

FIG. 189.

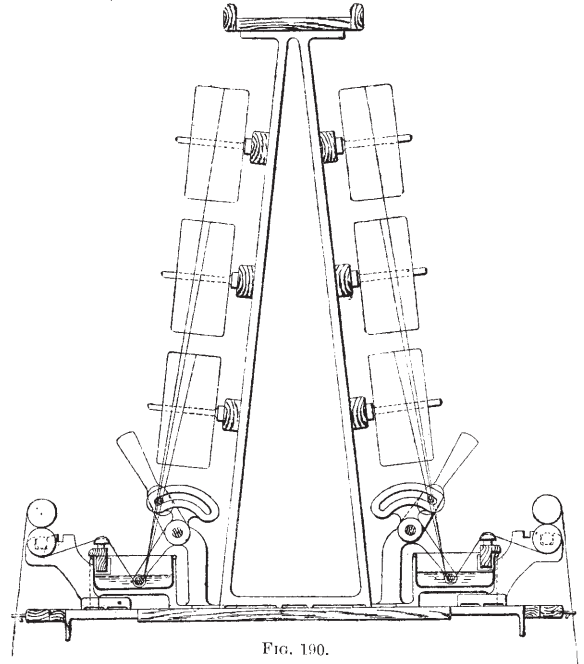


FIG. 190.

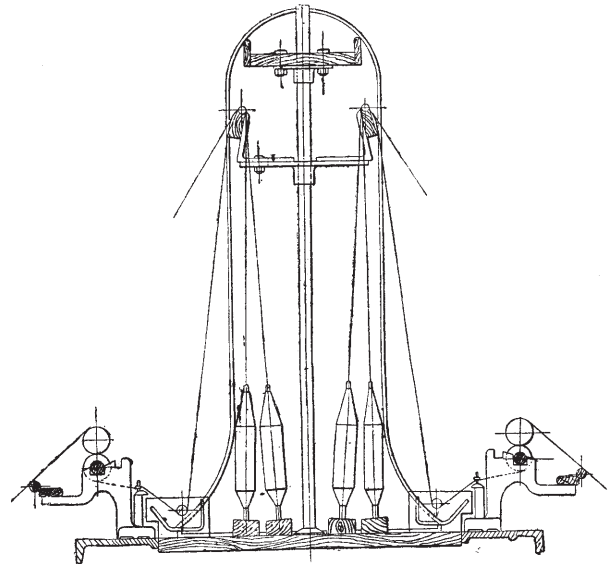


FIG. 191.

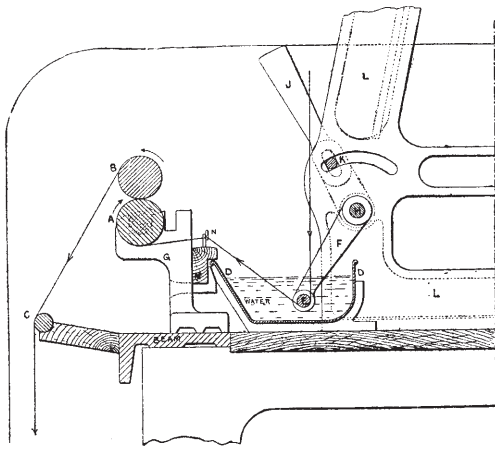


FIG. 192.

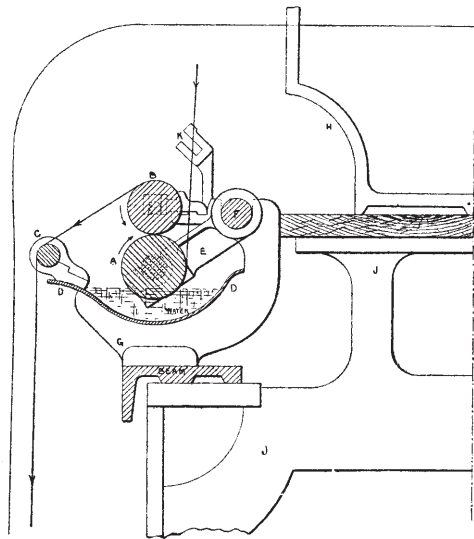


FIG. 193.

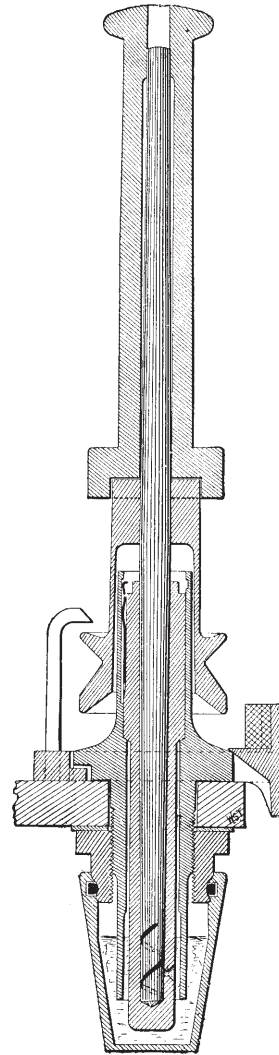


FIG. 194.

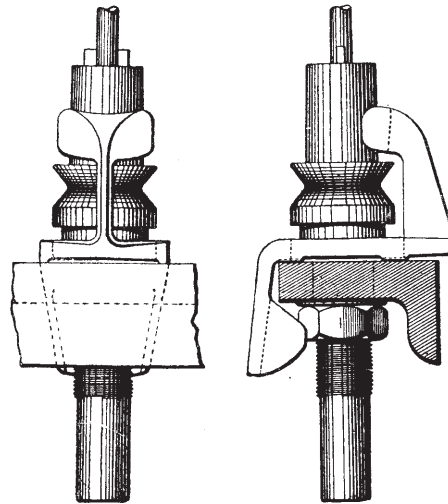


FIG. 195.

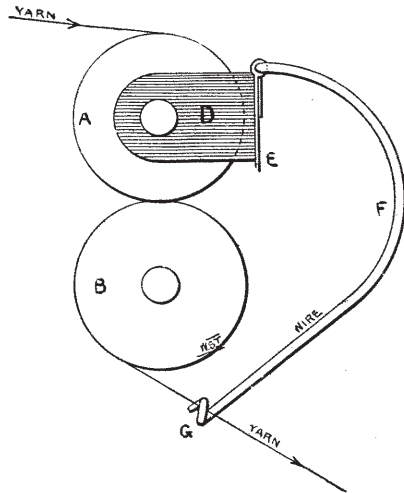


FIG. 196.

FIG. 198.

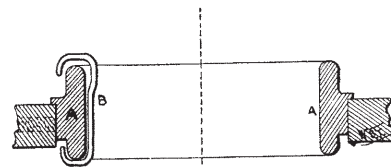


FIG. 199. FIG. 200.

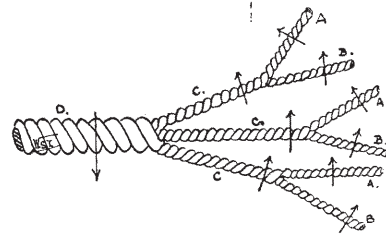
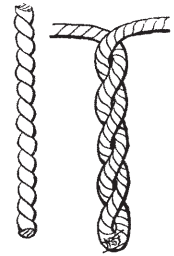


FIG. 201.

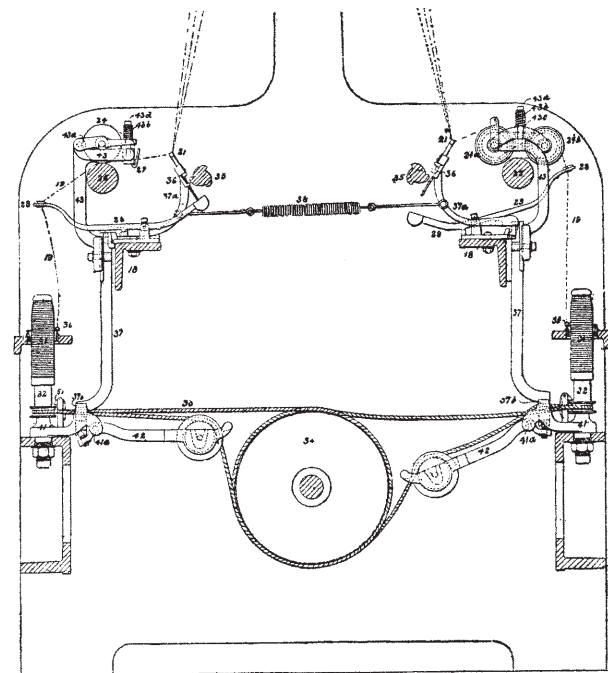


FIG. 197.

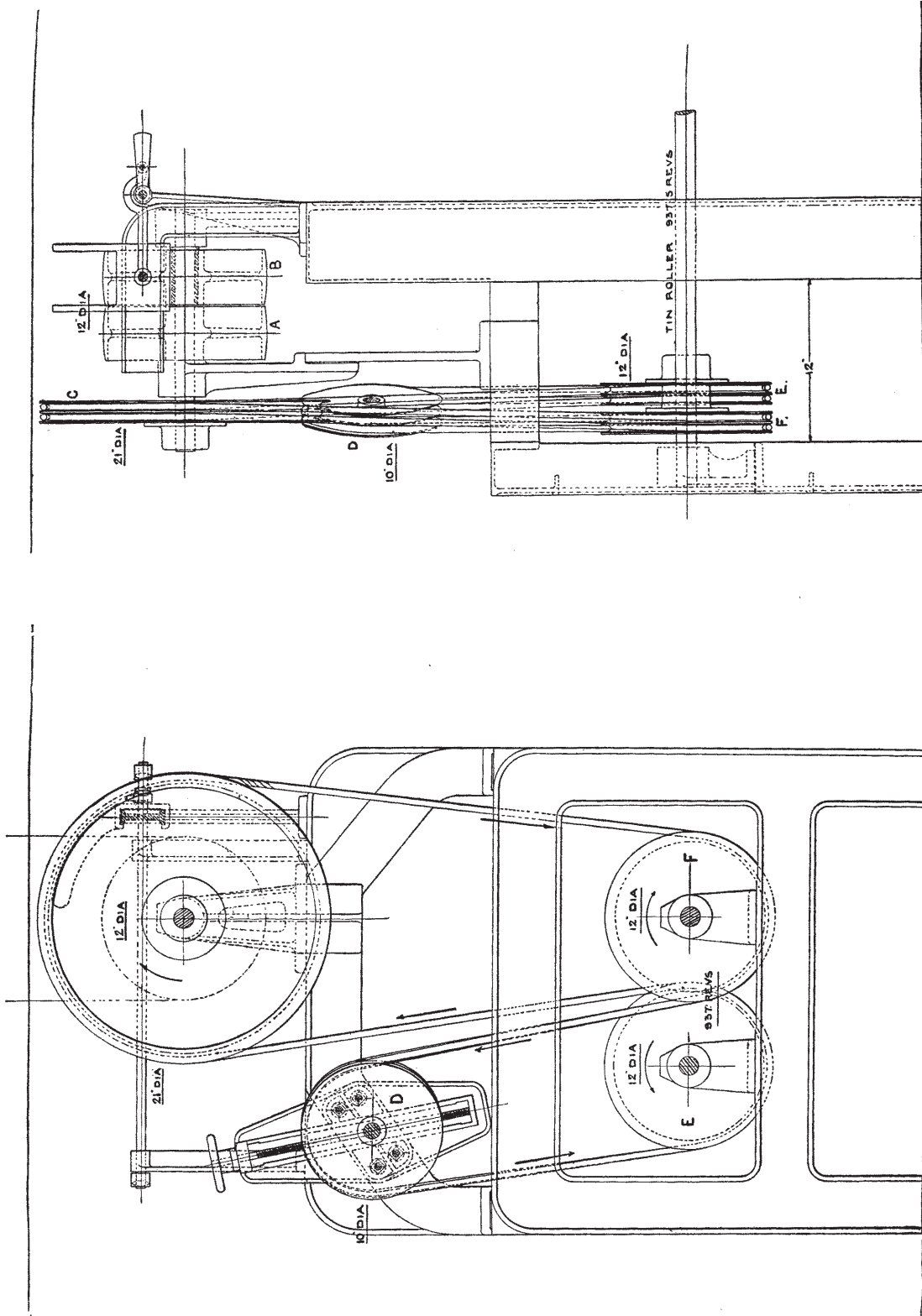


FIG. 208.

FIG. 202.

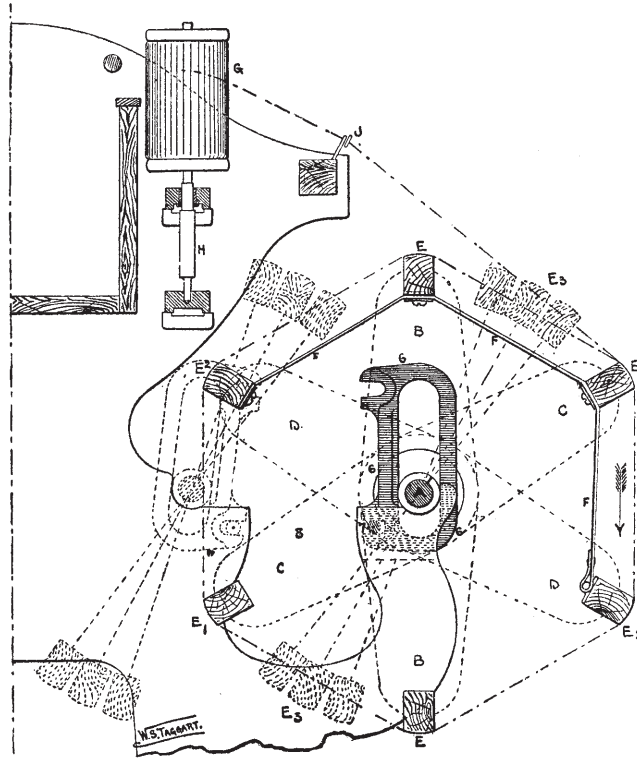


FIG. 204.



FIG. 206.

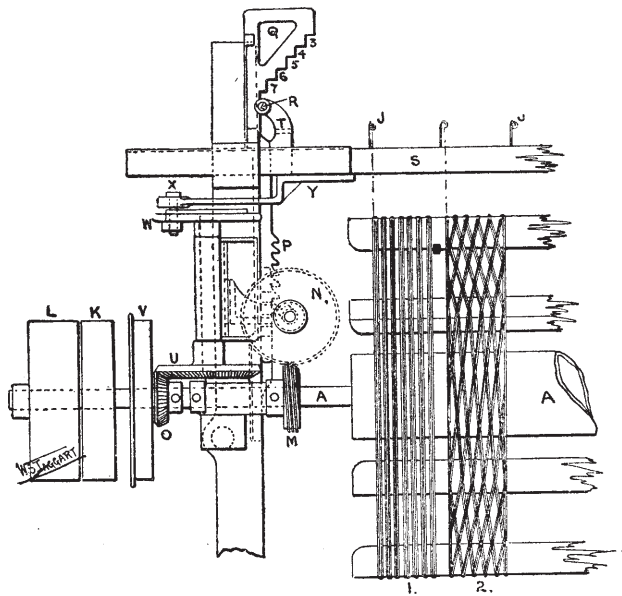


FIG. 205.

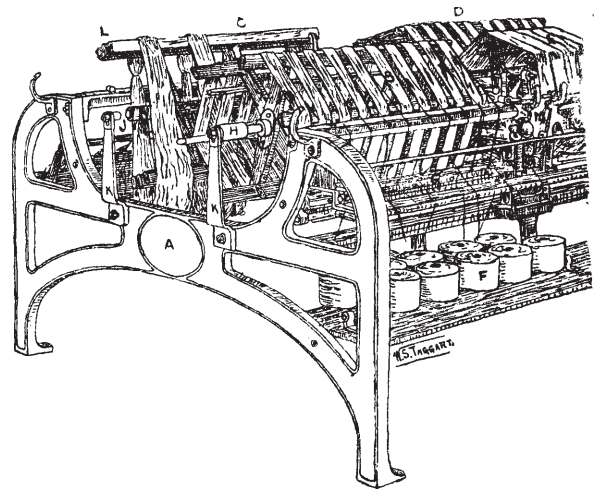


FIG. 207.

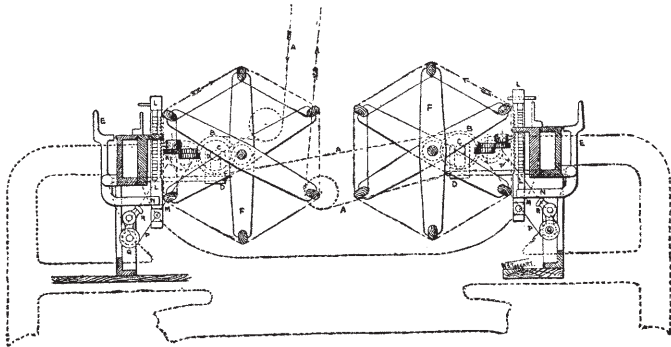


FIG. 208.

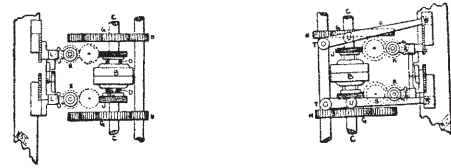


FIG. 209.

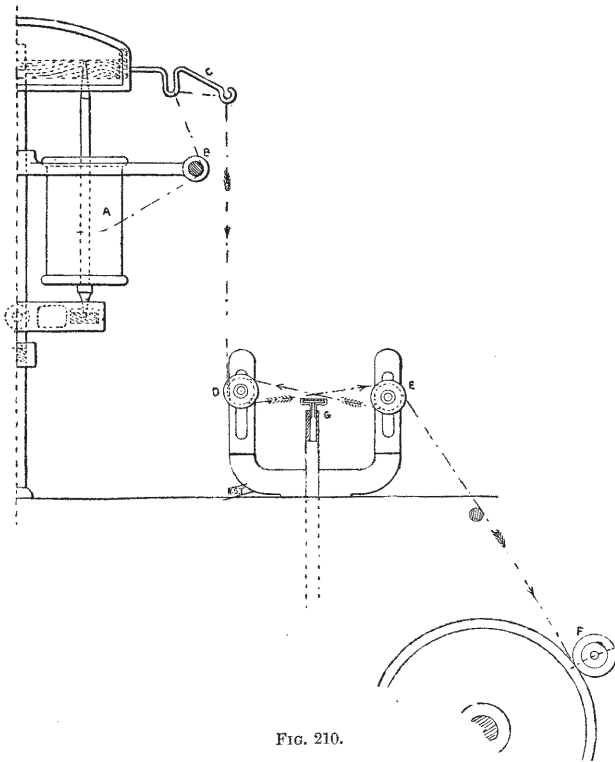


FIG. 210.

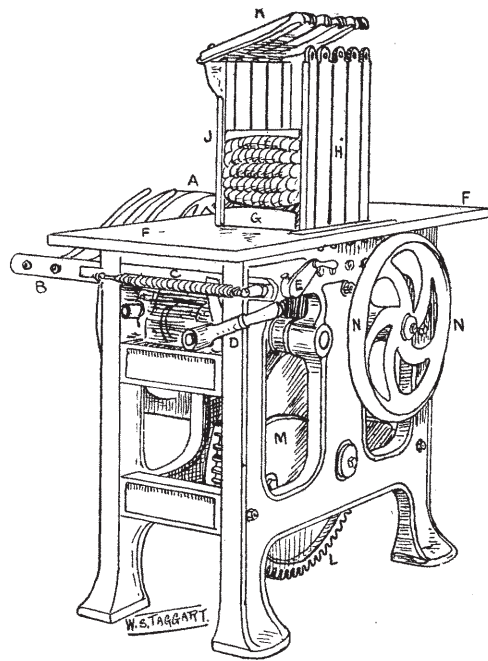


FIG. 211.

COTTON MACHINERY SKETCHES

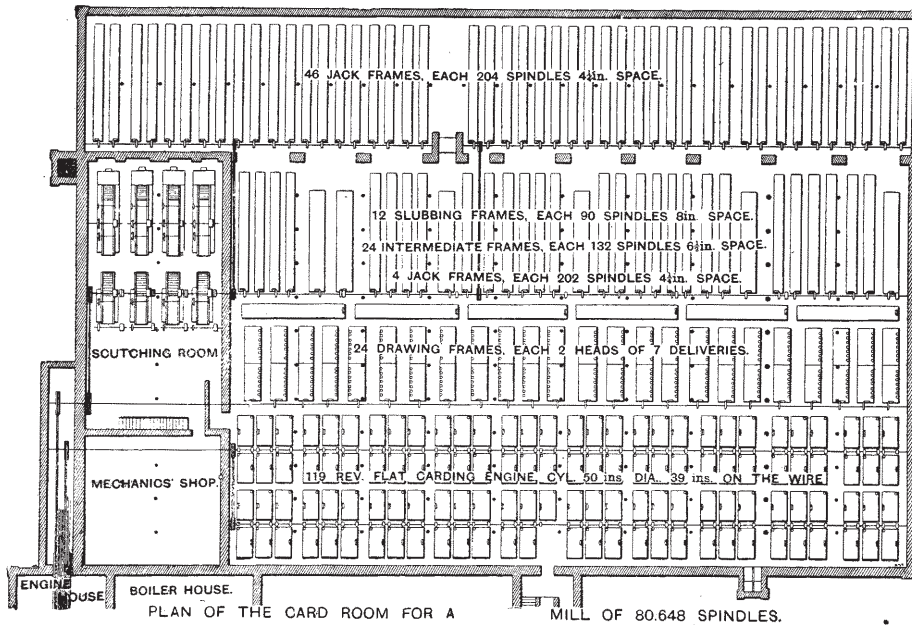
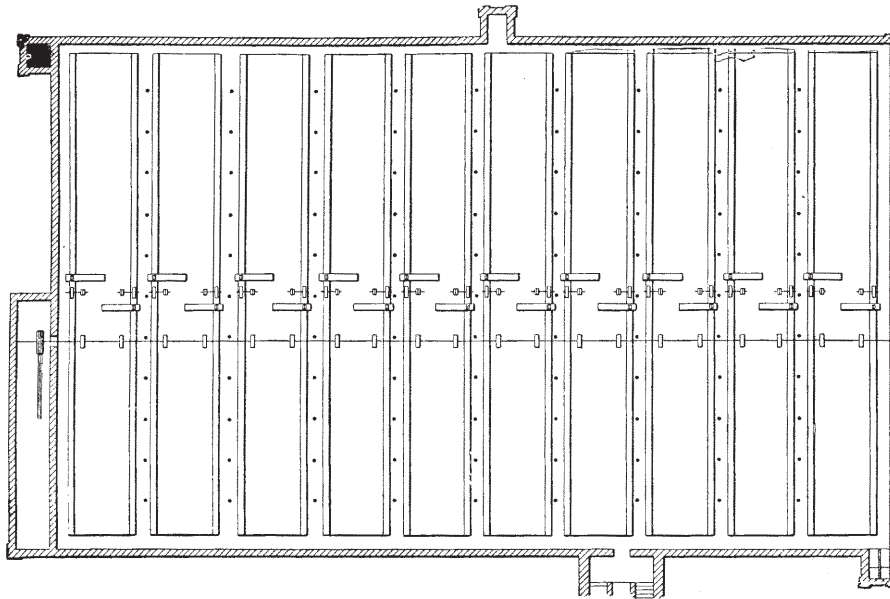


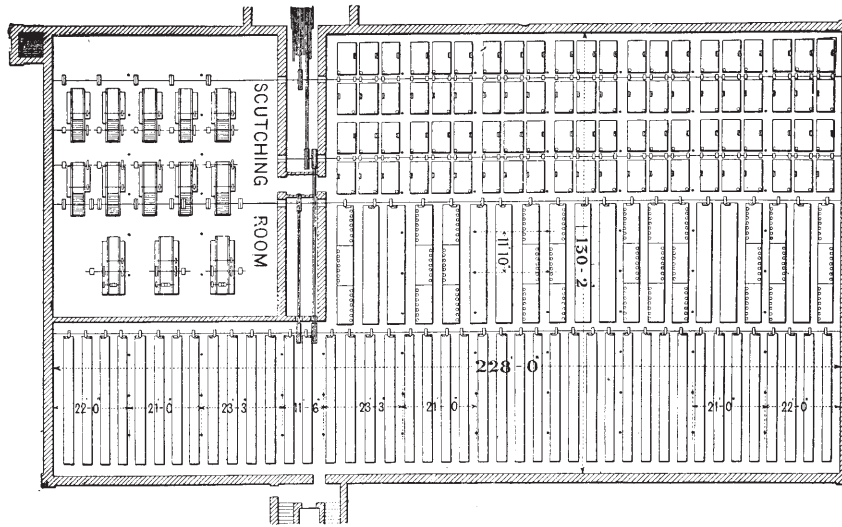
FIG. 212.



4th SPINNING ROOM OF MILL Spinning 40's Twist.

1st Room	contains	20	mules,	each	1050	spindles,	$1\frac{3}{4}$	in. space	=	21,000	spindles.
2nd	"	16	"	"	1058	"	1	"	"	=	16,928
3rd	"	20	"	"	1066	"	1	"	"	=	21,320
4th	"	20	"	"	1070	"	1	"	"	=	21,400
										80,648	"

FIG. 213.

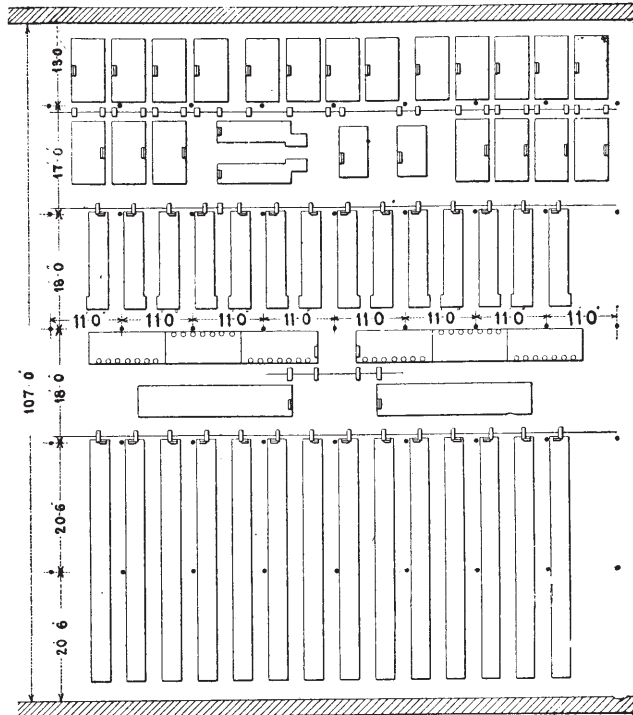


CARD ROOM OF 5-STOREY MILL

Containing 78,384 Mule Spindles, Spinning American Cotton, Nos. 32's Twist and 45's Weft.

- | | |
|--|--|
| 1 Bale Breaker and Lattice Mixing Arrangement. | 9 Slubbers, each 98 spindles, 8 in. space. |
| 3 Horizontal Exhaust Openers. | 16 Intermediates, " 132 " 6½ in. " |
| 10 Single Scutchers. | 26 Rovers, " 172 " 5 in. " |
| 84 Carding Engines. | 14 Rovers, " 172 " 5 in. " in 1st |
| 11 Draw Frames, each 3 heads of 7 deliveries. | Spinning Room. |

FIG. 214.



PREPARING MACHINERY

For 20,000 Mule Spindles, Spinning No. 80's Combed Yarn.

- | |
|--|
| 20 Carding Engines. |
| 2 Silver Lap Machines. |
| 2 Draw and Lap Machines. |
| 14 Combing Machines of 8 heads each. |
| 2 Draw Frames, each 3 heads of 7 deliveries. |
| 2 Slubbers, 64 spindles each, 7 in. space. |
| 4 Intermediates, 130 " " 6½ " " |
| 10 Jacks, 200 " " 4¼ " " |

FIG. 215.

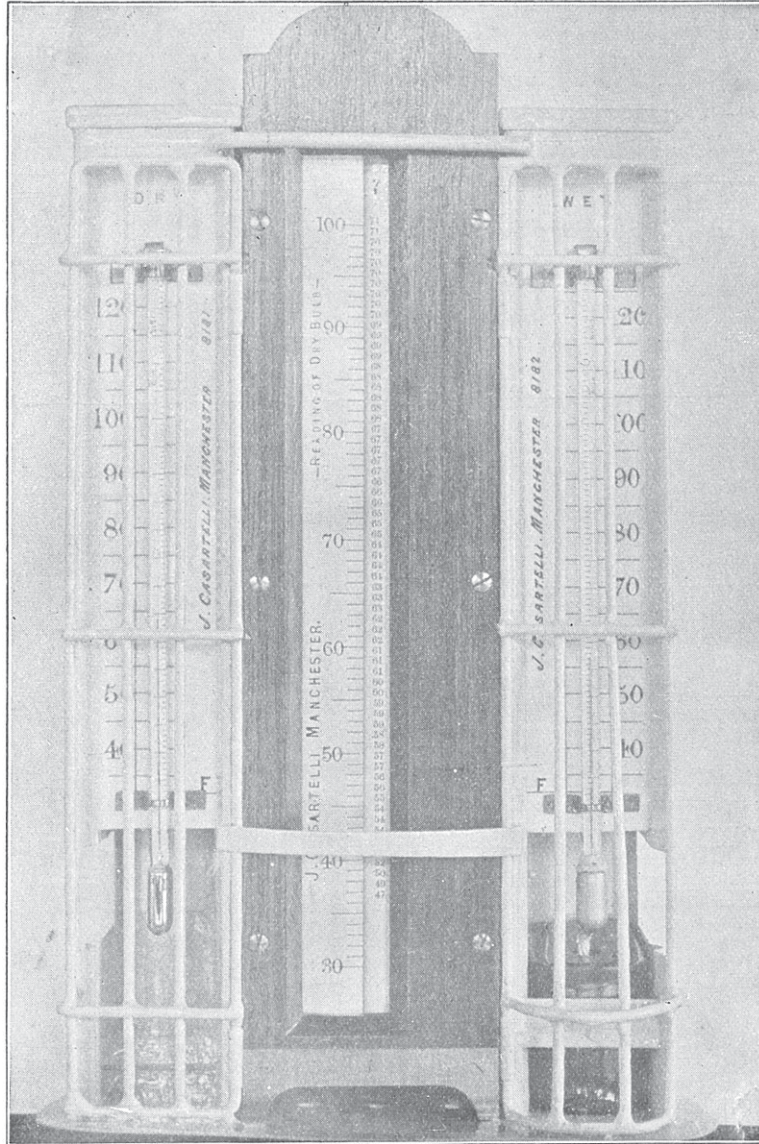


FIG. 218.

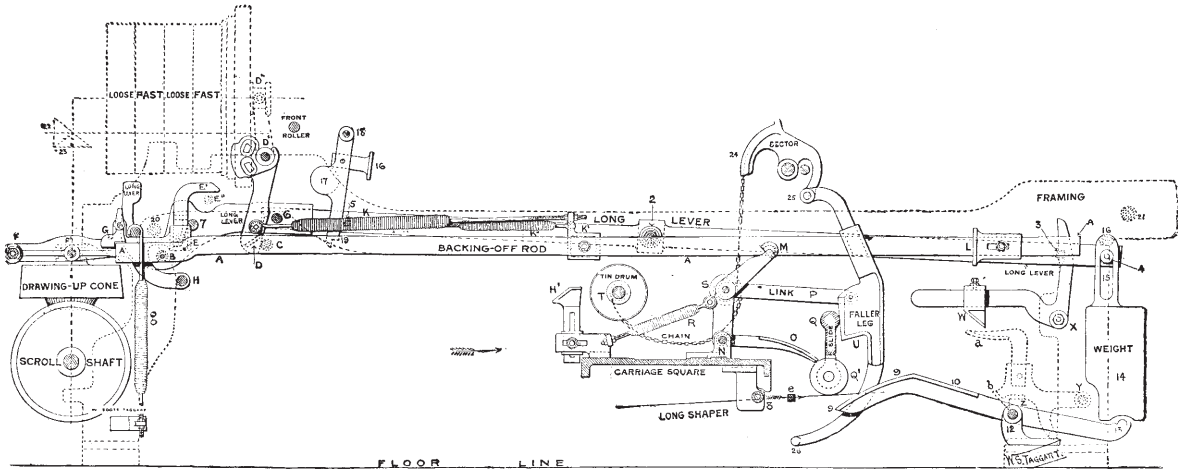


FIG. 219.

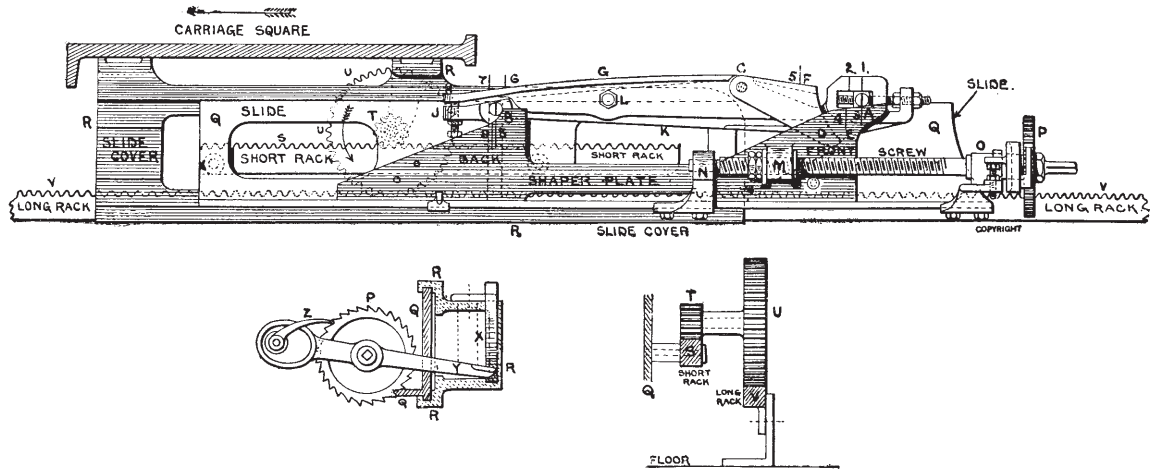


FIG. 220.

See Appendix for further illustrations.

APPENDIX

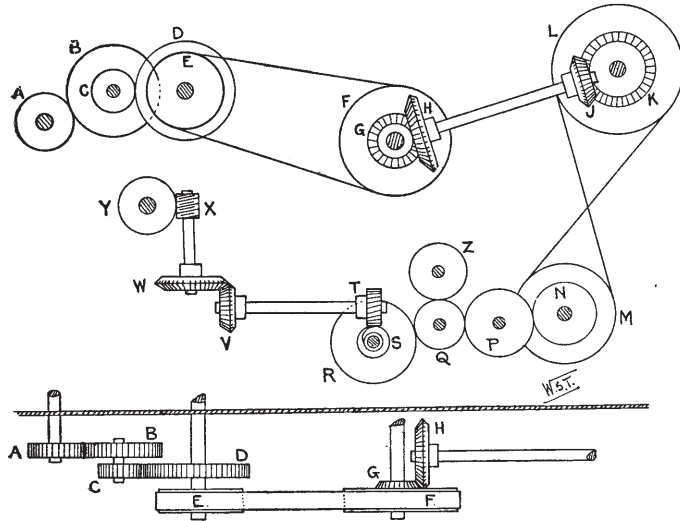


FIG. 1.

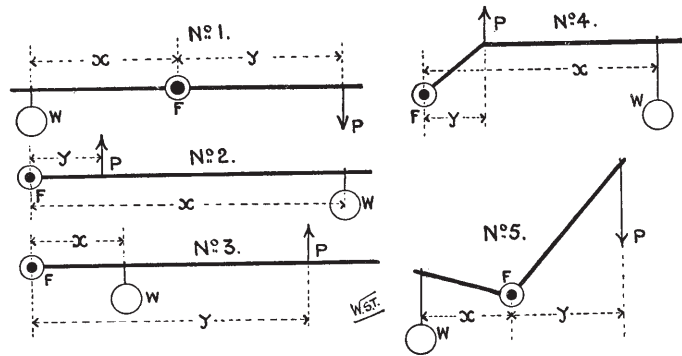


FIG. 2.

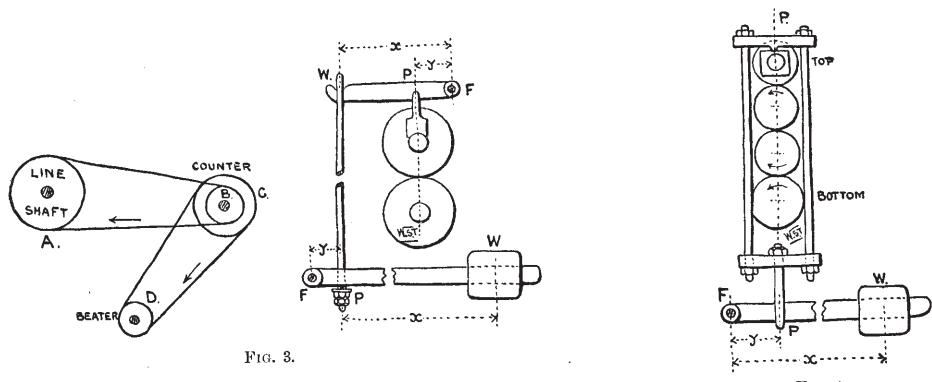


FIG. 3.

FIG. 4.

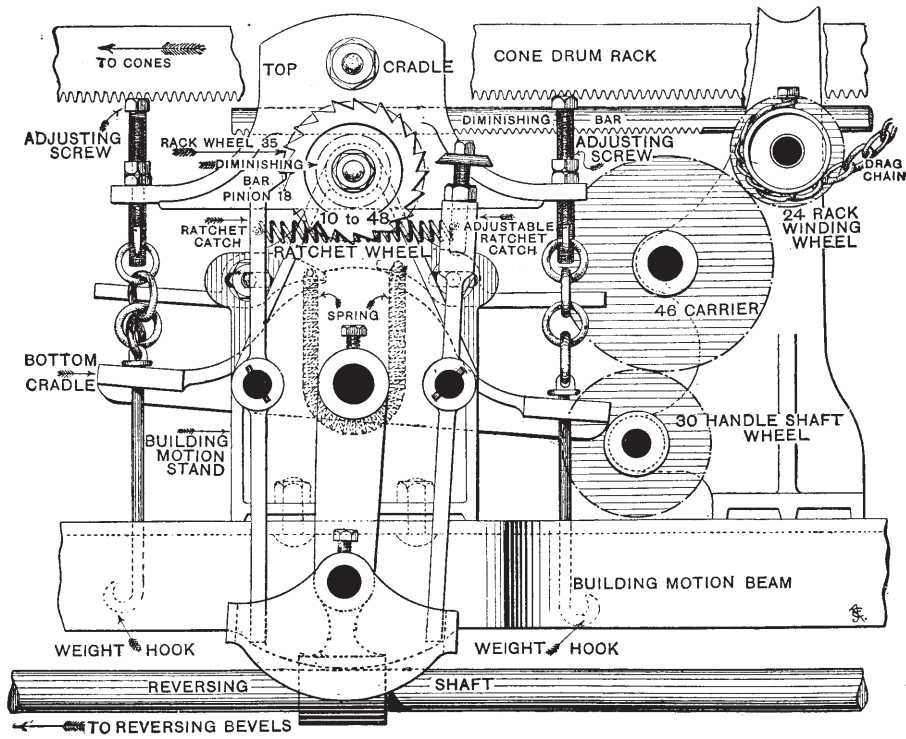


Fig. 13.

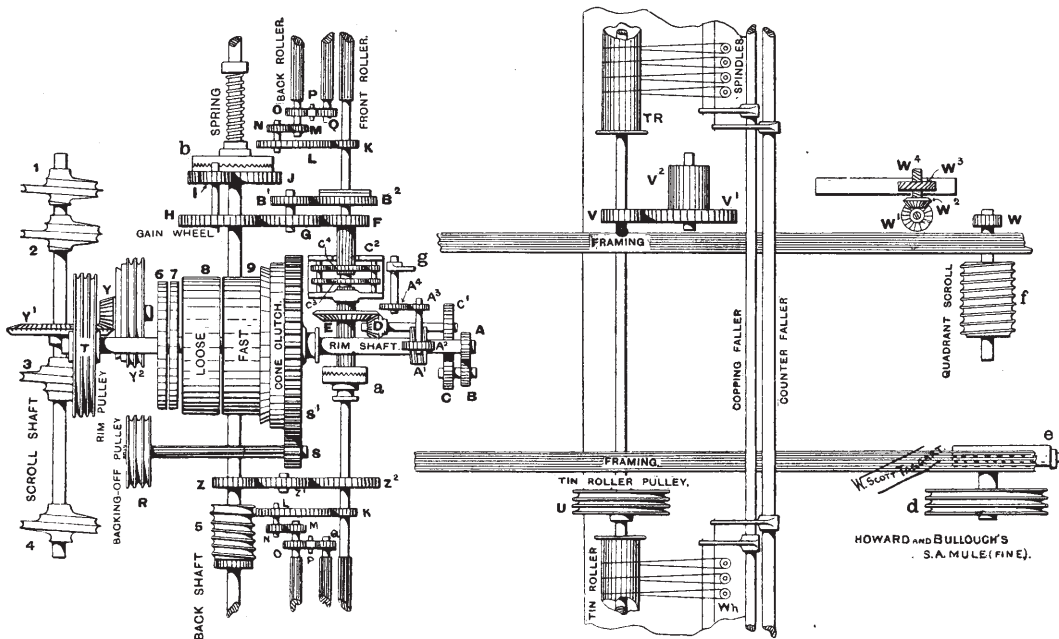


Fig. 14.

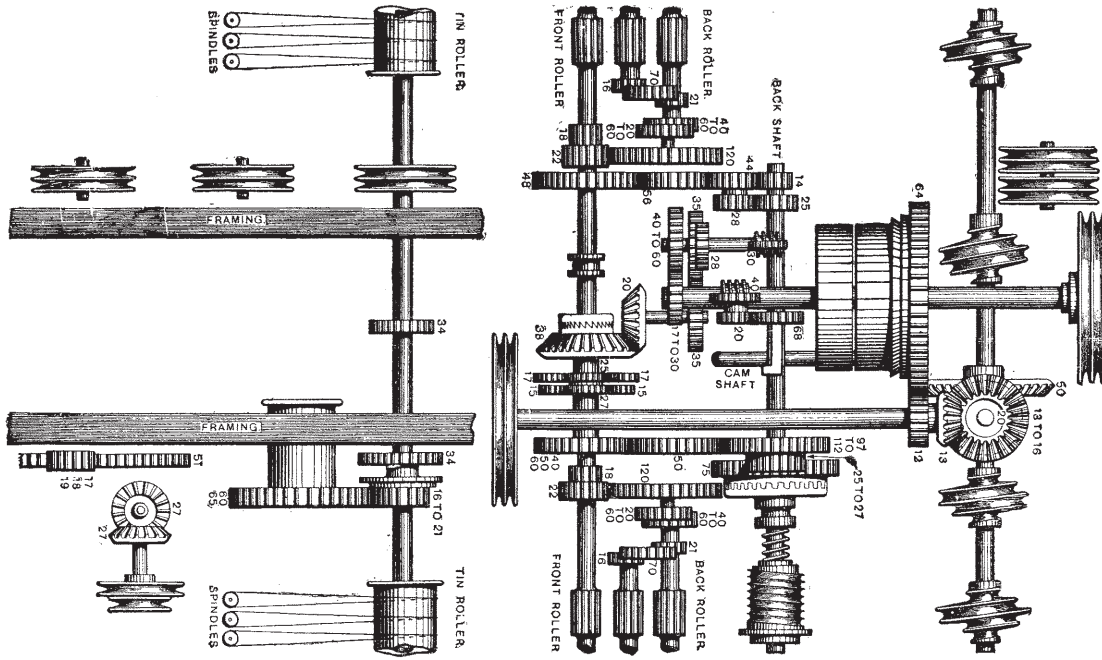


Fig. 15.

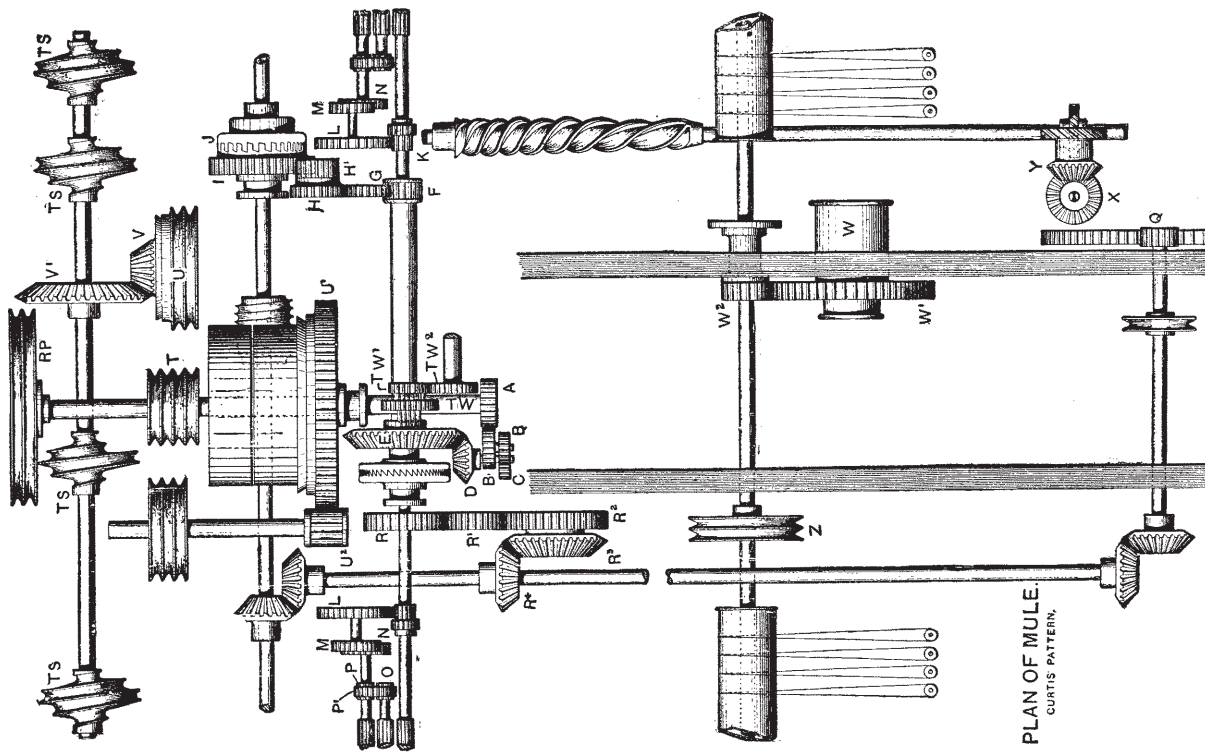


Fig. 16.

