wheels is hollow, and steam circulates freely in it, so as to keep up the required degree of temperature.

The circular combs are fed by a boy, who sits on the ground, and throws the wool upon the teeth in the same manner that the comber does on the hand-comb. When one comb is charged, they are thrown into gear by shifting the driving belt on to the proper pulley ; and as they re­volve with rapidity against each other, gradually approach­ing, as already described, the whole length of the staple is combed out smooth. They are then thrown out of gear, and one end of the sliver being drawn through rollers, the sliver is pulled off by a boy. The *noils* being then re­moved, the machine is charged anew.

After the wool has been combed by one or other of the above means, it is removed to the breaking frame, which opens out any fibres which may have escaped from the combs in a partially felted state. The principal part of the breaking frame consists of two rows of endless comb-chains, of which one pair is exhibited in the annexed figure.

The reader must bear in mind that the frame-work is omit­ted in the drawing, as not being essential to the due un­derstanding of the process. The wool is introduced be­tween the feed-rollers at *a,* by means of an endless apron, upon which equal weights of wool are uniformly spread out from time to time. The teeth of the endless combs are arranged alternately, so that those of the upper are midway between those of the under comb-chain. The arrows in­dicate the direction of the motion, and both move with the same velocity. The two small rollers in the centre are merely to give the chain of combs a due degree of tension. After the wool has passed through the part of the machine here delineated, it is received by two rollers of the same diameter as the feed-rollers. The sliver then passes through a copper trumpet-shaped funnel, and then between another pair of rollers, and falls into a tin can. The respective ve­

locities of the several parts of the machine are as follows. The velocity of the comb-chain is twice that of the feed­rollers, that of the second or receiving rollers (not shewn) twice that of the chain, and that of the last pair a little greater than the second, simply because their diameter is a little more.

The annexed enlarged view of one of the fluted cylinders, around which the end­less chain re­volves, will bet­ter explain the manner in which the comb-chain is formed, and the manner in which it operates. The chain is formed of a series of small rectangular pieces of tin, the half of one over­lapping the other. The hinges are formed by little discs of the metal, which are turned up at right angles. The teeth are soldered to each piece of tin ; and in the end which overlaps is cut a groove, to admit of the free motion of the teeth as the leaves pass over the cylinders. So long as the chain is clear of the cylinders, the tin leaves lie evenly, one upon the other; but as soon as the chain meets the cylin­ders, the overlapping ends are lifted, as shown in the diagram, and the wool upon the teeth is cleaned off or disengaged, so as to be ready to be taken up by the second pair of rol­lers, passed through the funnel between the last pair of rol­lers, and into the can, as already described.

The sliver is now ready for the drawing frame ; but here our task is at an end. The operations of the drawing frame, the roving frame, and the spinning throstle, have been minutely described in the articles Cotton Manufacture and Spinning, and the article Weaving will fill up what is there and here wanting.

A few words must yet be added on the condition of the people employed, and on the future prosperity of the ma­nufacture. The following table is from Mr Miles’s Report on the condition of the hand-loom weavers of the west of England.@@'

