绑住
specific [spɪ'sɪfɪk] a.	特殊的, 具体的
doffing ['dɒfɪŋ] n.	落卷
automate ['ɔ:təmeɪt] vt.	自动化
certain ['sɜ:tɪn] a.	某, 某一, 一定的
degree [di'ɡri:] n.	程度
improvement [ɪm'pru:vment] n.	改良, 改进

continue [ken'tinju:] v.	继续, 连续
method ['meθəd] n.	方法
rethread ['ri:θred] v.	再穿线
system ['sistim] n.	体系, 制度, 方法
convey [ken'veil] vt.	运送
deposit [di'pɒzɪt] vt.	储存, 存放
reserve reel [ri'zəv ri:l] n.	储卷架
actual ['æktʃuəl] a.	实际的, 现行的
major ['meɪdʒəl] a.	主要的
disadvantage [dɪsəd'vɑ:ntɪdʒ] n.	不利, 不利条件
batch-feeding [bætʃ 'fi:diŋ]	集束喂棉
high-speed [haɪ spi:d]	高速
unresolve [ʌnri'zɒlv] v.	没解决
continuous [ken'tɪnjuəs] a.	连续的, 持续的
overcome [ouvə'kʌm] vt.	克服
experience [ɪks'piəriəns] n.	经验
significant [sɪg'nɪfɪkənt] a.	有意义的, 重要的
running efficiency [rʌnɪŋ i'fɪʃənsi]	运转效率
obtain [əb'teɪn] vt.	获得
conventional [ken'venʃənəl] a.	习用的, 传统的, 规范的
rate [reɪt] n.	速度, 率
involve [ɪn'vɒlv] vt.	卷入, 包围
complex ['kɒmpleks] a.	复杂的
distribution [dɪstrɪ'bju:ʃən] n.	分配, 配给
multiple ['mʌltɪpl] a.	复合的, 多倍的
chance [tʃɑ:ns] n.	机会
maintain [meɪn'teɪn] vt.	保持
consistent [kən'sɪstənt] a.	一致的, 始终如一的
quantity ['kwɒntəti] n.	量, 数量
slight [slaɪt] a.	轻微
simplify ['sɪmplɪfaɪ] vt.	简单化, 单纯化

balance ['baləns] v.	平衡, 保持平衡
circuit ['se:kit] n.	环行, 巡回
link [lɪŋk] v.	连结, 接合, 联系
pneumatic [nju(:)'mætɪk] a.	气体的
means [mi:nz] n.	手段, 工具
combination [kəmbi'neɪʃən] n.	结合, 混合
former ['fɔ:mə] a.	以前的
gain [geɪn] vt.	获得, 渐增
popularity [pɒpjʊ'lærɪtɪ] n.	流行
largely ['lɑ:dʒli] adv.	大部分, 大规模地
because of [bi'kɔ(:)z ev]	因为, 由于
flexibility [fɪleksə'bɪlətɪ] n.	灵活性, 机动性
simplicity [sɪm'plɪsɪtɪ] n.	简单, 简易
for example [fɔ:r ɪg'zɑ:mpl]	例如
centrifugal [sen'trɪfju:ɡəl] a.	离心的
fan [fæn] n.	风扇
blow [bləʊ] v.	吹
turn [tɜ:n] n.	回转, 旋转
aerodynamic [æəroudaɪ'nemɪk] a.	空气动力的
expansion [ɪks'pænʃən] n.	扩张, 膨胀
arrange [ə'reɪndʒ] vt.	排列, 安排
chute [ʃu:t] n.	滑槽, 斜槽
depend upon [dɪ'pend ə'pɒn]	依靠, 依赖
constant ['kɒnstənt] a.	恒定的, 稳定的
level ['levl] n.	水平
pass over [pɑ:s ə'veɪ]	越过, 通过
excess [ɪk'ses] n.	过量, 过剩
return [ri'te:n] v.	返回, 还, 回
within [wɪ'ðɪn] prep.	在...内, 在...里面

Notes

1. the fact that a manual operation has to be carried out means that an operative is tied to the machine at specific times to piece in a new lap.

that a manual operation 是同位语从句, 修饰 the fact.