PLAN OF MULE
CARriage PATTERN.

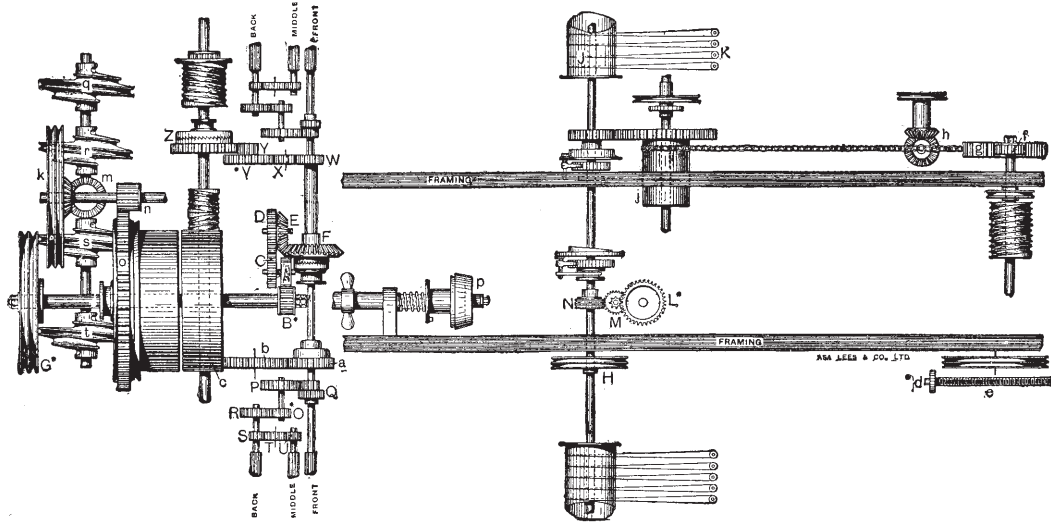


FIG. 17.

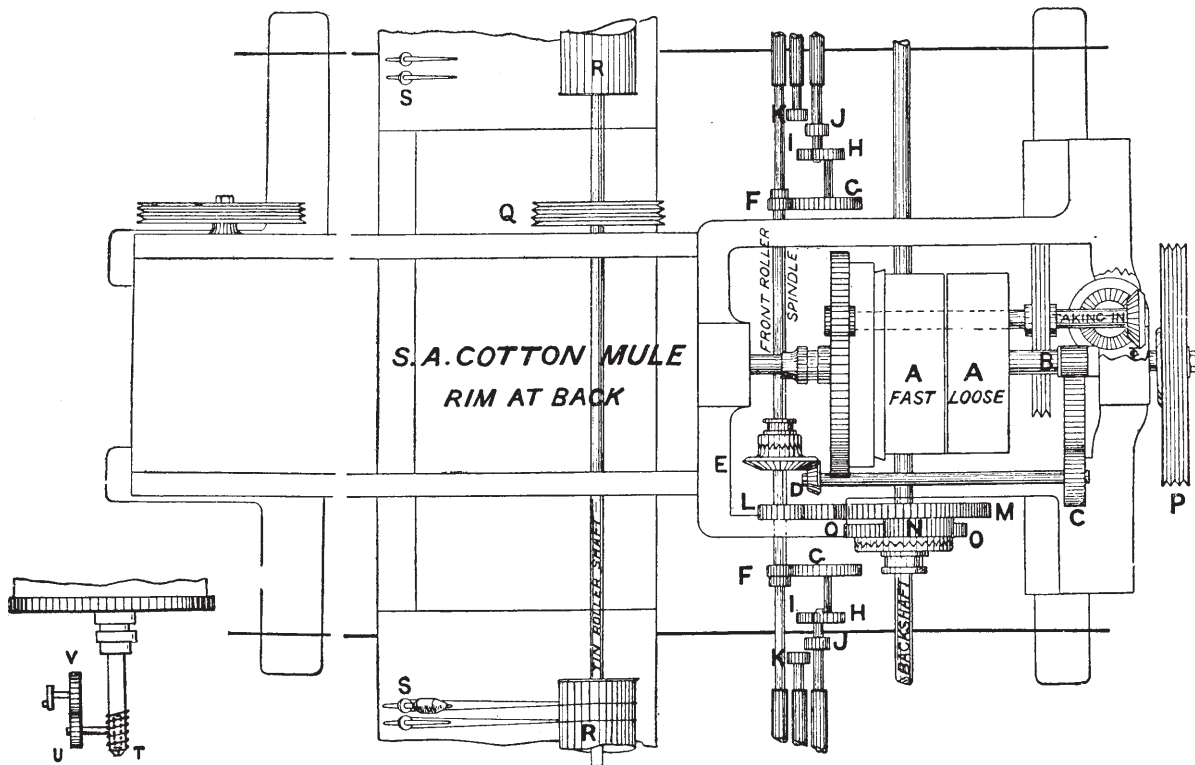


FIG. 18.

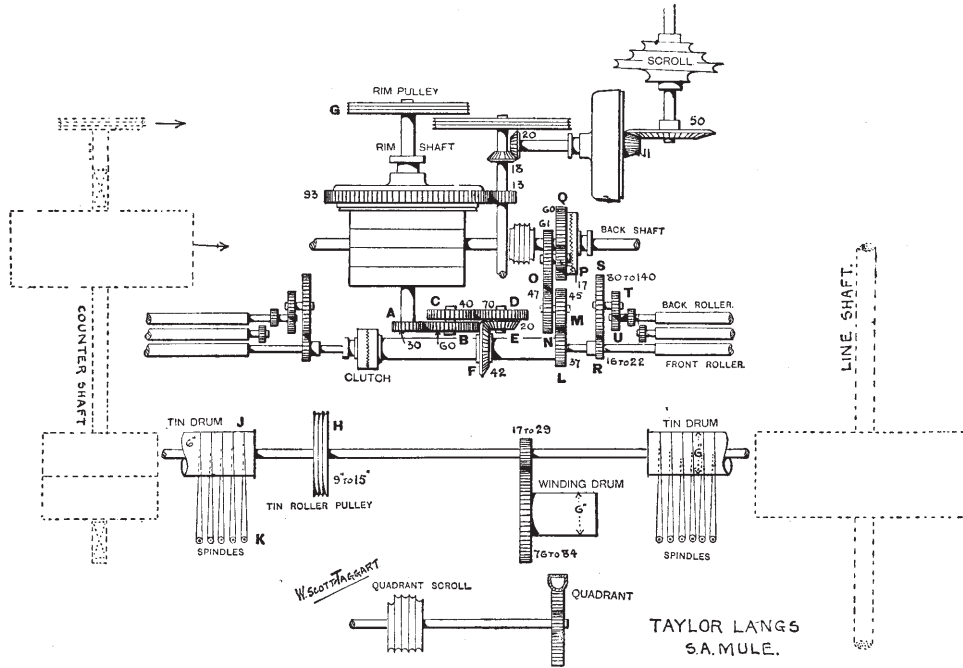


FIG. 19.

COPPING MOTION.
THRELFALL SELF-ACTING MULE.

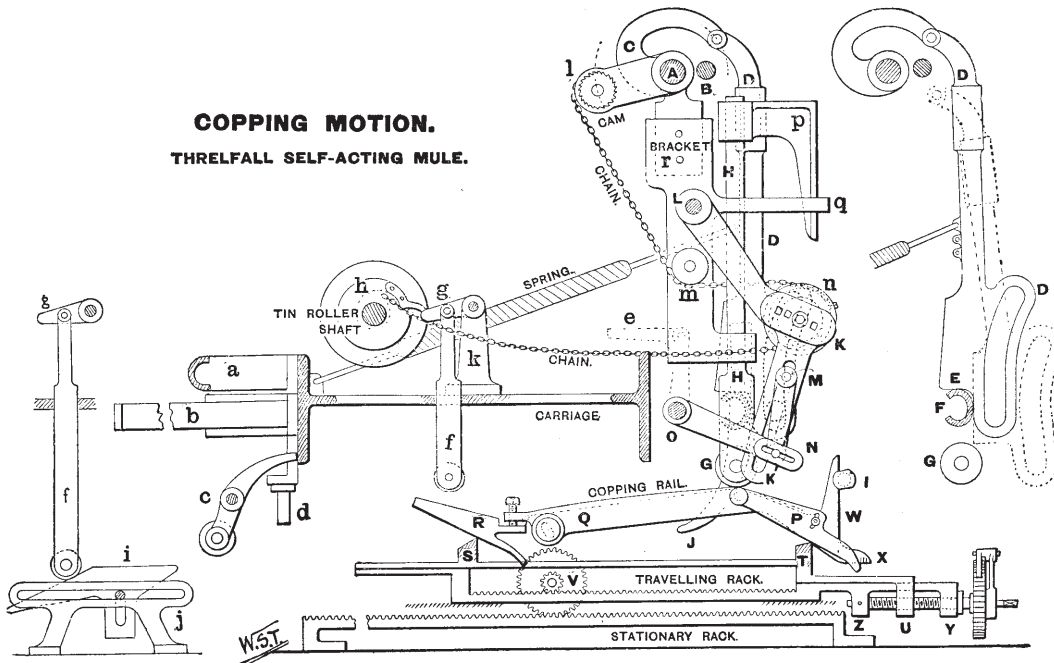


FIG. 20.

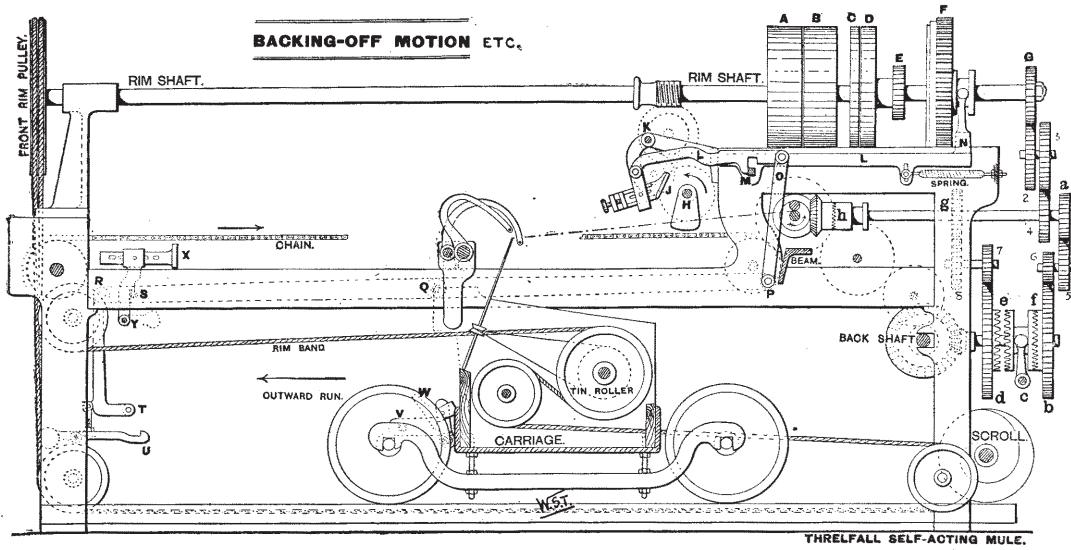


FIG. 21.

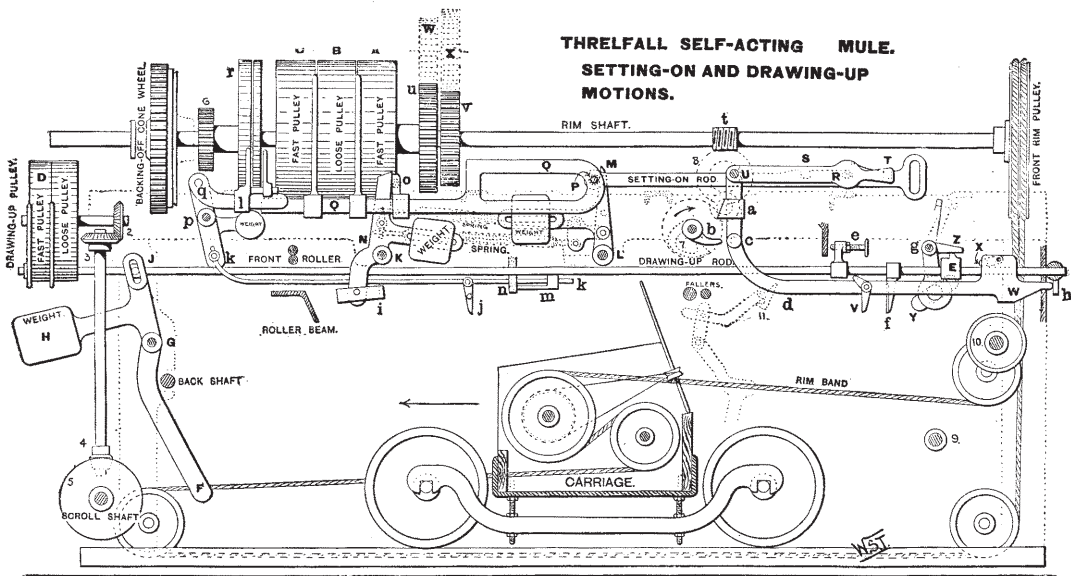


FIG. 22.

COTTON MACHINERY SKETCHES

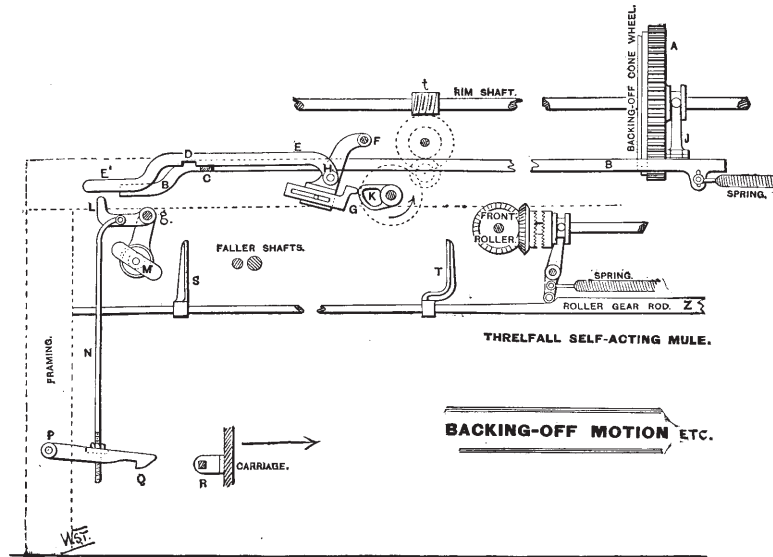


FIG. 23.

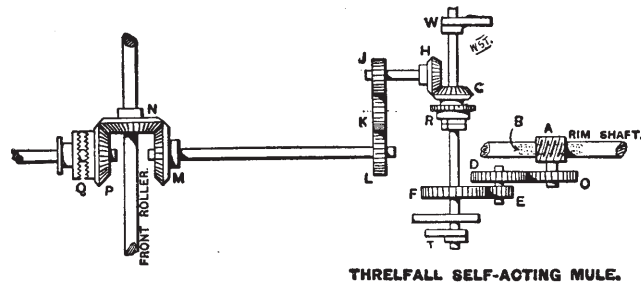


FIG. 24.

FIG. 25

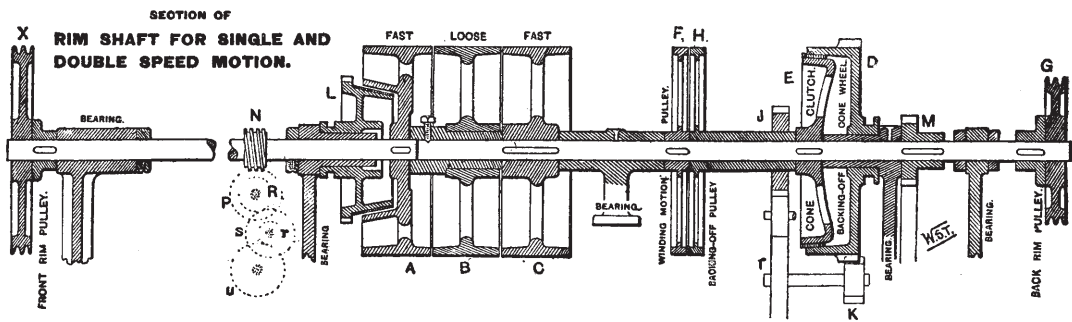


FIG. 26.

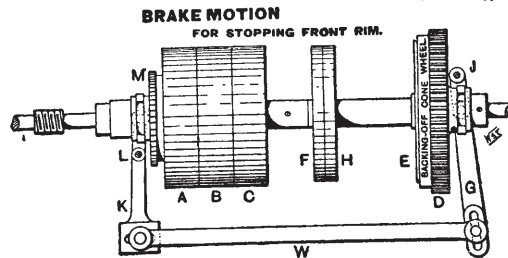
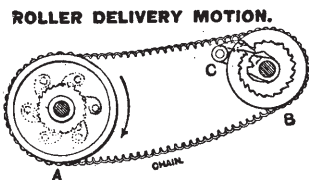
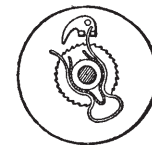


FIG. 27.



CLICK WHEEL FOR ROLLER MOTION.

THRELFALL SELF-ACTING MULE.

FIG. 28.

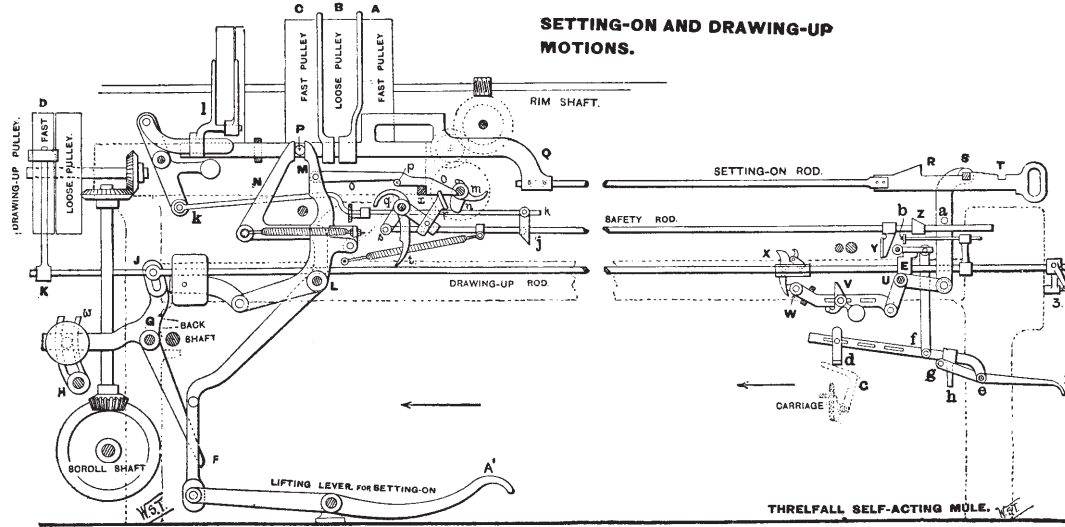
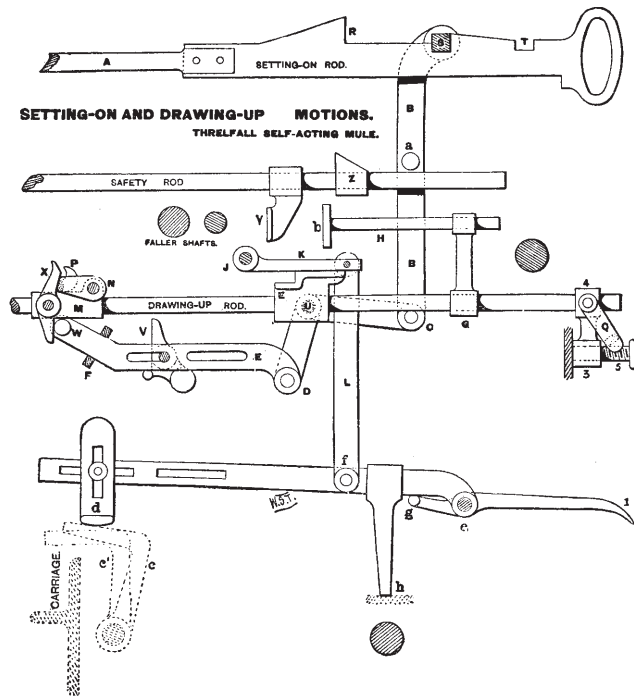


FIG. 29.



FIGS. 30.

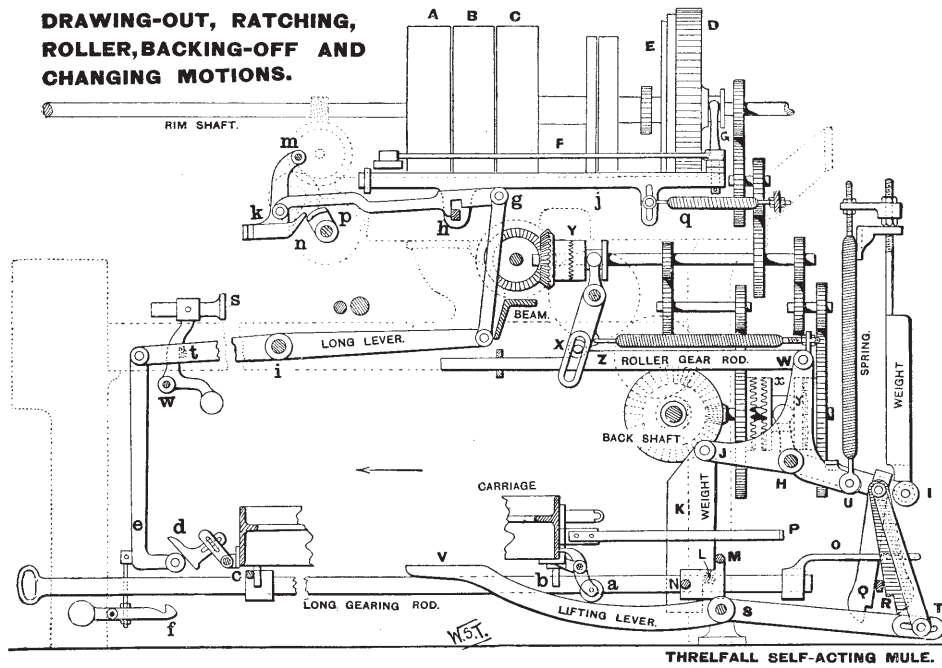


FIG. 31.

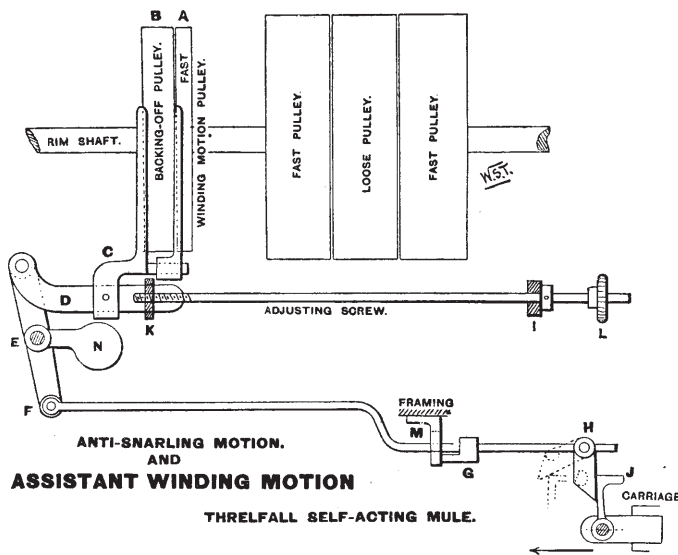


FIG. 32.

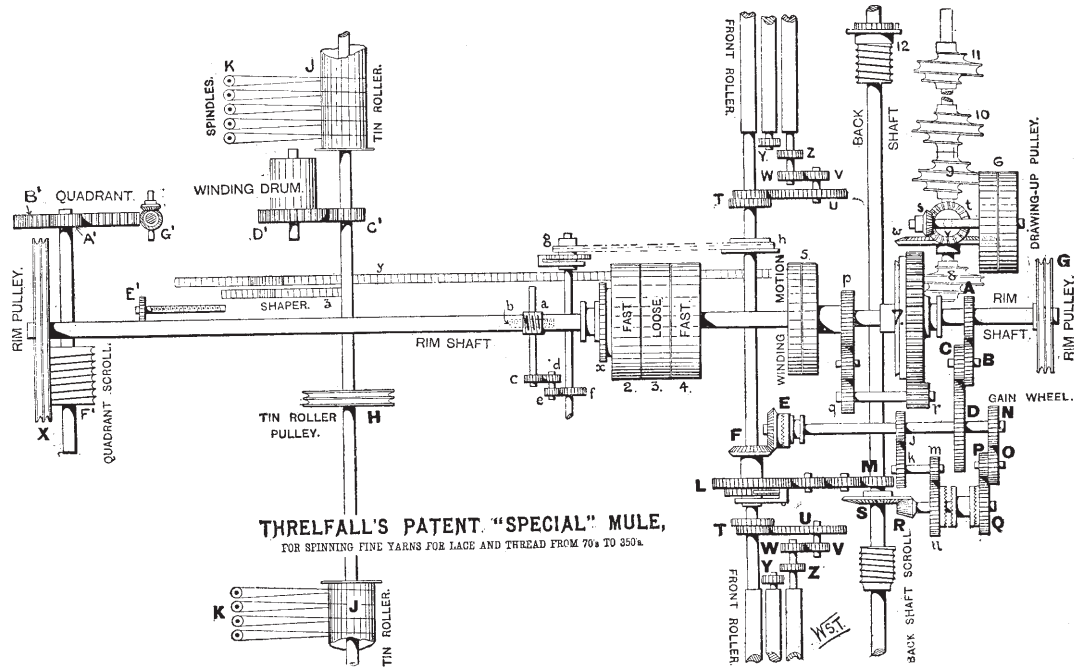


FIG. 33.

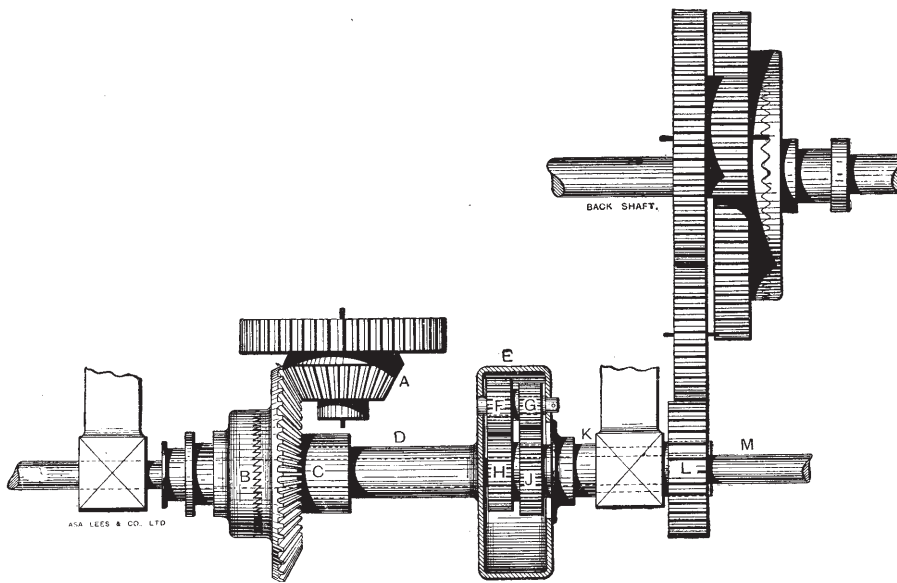
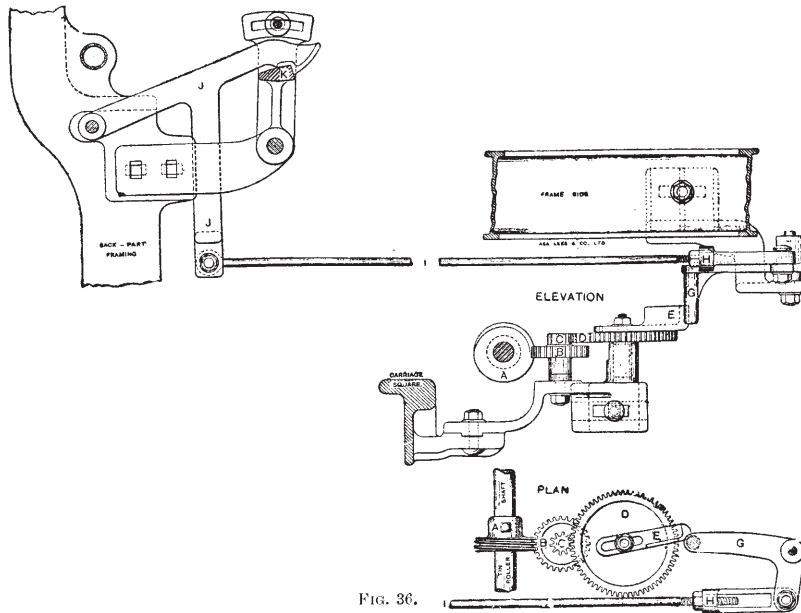
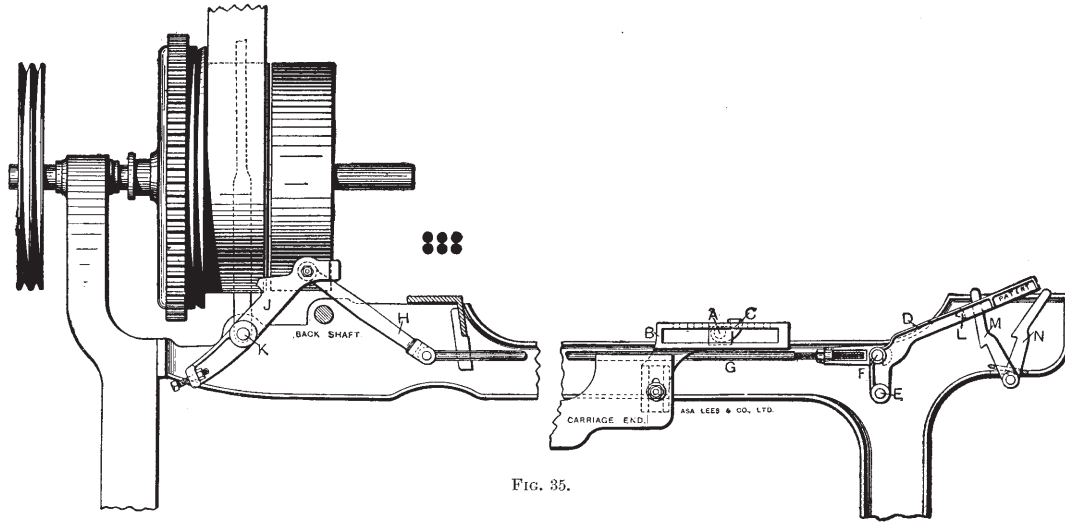


FIG. 34.



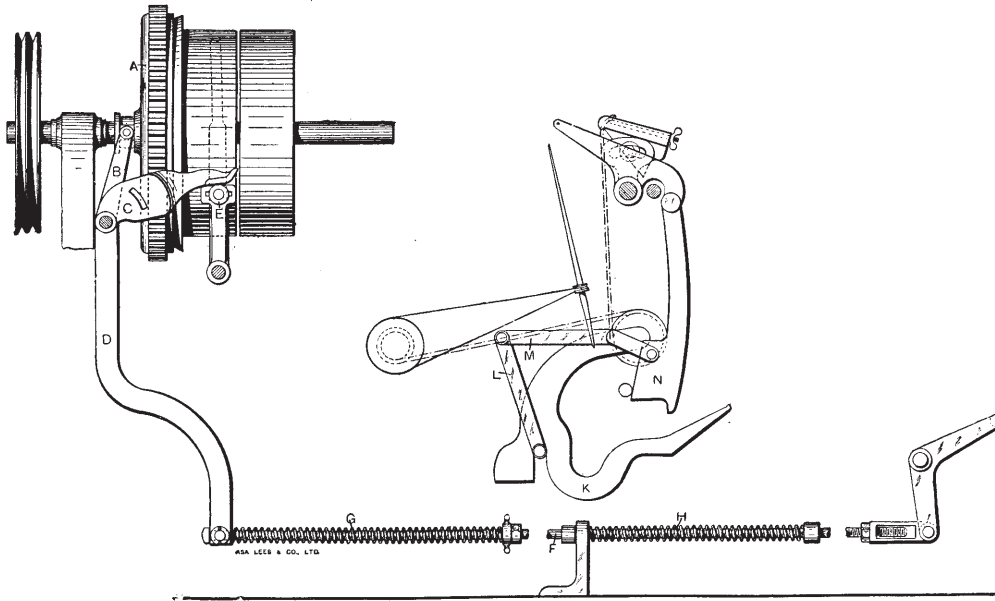


FIG. 37.

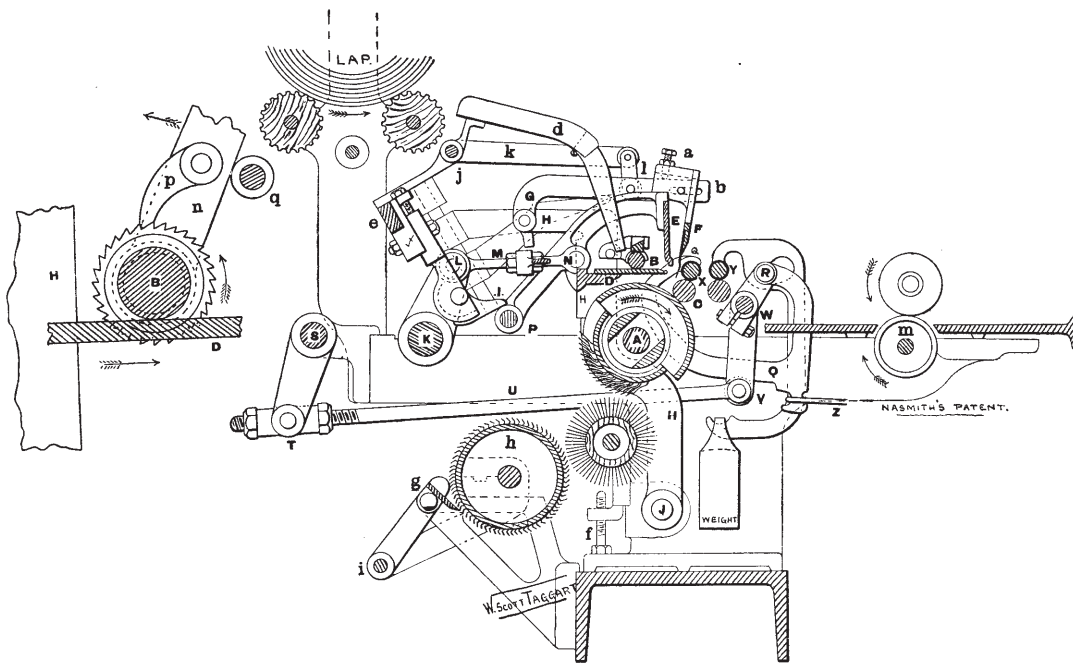


FIG. 38.

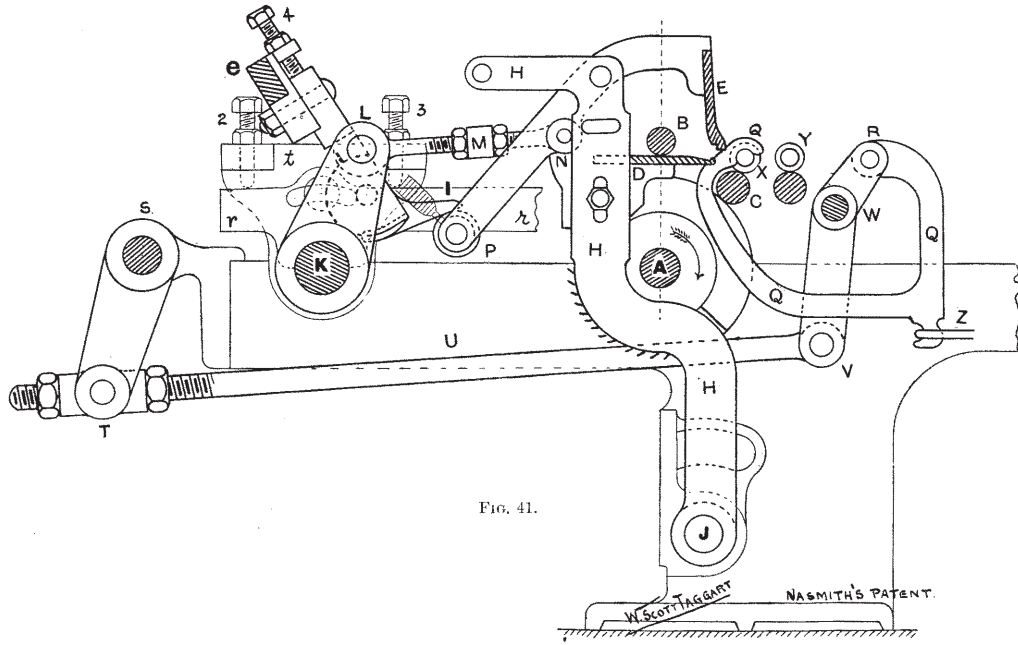


FIG. 41.

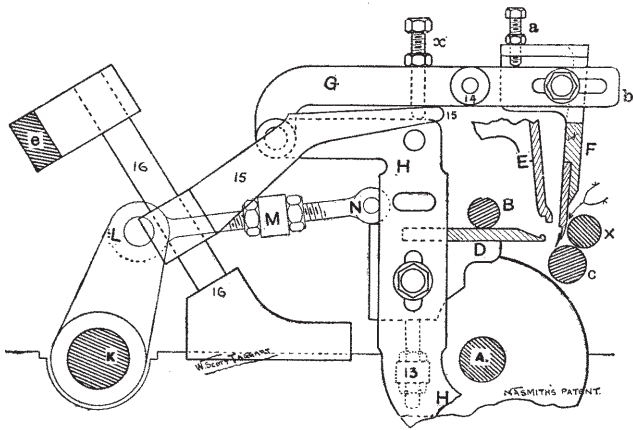


FIG. 42.

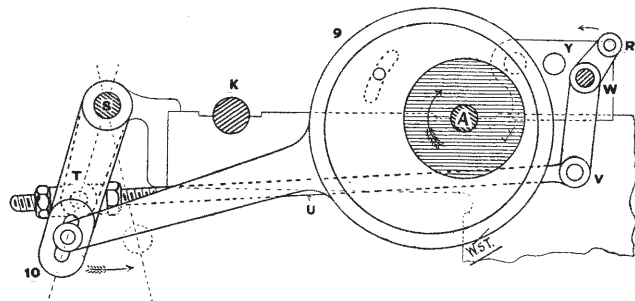


FIG. 43.

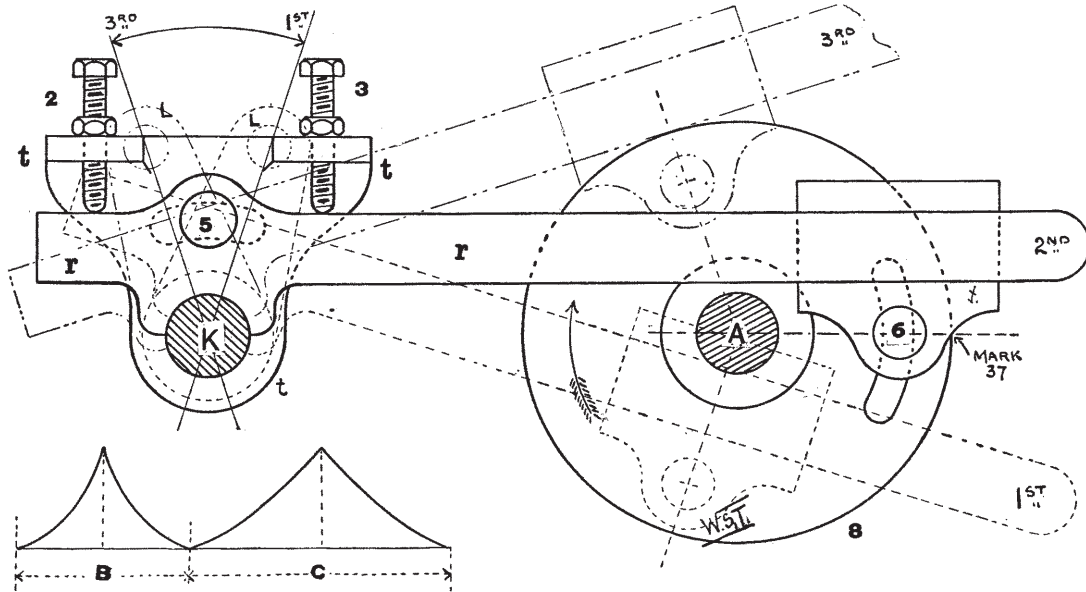


FIG. 44.

FIG. 45.

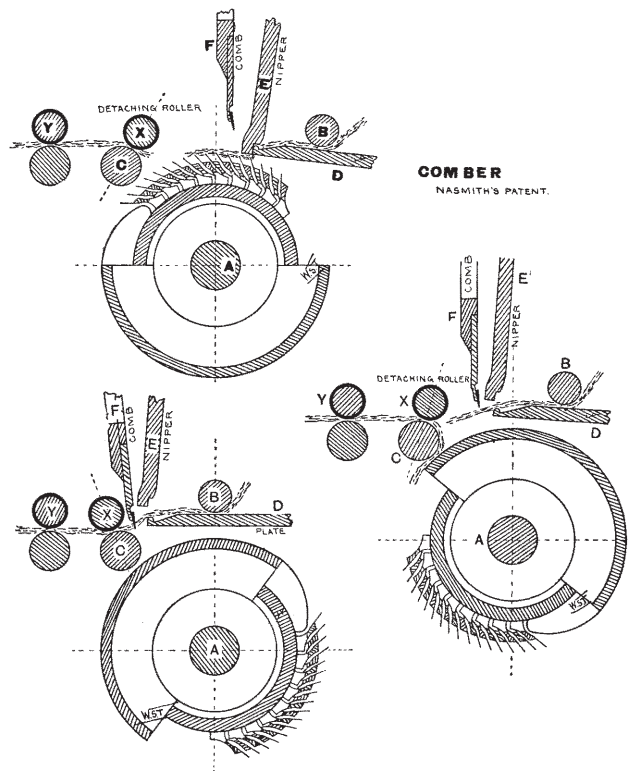


FIG. 46.

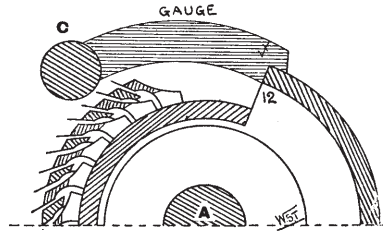


FIG. 47.

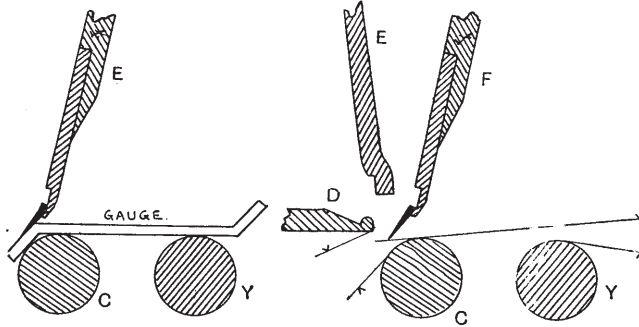


FIG. 48.

FIG. 49.

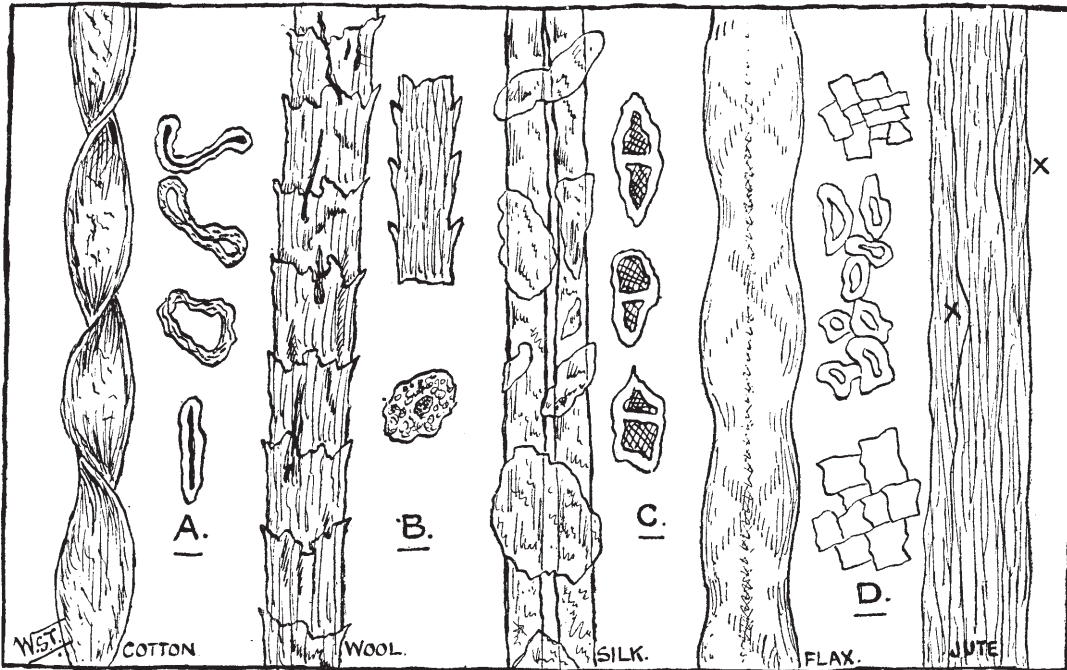


FIG. 50.

