Roving. (Cotton-manufacture.) 1. A slightly twisted silver of cotton or other carded fiber.

2. A process intervening between carding and spinning, in which a number of silvers from the carding-machine, contained in separate cans, are associated by being conducted between pairs of rollers (see Doubling), and then between other successive pairs, by which the combined silver is reduced and elongated (see Drawing-frame); the silver, as it issues from the last pair of rollers, being brought to the condition of a rope, roving, or slate by being slightly twisted by mechanical means, which may consist of one of the three following:

a. Arkwright's plan was to conduct the silvers from the separate cans to a pair of rollers where they were coiled (doubling), then between a pair more rapidly revolving, by which they were attenuated (drawing), and from thence the combined and lengthened silver was conducted to a rapidly revolving can, which gave it a twist and brought it to the condition of a rope or slate.

b. Another plan was the jack-frame or jack-in-a-box, in which the twist was given by the revolution of the can as before, but instead of being coiled up within the can, the roving was wound upon a bobbin inside the can, the bobbin being rotated by wheel-work with a surface velocity corresponding to that of the delivery drawing-rollers. See Jack-frame.

c. A third plan, which is later and preferred to the before-mentioned, belongs to the domain of spinning, its functions being similar and differing only in the degree to which the twist is carried. The machine is called the Robin and Fly Frame (which ree) and is used on a creel. The silvers pass from the bobbins through a set of drawing-rollers, and thence to the spindles on which they are wound. The silver passes through the axial opening of the flye, and thence down the hollow arm of the flyer, from whence it is wound upon the bobbin, which has an up-and-down motion by means of the tipping rod, so as to wind the yarn into a regular form, called a cop. See Cop.

The spindle and flyer revolve together, and give the twist to the silver, but the degree of twist depends upon the ratio of the surface speed of the delivery-roller and the rate of the spindle. The spindle and the bobbin are revolved by different means and at different rates, in order to wind the thread upon the bobbin; the difference between the motions of the bobbin surface and the delivery arm of the fly being equal to the surface motion of the delivery-roller, the thread is wound as fast as it is paid out, receiving a twist in transit. See Rotational Box.

Bobbin and fly frames are of two kinds, coarse and fine, or first and second. The former is fed with silvers from cans, and the latter with silvers wound on cops made in the coarse roving-frame. See Bobbin and Fly Frame.