*Statement of the Average Wages of different classes of Work-people connected with the Manufacture of Woollen cloth in the county of Gloucester, from the year* 1808 *to* 1838, *shewing the Decrease per cent. in the Wages of each class.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Description of Work-people.** | **By whom the Labour is performed.** | **Amount of Wages paid in the Year.** | | | | | | | | | | | | | |
| **1808 to 1815.** | | **1816 to 1818.** | | **1819 to 1828.** | | **1829 to 1835.** | | **1836.** | | **1837.** | | **1838.** | |
| **1. Sorters** | **Men** | ***s*.**  **30** | ***d.***  **0** | ***s.***  **30** | ***d.***  **0** | ***s*.**  **30** | ***d.***  **0** | ***s.***  **30** | ***d.***  **0** | ***s*.**  **30** | ***d.***  **0** | ***s.***  **30** | ***d.***  **0** | ***s*.**  **30** | ***d.***  **0** |
| **2. Scourers** | **Men** | **15** | **0** | **15** | **0** | **14** | **0** | **13** | **0** | **13** | **0** | **13** | **0** | **13** | **0** |
| **3. Beaters and Pickers** | **Women** | **8** | **0** | **7** | **0** | **6** | **0** | **6** | **0** | **5** | **6** | **5** | **6** | **5** | **6** |
| **4. Engine-man** | **Men** | **..** |  |  |  | **24** | **0** | **24** | **0** | **24** | **0** | **24** | **0** | **24** | **0** |
| **5. Feeders to Scribblers** | **Children** | **4** | **0** | **4** | **0** | **3** | **6** | **3** | **0** | **3** | **0** | **3** | **0** | **3** | **0** |
| **6. Ditto to Carders** | **Children** | **4** | **0** | **4** | **0** | **3** | **6** | **3** | **β** | **3** | **6** | **3** | **6** | **3** | **6** |
| **7. Roller-joiners** | **Children** | **3** | **0** | **3** | **0** | **3** | **0** | **3** | **0** | **2** | **6** | **2** | **6** | **2** | **0** |
| **8. Slubber or Abb Spinner** | **Men** | **24** | **0** | **23** | **0** | **22** | **0** | **21** | **0** | **20** | **0** | **20** | **0** | **17** | **0** |
| **9. Spinner at Jenny** | **Women** | **14** | **0** | **14** | **0** | **12** | **0** | **10** | **0** | **«** | **0** | 7 | **0** | **6** | **0** |
| **10. Mule Spinner** | **Men** |  |  |  |  | **25** | **0** | **25** | **0** | **22** | **0** | **22** | **0** | **22** | **0** |
| **11. Ditto Piecers** | **Women** |  |  |  |  | **6** | **0** | **5** | **0** | **5** | **0** | **5** | **0** | **5** | **0** |
| **12. Warpers** | **Women** | **10** | **0** | **9** | **0** | **8** | **0** | **7** | **0** | **7** | **0** | **7** | **0** | **7** | **0** |
| **13. Master Weavers and Factory Weavers....** | **Men &**  **Women** | **16** | **0** | **16** | **0** | **13** | **0** | **12** | **0** | **11** | **0** | **10** | **0** | **10** | **0** |
| **14. Millmen** | **Men** | **21** | **0** | **21** | **0** | **20** | **0** | **20** | **0** | **20** | **0** | **20** | **0** | **20** | **0** |
| **15. Burlers** | **Women** | **10** | **0** | **10** | **0** | **10** | **0** | **7** | **0** | **6** | **0** | **6** | **0** | **6** | **0** |
| **16. Rowers or Koughers** | **Men** | **21** | **0** | **24** | **0** | **24** | **0** | **24** | **0** | **24** | **0** | **24** | **0** | **24** | **0** |
| **17. Dyers** | **Men** | **24** | **0** | **24** | **0** | **20** | **0** | **18** | **0** | **16** | **0** | **14** | **0** | **12** | **0** |
| **18. Cutters** | **Men** | **21** | **0** | **20** | **0** | **20** | **0** | **18** | **0** | **16** | **0** | **14** | **0** | **13** | **0** |
| **19. Brushers** | **Men** | **15** | **0** | **15** | **0** | **15** | **0** | **14** | **0** | **14** | **0** | **14** | **0** | **14** | **0** |
| **20. Markers and Drawers** | **Women** | **10** | **0** | **10** | **0** | **9** | **0** | **9** | **0** | **8** | **0** | **8** | **0** | **8** | **0** |
| **21. Pressers and Packers** | **Men** | **18** | **0** | **18** | **0** | **16** | **0** | **14** | **0** | **13** | **0** | **13** | **0** | **13** | **0** |

@@@, Assistant Commissioners’ Reports, part v. p. 374.