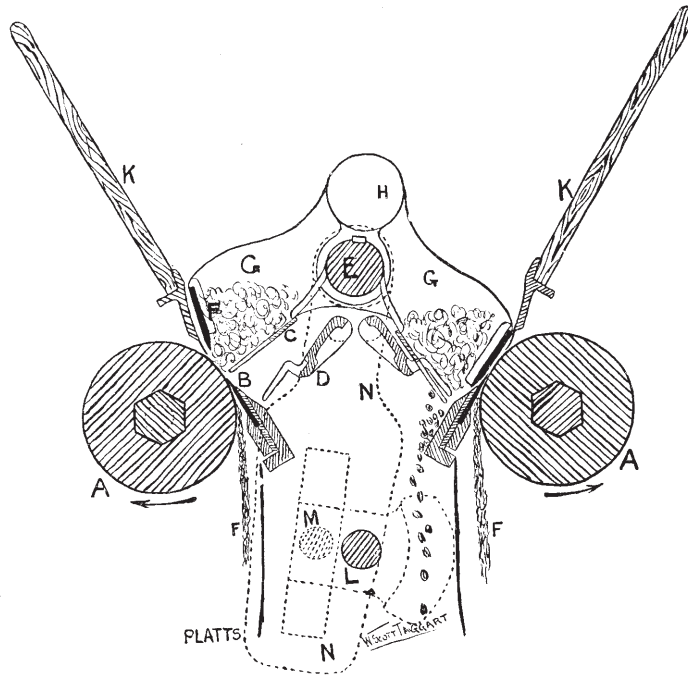


FIG. 51.

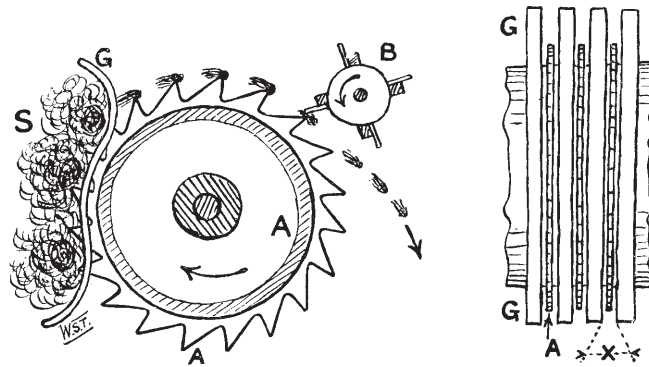


FIG. 52.

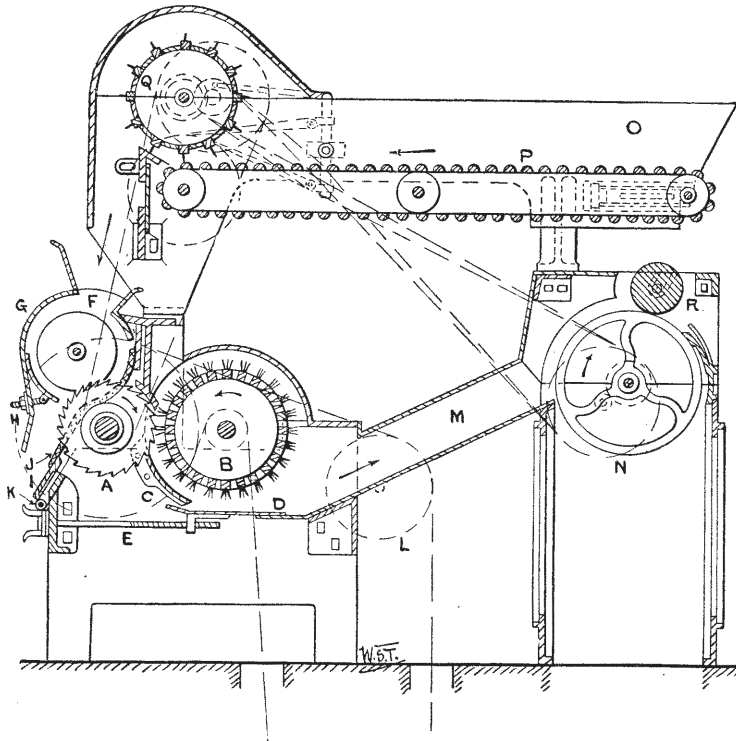


FIG. 53.

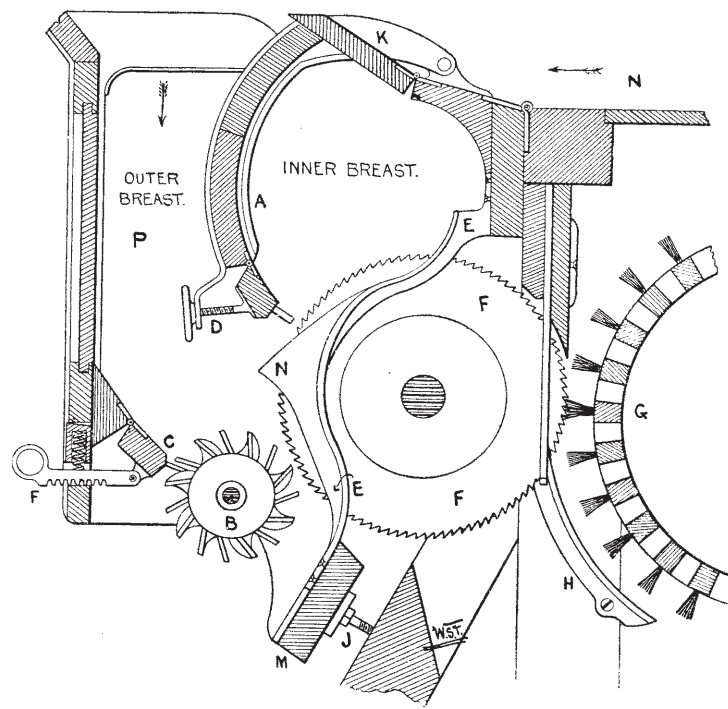


FIG. 54.

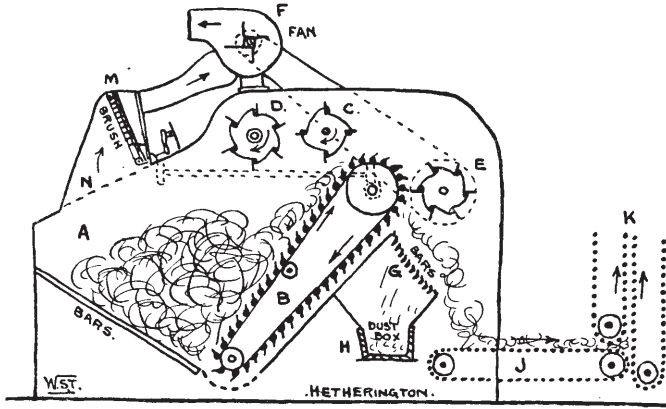


FIG. 55.

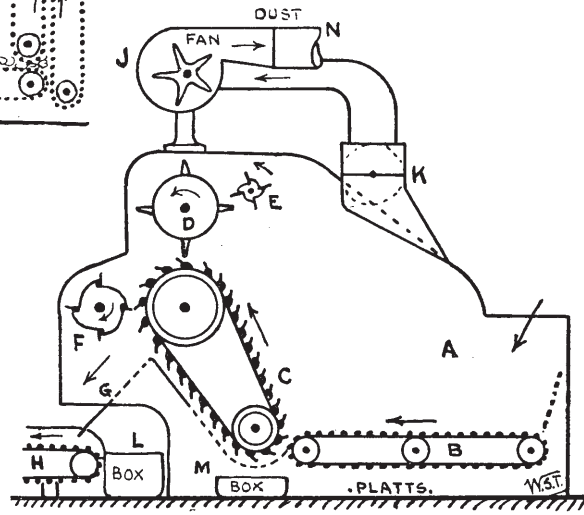


FIG. 56.

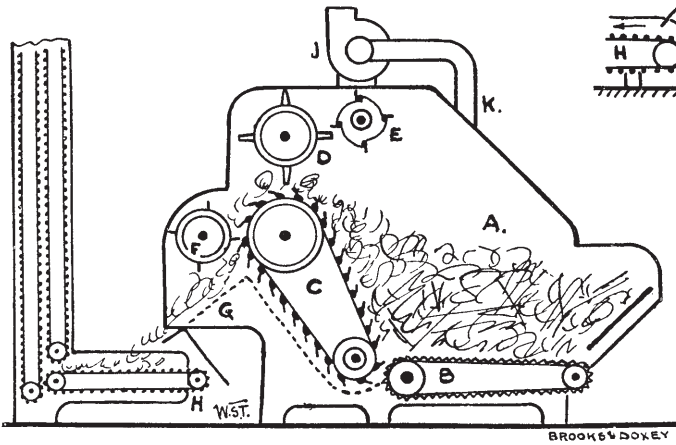


FIG. 57.

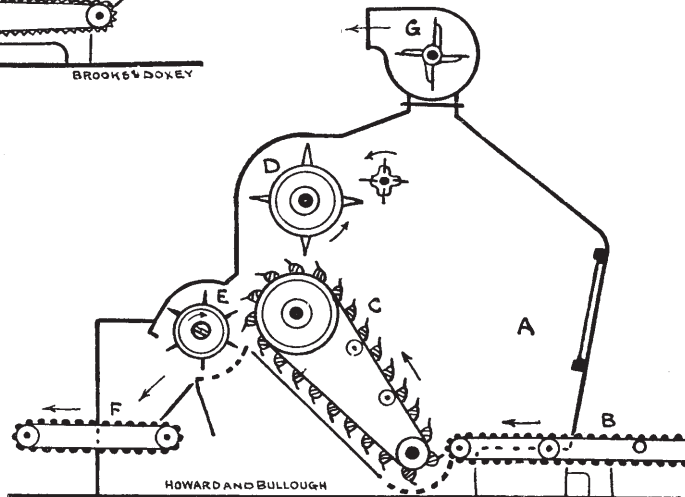


FIG. 58.

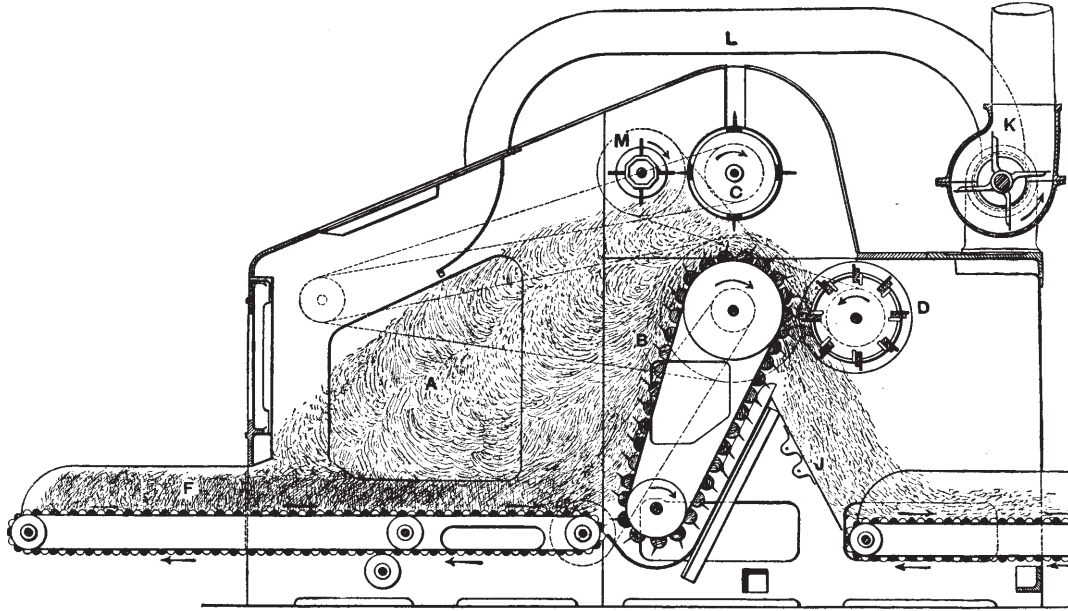


FIG. 59.

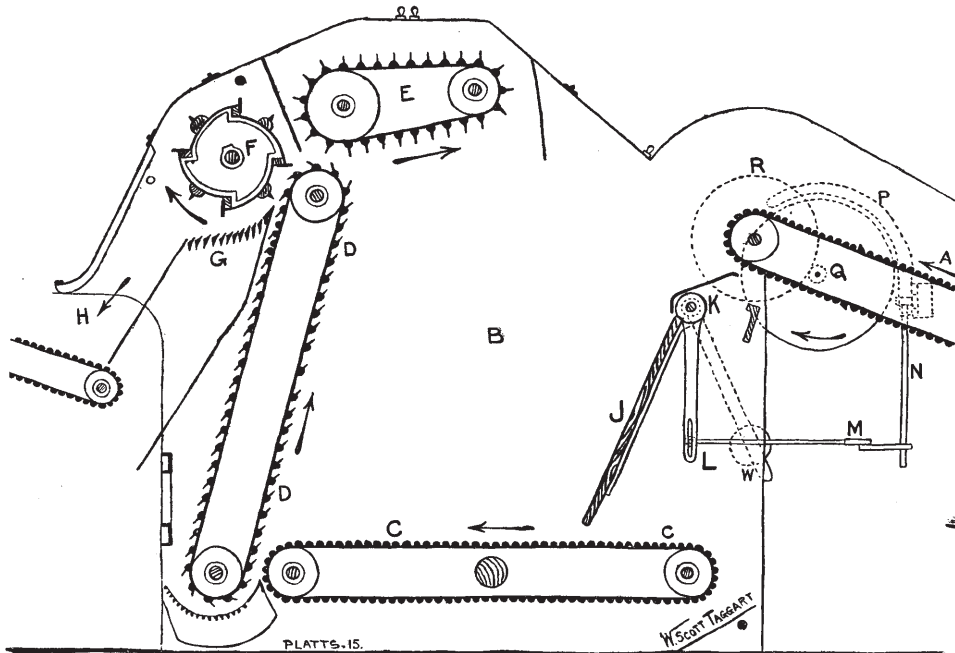


FIG. 60.

PNEUMATIC DELIVERY ARRANGEMENT FOR COTTON MIXINGS.

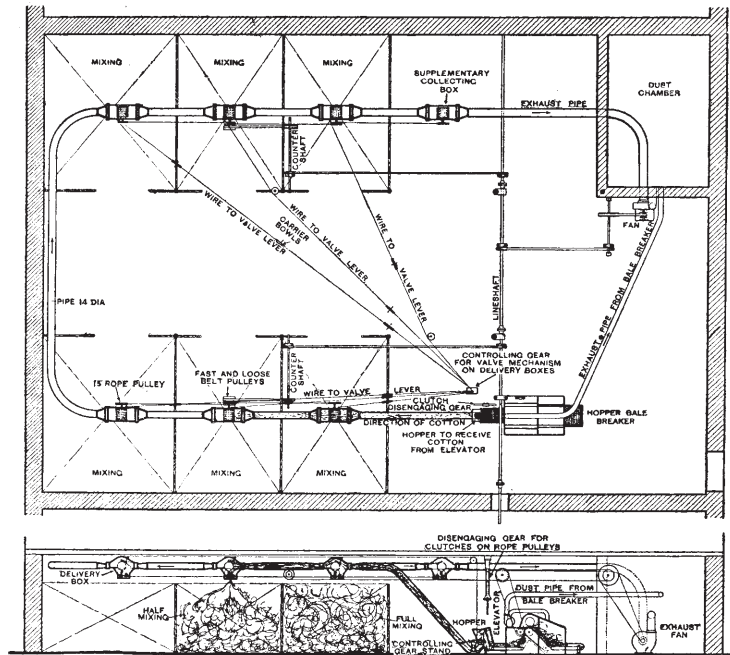


FIG. 61.

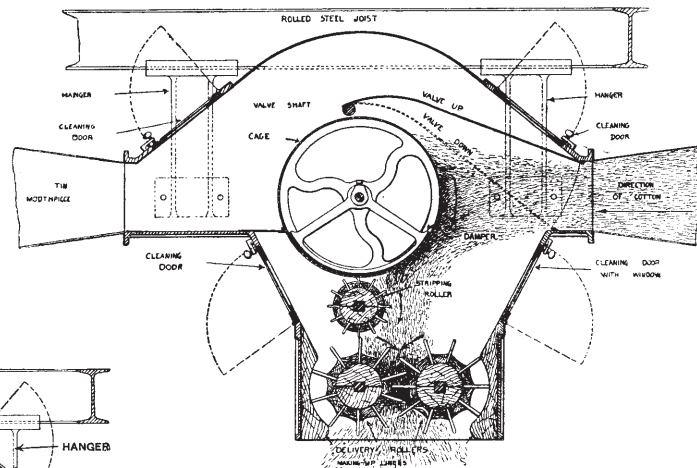


FIG. 62.

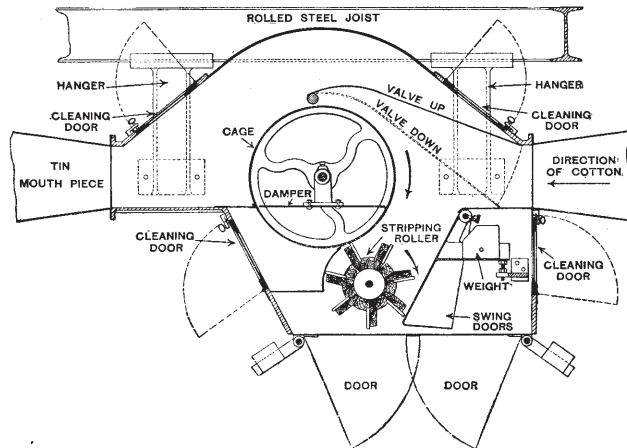


FIG. 63.

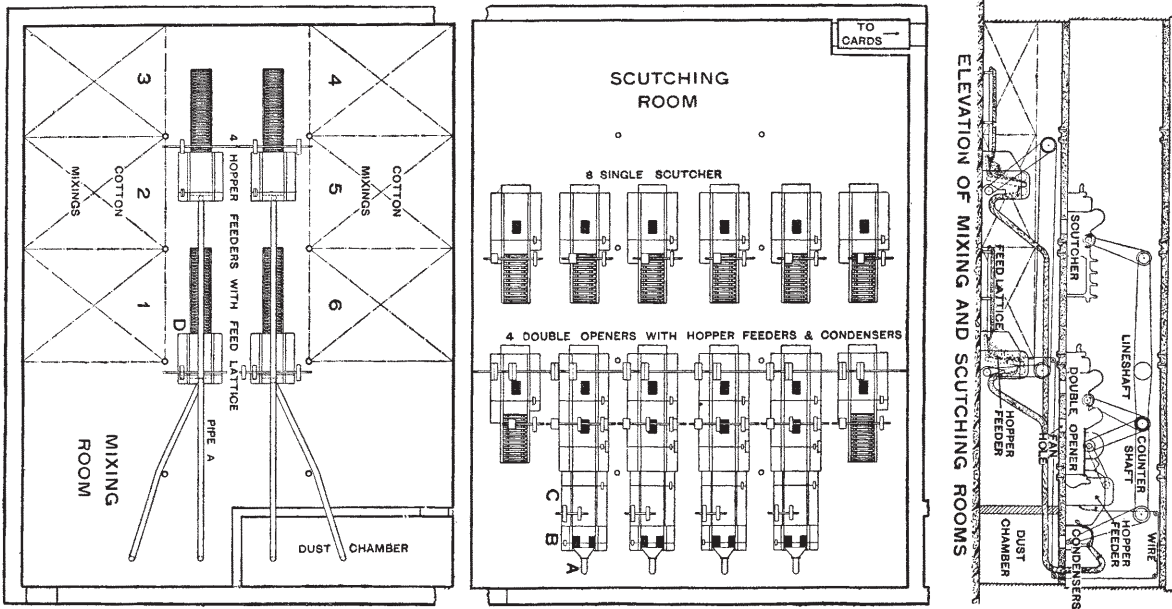


FIG. 64.

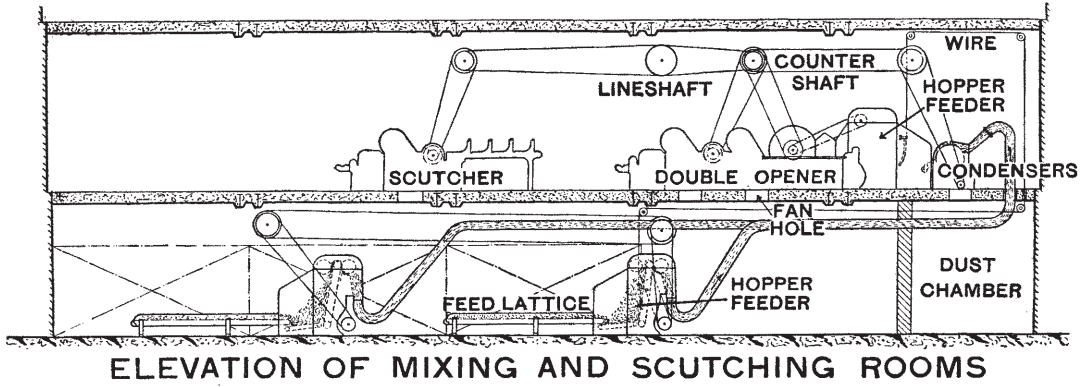


FIG. 65.

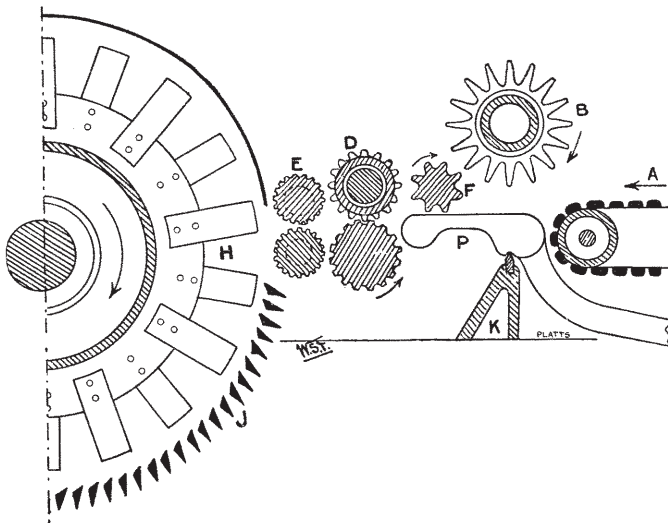


FIG. 66.

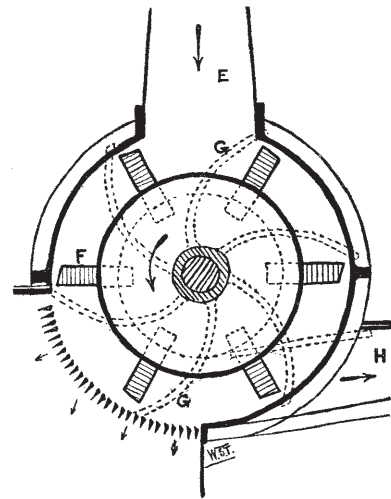


FIG. 67.

COTTON MACHINERY SKETCHES

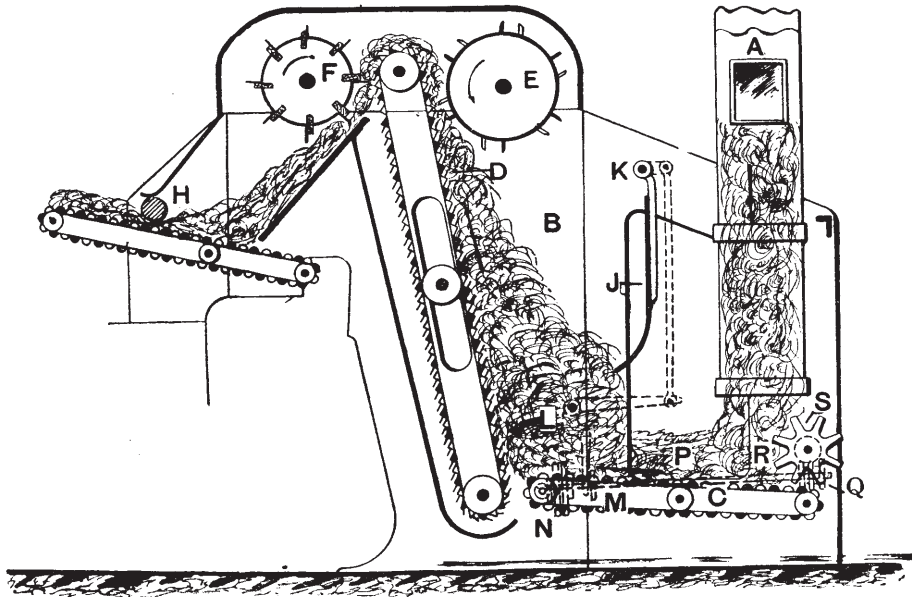


FIG. 68.

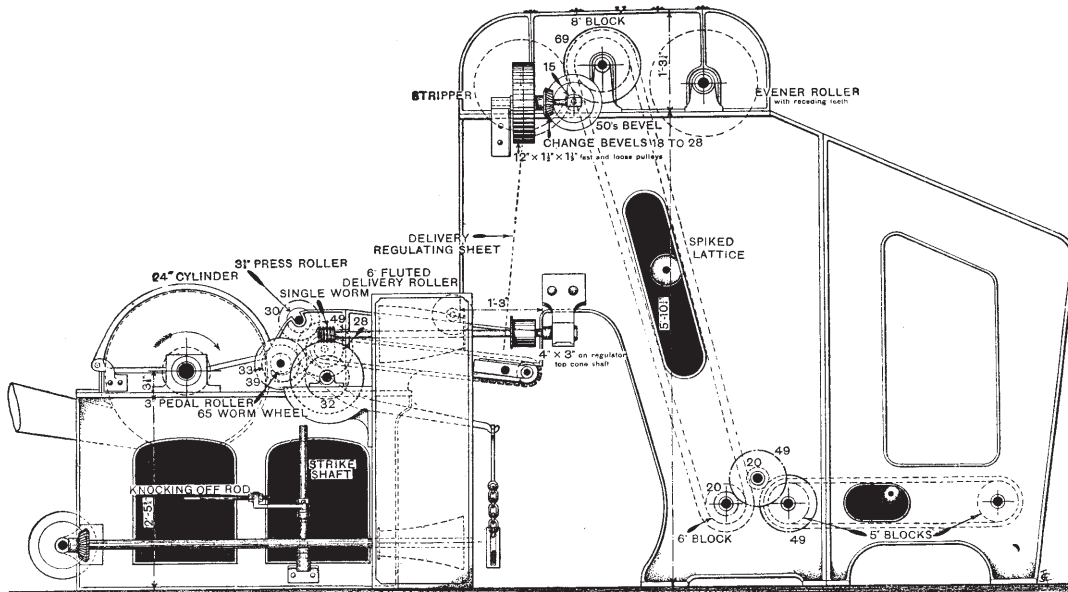


FIG. 69.

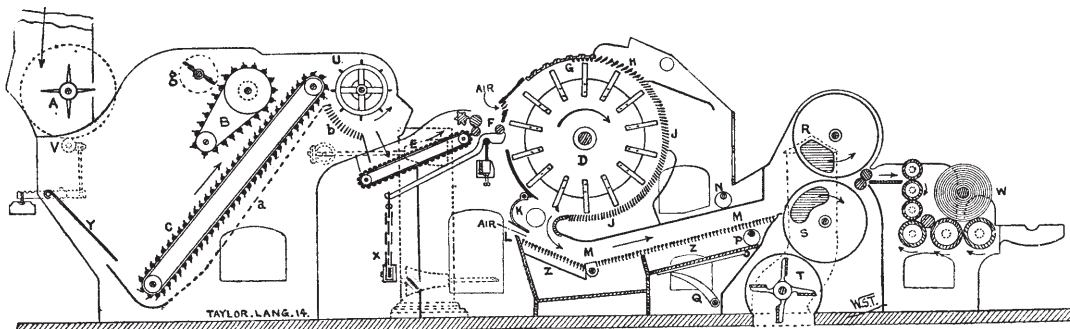


FIG. 70.

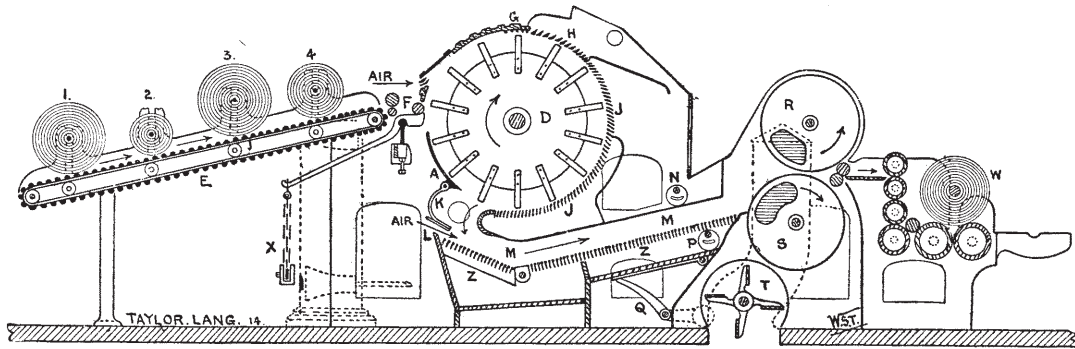


FIG. 71.

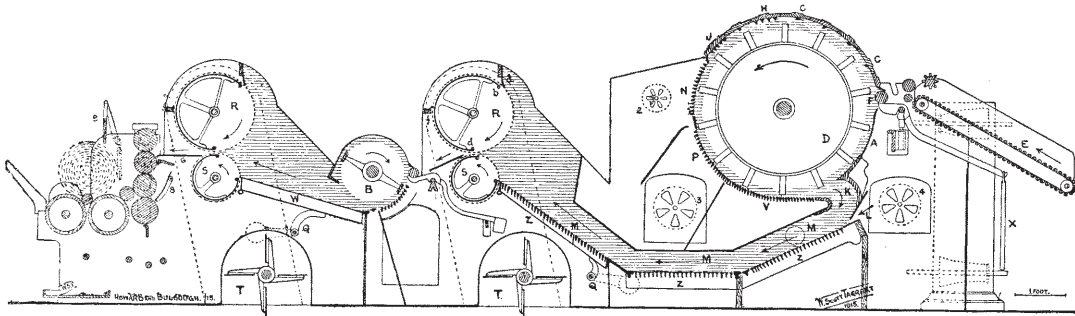


FIG. 72.

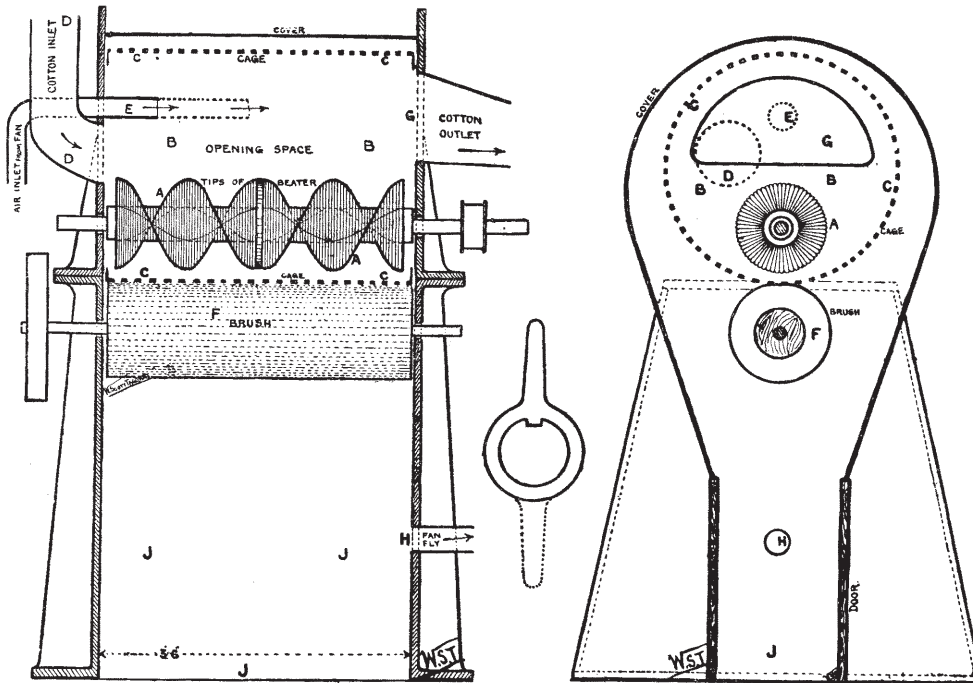


FIG. 73.

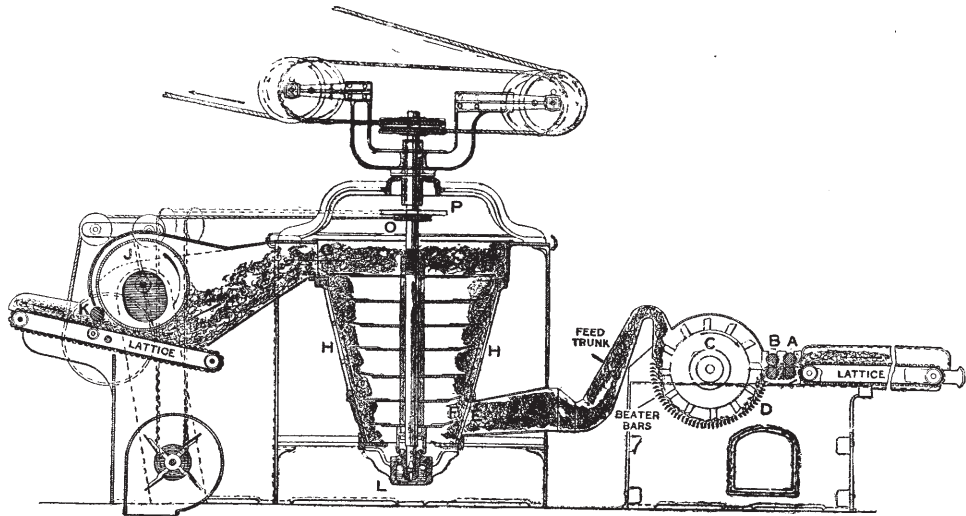


FIG. 74.

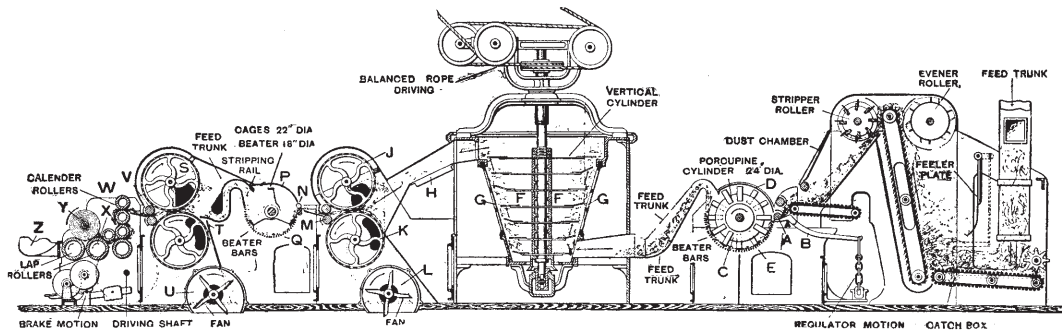


FIG. 75.

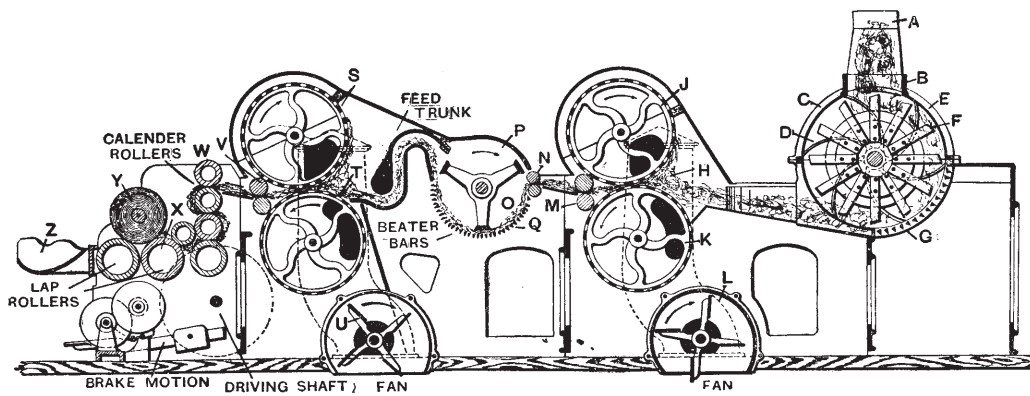


FIG. 76.

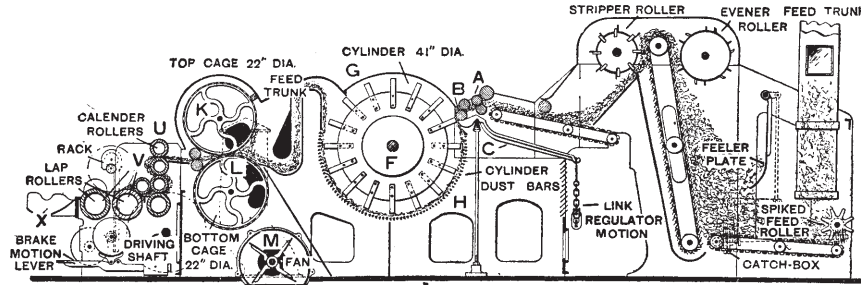


Fig. 77.

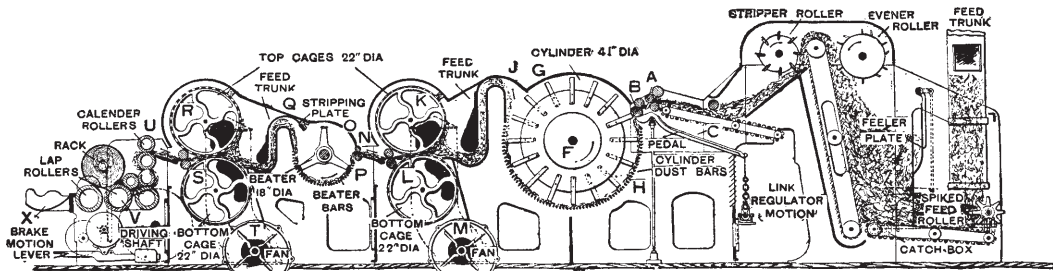


Fig. 78.

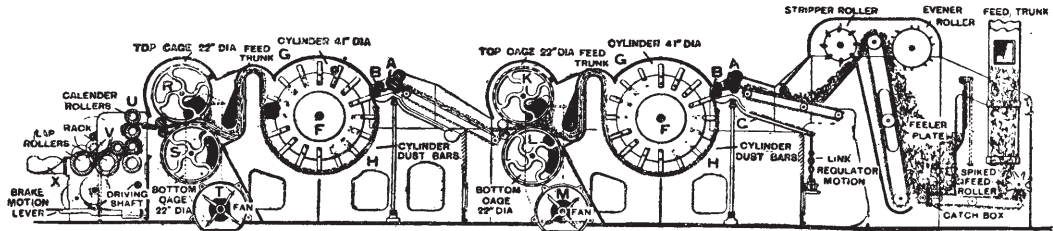


Fig. 79.

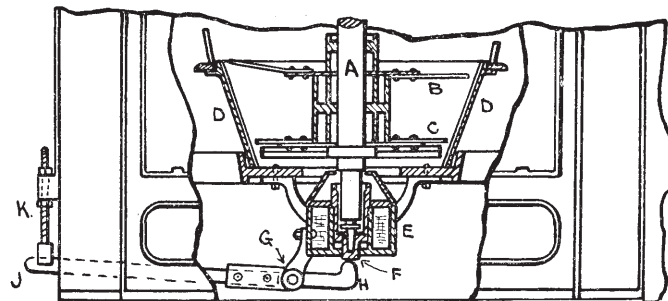


Fig. 80.

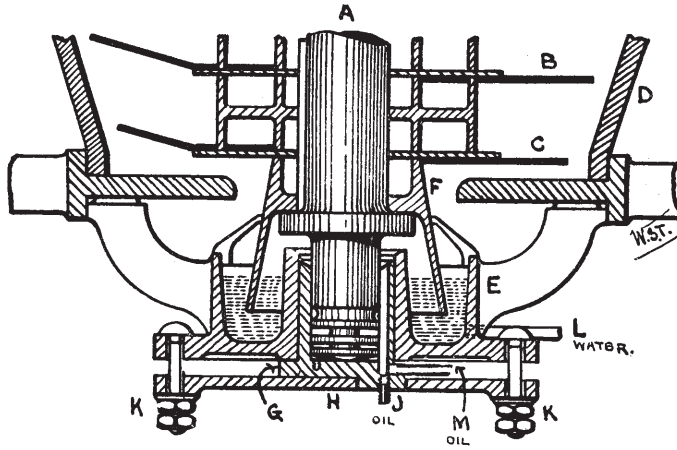


FIG. 81.

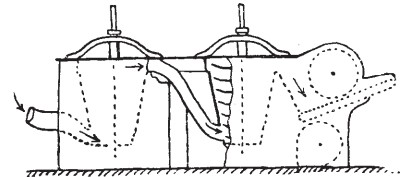


FIG. 82.

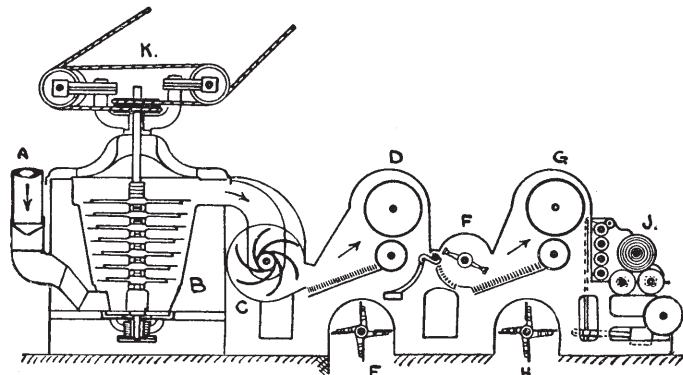


FIG. 83.

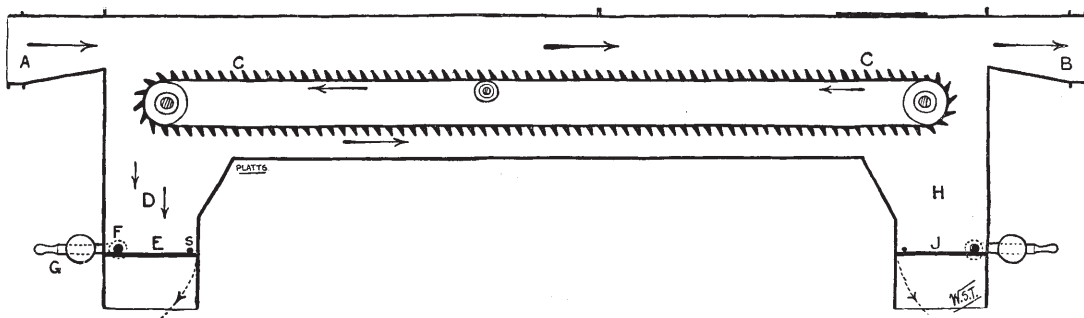


FIG. 84.

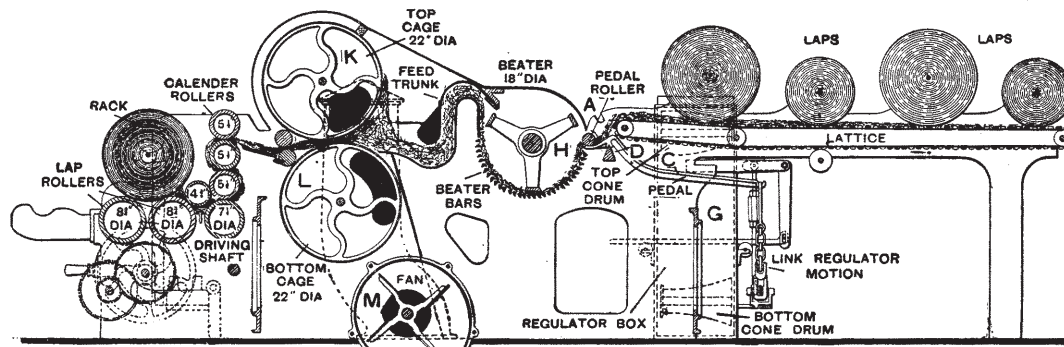


FIG. 85.

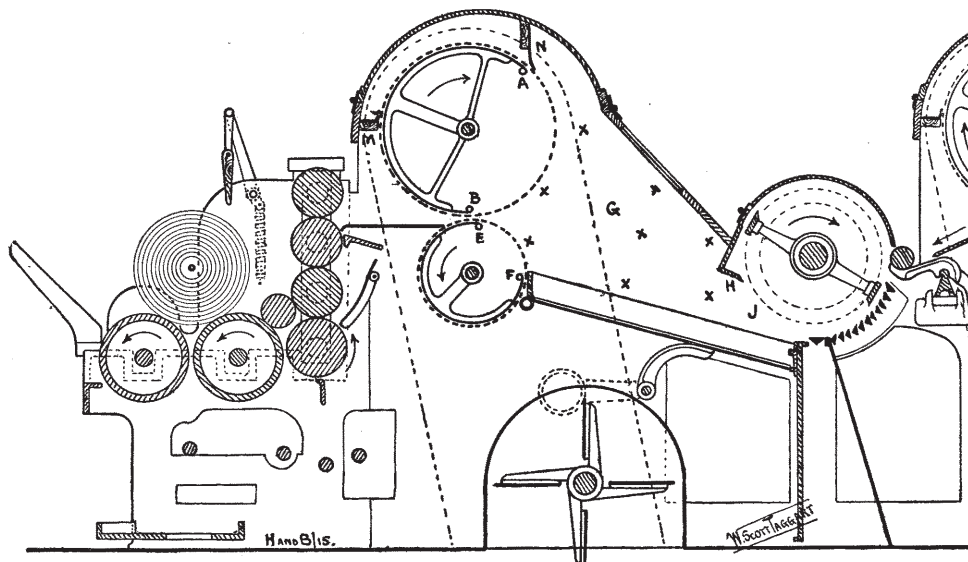


FIG. 86.