(必须进行人工操作这一事实)

that an operative is 是宾语从句, 作动词 means 的宾语 (意味着: 为了接上一个新棉卷, 在特定时间里这台机器要缚住一个工人。)

2. where it is automatically deposited in a reserve creel.

其中 where 是关系付词, 意为“在那里”(指梳棉机后方。)

3. With high-production carding, (对高产梳棉机来说)。这里, with 作“对; 关于; 就…而言”等解释。

4. with two circuits of six or eight cards linked to an opening line.

(六台或八台梳棉机分两条线路连接在一条开棉线上)。这里, with 表示方法或情况, 如译出, 可译为: “用……方法”。

Exercise

Translate the following into Chinese:

The material is consolidated at each individual chute by an oscillating front sheet. To prevent variation in air-pressure within the circuit, which may be caused by phasing of two or more oscillating front sheets, the individual sheets in a circuit are set to oscillate at different speed.

New Words

consolidate [kən'solɪdeɪt] vt.	巩固
individual [ɪndɪ'vɪdʒuəl] a.	各个的, 单独的
oscillate [ˈɒsɪleɪt] v.	摆动, 振动
front sheet [frʌnt ʃi:t]	前板
prevent [prɪ'vent] vt.	防止, 预防
variation [və'ɪəri'eɪʃən] n.	变更, 变化
air-pressure [æə 'preʃə]	空气压力
phase [feɪz] n.	状态, 局面, 方面

Lesson Two

Carding

The carding process converts the lap to a sliver, or strand of fibres, of about one hundredth of the weight per yard of the lap. During carding, the fibres are well separated by the action of wire points, and a high proportion of the trash is rejected, together with some good lint.

A sectional view of the carding engine (termed the 'card in the industry) is shown in Figure 1(a)

The lap A from the scutcher is placed upon the lap rollers B which revolve slowly at the same surface speed as the fluted feed roller C. This roller projects the cotton forward over the lip of the dish feed plate D into the arc of the 'taker-in' E.

The taker-in is a cylinder of 9 to 10 in. in diameter,

clothed with ^{above} saw-toothed 'fillet' wound helically on to its surface; it is thus effectively covered with sharp projections at about $1/4$ in. circumferential spacing and $1/8$ in. width-wise spacing. The surface speed of the taker-in is over 2000 ft/min, and the fringe of cotton receives an intensive 'combing' action at the face of the dish feed plate which results in much of the solid matter being knocked out, and in tufts of fibre being carried down and forward by the fillet, over the mote knives F, and over the undercasing G.

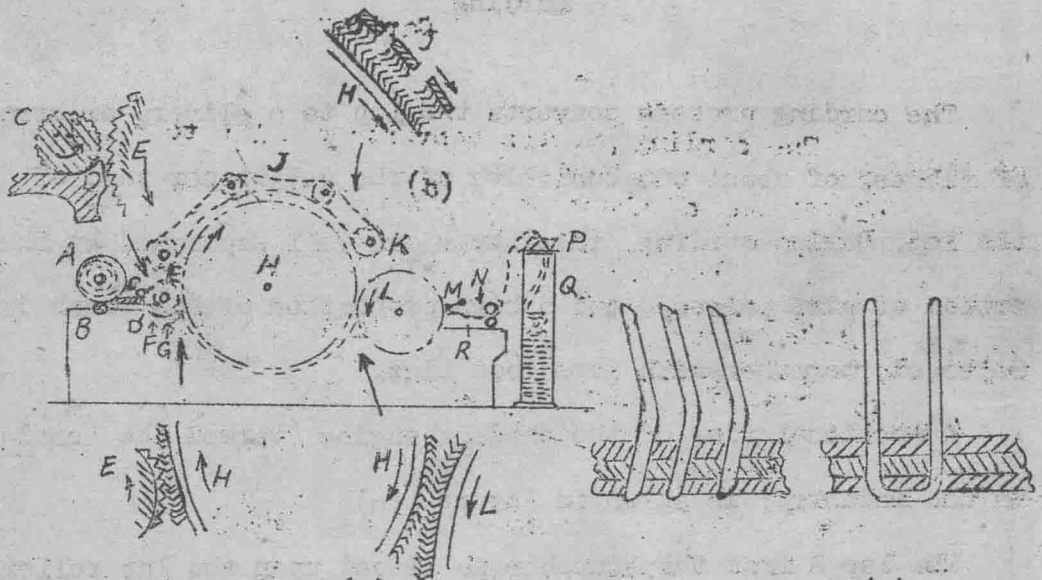


Fig. 1 (a)