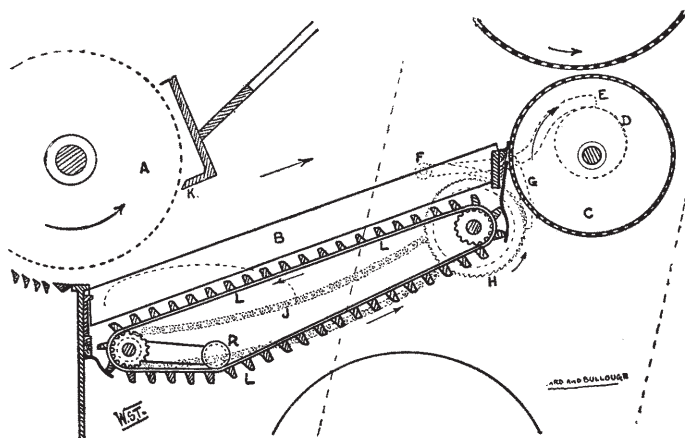


FIG. 87.

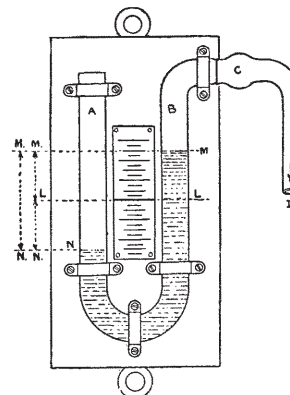


FIG. 88.

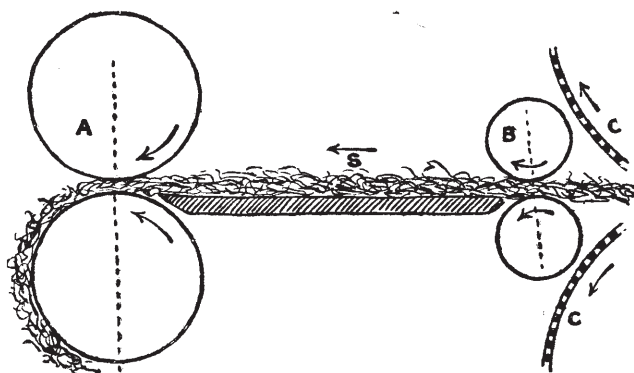


FIG. 89.

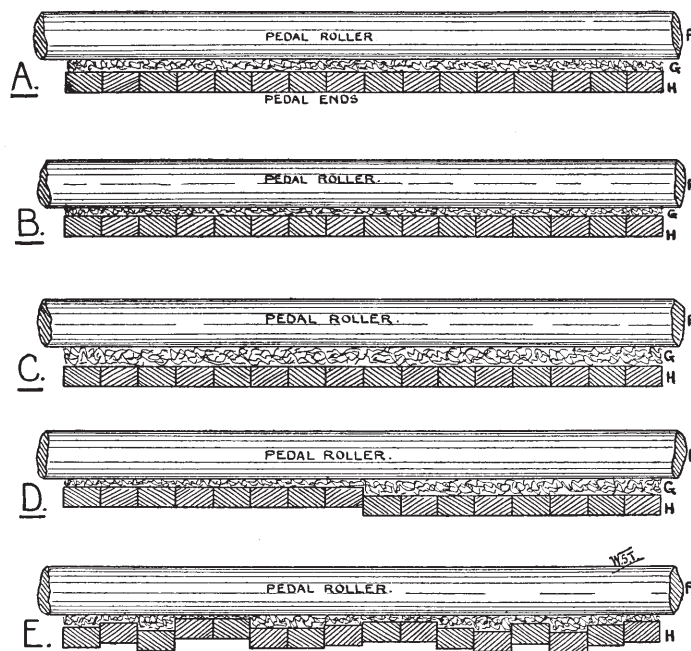


FIG. 90.

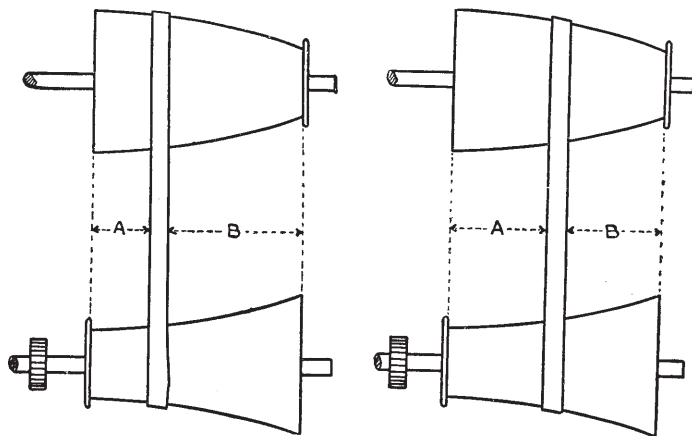


FIG. 91.

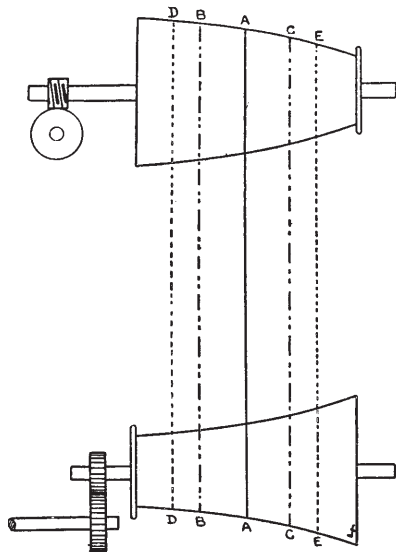


FIG. 92.

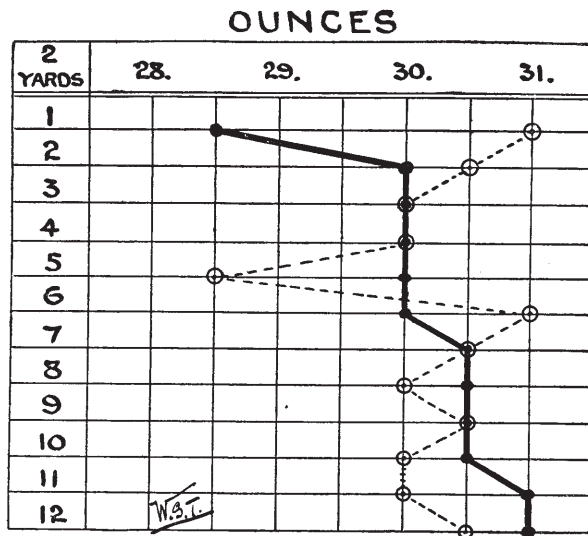


FIG. 93.

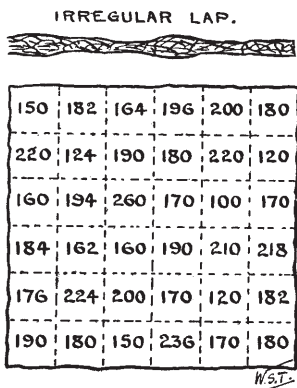
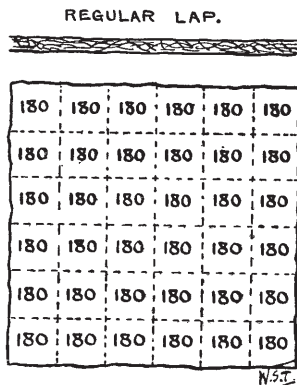


FIG. 94.

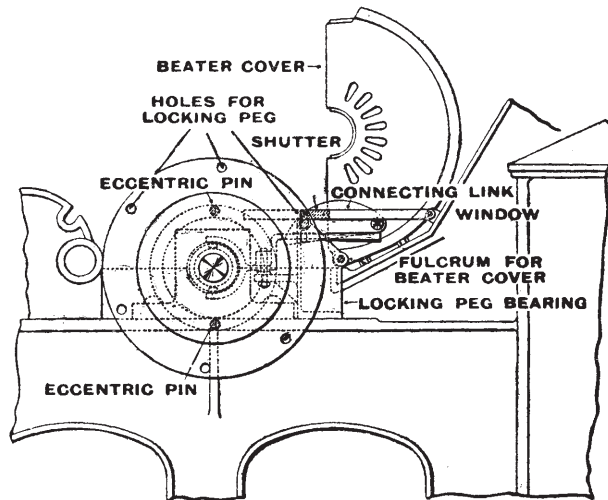
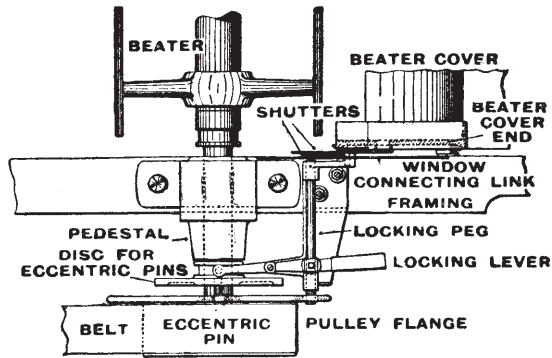


FIG. 95.

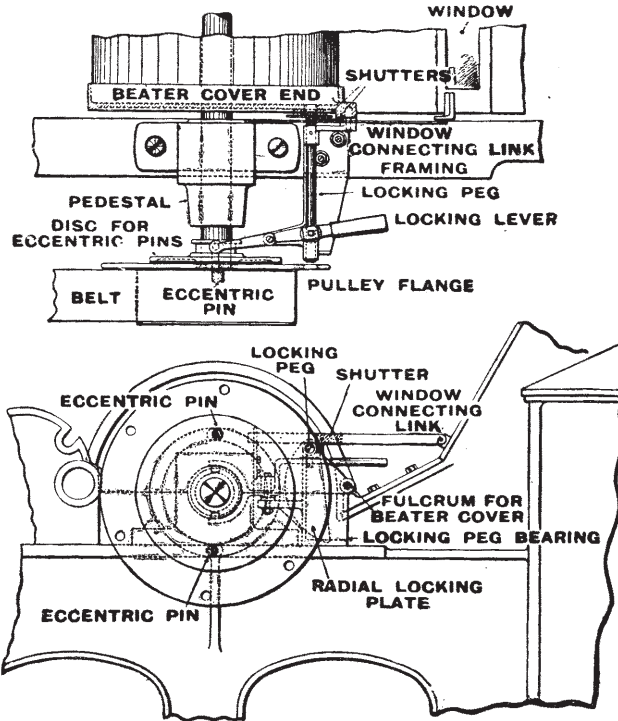


FIG. 96.

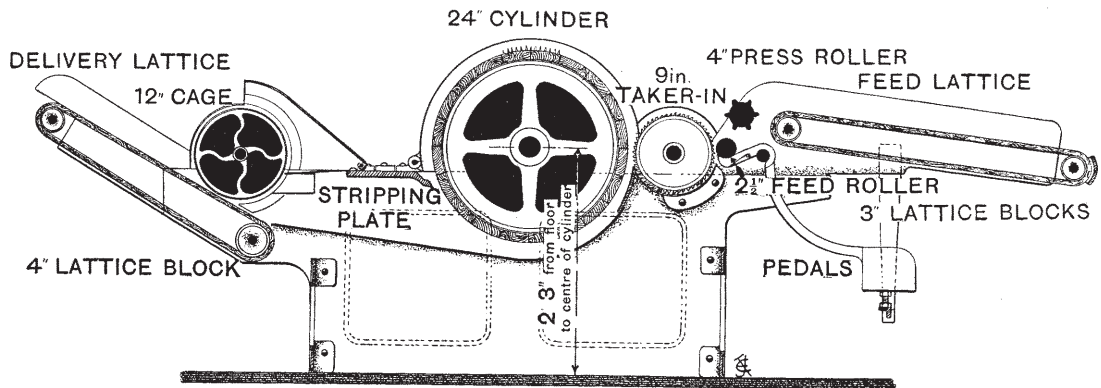


FIG. 97.

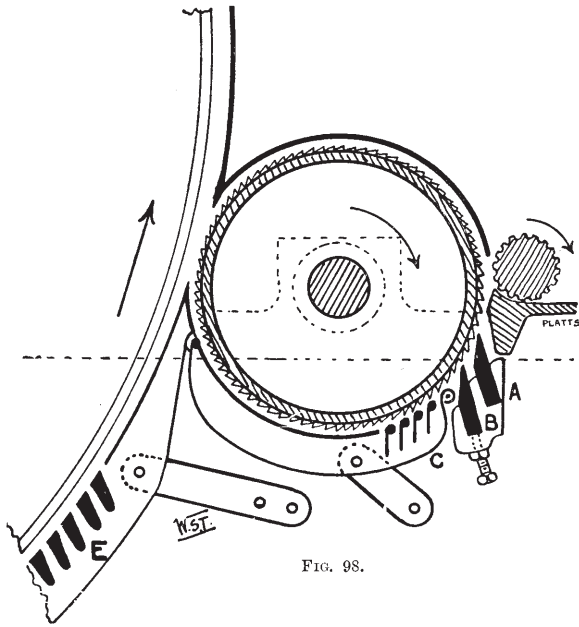


FIG. 98.

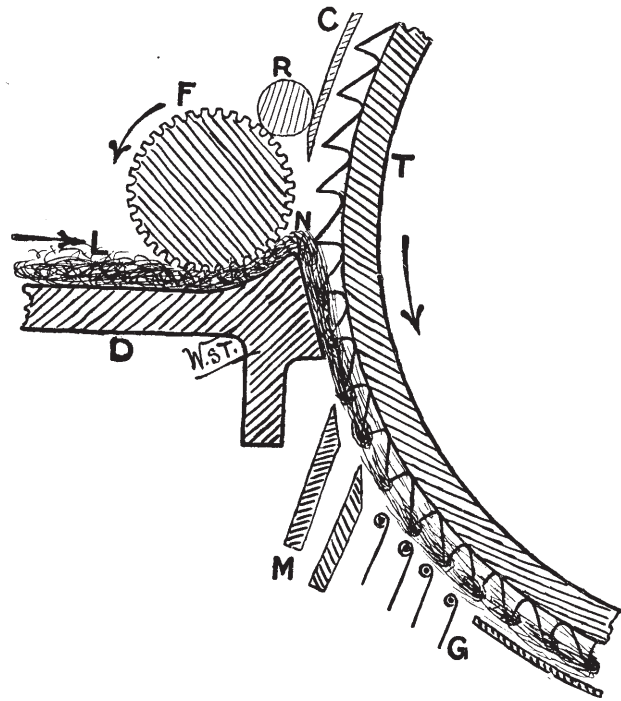


FIG. 99.

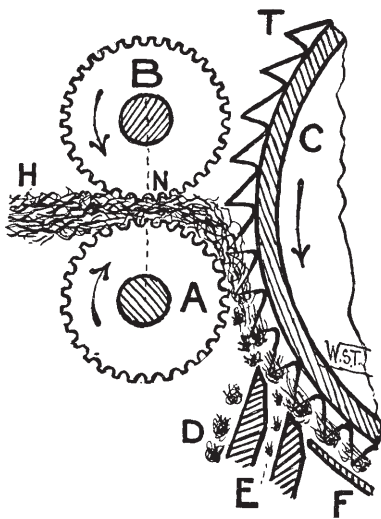


FIG. 100.

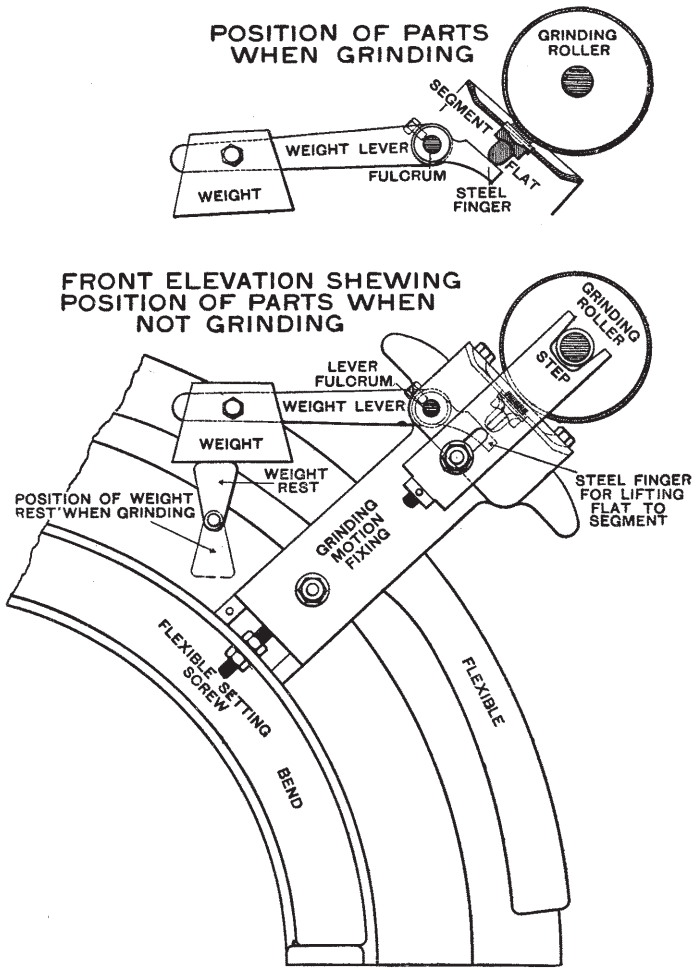


FIG. 101.

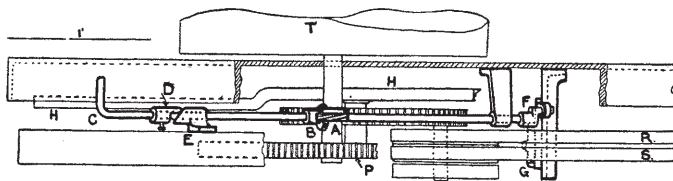
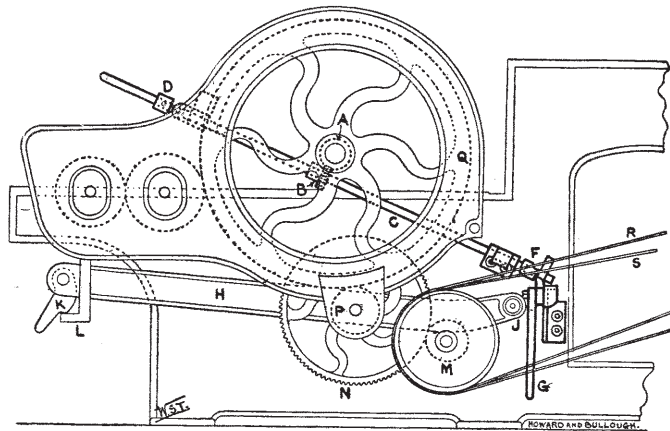


FIG. 102.

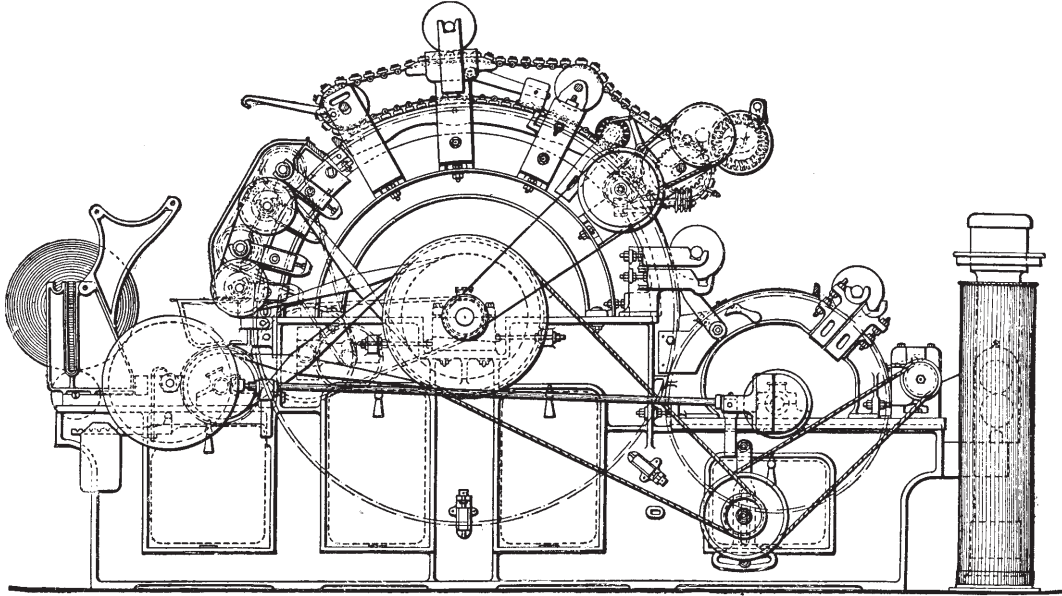


FIG. 103.

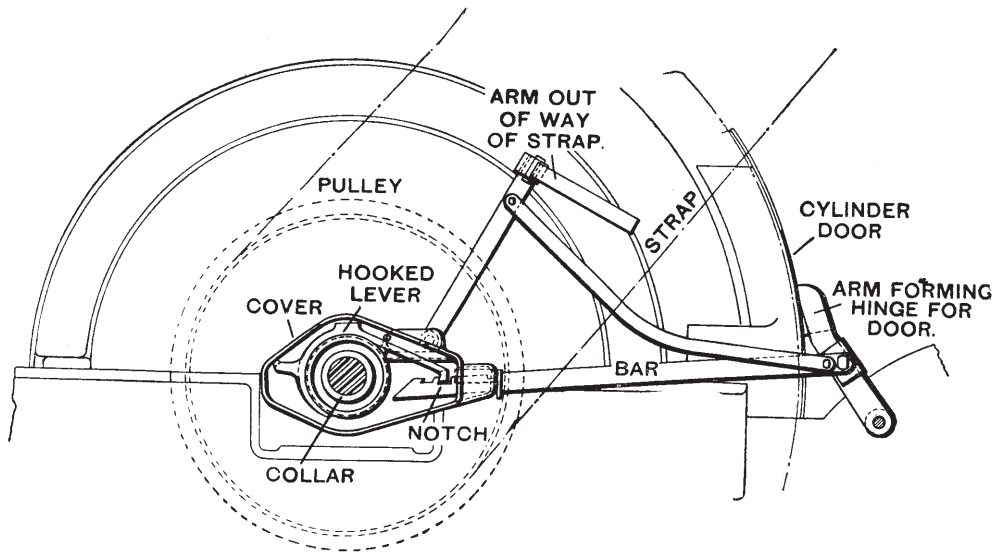


FIG. 104.

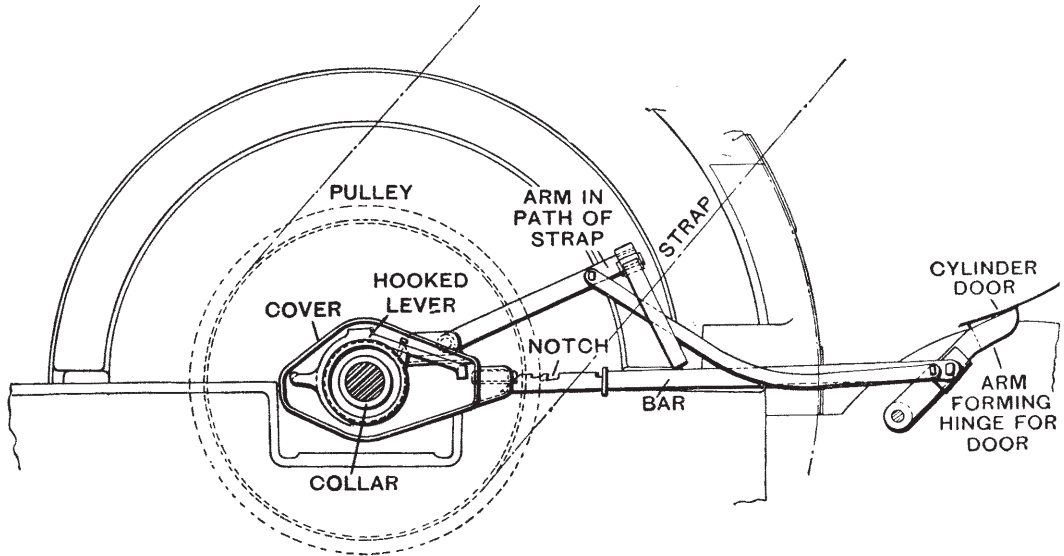


FIG. 105.

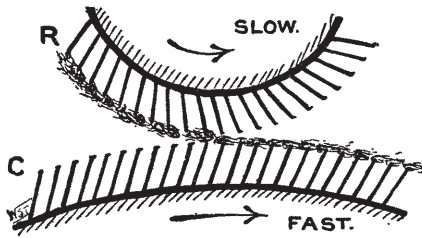


FIG. 106.

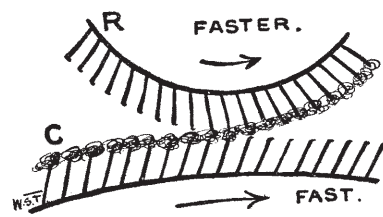


FIG. 107.

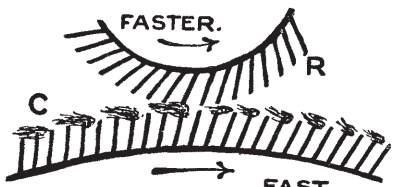


FIG. 108.

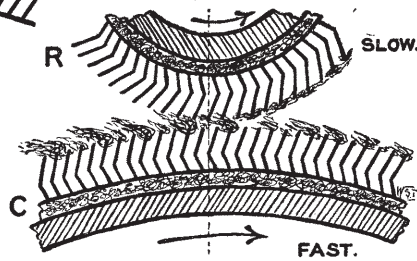


FIG. 109.

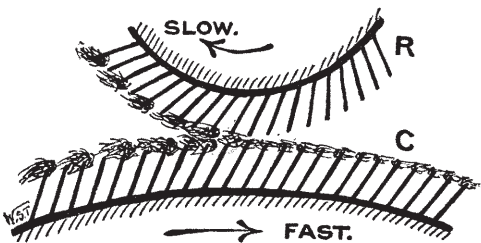


FIG. 110.

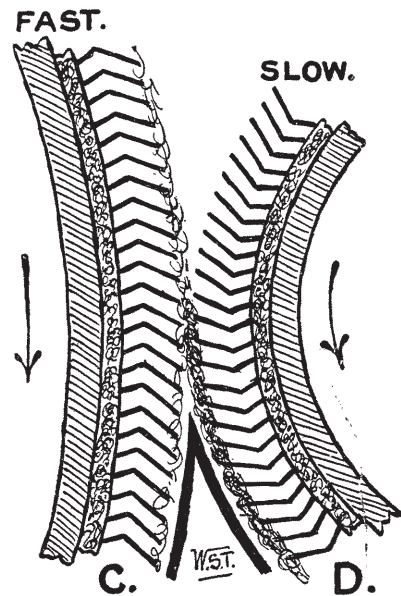


FIG. 111.

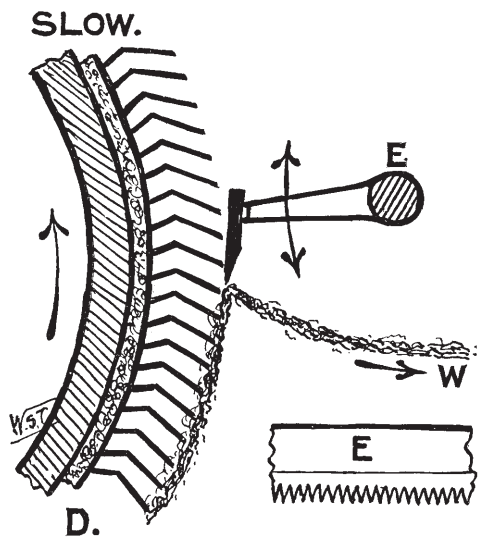


FIG. 116.

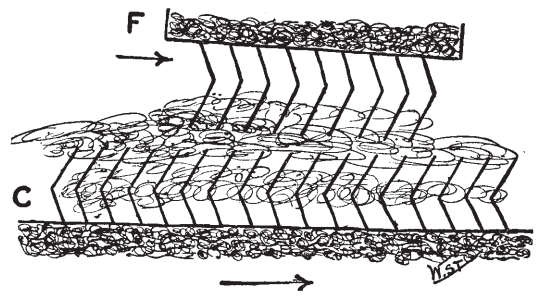


FIG. 113.

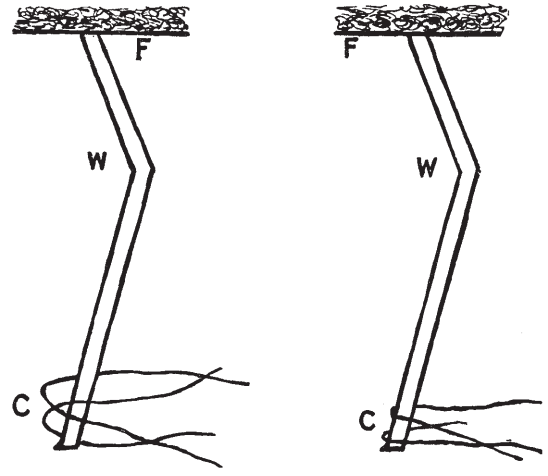


FIG. 114.

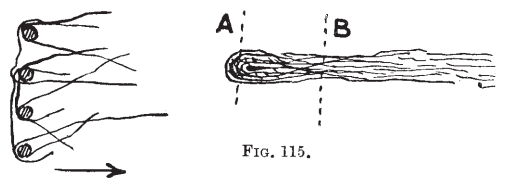


FIG. 115.

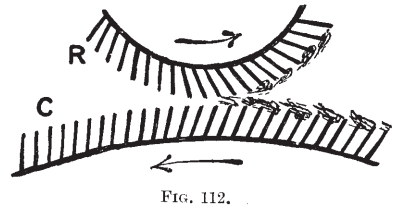


FIG. 112.

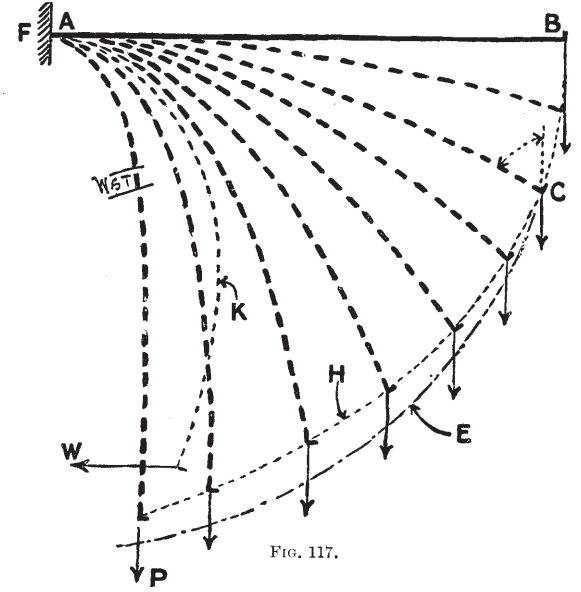


FIG. 117.

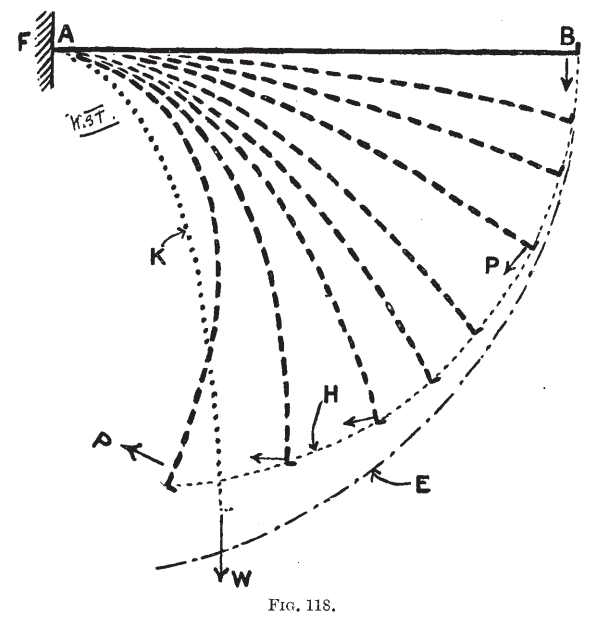


FIG. 118.

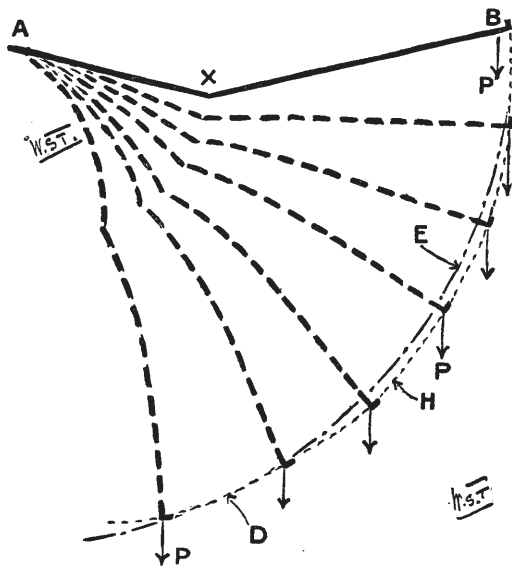


FIG. 119.

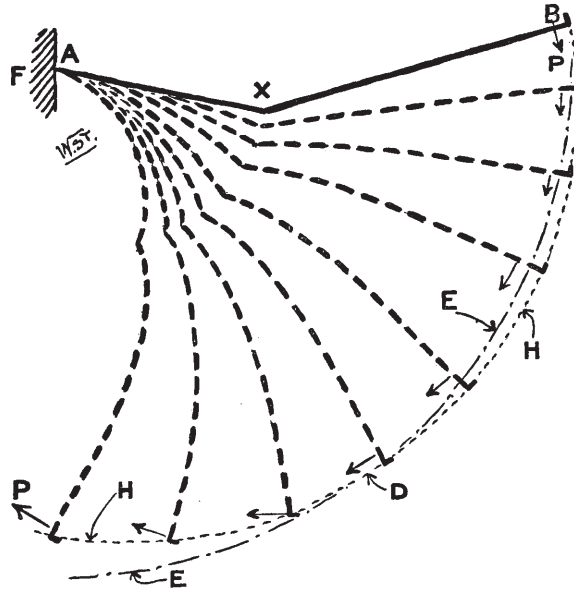


FIG. 120.

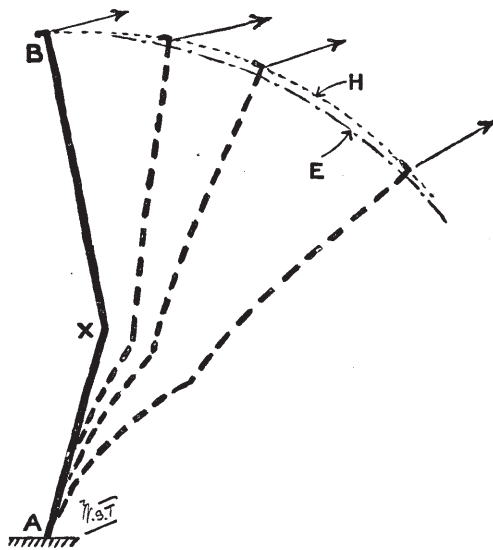


FIG. 121.

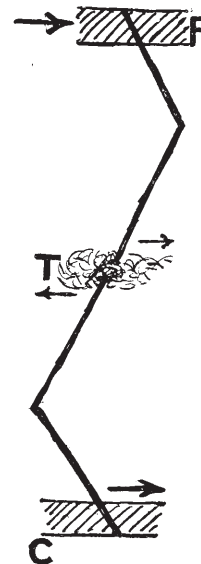


FIG. 122.

X°

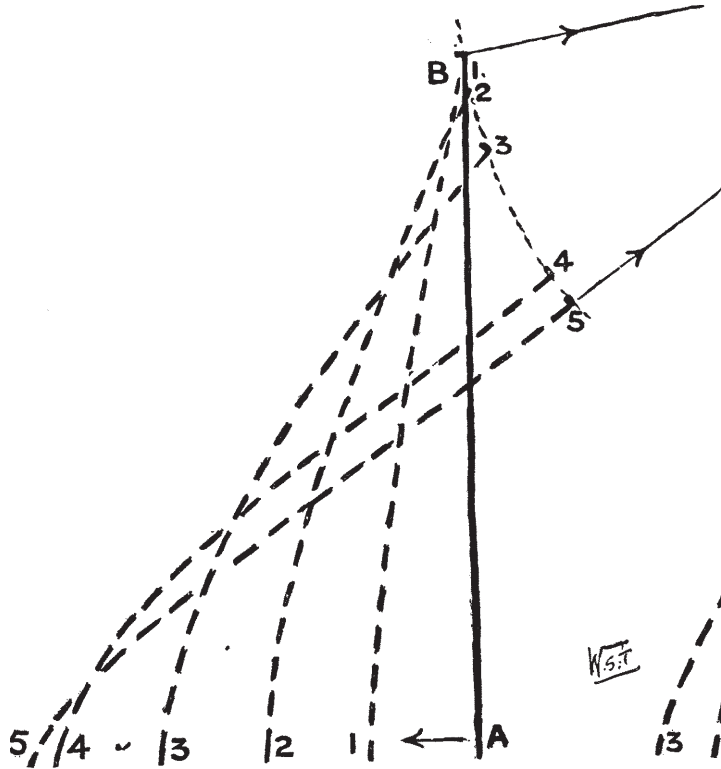


FIG. 123.

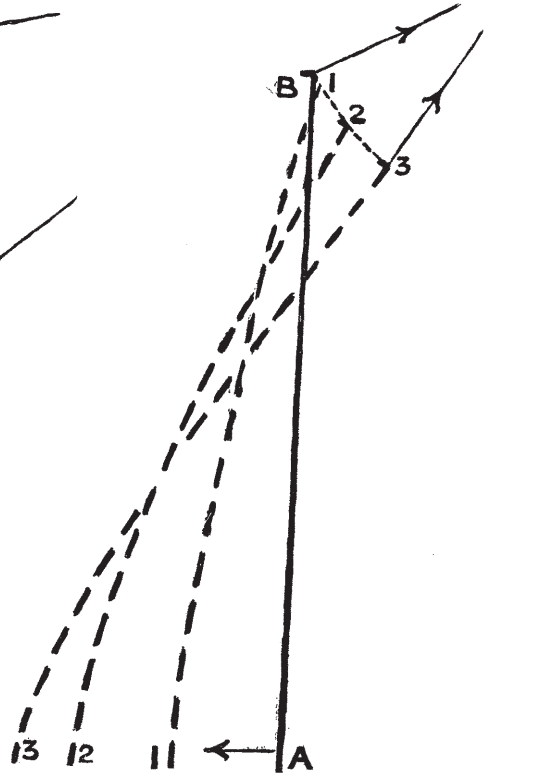


FIG. 124.

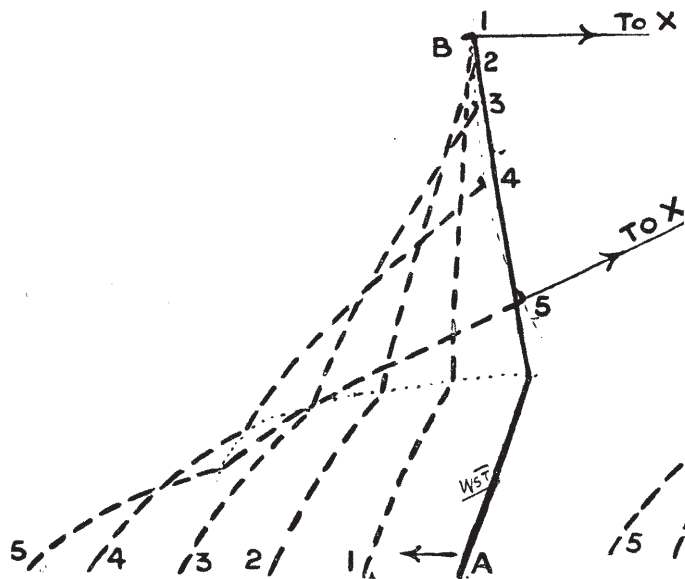


FIG. 125.

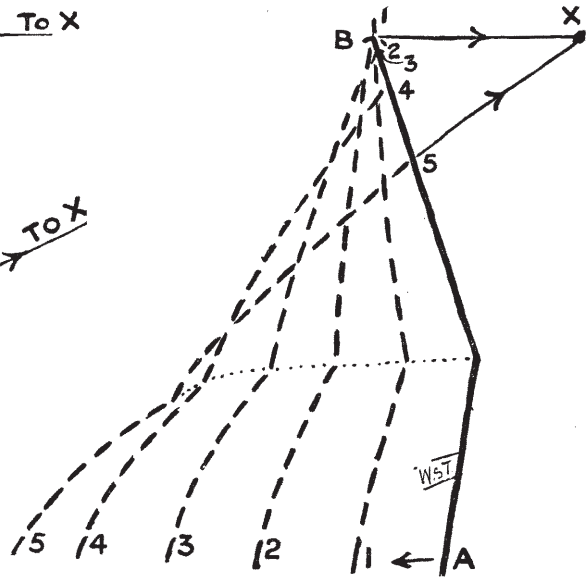


FIG. 126.

COTTON MACHINERY SKETCHES

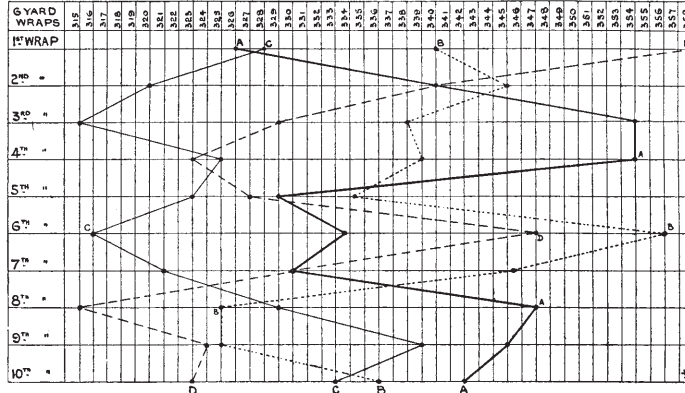


FIG. 127.

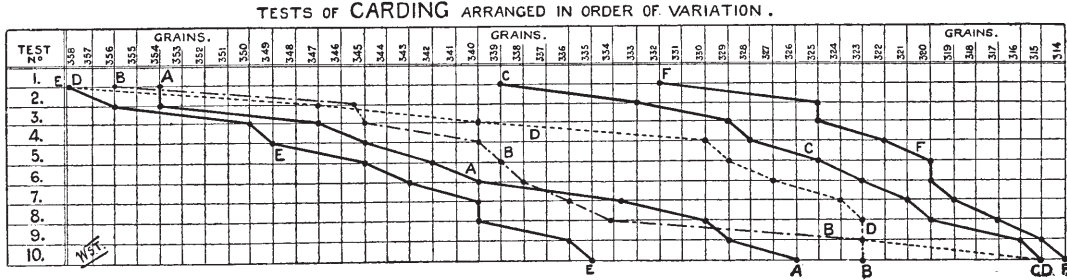


FIG. 128.

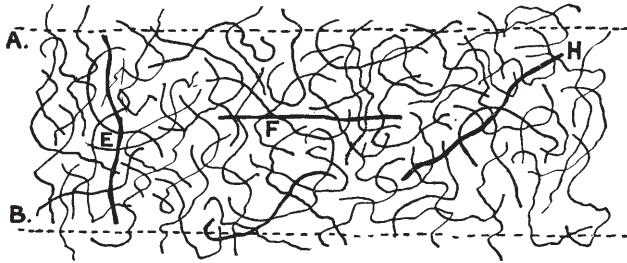


FIG. 129.

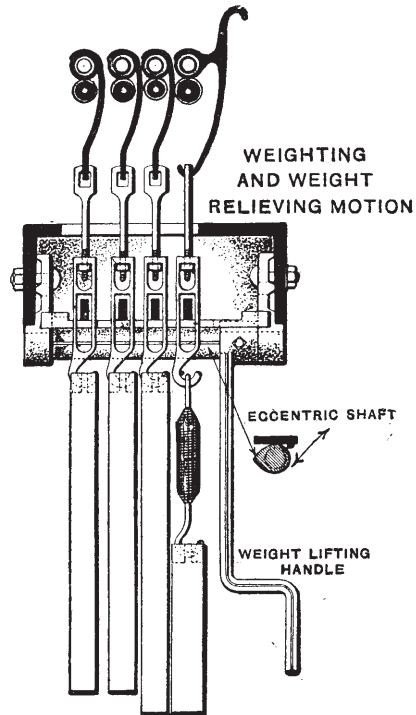


FIG. 130.

COTTON MACHINERY SKETCHES

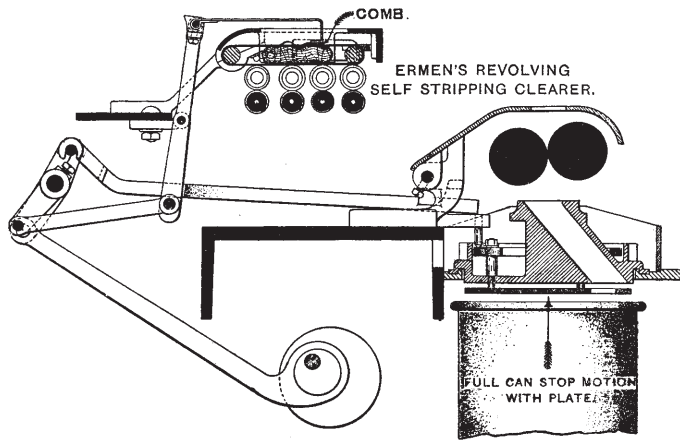
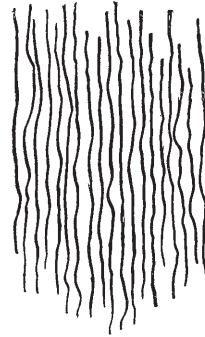
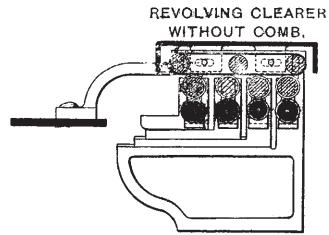


FIG. 134.

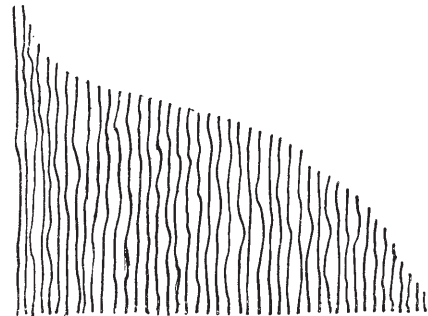


FIG. 136.

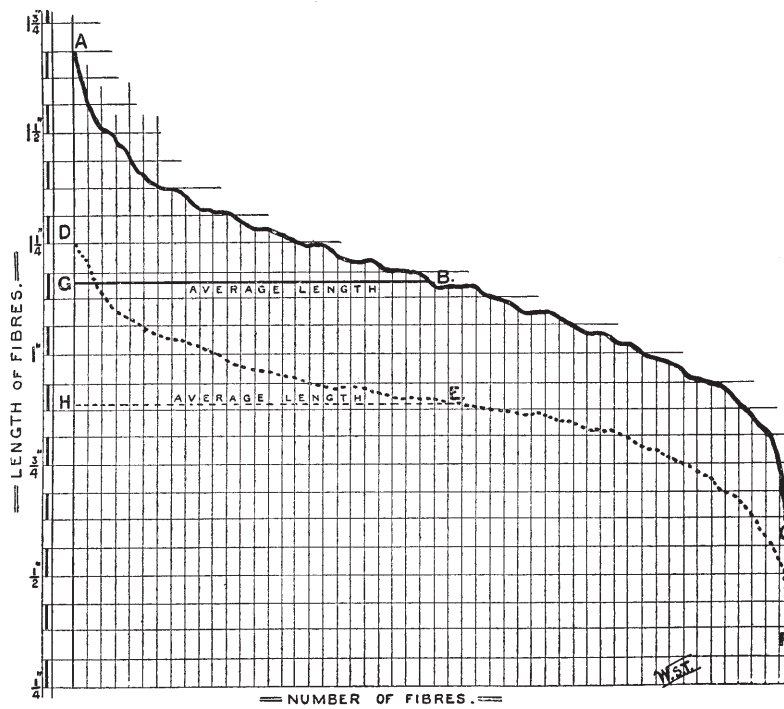


FIG. 137.

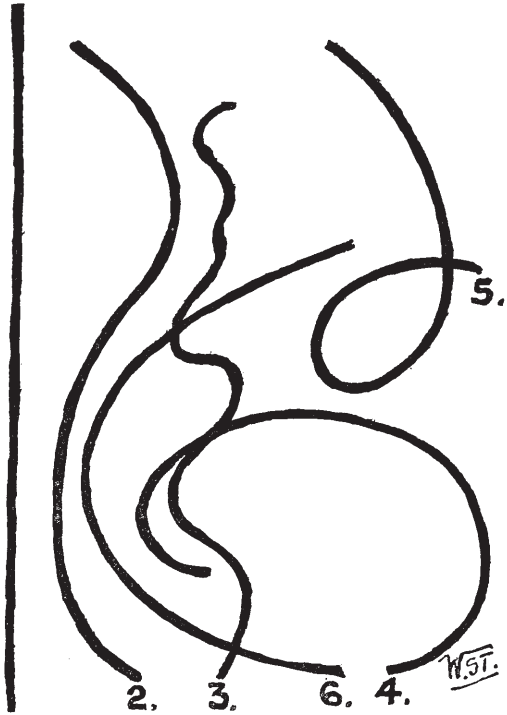


FIG. 138.

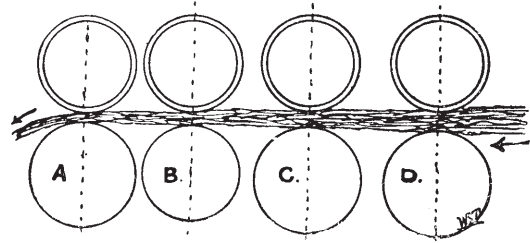


FIG. 139.

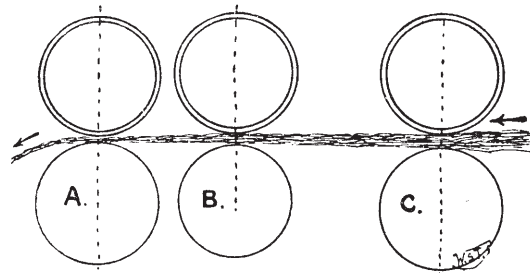


FIG. 140.

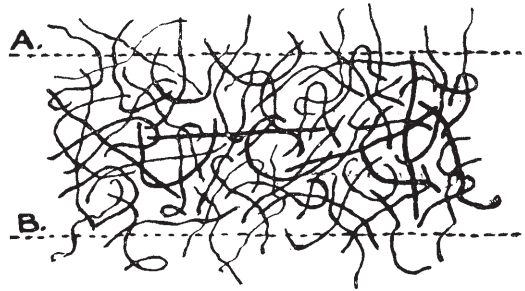


FIG. 142.

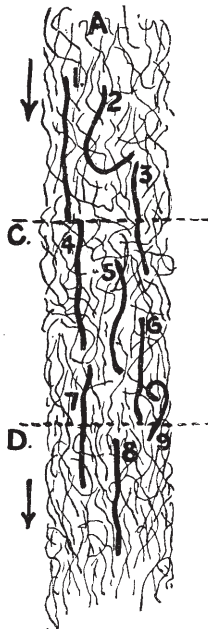


FIG. 141.

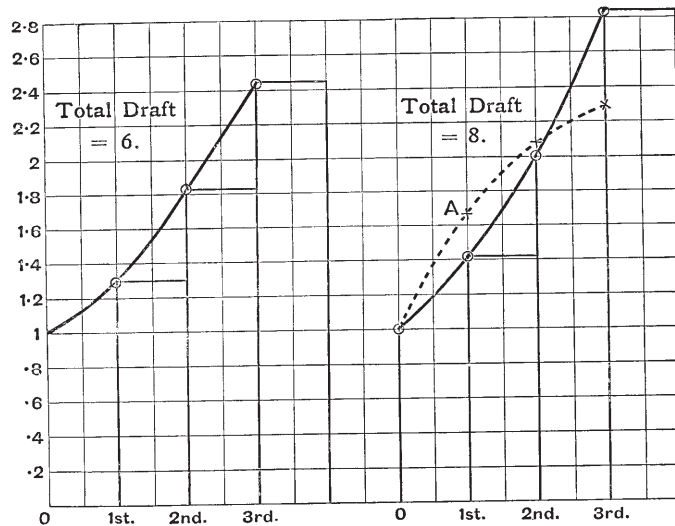


FIG. 143.

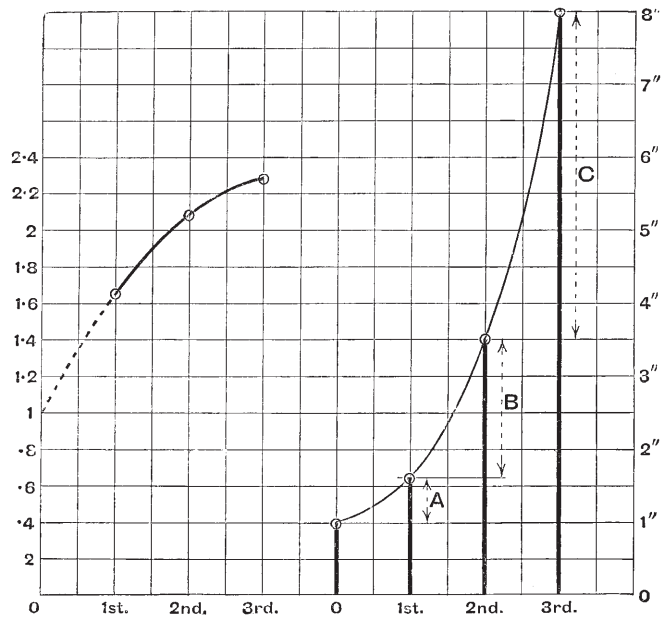
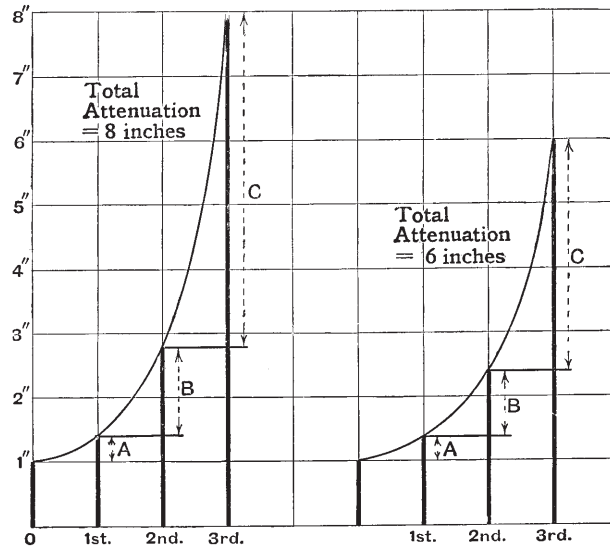
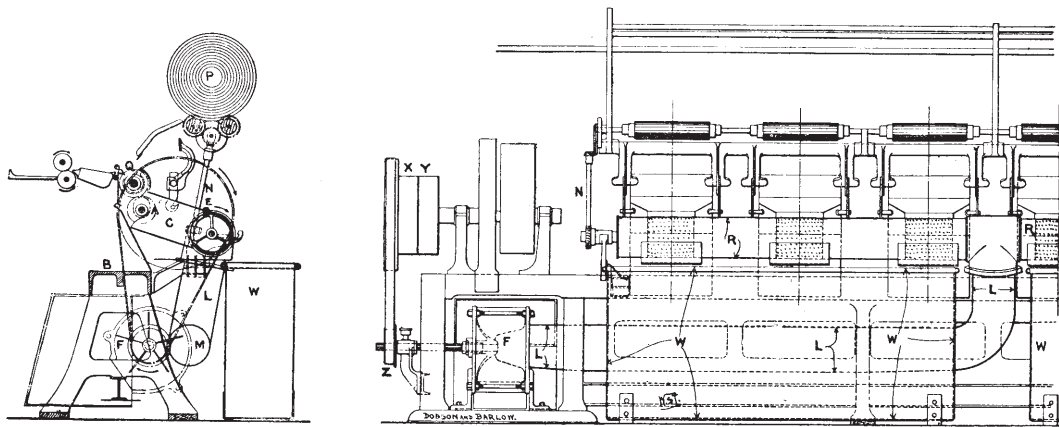
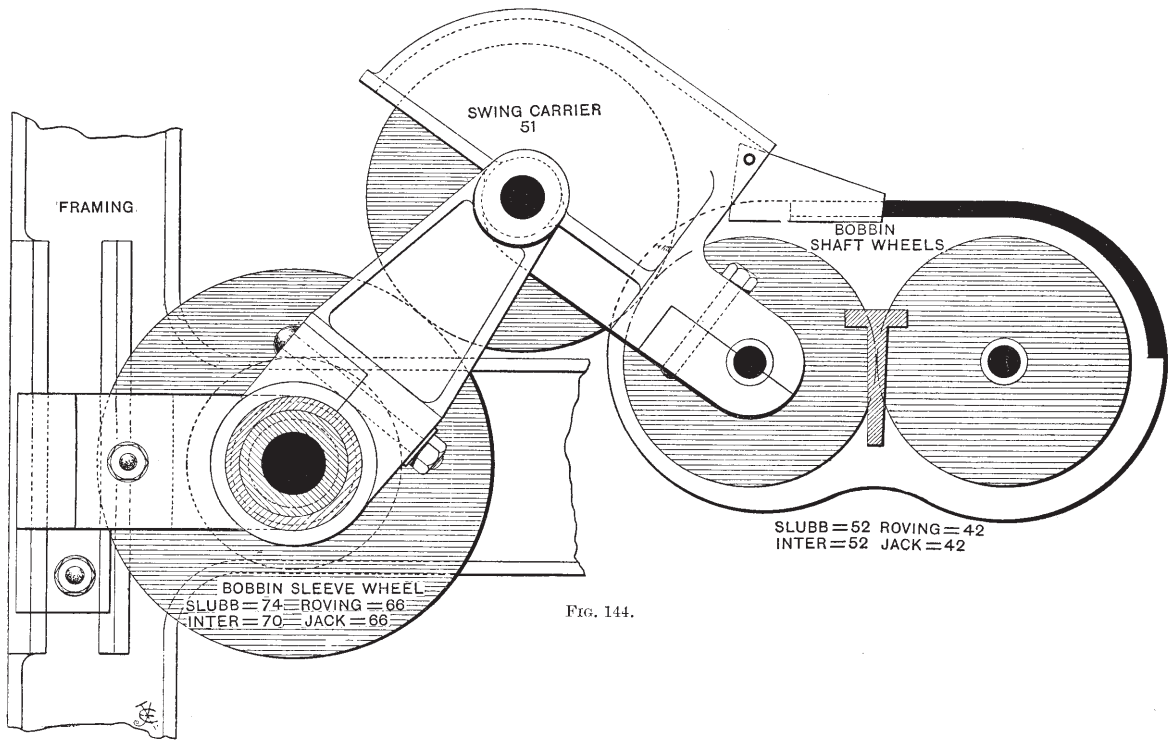


FIG. 143.



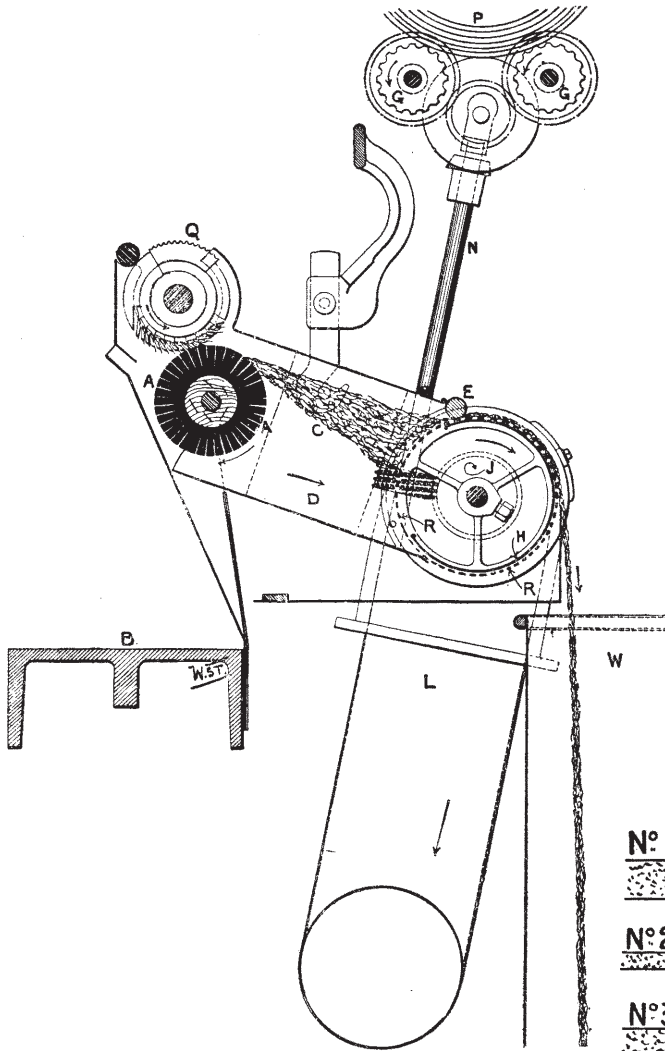


FIG. 146.

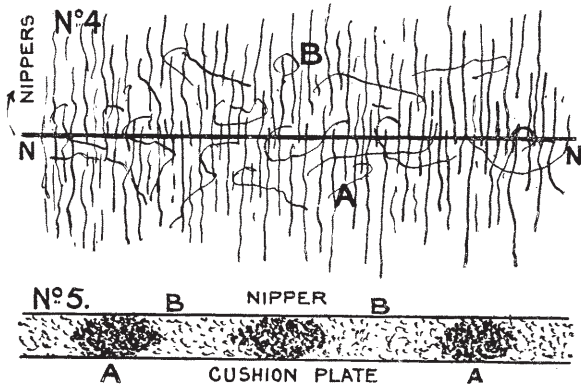
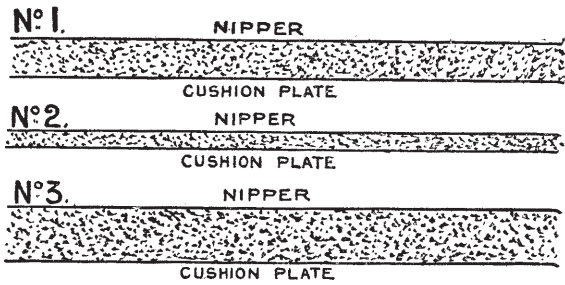


FIG. 147.

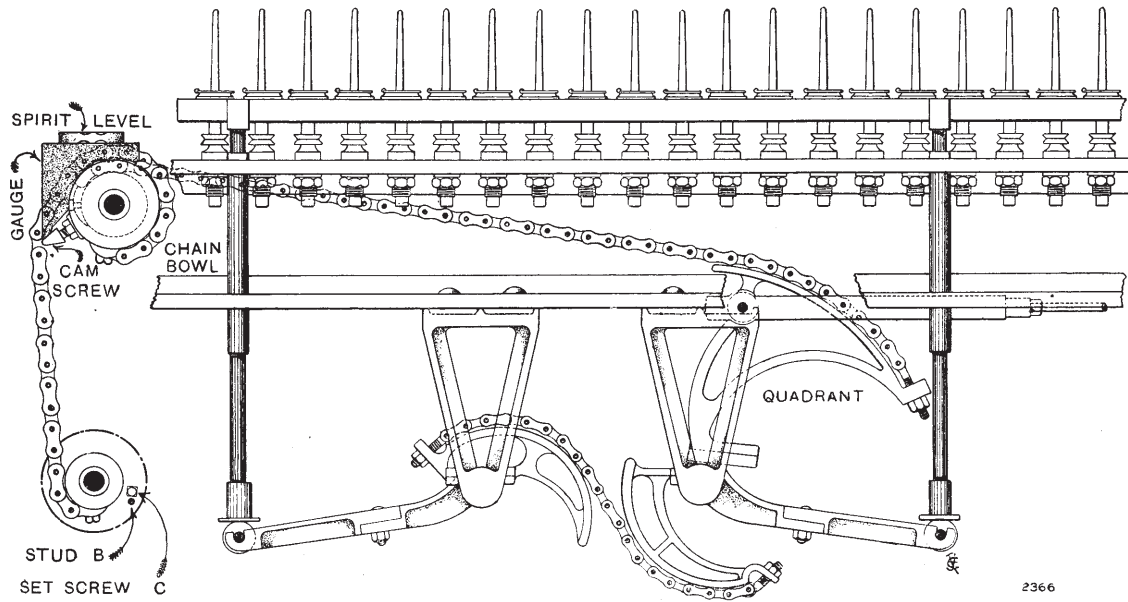


FIG. 148.

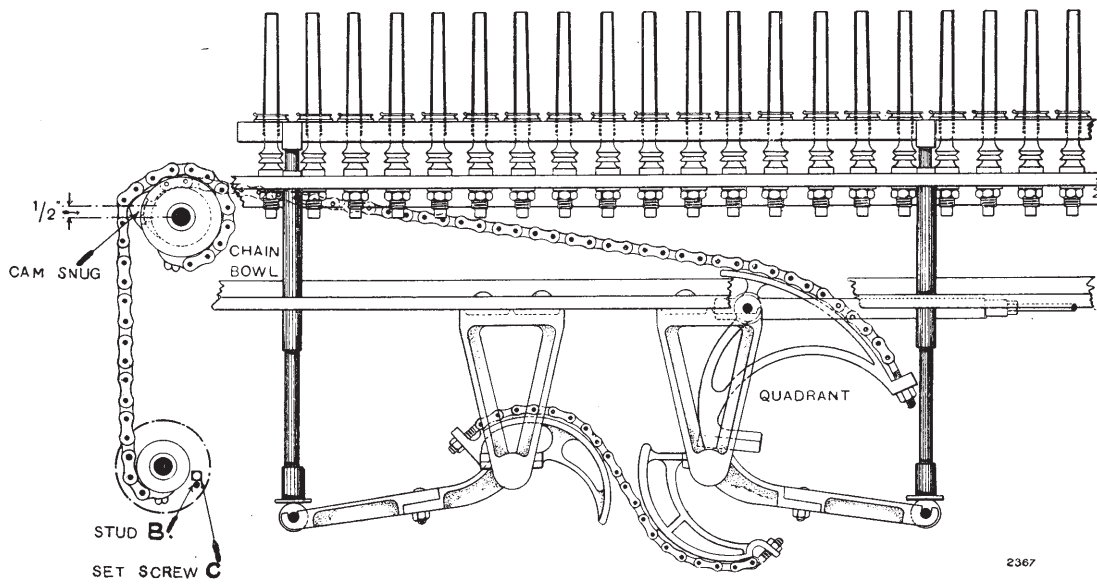


FIG. 149.

COTTON MACHINERY SKETCHES

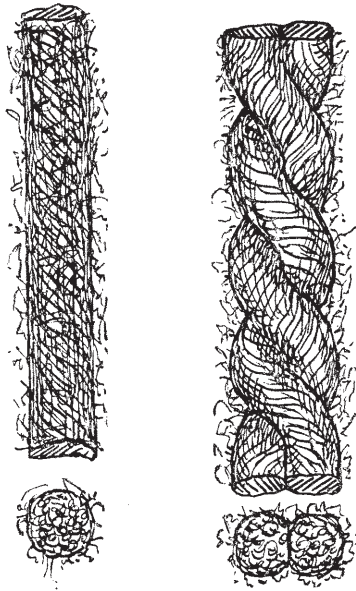


FIG. 150.

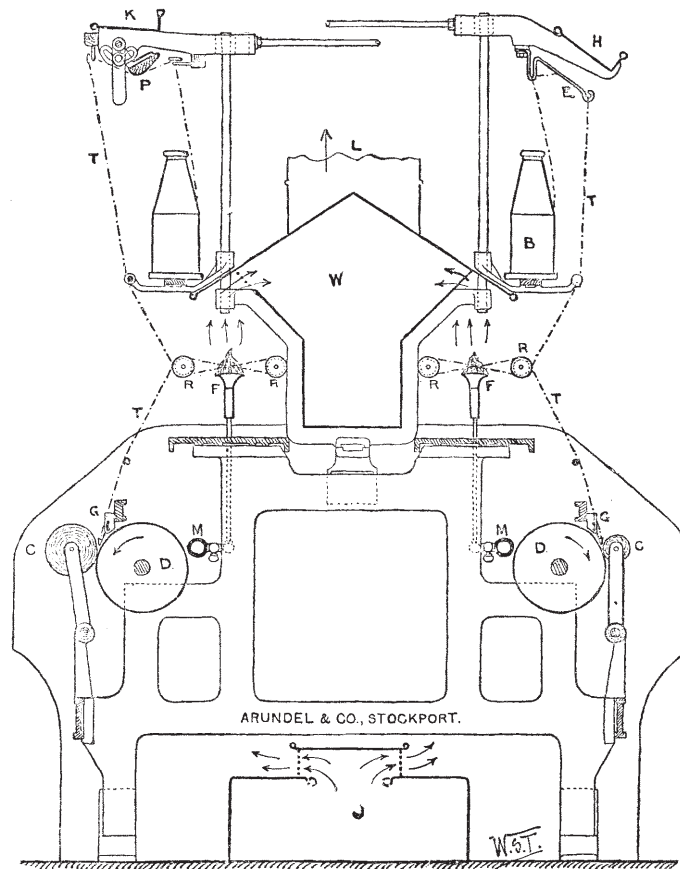


FIG. 151.

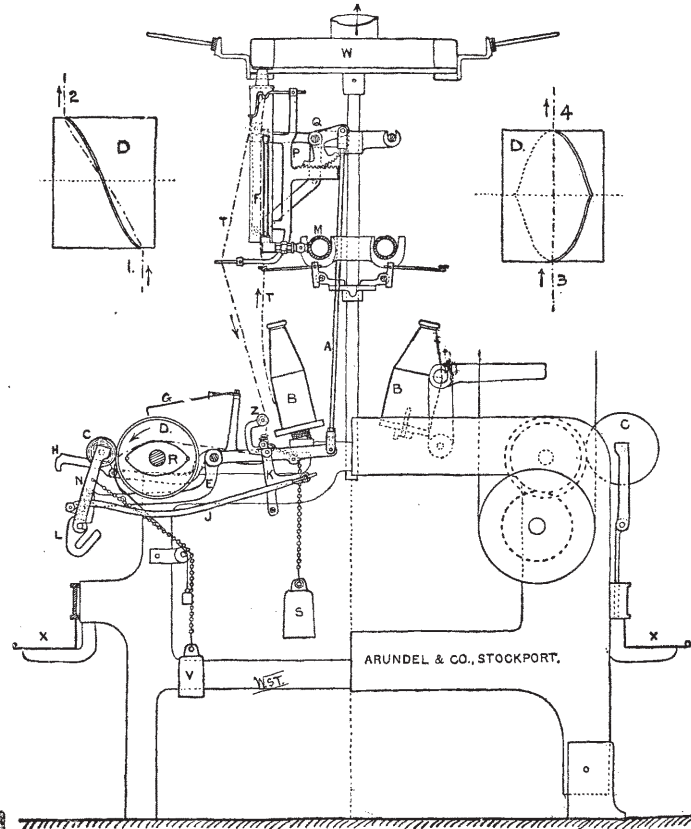


FIG. 152.

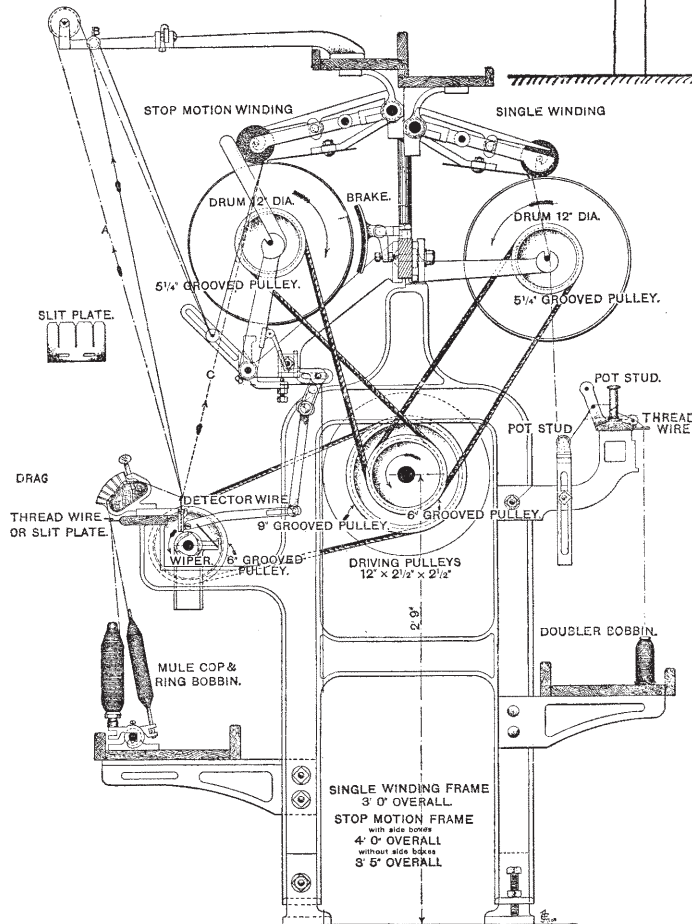


FIG. 153.

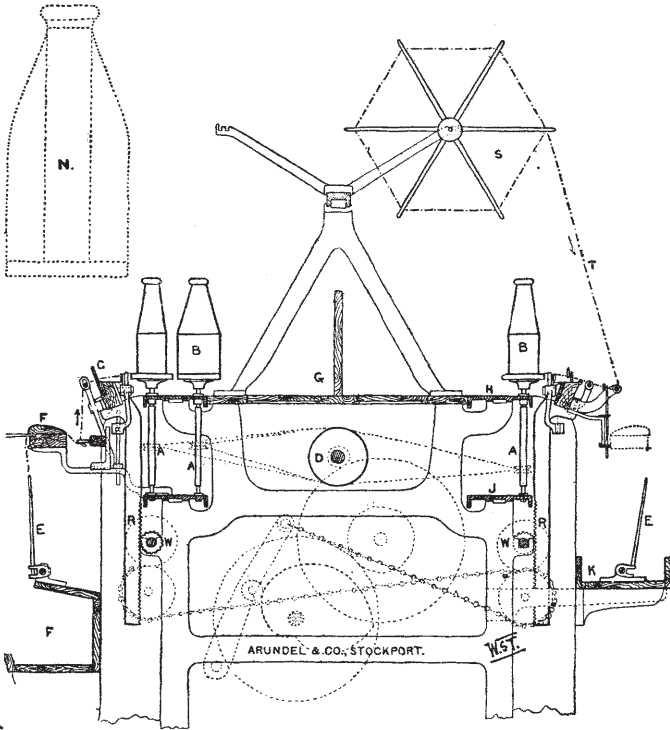


FIG. 154.

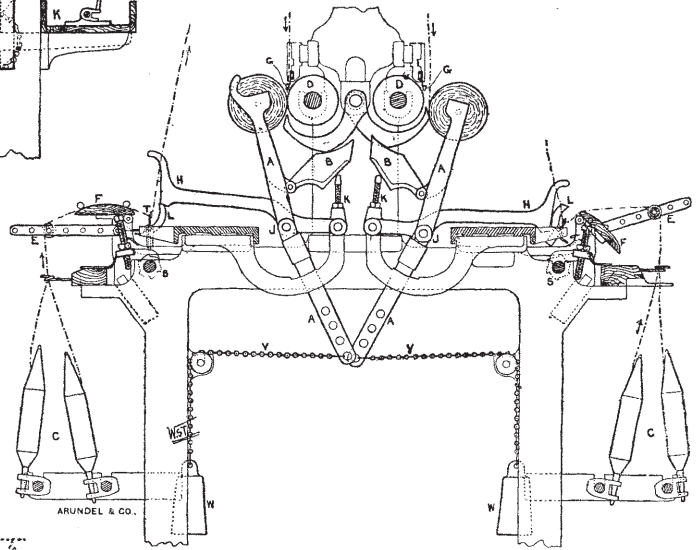


FIG. 155.

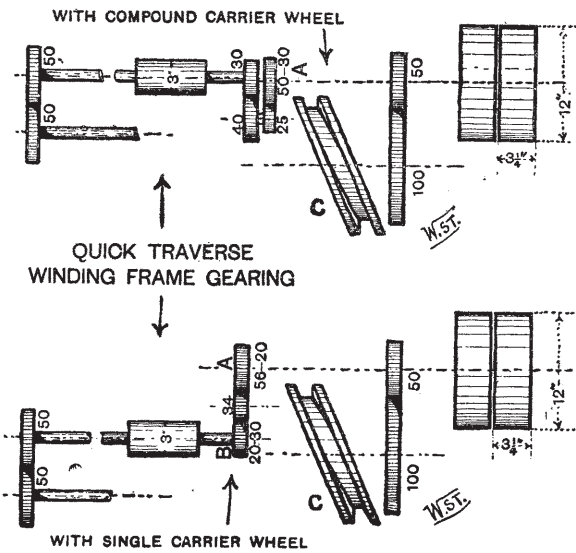


FIG. 156.

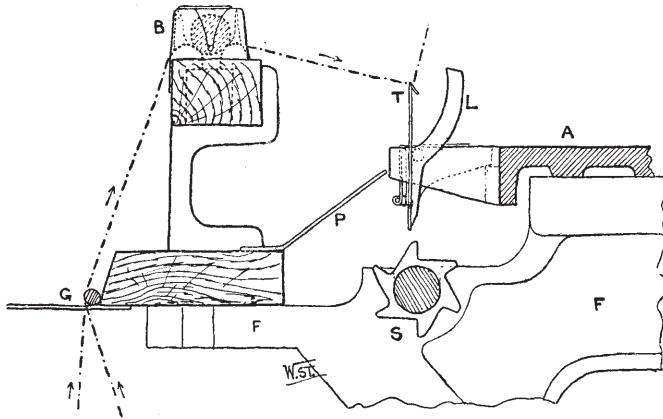


Fig. 157.

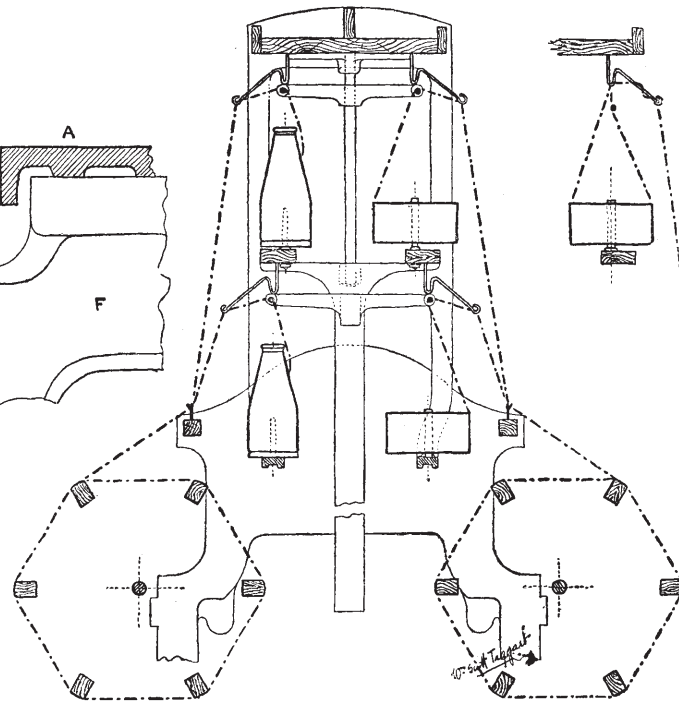


Fig. 158.

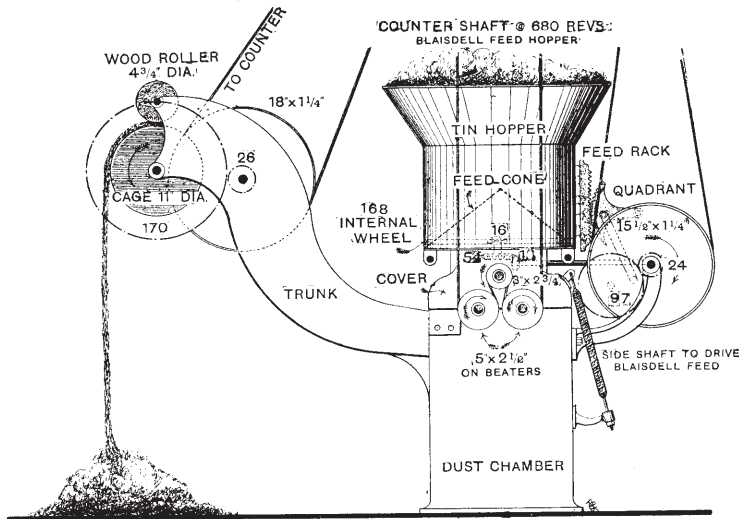
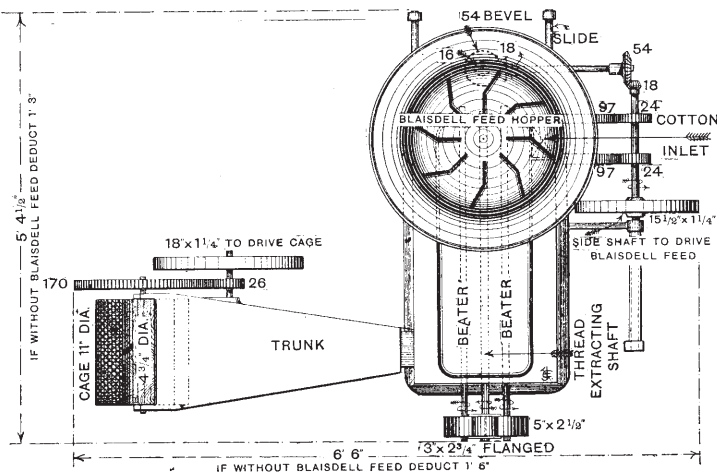


Fig. 159.



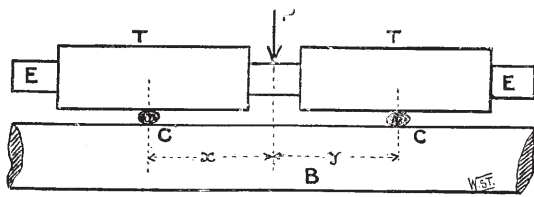


FIG. 160.

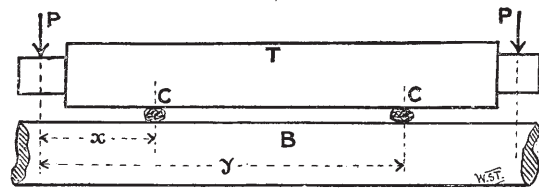


FIG. 161.

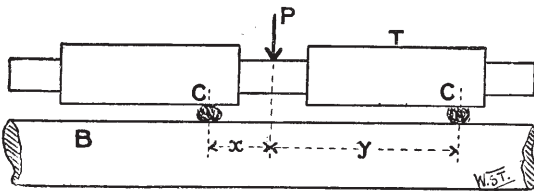


FIG. 162.

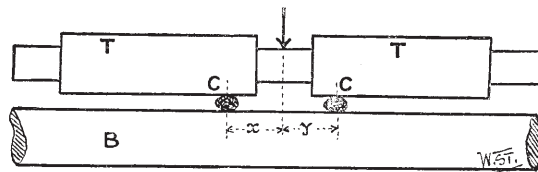


FIG. 163.

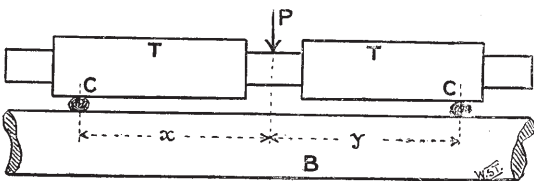


FIG. 164.

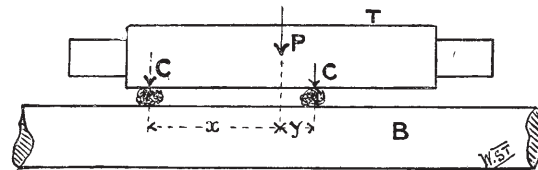


FIG. 165.

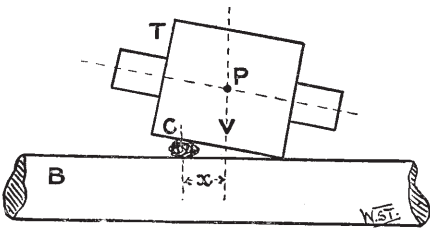


FIG. 166.

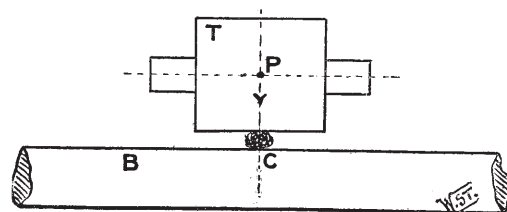


FIG. 167.

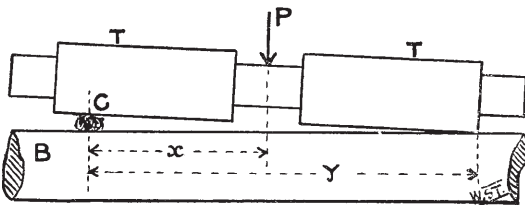


FIG. 168.

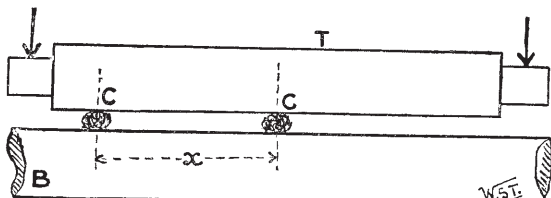


FIG. 169.

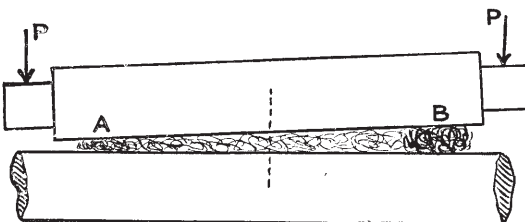


FIG. 170.

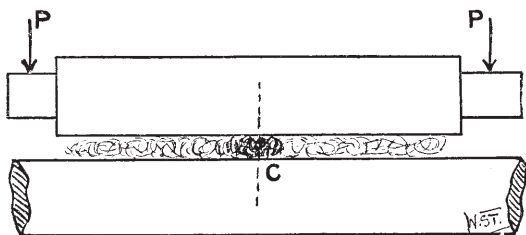


FIG. 171.

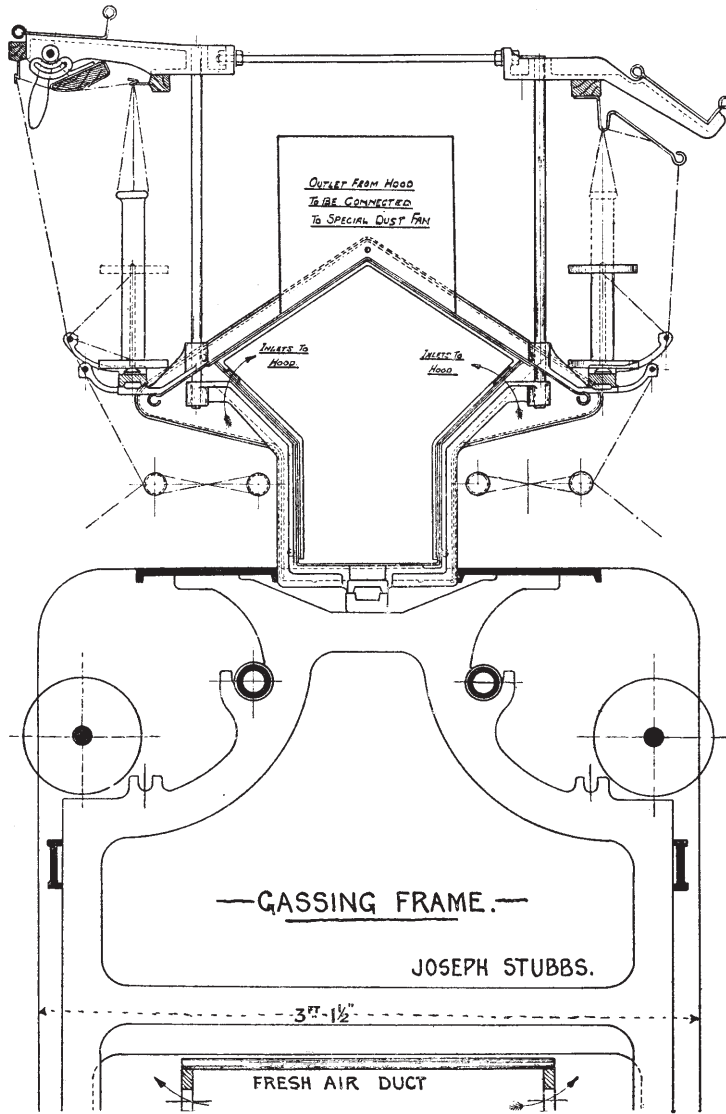


FIG. 173

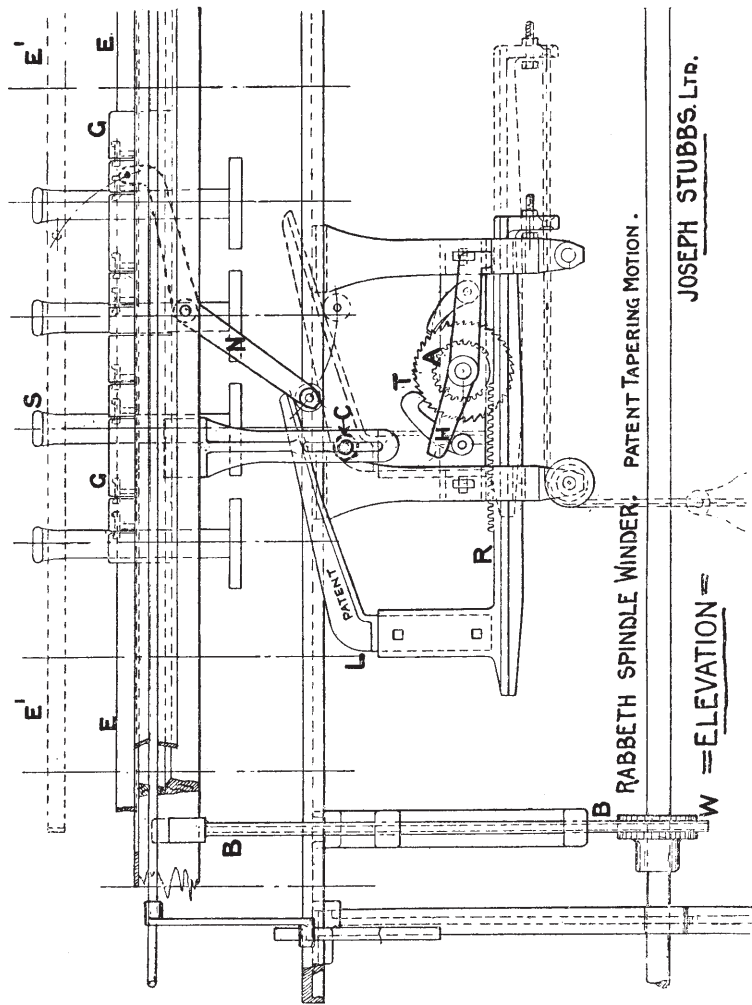


FIG. 174.