Fig. 1 (c)

The 'combing' action referred to is an exceedingly severe treatment which should not be confused with combing proper ^{comber} as performed in the at a later stage in the case of fine yarns. Considerable damage is done at the taker-in as

regards fibre breakage, but in return at this particular point a greater degree of trash removal occurs here than at any other single cleaning process in the mill.

The tufts of fibre on the taker-in points are stripped by the cylinder H which is clothed ³ with wire pointed fillet. This fillet consists of a strip of ³ rubber bonded fabric, 1 1/2 - 2 in. wide into which have been inserted U-shaped wire staples. The staples are bent to incline the points in the direction of rotation and the wires are ground on the back (and on the sides) to give a sharp point to the leading edge (see Figure 1 (c))

New Words and Expressions

convert [kən'veɪt] vt.

转换, 转变

hundredth ['hʌndrɪdθ] n.

百分之一, 第一百号

wire ['waɪə] n.

钢丝, 金属丝

lint [lɪnt] n.

棉绒, 皮棉

view [vju:] n. 图, 眼力

sectional view 剖面图

upon ('ɒn) [ə'pɒn] prep.

在...上

slowly ['sləʊli] ad.

慢慢地, 渐渐地

fluted ['flu:tɪd] n.

有沟槽的

project [prə'dʒekt] vt.

抛出, 突出, 伸出

lip [lɪp]

边缘, 唇

dish [dɪʃ] n. 盘子, 碟子

dish feed plate 给棉板

taker-in ['teɪkərɪn] n.

刺辊

clothe [klaʊð] v.

复上, 穿衣服

saw-tooth ['sɔ:'tu:θ] n.

锯齿

fillet ['fɪlɪt] n.

(钢丝) 针布

helically ['hɪlɪkəlɪ] ad.

成螺旋形

effectively [ɪ'fektɪvli] ad.

有效地, 实际上

cover ['kʌvə] vt.

复盖 n. 罩子, 盖, 遮蔽物

sharp [ʃɑ:p] a.	锐利的, 锋利的
circumferential [sə'kʌmfə'renʃ(ə)l] a.	周围的, 四周的
widthwise ['wiðwaɪz] n.	阔幅, 宽度
result [ri'zʌlt] vi.	发生, 终于 (in)
solid ['sɒlɪd] a.	固体的, 硬的, 实心的
matter ['mætə] n.	物质
mote [məʊt] n.	尘, 微屑
knife [naɪf] n. (复数 knives [naɪvz])	刀
undercasing ['ʌndəkeɪsɪŋ] n.	mote knife 除尘刀
refer [ri'fe:] v.	除尘漏底
exceedingly [ɪk'si:diŋli] ad.	提及, 涉及 (to)
treatment ['tri:tment] n.	非常地, 极度地
confuse [kən'fju:z] vt.	处理
proper ['prɒpə] a.	混同, 混淆
later ['leɪtə] a. 更后的, 更迟的	真正的, 相当的, 固有的
damage ['dæmɪdʒ] n.	(late 的比较级)
regard [ri'gɑ:d] v.	损失, 代价
as regards = as for	注意
breakage ['breɪkɪdʒ] n.	至于, 关于, 说到
return [ri'teɪn] n. v. 归来, 返回, 回答	破损, 断裂
particular [pə'tɪkjʊlə] a.	in return 反之, 反过来
removal [ri'mu:vəl] a.	特殊的, 单单的
occur [ə'keɪ] vi.	除去, 移动
point [pɔɪnt] n.	发生, 现出
rubber ['rʌbə] n.	点 vt. 削尖, 弄尖
bond [bʌnd] vt.	橡皮
wide [waɪd] a.	结合, 接合
U-shaped ['ju:'ʃeɪpt] a.	阔的, 宽的
staple ['steɪpl] n.	U字形的
direction [daɪ'rekʃən] n.	U字钉, 骑马钉
grind, ground, ground [graɪnd, graʊnd] v.	方向, 方位, 范围
leading ['li:diŋ] a. 领导的, 主要的	研磨
excess [ɪk'ses] n. 过分, 过量, 过剩	leading edge [edʒ] 前缘
	in excess of 超过