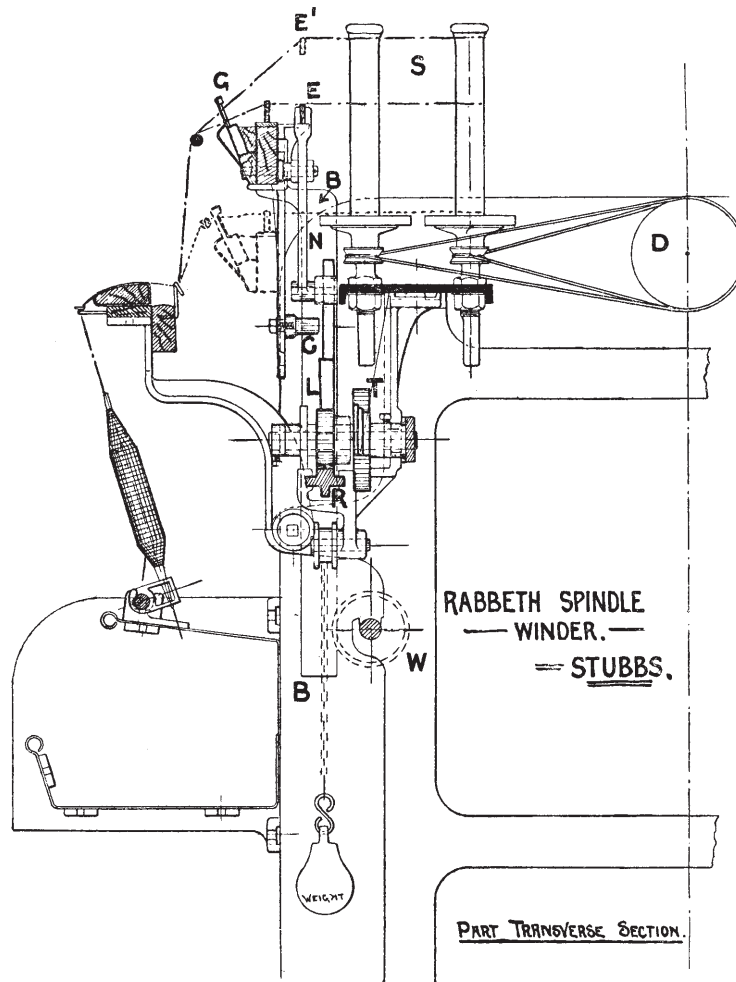
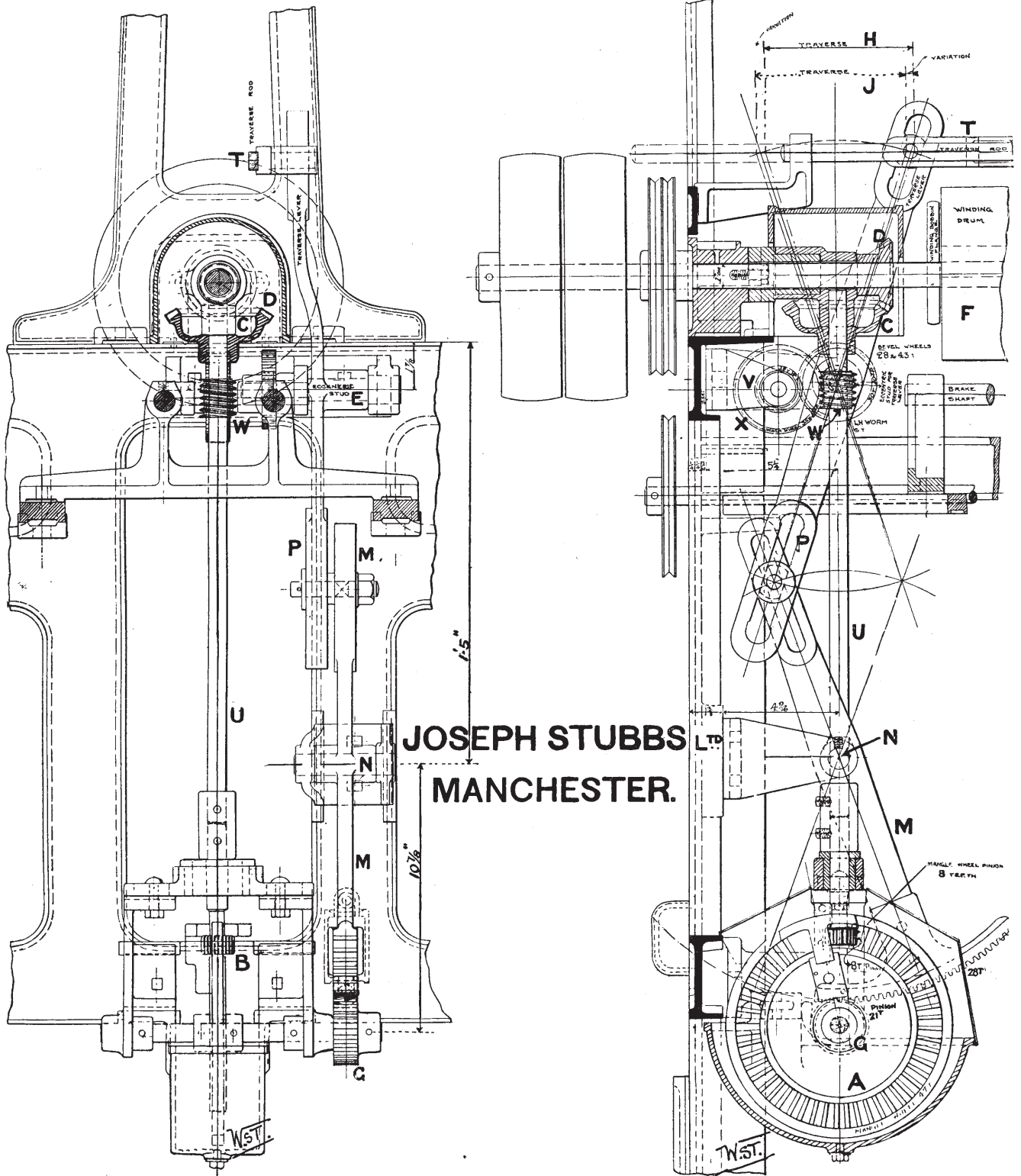
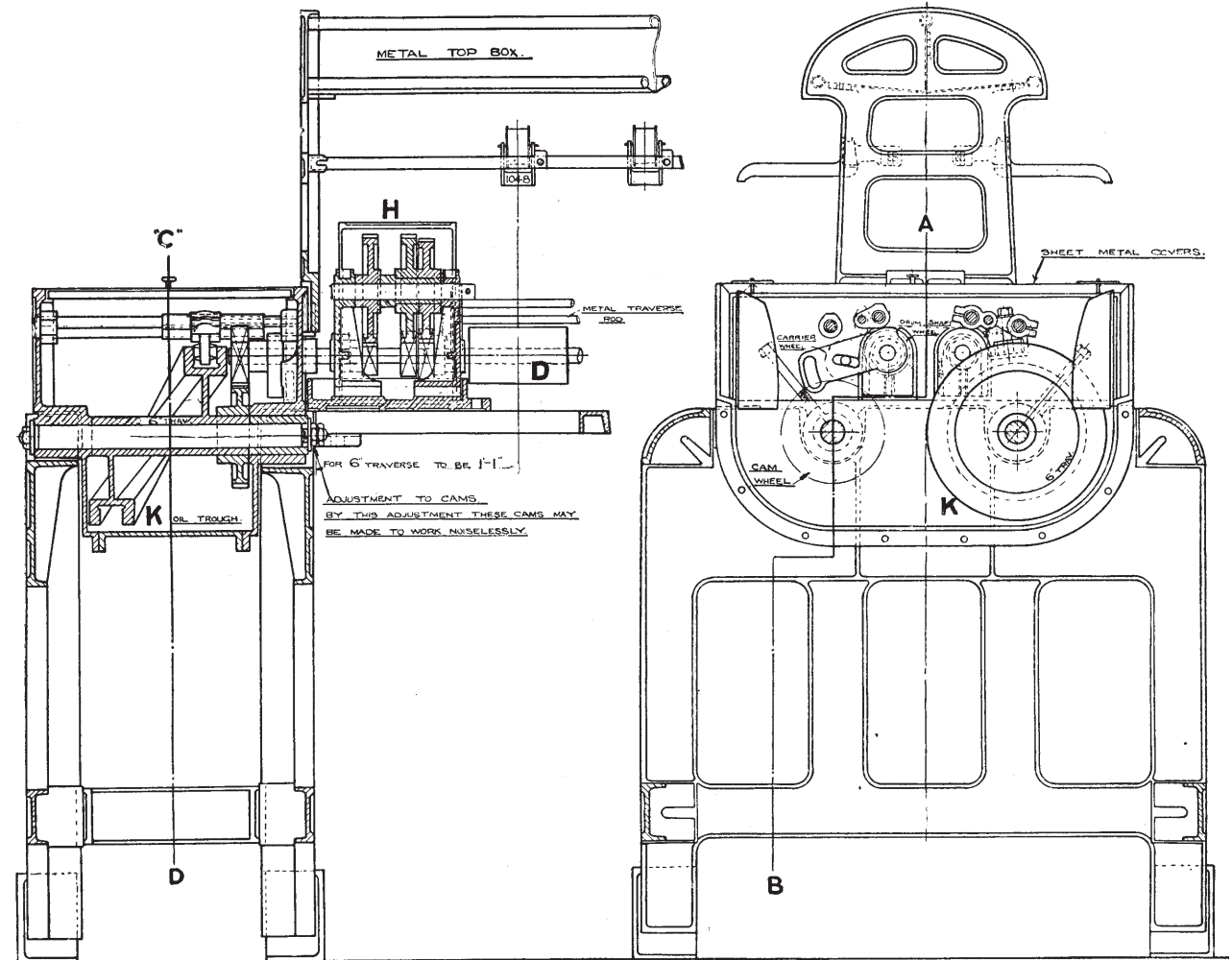


FIG. 175.



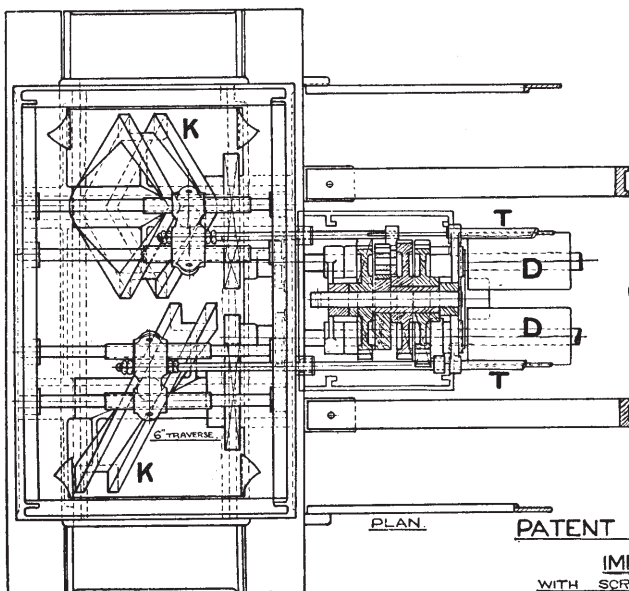
PATENT DOUBLER WINDER.
 FROM 4" TO 5 1/2" TRAVERSE - NEW ECCENTRIC MOTION. -

FIG. 176.



LONGITUDINAL ELEVATION SECTION THRO' A B

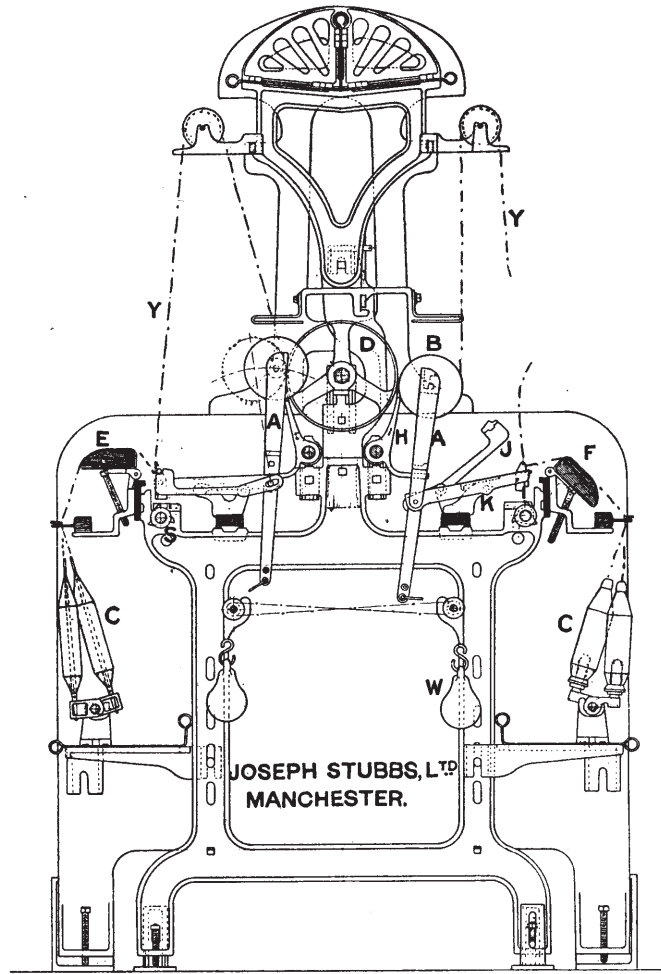
END ELEVATION SECTION THRO' C D



**JOSEPH STUBBS LIMITED.
MANCHESTER.**

**PATENT QUICK TRAVERSE WINDING FRAME.
IMPROVED TRAVERSE MOTION.
WITH SCROLL CAM FOR EACH SIDE & METAL TRAVERSE RODS.**

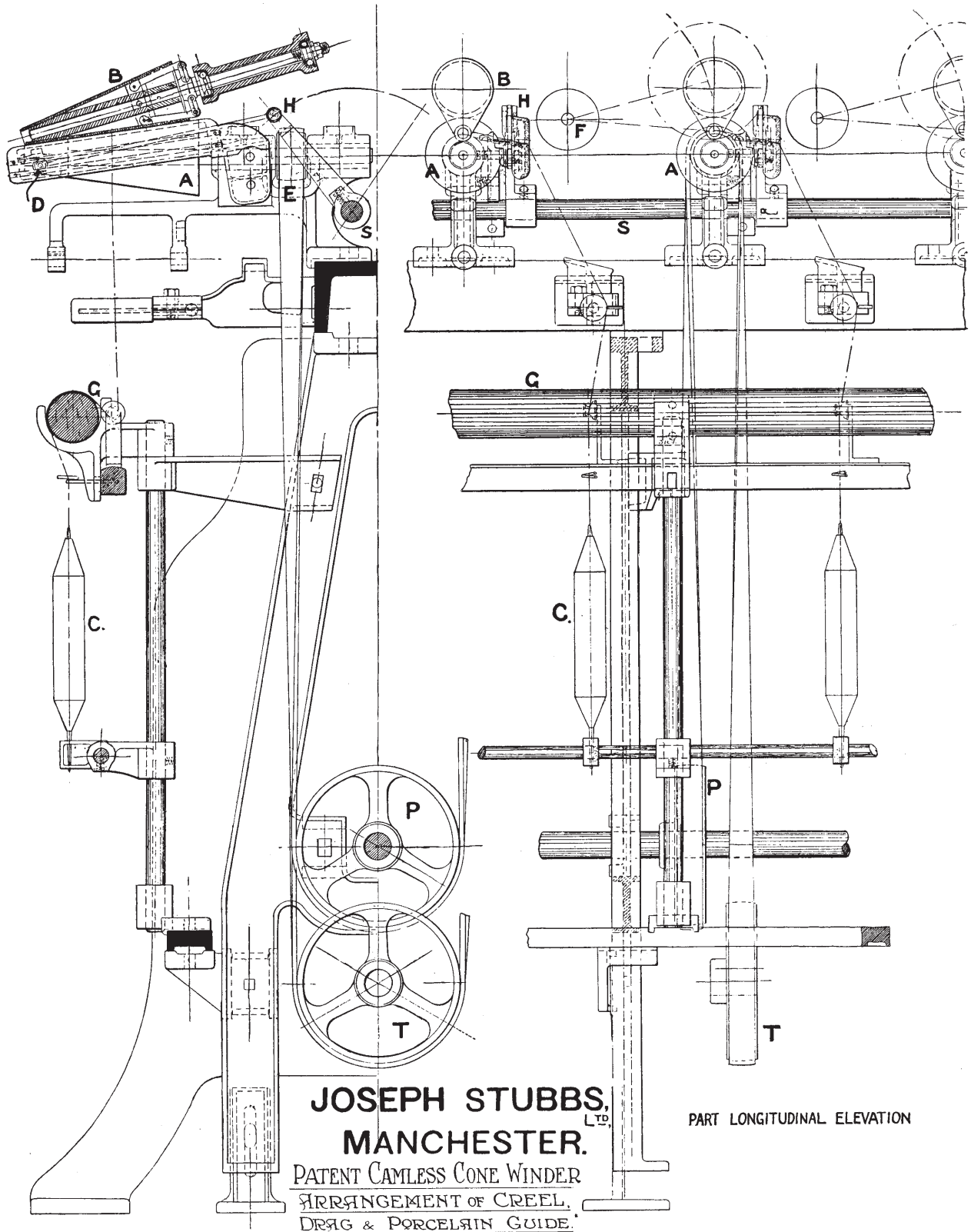
FIG. 177.



TRANSVERSE SECTION.

— PATENT DOUBLER WINDER. —

FIG. 178.



JOSEPH STUBBS,
MANCHESTER.

PATENT CAMLESS CONE WINDER.
 ARRANGEMENT OF CREEL,
 DRAG & PORCELAIN GUIDE.

PART LONGITUDINAL ELEVATION

FIG. 170.

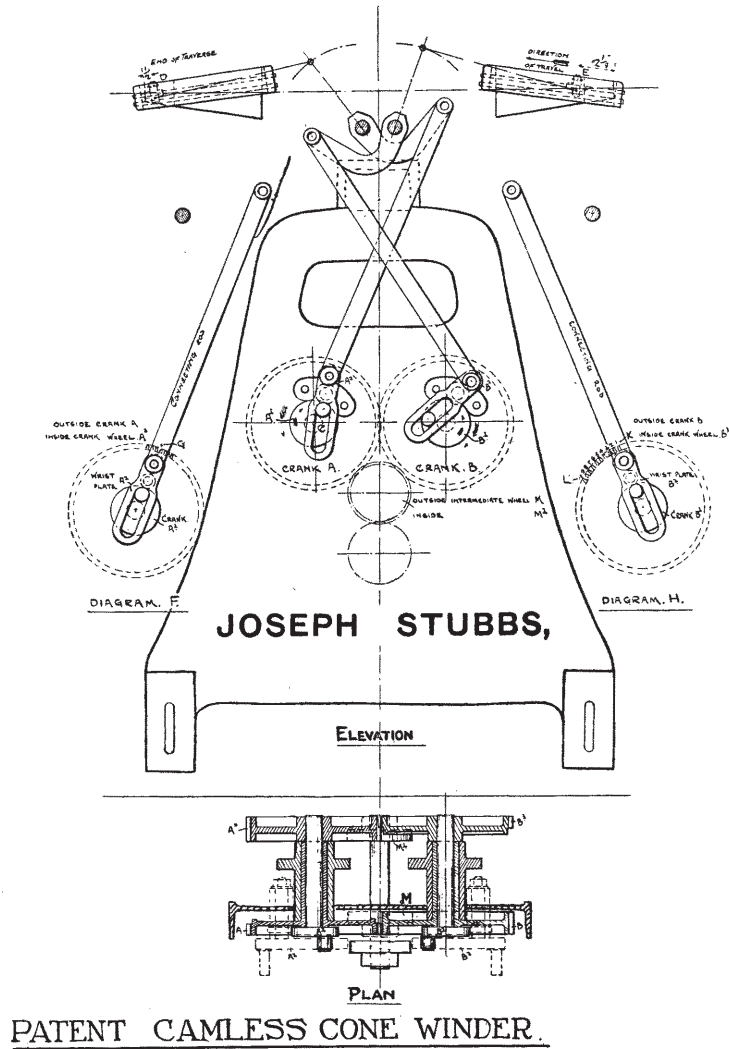
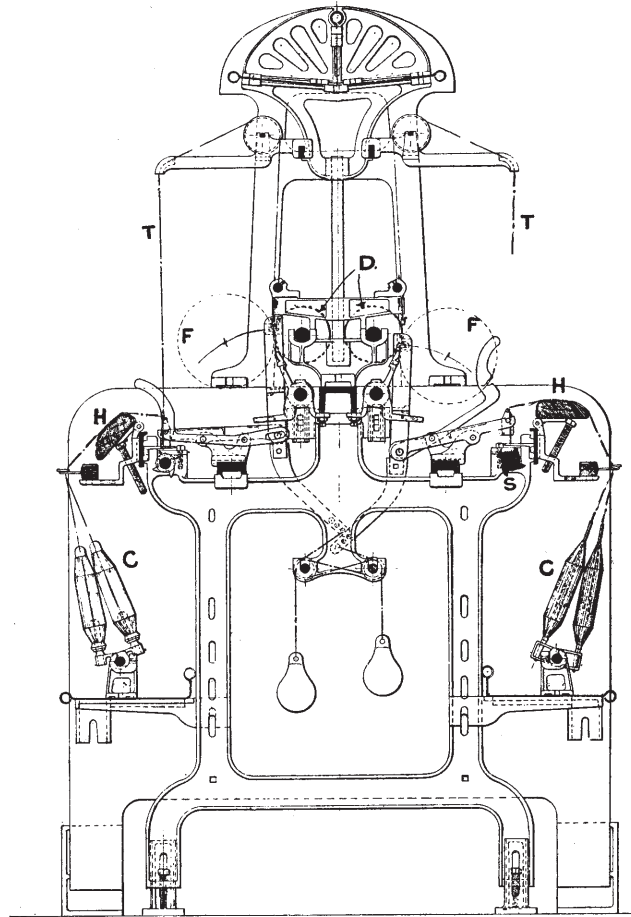


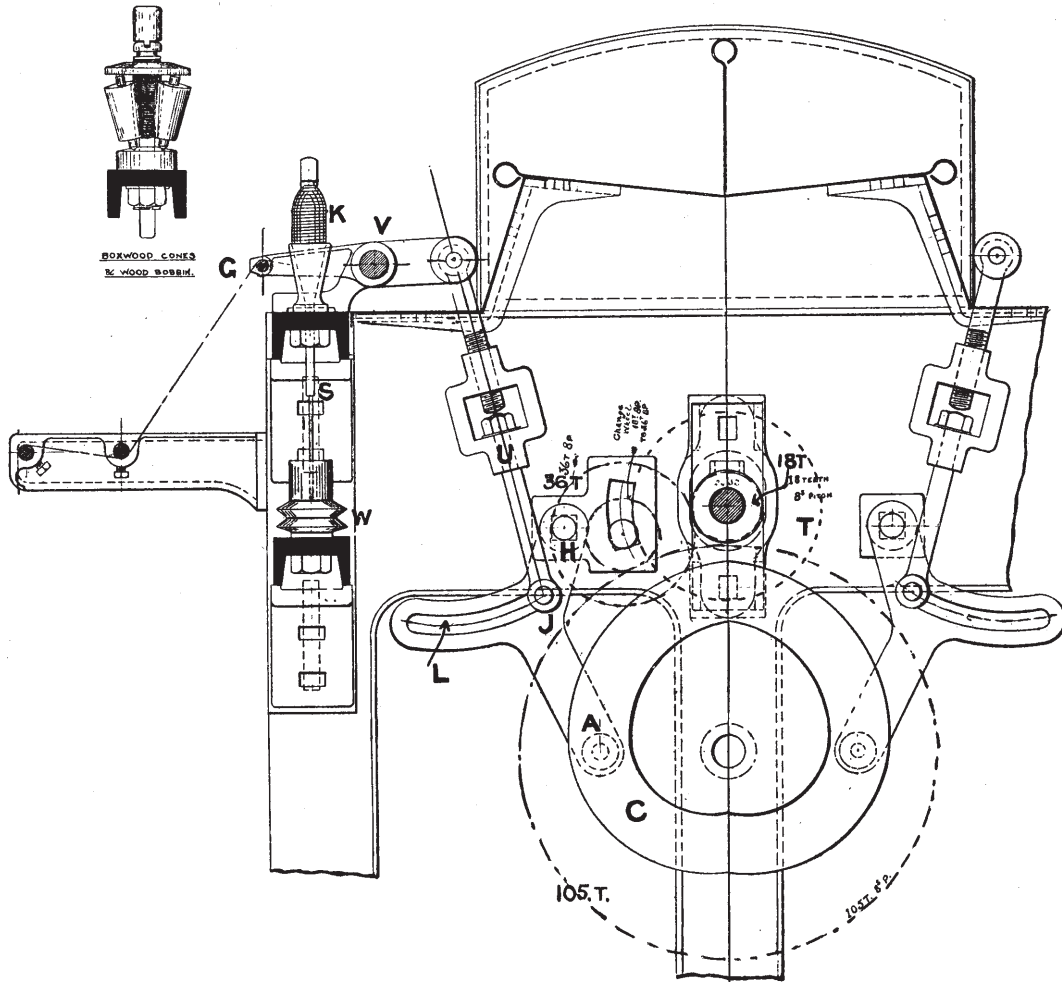
FIG. 180.



JOSEPH STUBBS, L^{TD}
MANCHESTER.

— PATENT QUICK TRAVERSE DOUBLER WINDER. —

FIG. 181.



JOSEPH STUBBS, ^{LTD.} MANCHESTER.

PIRM WINDER. VARIABLE SPEED TRAVERSE MOTION.

FIG. 182.

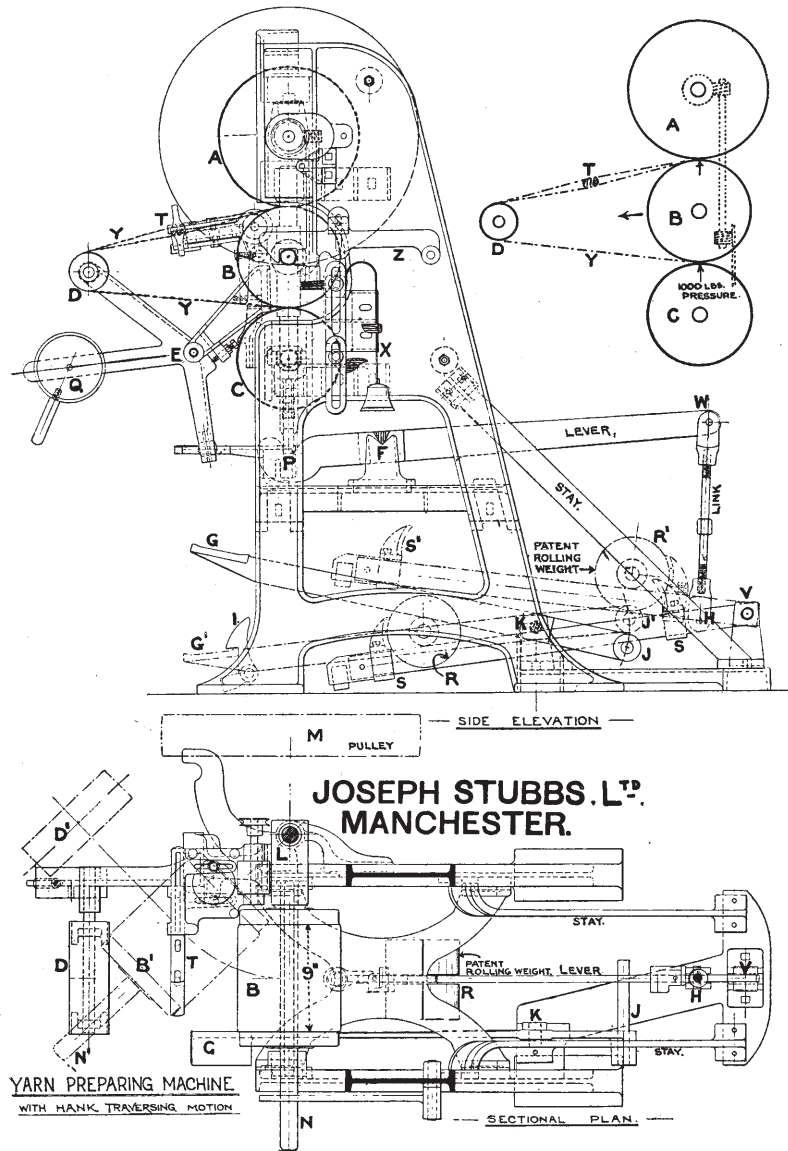


FIG. 183.

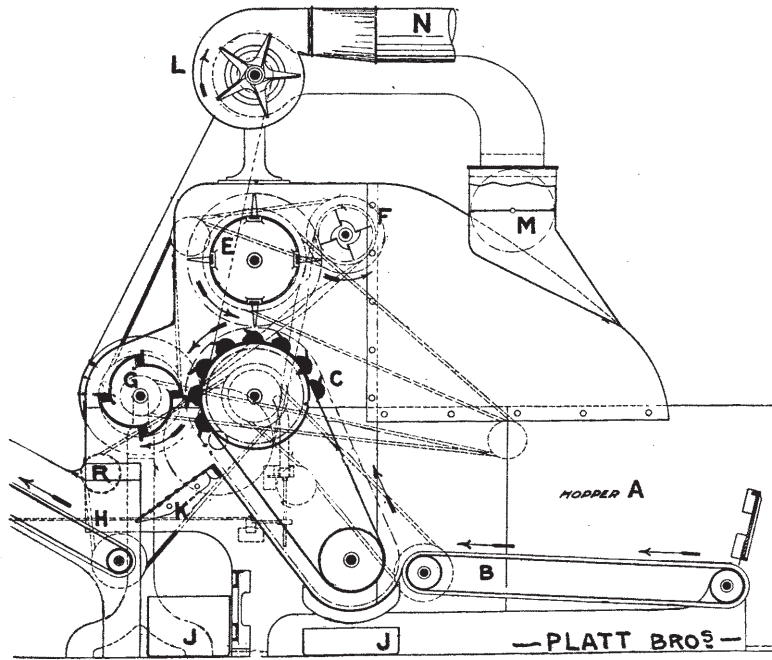


FIG. 185.

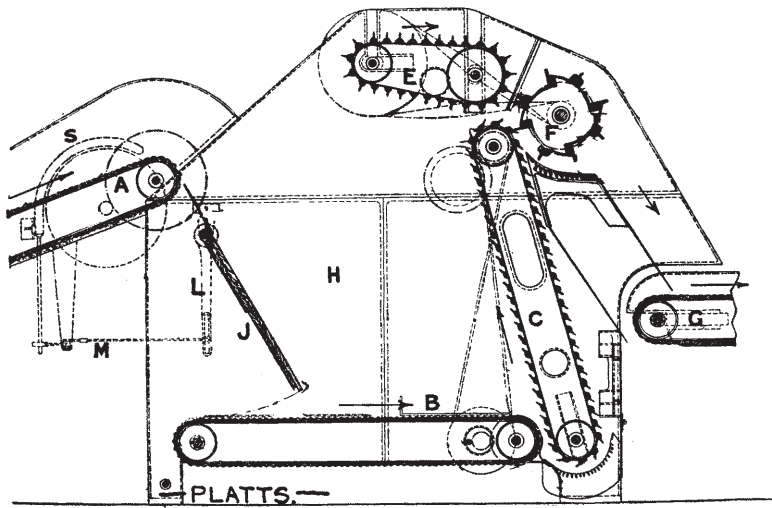


FIG. 186.

PLATT BROTHERS

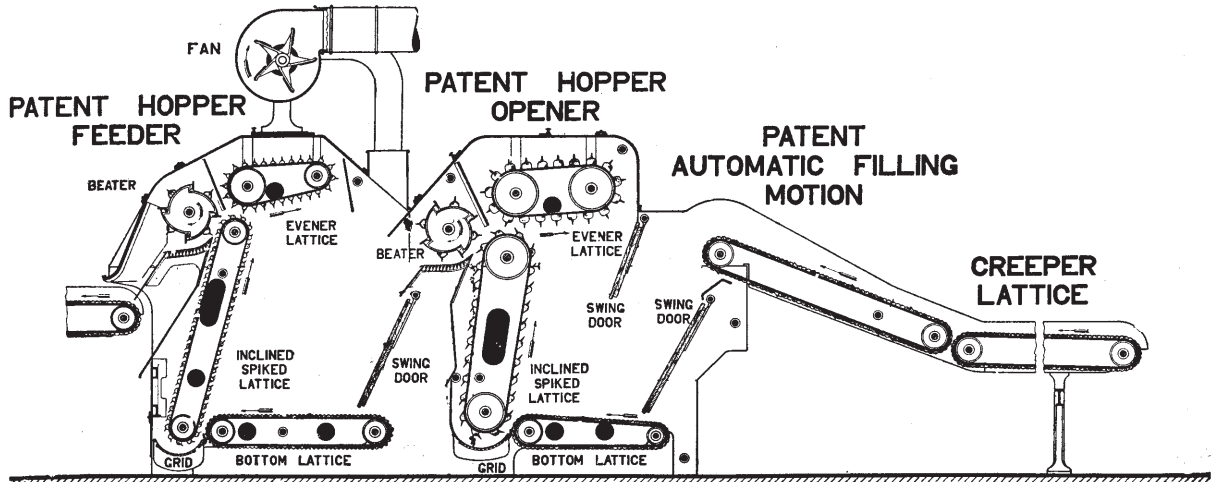


FIG. 187.

PLATT BROTHERS

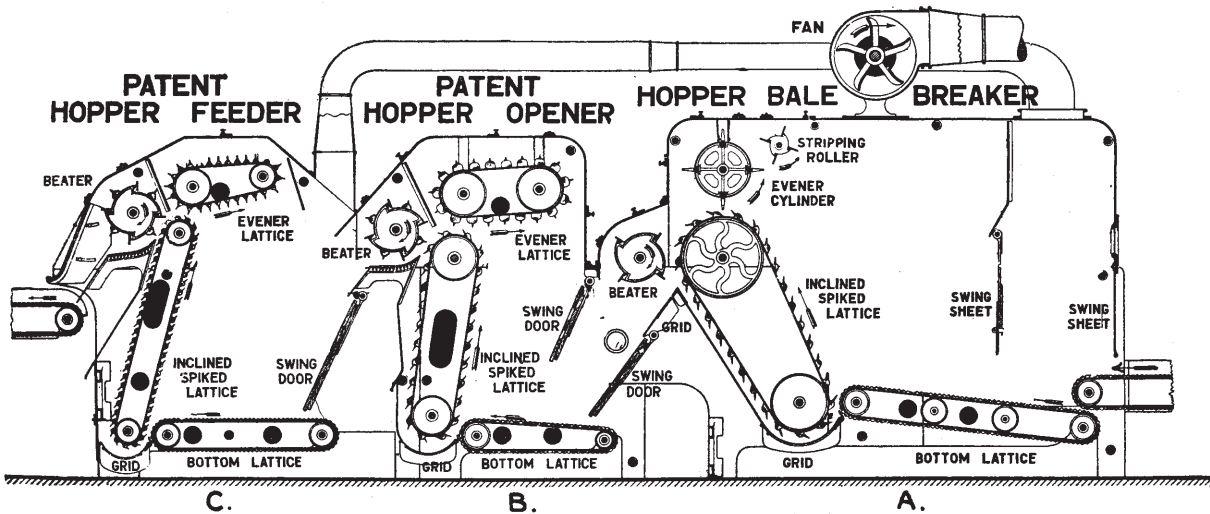


FIG. 188.

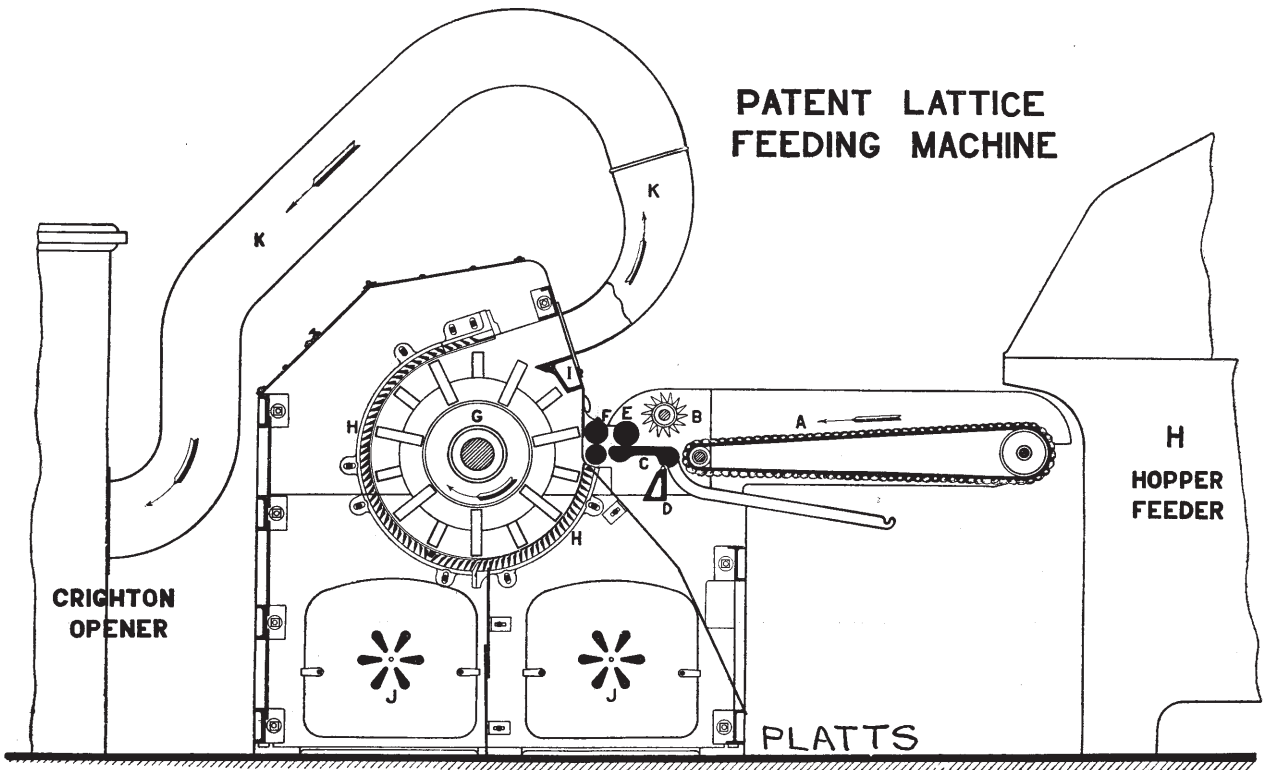


FIG. 189.

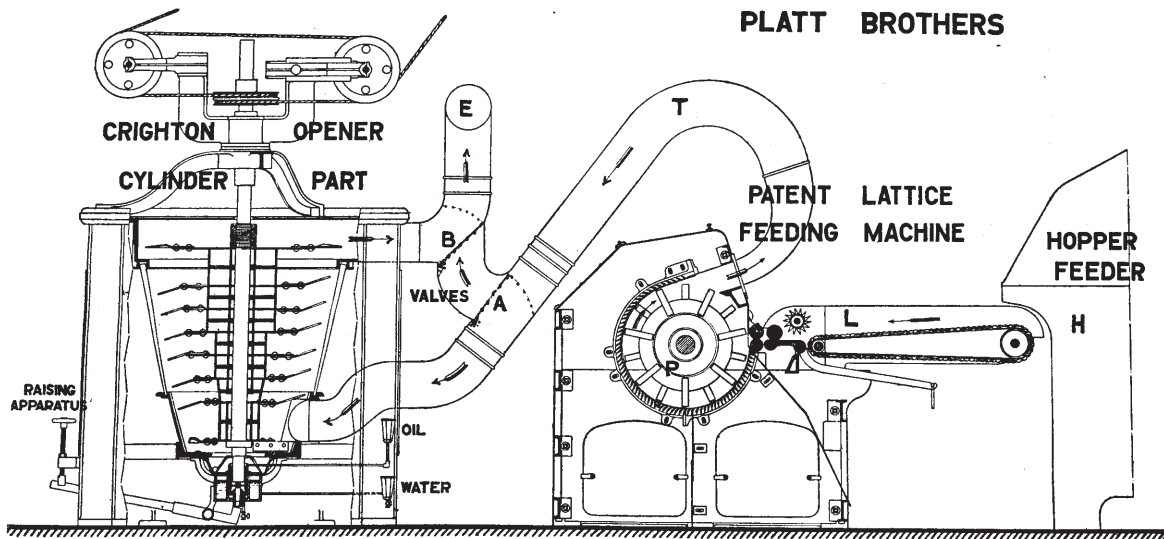


FIG. 190.

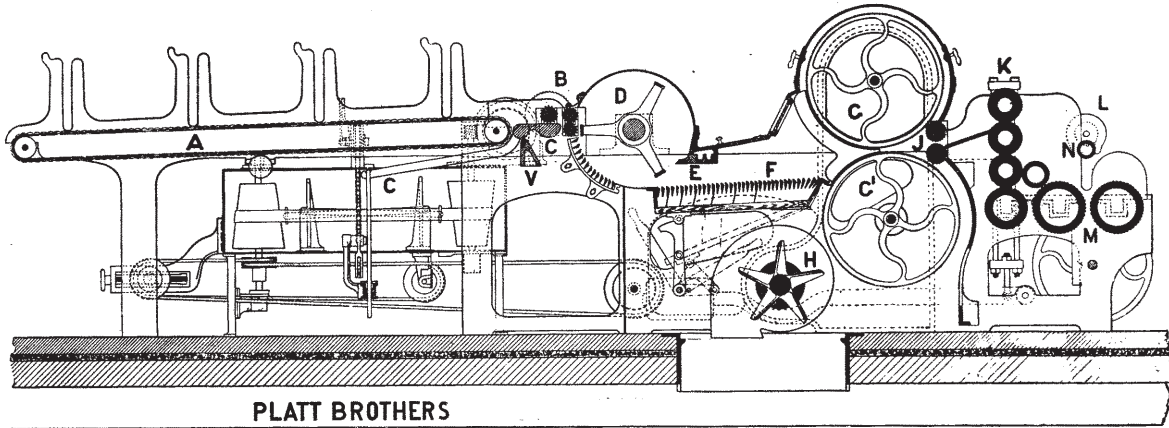


FIG. 191.

ROVINC FRAME

SECTION

THROUGH DRIVING SHAFT

PLATT BROS & C^o L^o

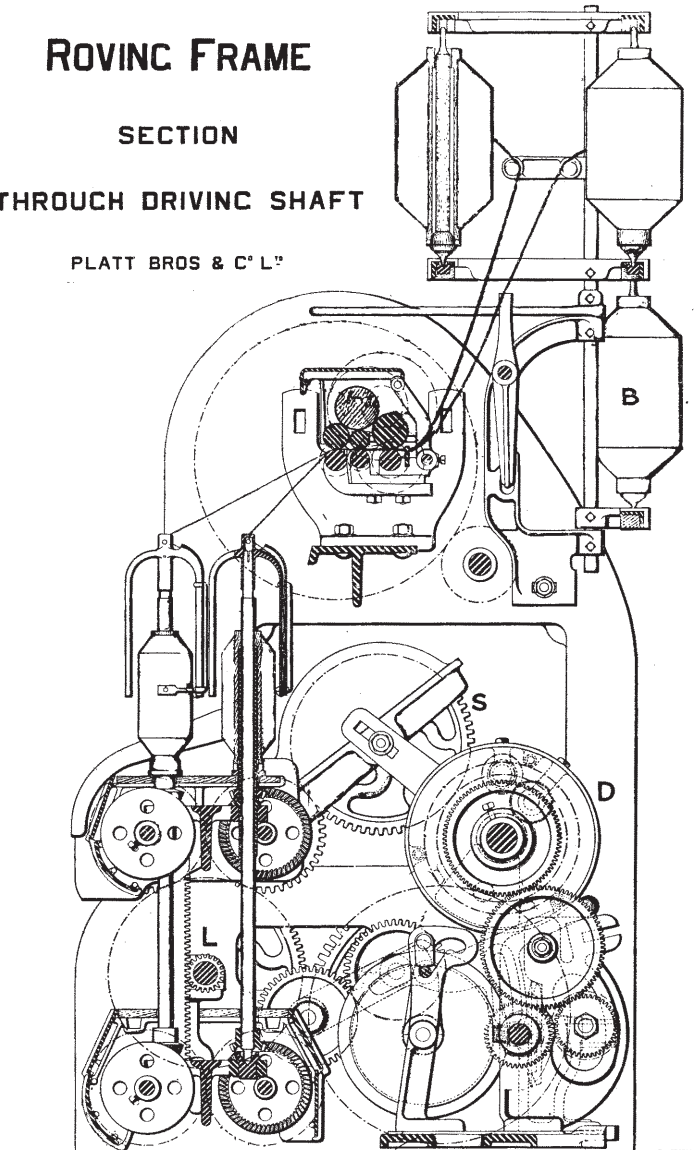


FIG. 192.

RING SPINNING FRAME.

FOR WARP & WEFT YARNS.

SECTION THROUGH INSIDE OF FRAME LOOKING TOWARDS THE HEADSTOCK.

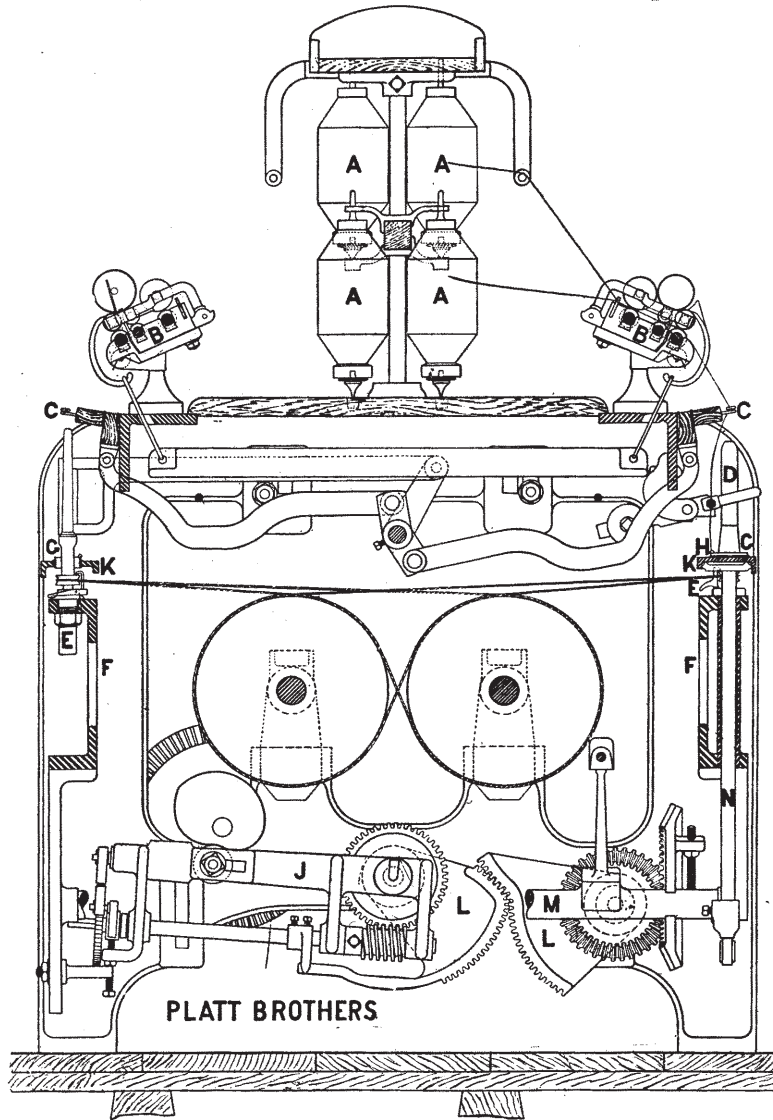


FIG. 193.

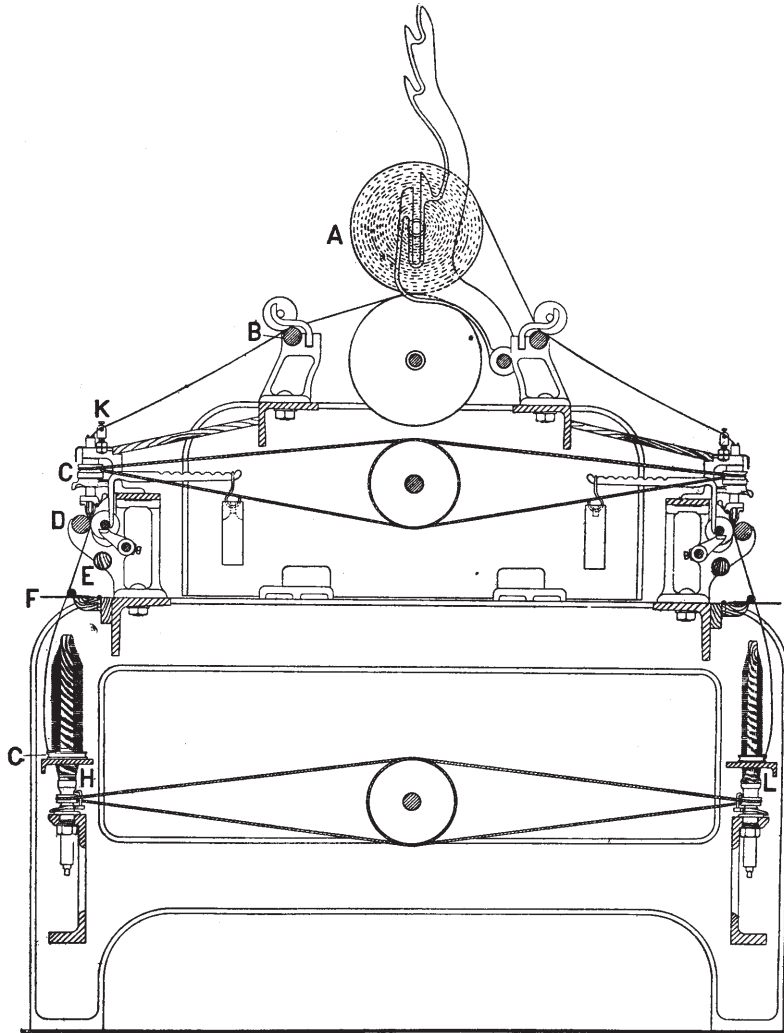


FIG. 194.

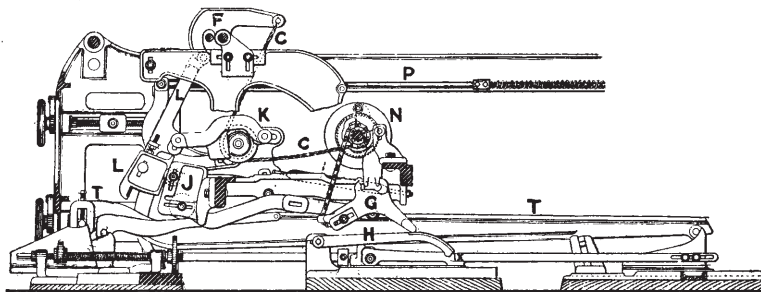


FIG. 195.

COTTON MACHINERY SKETCHES

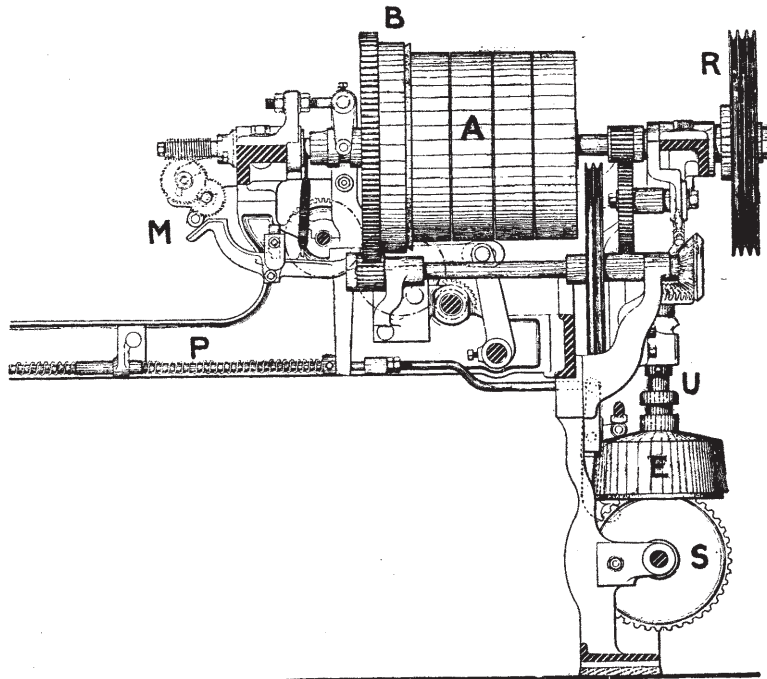


FIG. 196.

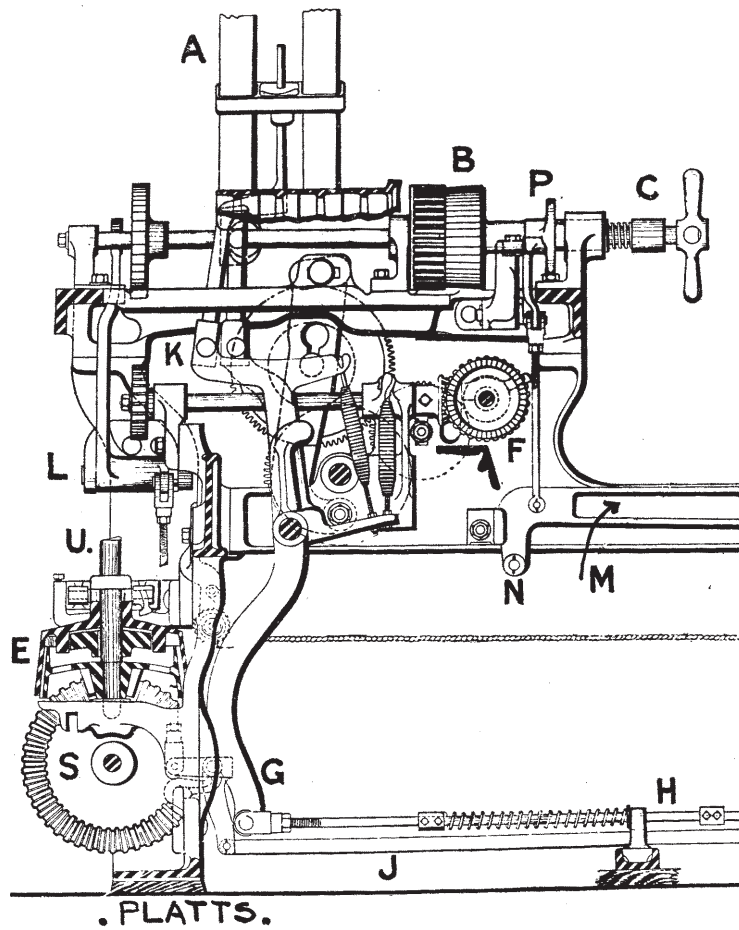


FIG. 197.

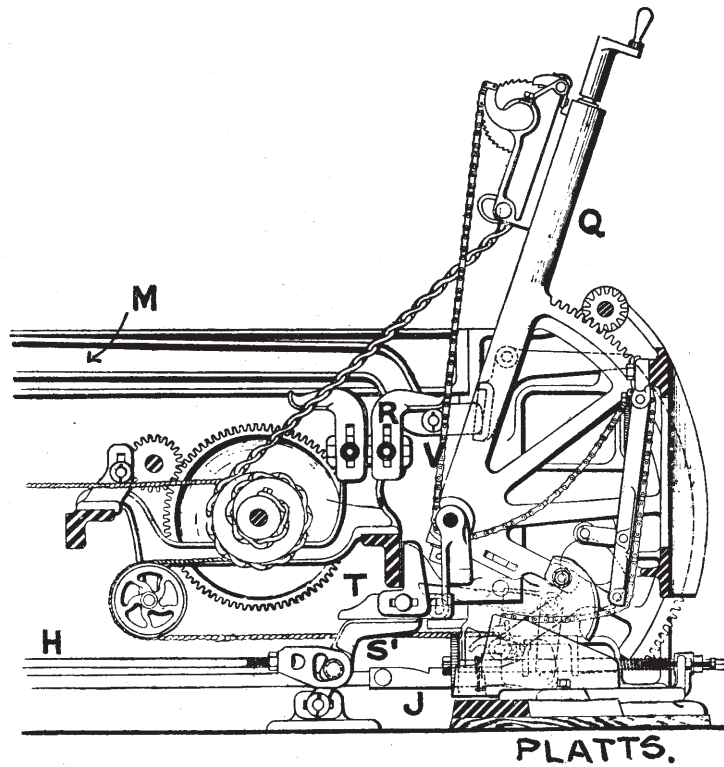


FIG. 198.

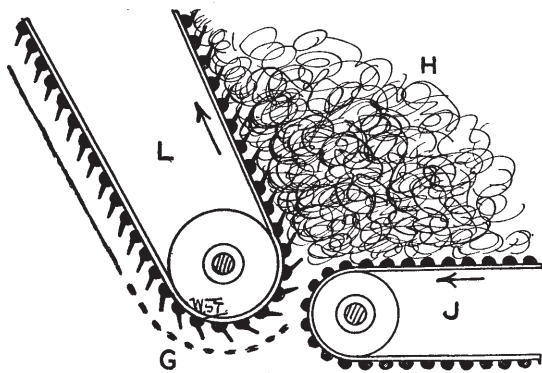


FIG. 199.

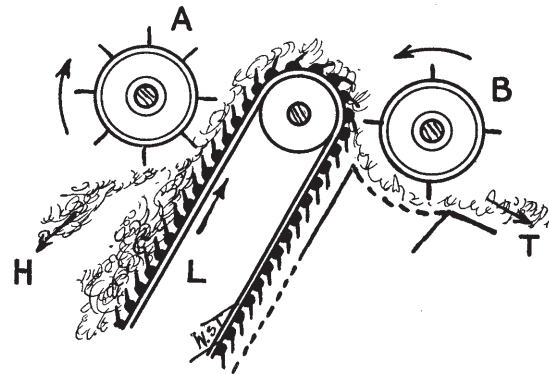


FIG. 200.

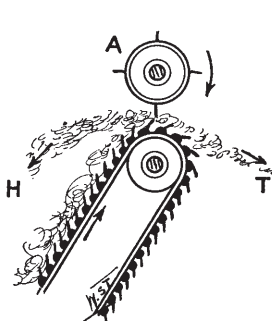


FIG. 201.

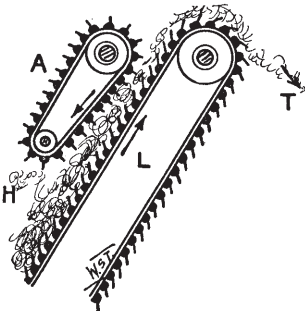


FIG. 202.

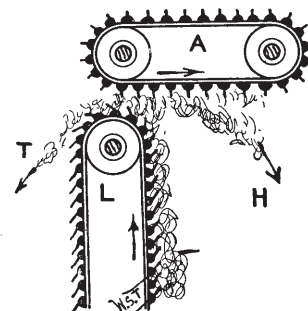


FIG. 203.

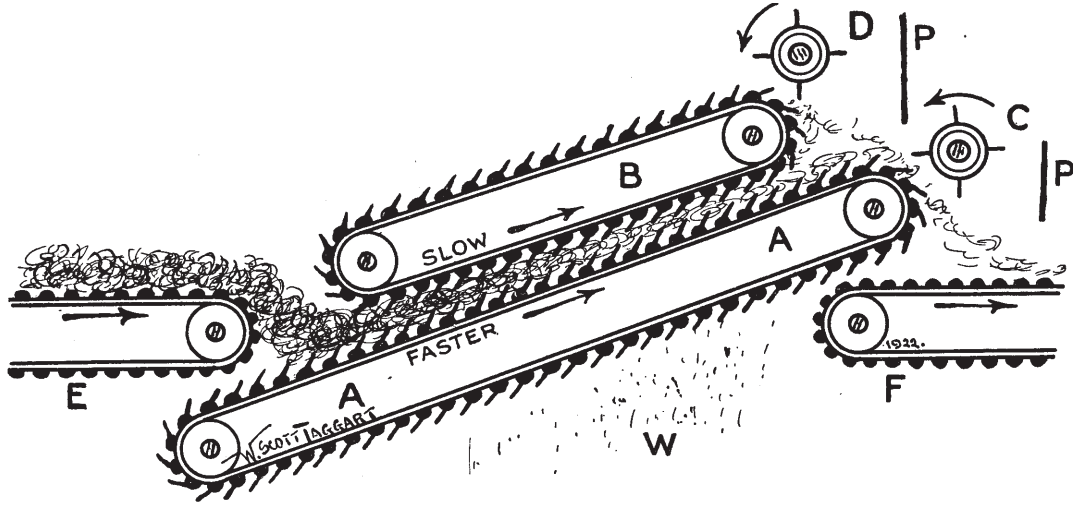


FIG. 204.

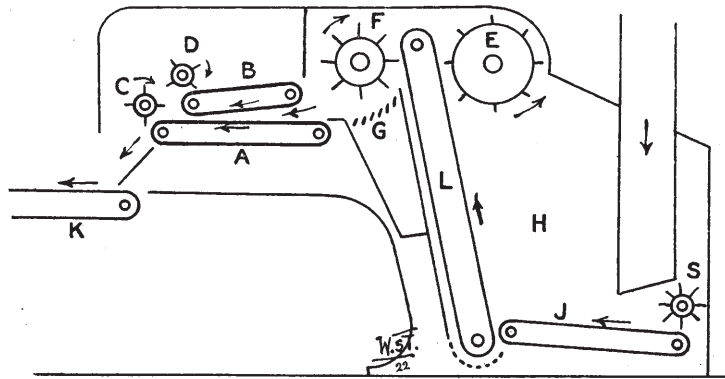


FIG. 205.

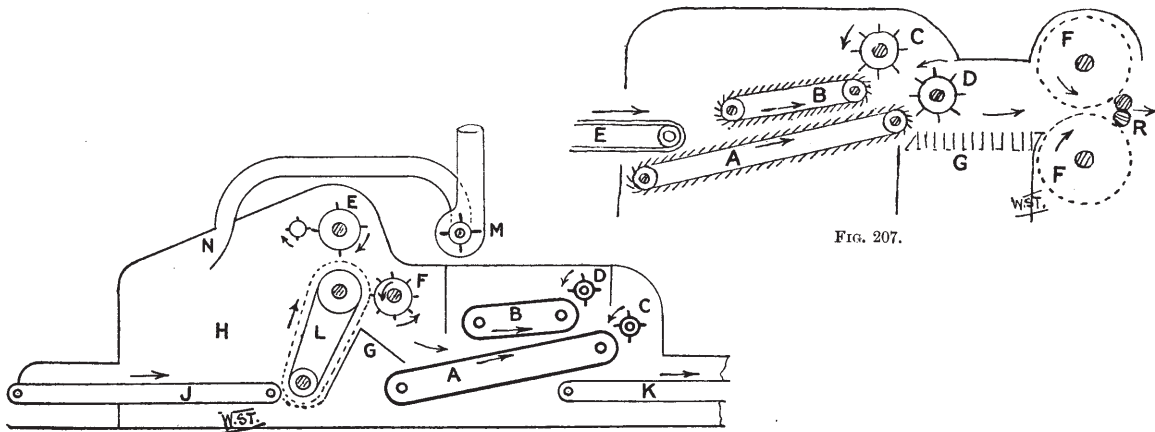


FIG. 206.

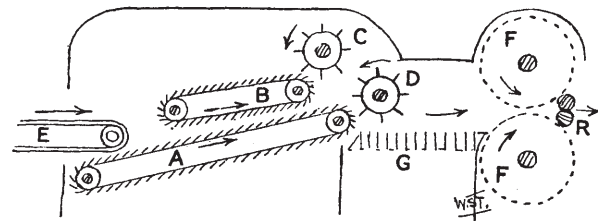
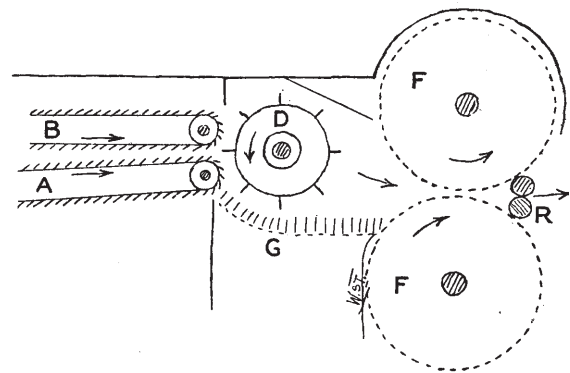
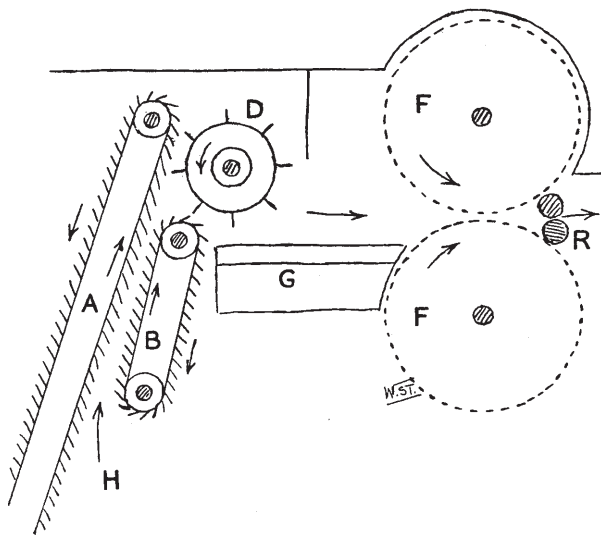
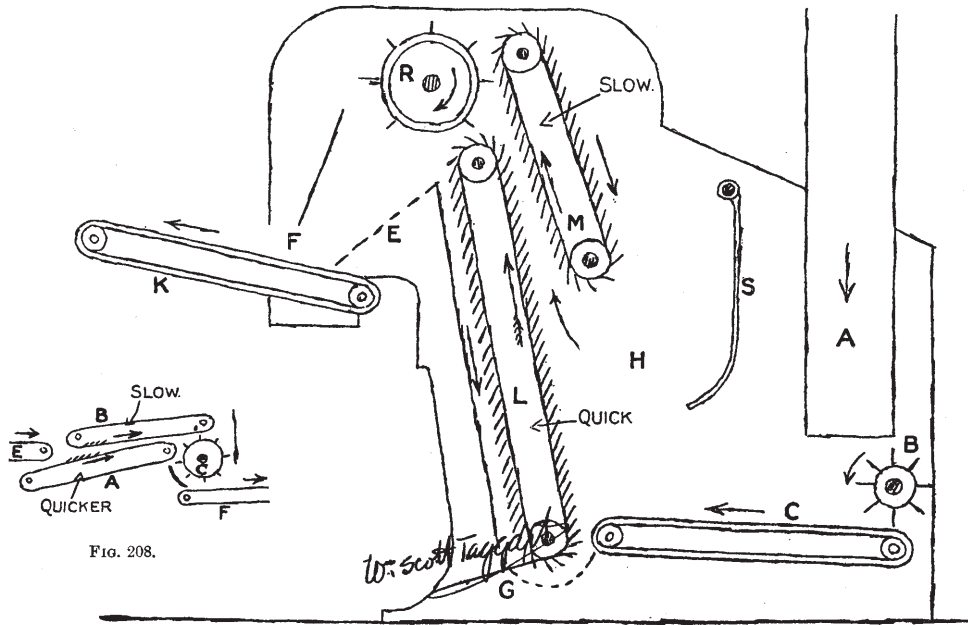


FIG. 207.



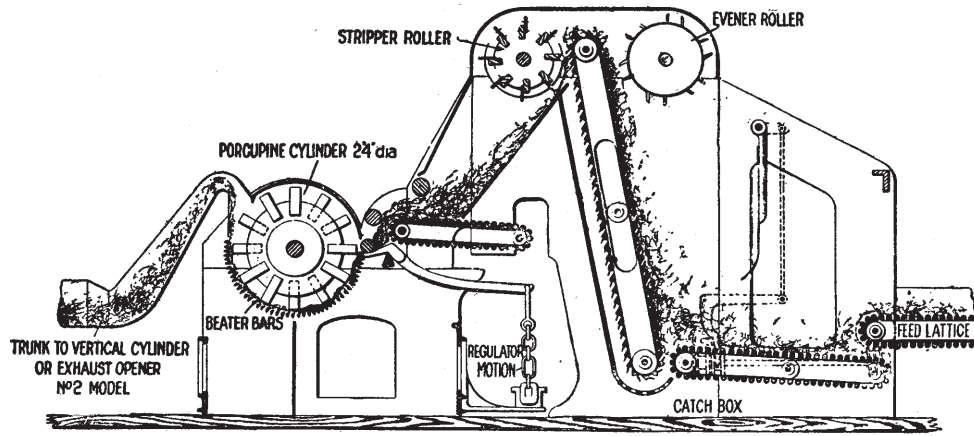


FIG. 212.

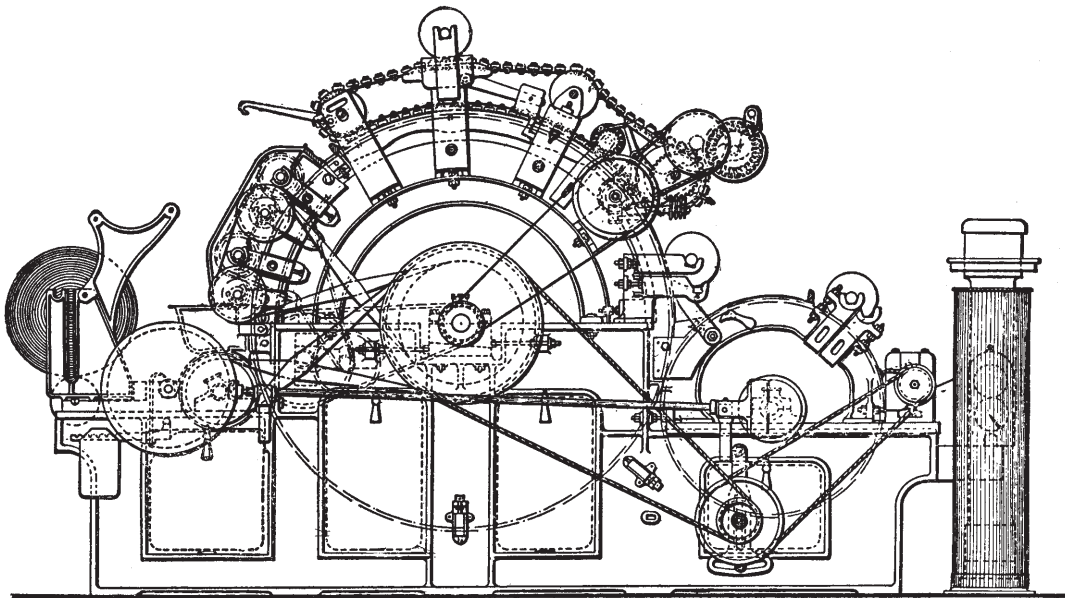


FIG. 213.

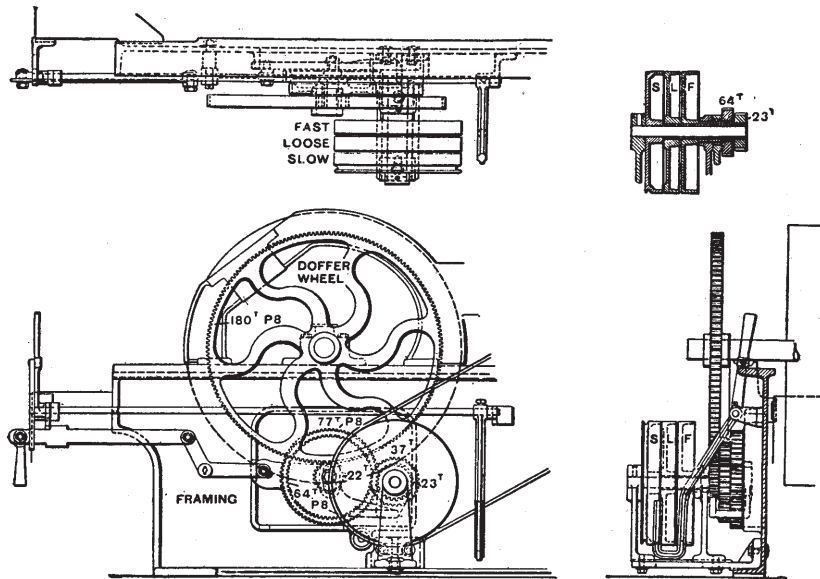


FIG. 214.

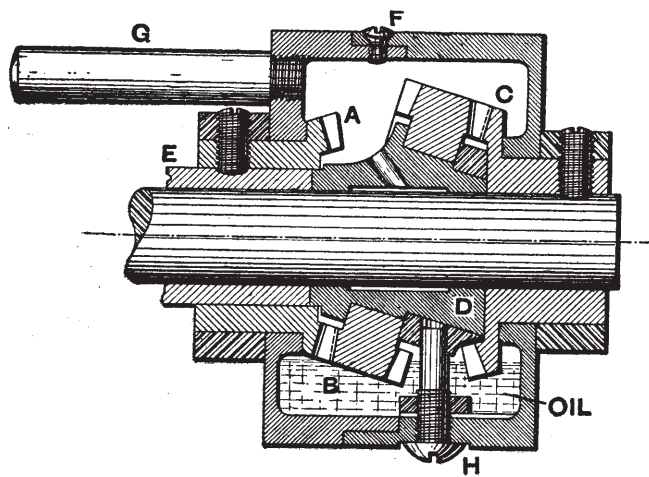


FIG. 215.

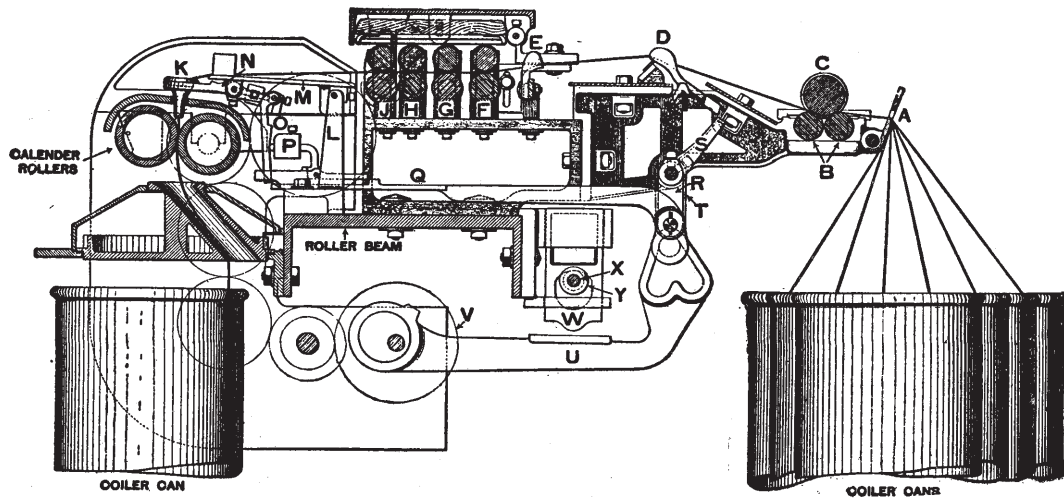


FIG. 216.

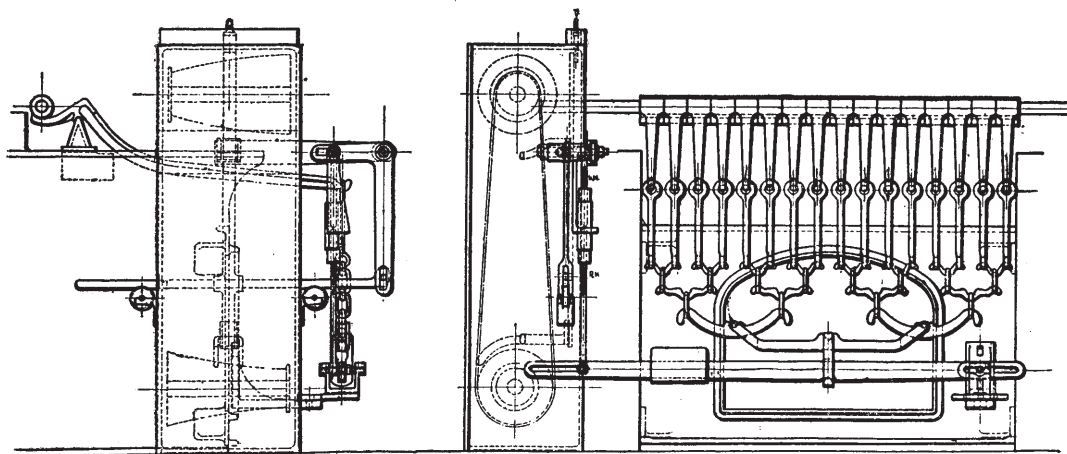


FIG. 217.

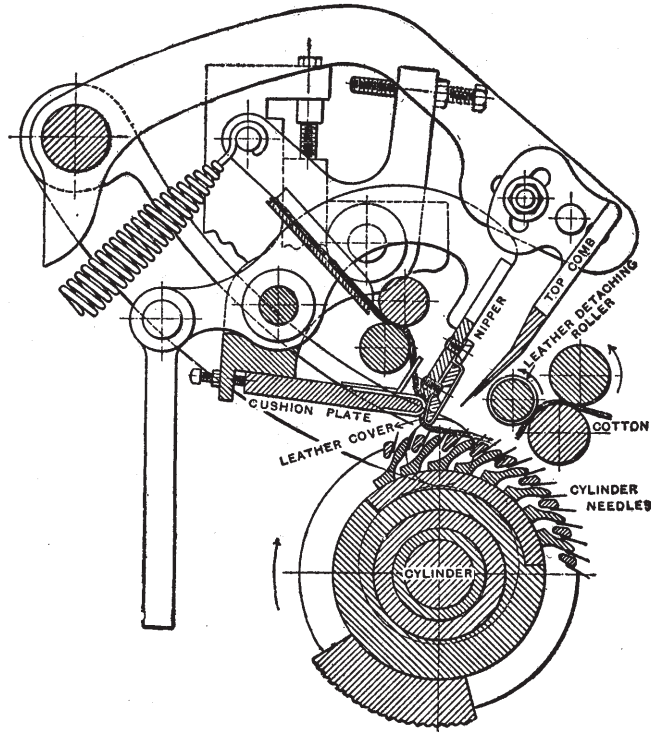


FIG. 218.

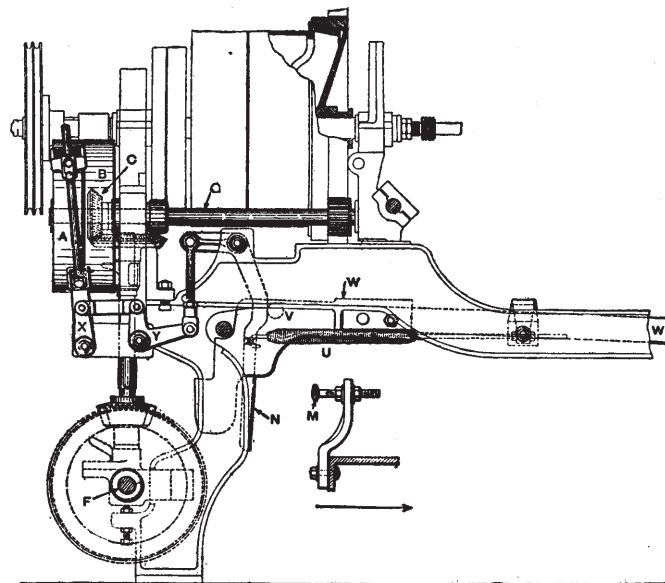


FIG. 219.

COTTON MACHINERY SKETCHES

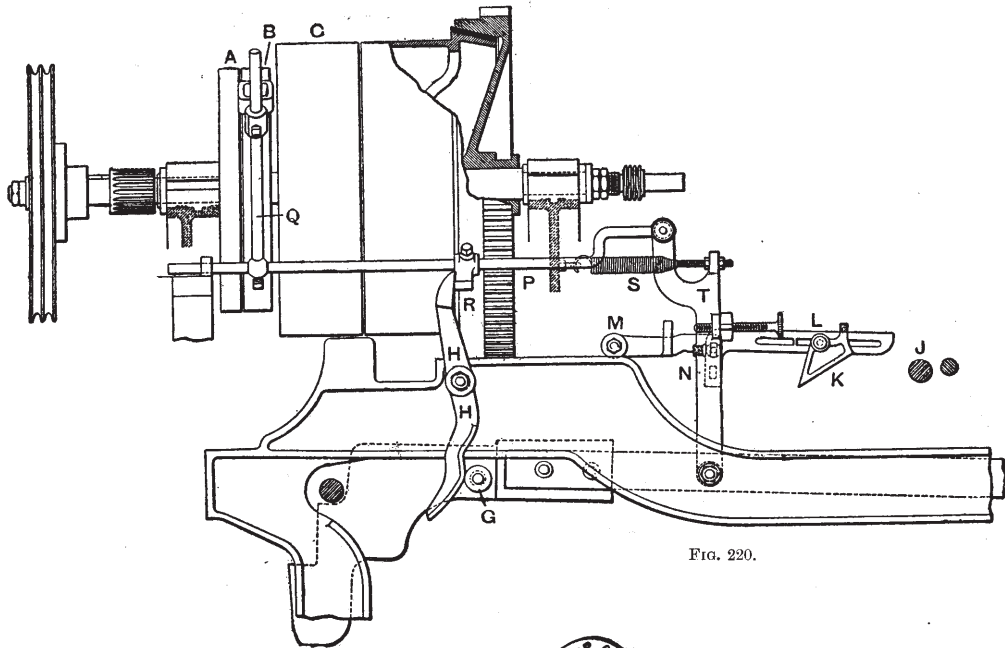


FIG. 220.

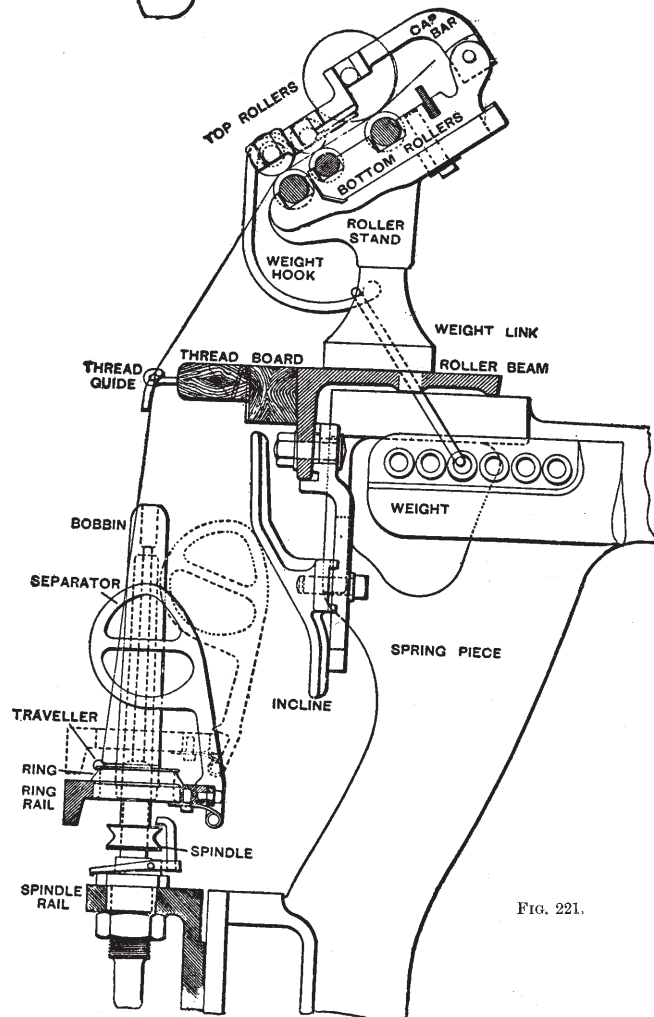


FIG. 221.

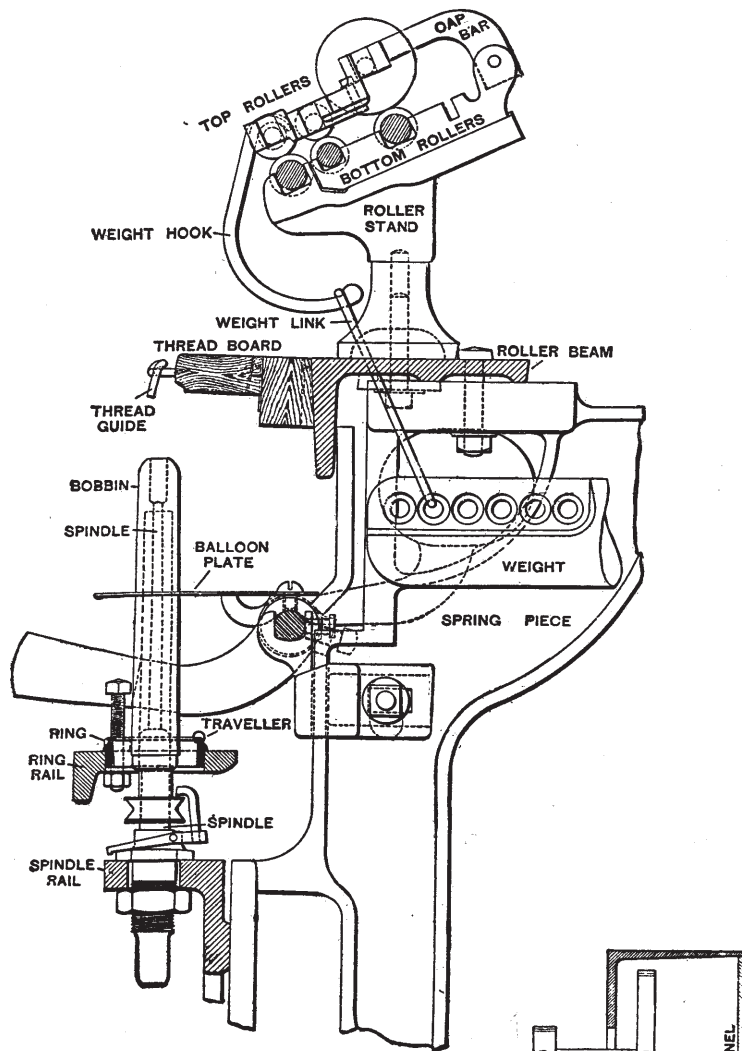
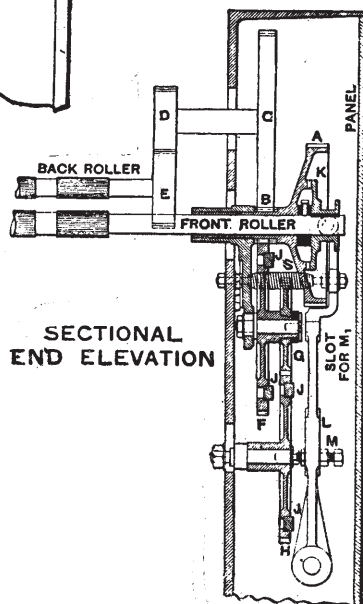


FIG. 222.



SECTIONAL
END ELEVATION

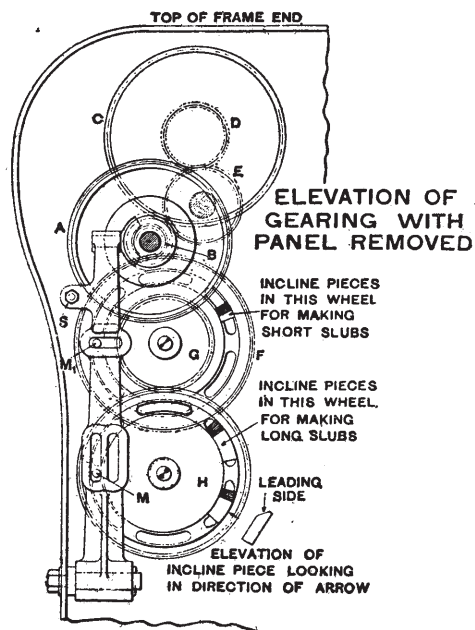


FIG. 223.

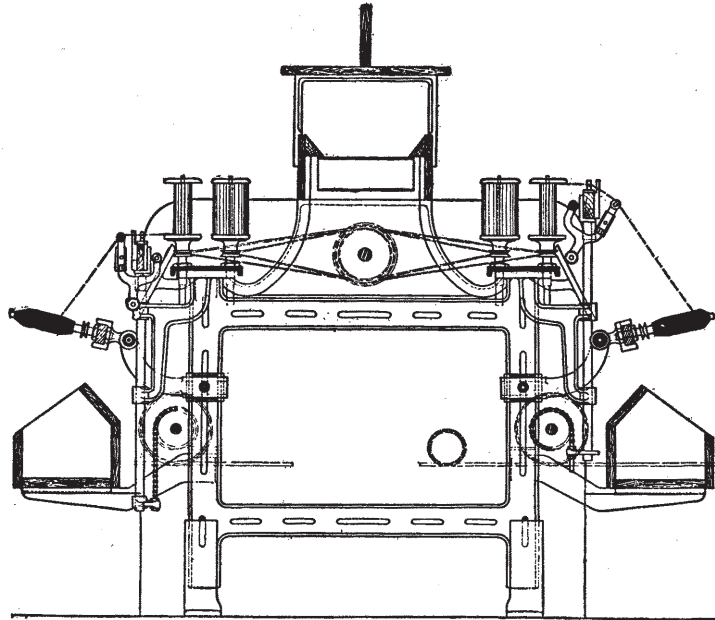


FIG. 224.

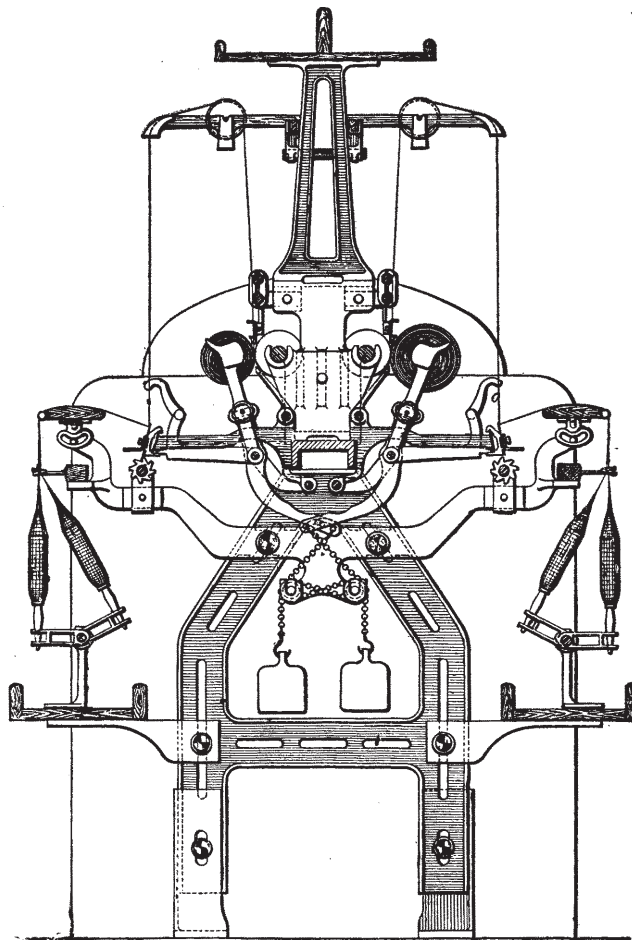


FIG. 225.