Notes

1. results in 意为：“导致”，其后成分为介词 in 的宾语。

much of the solid matter being knocked out “很多硬性物质被打出”

and (results) in tufts of fibre being carried down and forward by the fillet “而纤维团被针布带向下方和前方”。

这是两个动名词短语，作(results) in 的介词宾语。其中 being knocked (被打) 和 being carried (被带) 是两个被动语态的动名词。这两个动名词前面所有的词，在意义上是动名词的主体；在句法上为动名词的定语。介词后要求名词性词类，因此，不能是分词。译文中，意译成两句句子，较顺通易懂。

2. as performed in the comber “象精梳机完成的那样……”

这里的 as 是连接词，意为：“象…那样”，如写全：

as the combing is performed in the comber, 作状语，修饰前一形容词 proper (真正的)。proper 这一形容词有它自己的修饰语(状语)，因此放在它所修饰的名词 combing (梳型) 之后。

3. wire pointed fillet “钢丝尖端的针布”；

rubber bonded fabric “橡胶结合的织物”；两者都是以“名词 + 过去分词”作定语，修饰后面的名词。这种结构在专业书中有时也被使用。

Exercise

Translating the following into Chinese:

Carding

The cotton fibers are separated and distributed more evenly

by carding which also removes dirt and short fibers. The lap from the scutching machine is set at one end of the carding machine. The fiber ^{from} the lap is drawn up over the main cylinder of the machine. This cylinder is covered with card clothing which consists of three or four layers of strong fabric into which are set numerous bent wires. Card clothing also covers the flats which move slowly over the top of the carding machine. Since the wires on the flats are bent in the opposite direction from those on the large cylinder, these wires act against the movement of the cotton and so separate the fibers into a very thin sheet. At the end of the carding machine, this thin sheet is then drawn together through a trumpet-shaped tube into a sliver, a soft, fluffy, untwisted strand of fibers. The carding sliver is coiled into a large can to be transported to the next machine.

New Words

distribute [dis'tribju:t] vt.	分配, 散布
evenly ['i:vnli] ad.	匀, 齐
strong [stroŋ] a.	坚固的
numerous ['nju:mərəs] a.	许多的
against [ə'geɪnst] prep.	对着, 向着, 在...对面
since [saɪn] conj.	因为, 所以, 既然
thin [θɪn] a.	稀疏的, 稀薄的
trumpet-shaped ['trʌmpɪt-ʃeɪpt] a.	喇叭形的
fluffy ['flʌfɪ] a.	有绒毛的, 软的
coil [kɔɪl] v.	盘绕, 卷成圈
transport [tranz'pɔ:t] vt.	输送

Lesson Three

Carding

The cylinder of 50 in. diameter (width 38-45 in.) has a surface speed of about 3500 ft./min., which is in excess of that of the taker-in. The inclination of the points of each being in the direction of motion enables the cylinder to strip the fibres from the taker-in, and these are carried upward to be carded by the flats.

The flats J are clothed with fillet of a similar kind to that on the cylinder and the points are inclined in opposition to those on the cylinder, ²as shown in Figure 1 (b).

The cotton is teased by this action and transference of fibers occurs between the ^{two} surfaces. The flat becomes loaded with fibre which contains a higher trash content than that which passes forward with the cylinder due to the centrifugal action (of about 20 g) and the 'heel and toe' setting: the 'heel' of the flat is set to 5 or 7 thousandths of an inch to the cylinder, and the entry, or 'toe' setting exceeds this by about 30/1000 in.

There are about 40 flats working with the cylinder ³out of a total number of about 110 which are traversed slowly at 2 to 3 in. per minute on a moving chain to enable them to be cleaned by a comb K and passed eventually to the cylinder again. The cotton is removed from the cylinder by the doffer L which has similar clothing with points in opposition to the cylinder and