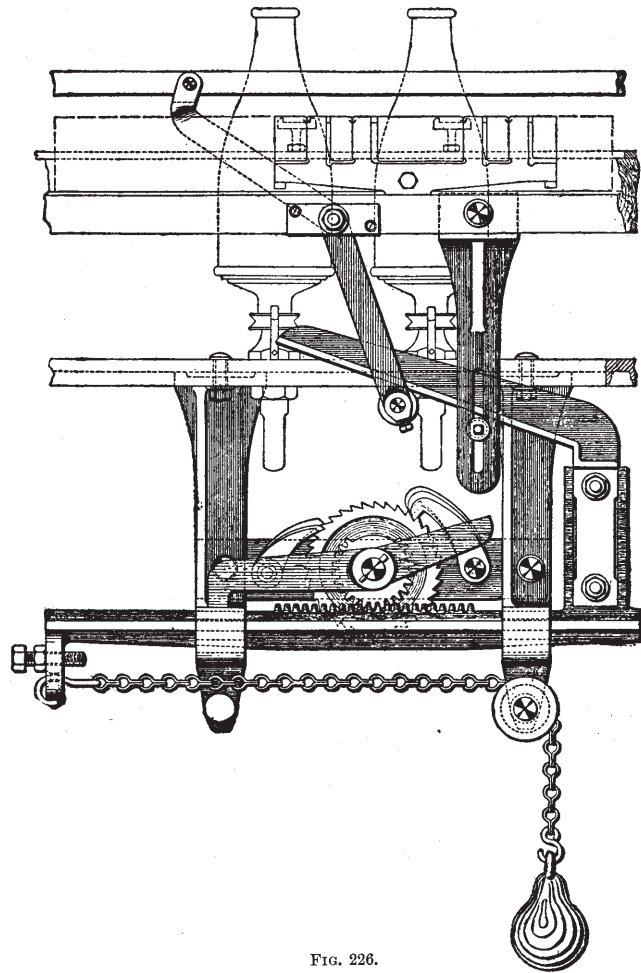


FIG. 226.

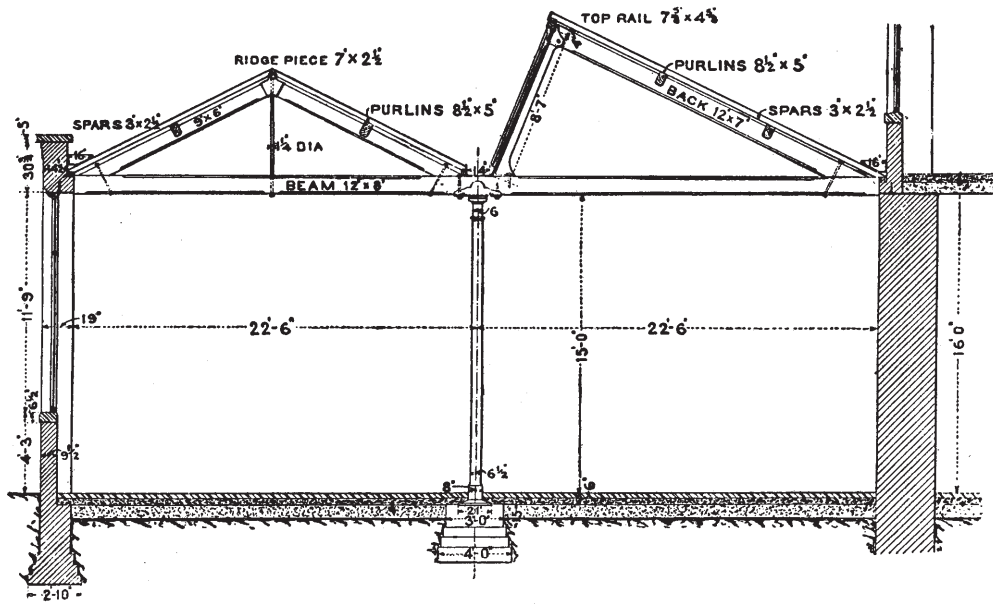


FIG. 227.

COTTON MACHINERY SKETCHES

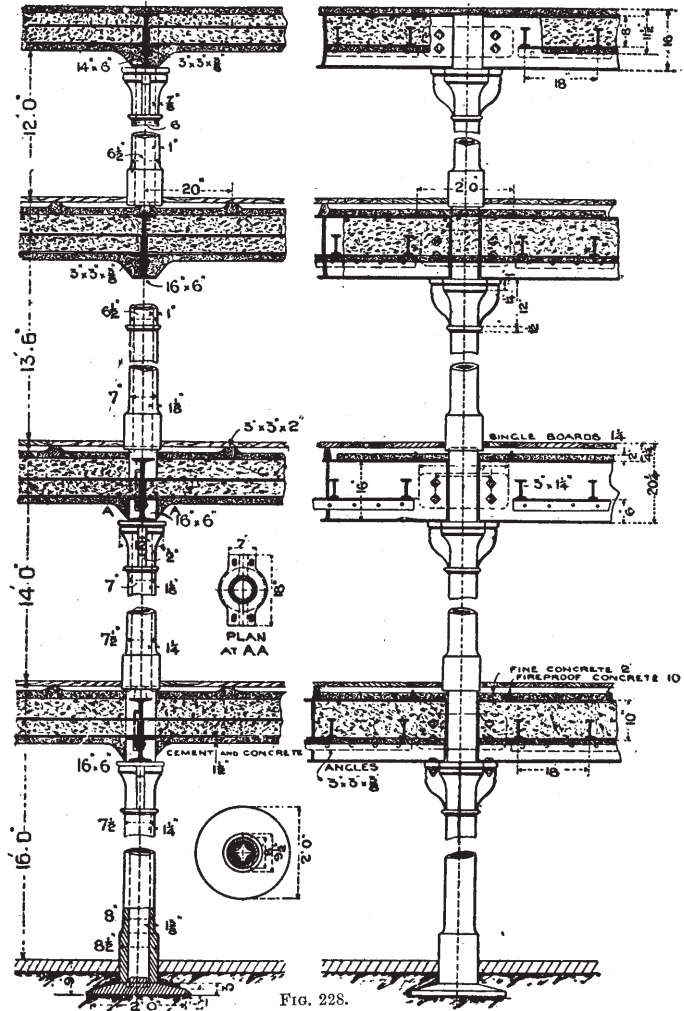


FIG. 228.

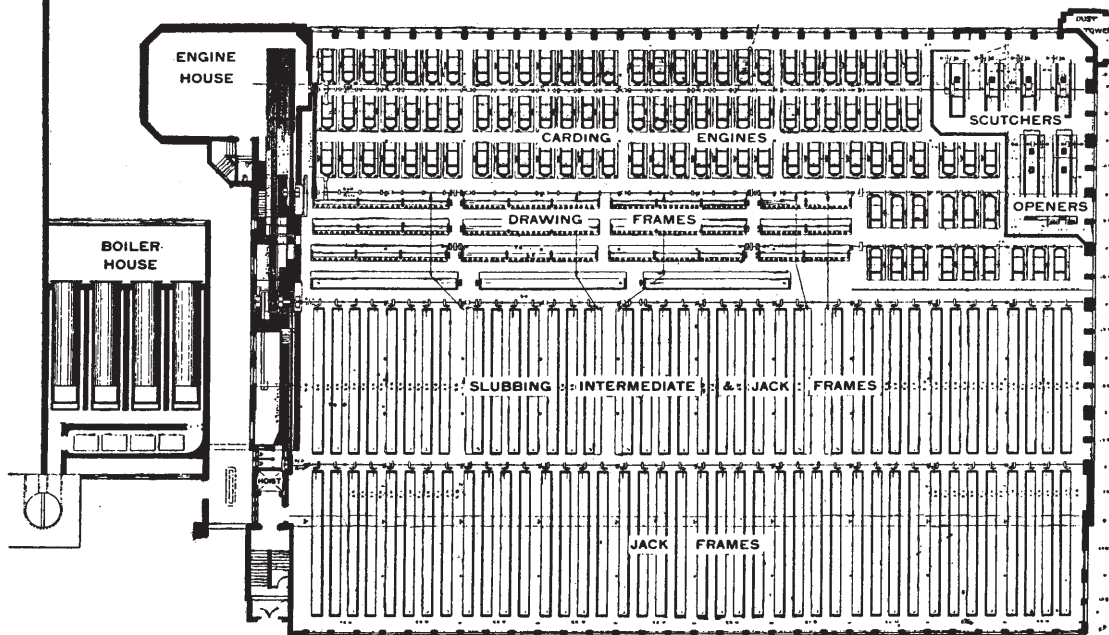


FIG. 229.

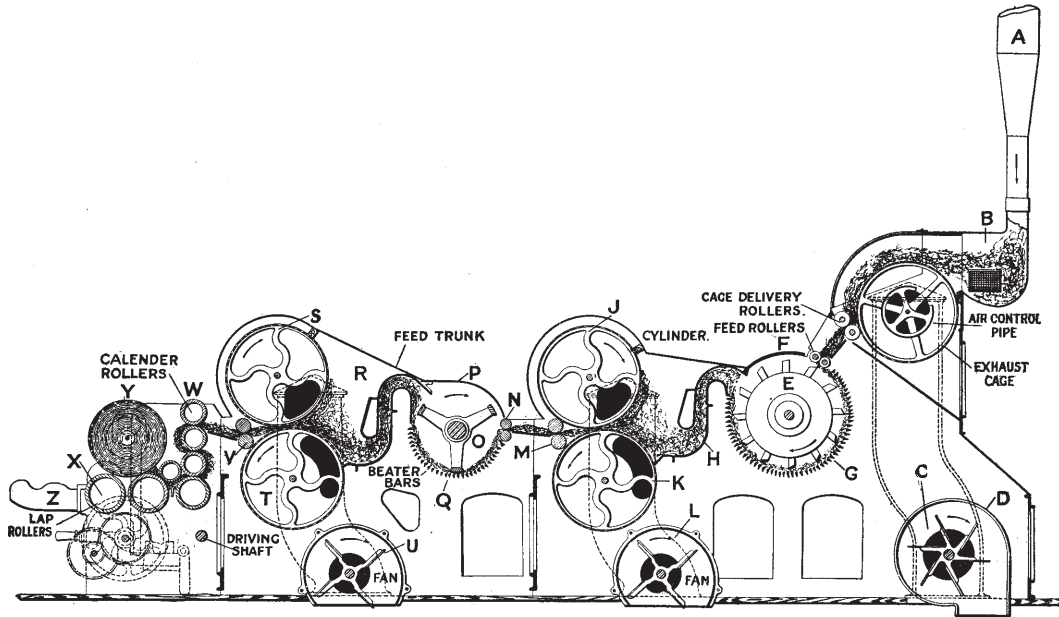


FIG. 230.

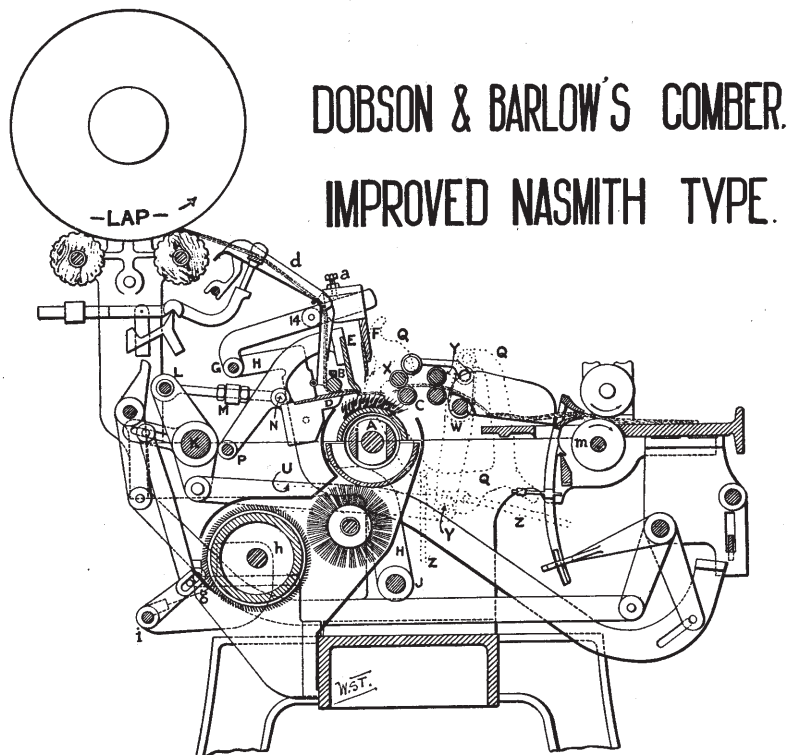


FIG. 231.

DOBSON & BARLOW'S COMBER.
IMPROVED NASMITH TYPE.

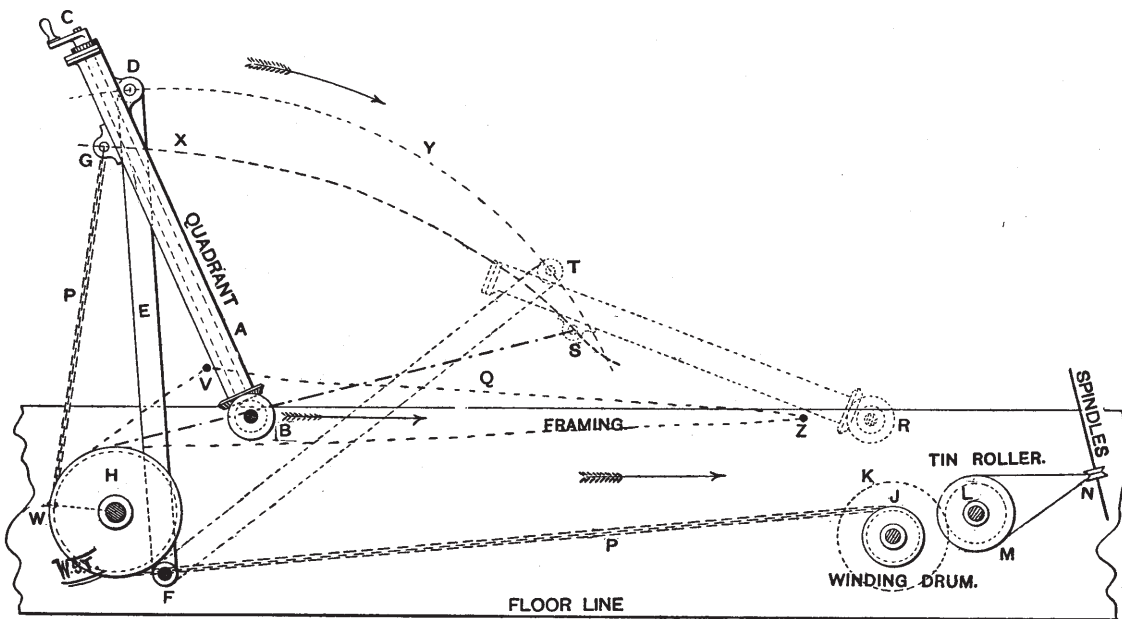


FIG. 232.

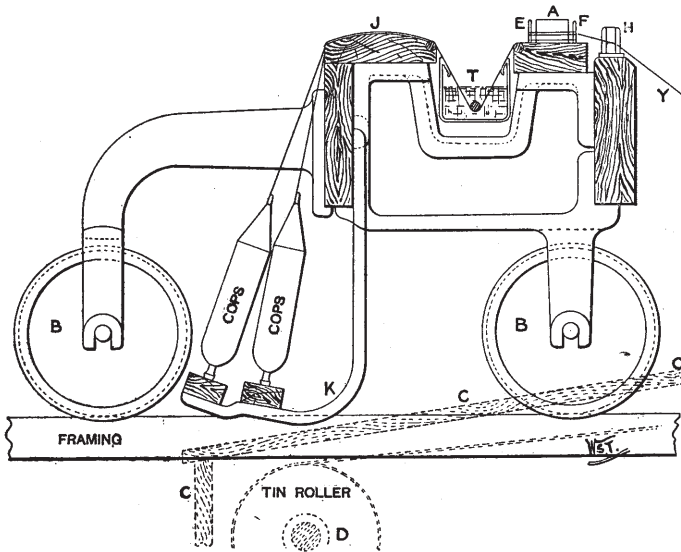


FIG. 233.

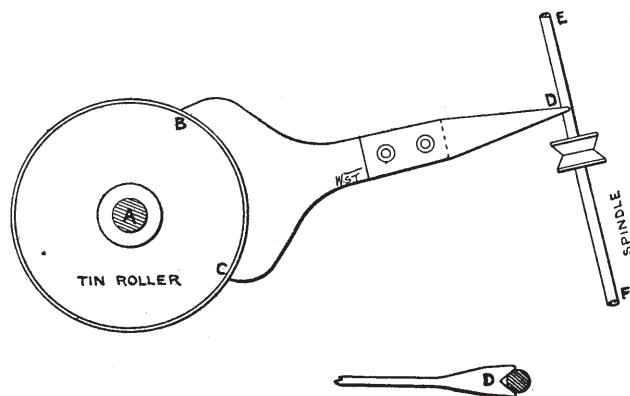


FIG. 234.

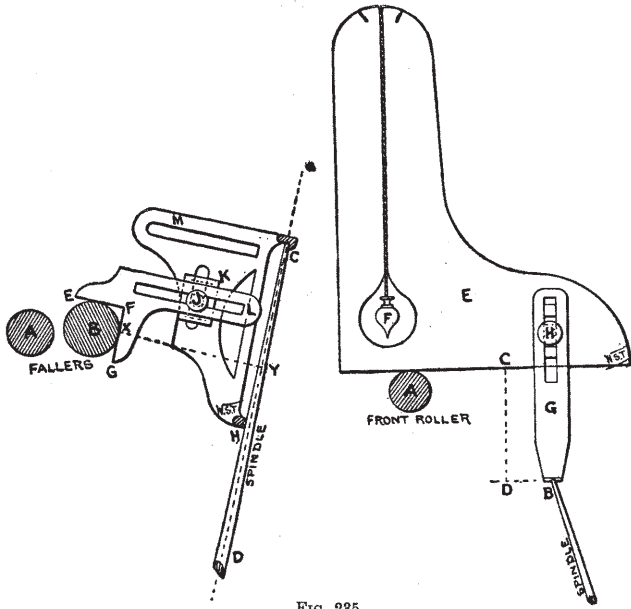


FIG. 285.

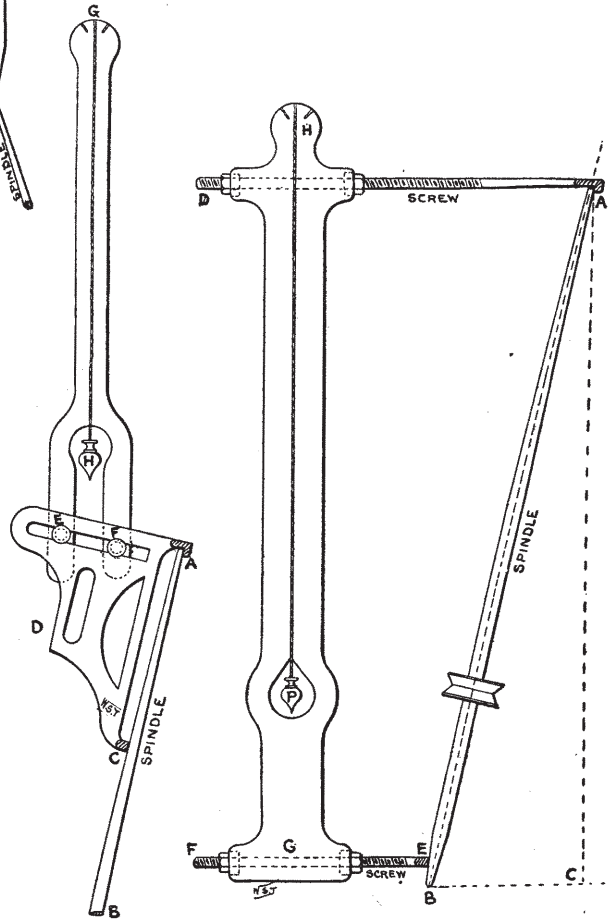


FIG. 286.

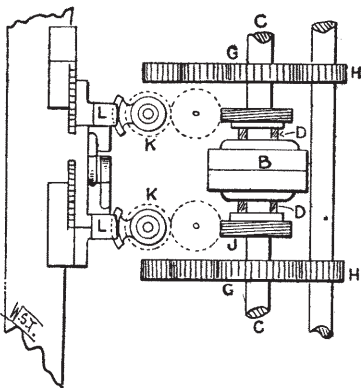


FIG. 287.

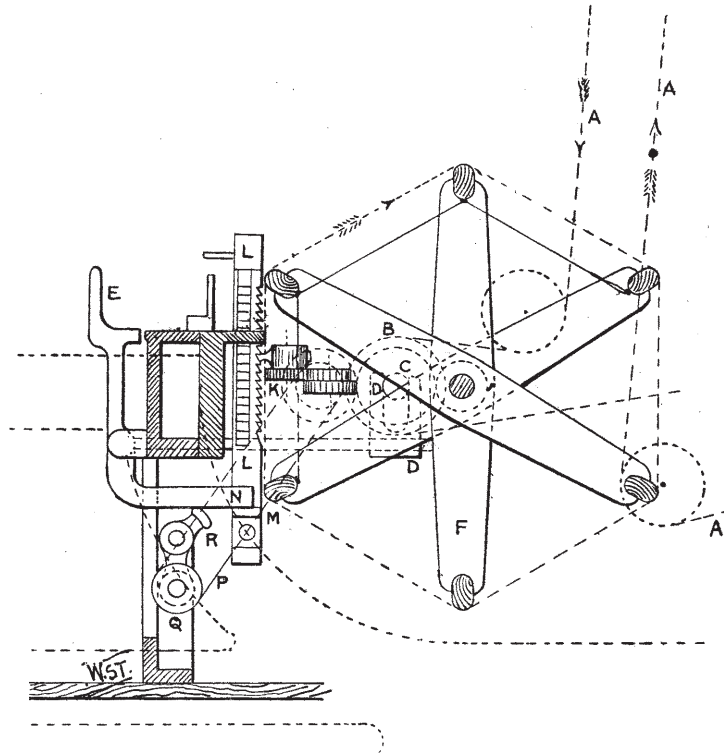


FIG. 238.

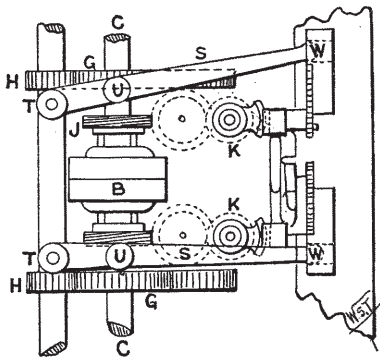


FIG. 239.

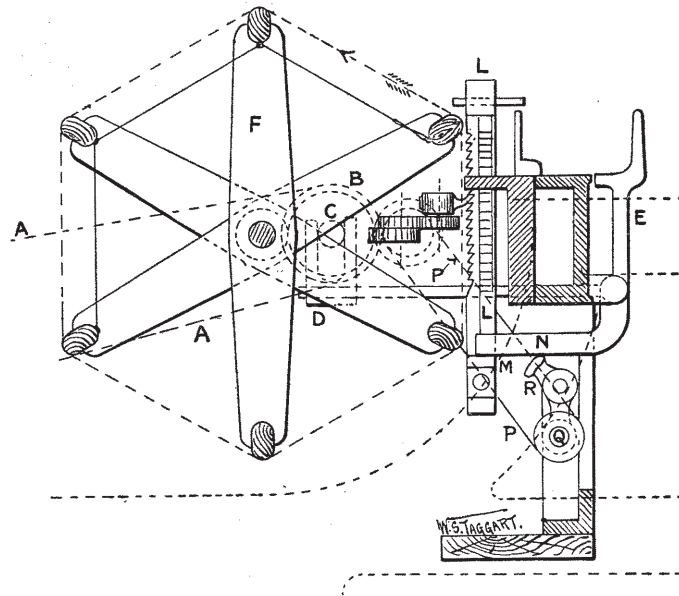


FIG. 240.

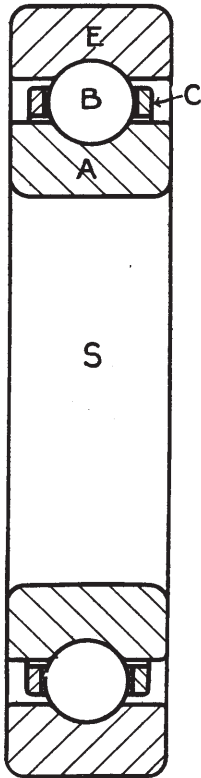


FIG. 241.

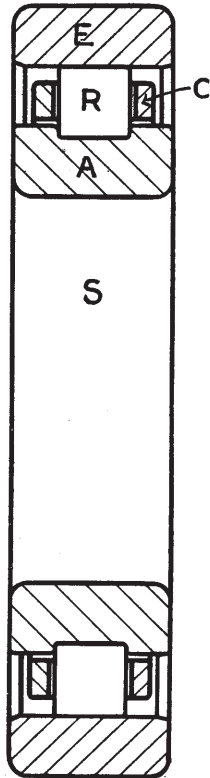


FIG. 242.

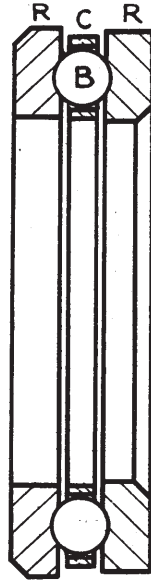


FIG. 243.

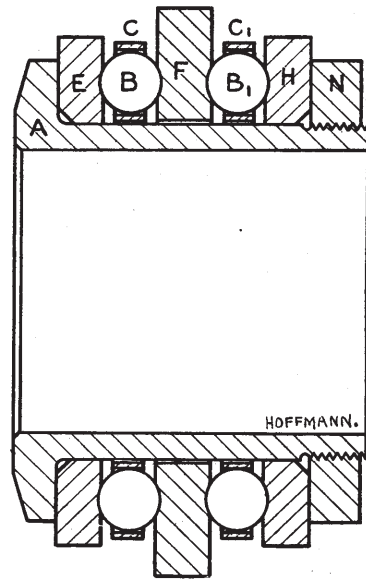


FIG. 244.

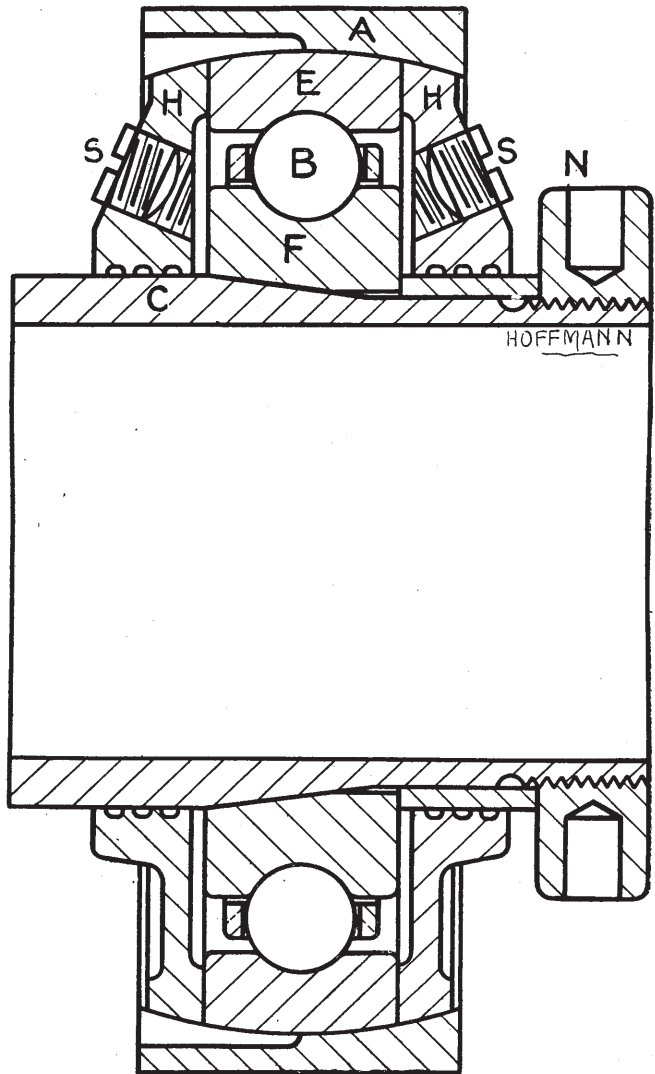


FIG. 245.

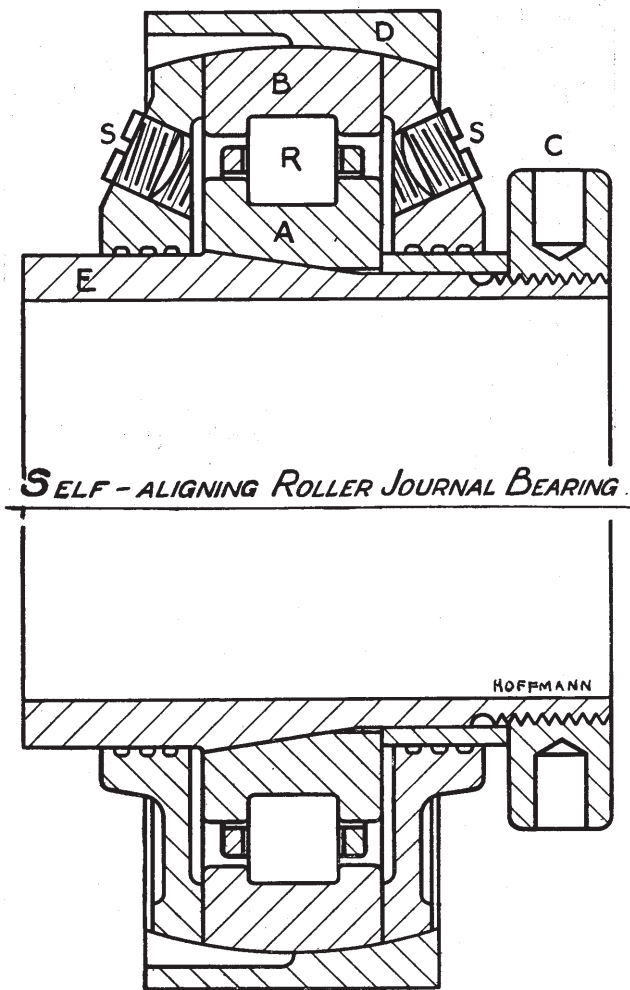


FIG. 246.

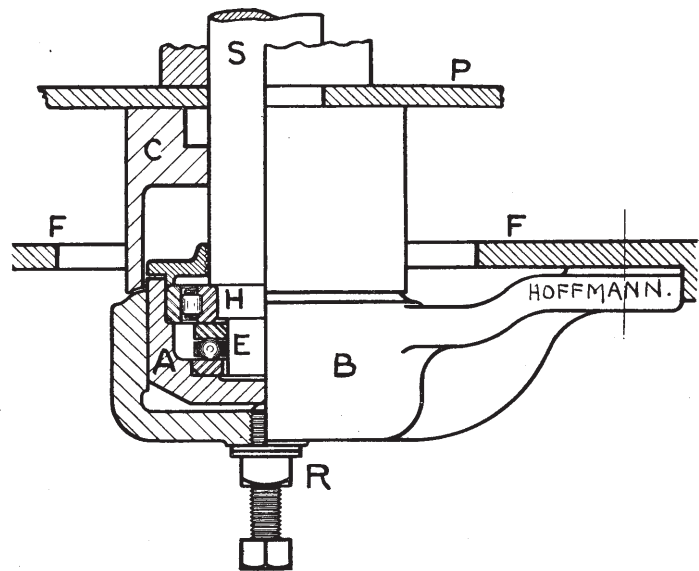


FIG. 247.

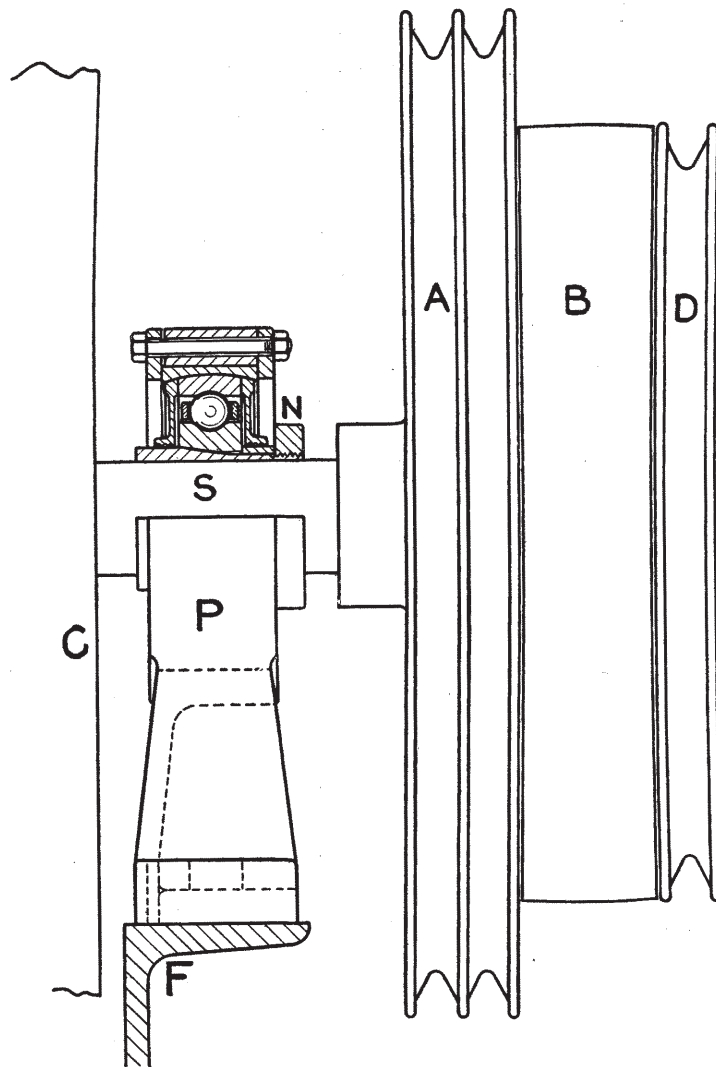


FIG. 248.

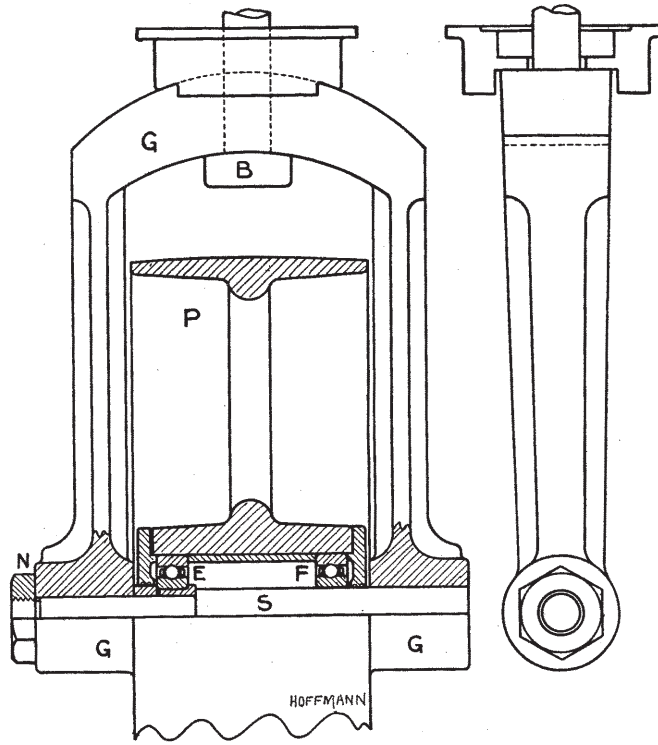


FIG. 249.

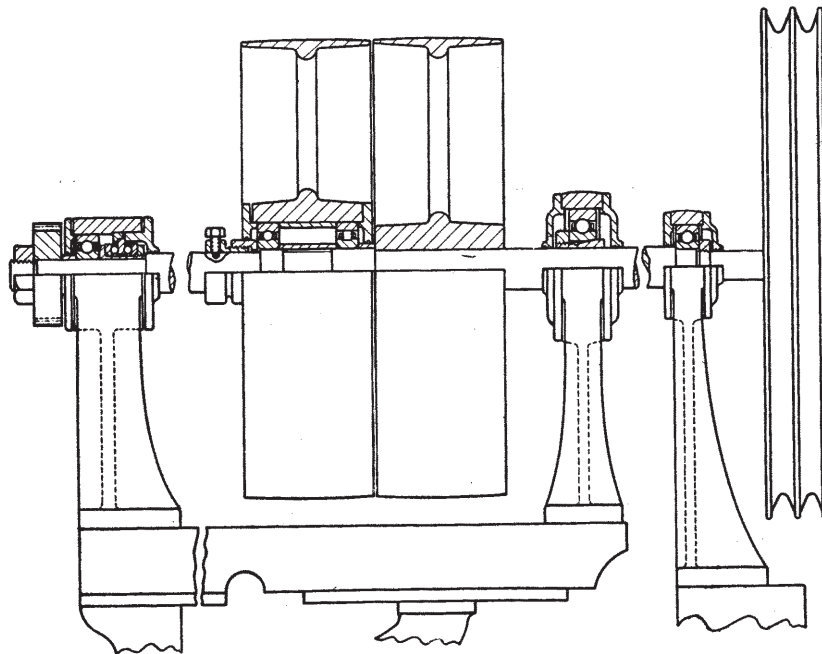


FIG. 250.

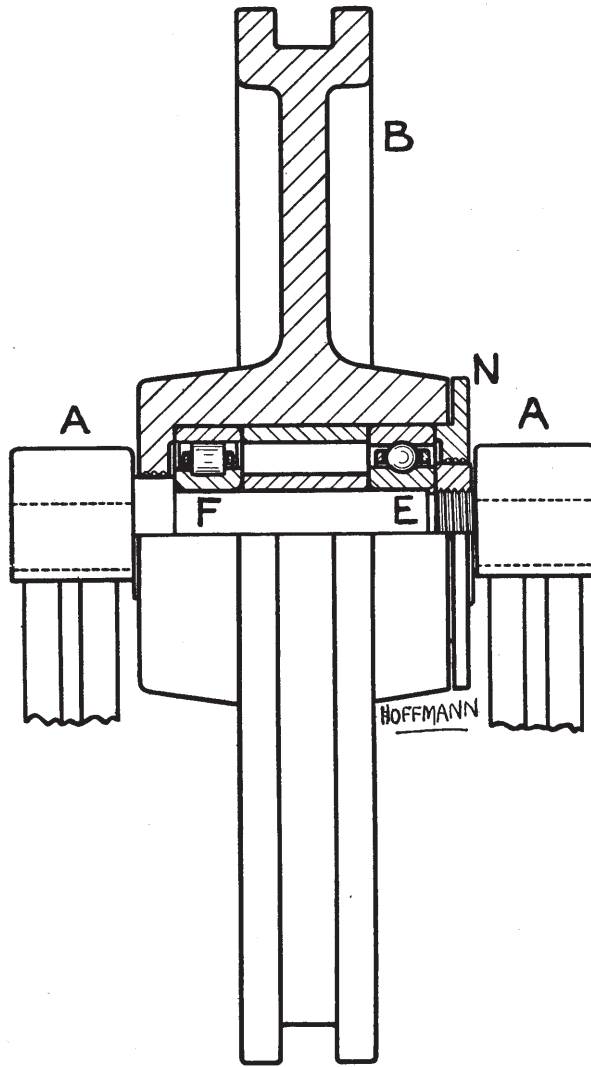


FIG. 251.

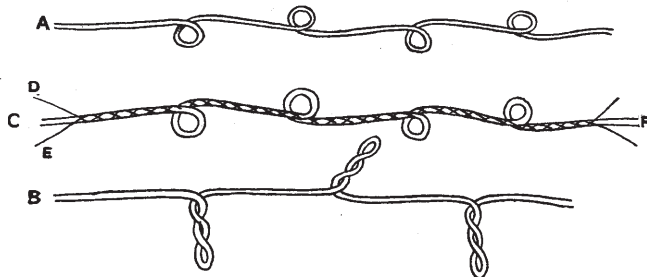


FIG. 252.

COTTON MACHINERY SKETCHES

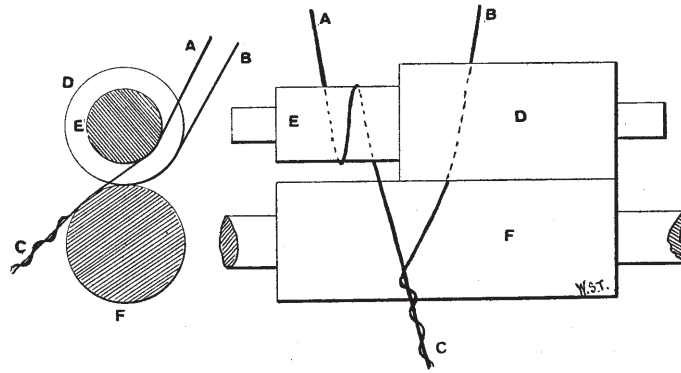


FIG. 253.

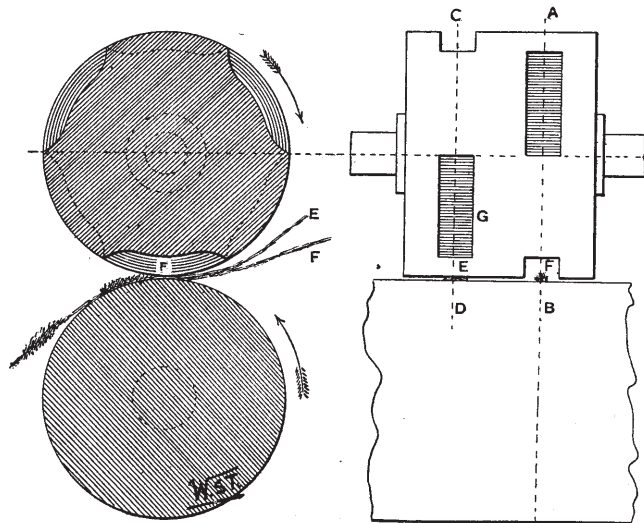


FIG. 254.

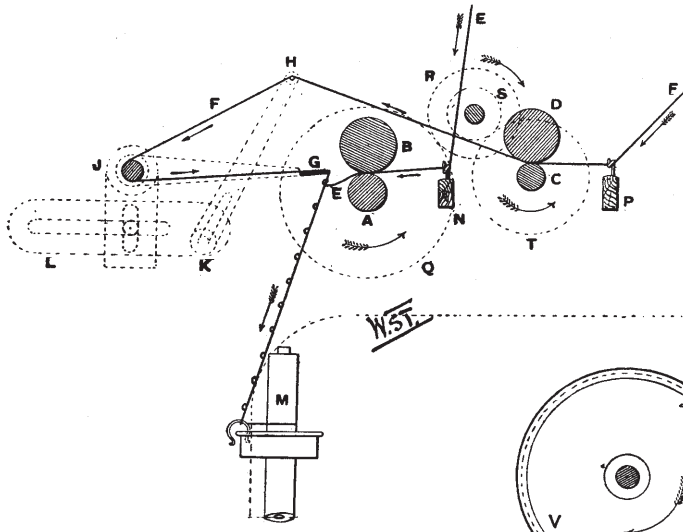


FIG. 259.

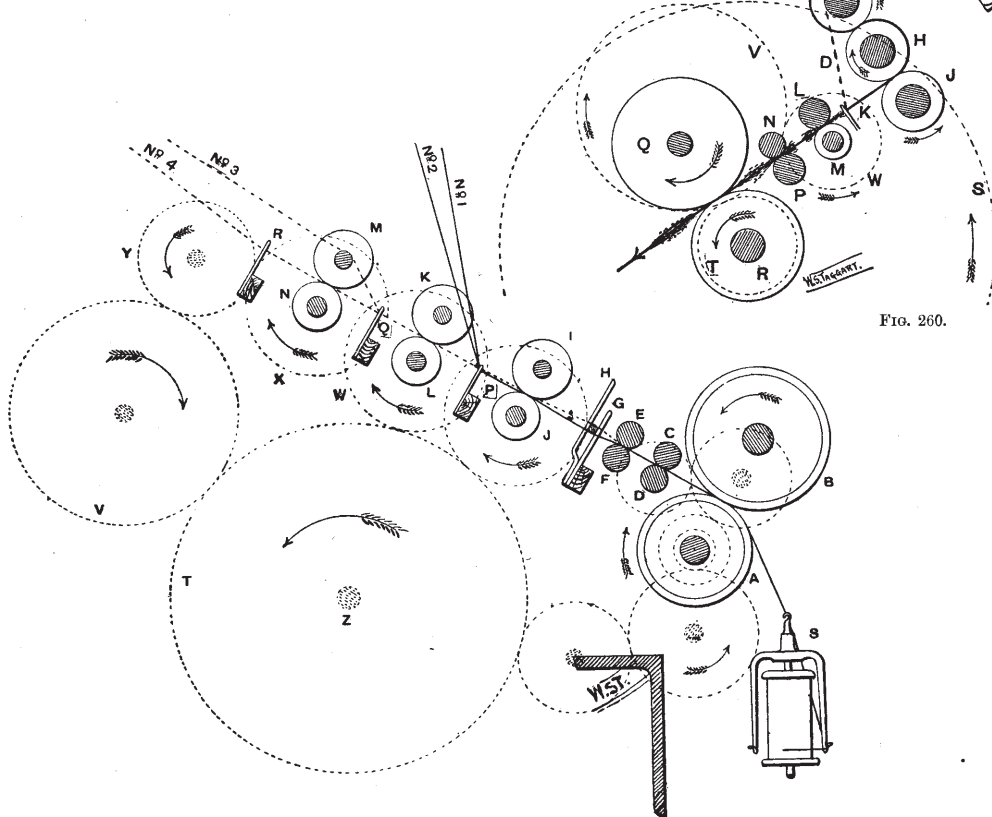
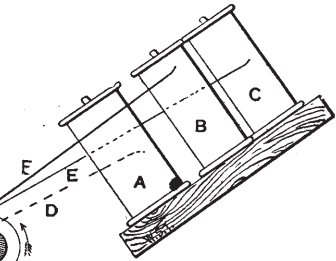
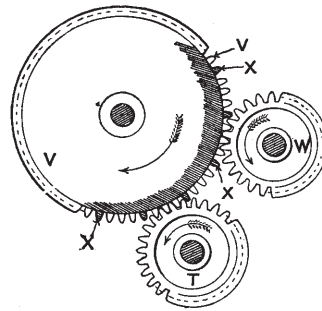


FIG. 260.

FIG. 261.

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