This invention relates to abrasive or sanding wheels and more particularly to sanding wheels of the spindle type commonly employed in sanding in the manufacture of furniture and analogous arts.

The primary object of the invention is to provide a sanding wheel possessing novel means for securing the sanding cloth to the periphery of the wheel, so that the entire sanding surface of the sanding cloth may be used, thereby reducing waste to a minimum.

Another object of the invention is to provide a sanding cloth securing means which will be rigid at all times thereby insuring against the securing means moving under the centrifugal action of the sanding wheel with the resultant distortion of the sanding cloth on the wheel.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is an elevational view of a sanding wheel constructed in accordance with the invention.

Figure 2 is a side elevational view of the sanding wheel.

Figure 3 is a vertical sectional view through the sanding wheel.

Figure 4 is a vertical sectional view through the sanding wheel taken at right angles to Figure 3.

Referring to the drawings in detail, the wheel comprises a main portion 5 and a cooperating disk-like section 6, having a hub or spacer 6′ extending therefrom removably held together in the formation of peripheral channel 7 in which the resilient rim 8 constructed preferably of rubber, is securely held. This resilient rim 8, extending an appreciable distance beyond the channel and is provided with a plurality of transversely disposed circumferentially spaced, relatively deep narrow grooves 10, spaced equal distances apart. In the formation of the channel 7, a flange 11 is provided, the flange being formed with sockets 12 disposed opposite to the grooves 10 for the reception of the balls 13 formed on one of the respective ends of each of the securing rods 14, the opposite ends of the securing rods being formed with balls 15. It might be further stated that the securing rods 14 are so arranged that they rest against the inner ends of the grooves 10, with the result that the sanding cloth held on the wheel will be tightly held against the inner ends of the grooves, by contact with the securing rods.

The sanding strip which is indicated by the reference character 16, is transversely folded providing a plurality of U-shaped loops 17 which extend into the grooves 10, the ends of the strip being overlapped in one of the grooves. It will of course be understood that the section 5 of the wheel is provided with peripheral notches 18 that align with the grooves 10, for the reception of the securing rods 14, the balls 15 of the rods 14 extending beyond the outer surface of the section 6.

The reference character 19 designates a retaining ring held in position by means of the screws 20. This ring closes the sockets 12, securing the balls 15 within the sockets in a manner to permit of free pivotal movement of the rods 14. Notches are formed in the ring 19 and permit the rods to be swung to their active positions or to positions to clamp the sanding strip or cloth to the wheel.

A central opening is formed in the wheel and accommodates the spindle 21 which is provided with threads to receive the nut 22, the nut holding the retaining disk 23 on the spindle. As shown the disk 23 is substantially bell-shaped, presenting a cam surface 24 that engages the balls 15 of the securing rods, holding the securing rods in position.

From the foregoing it will be seen that due to the construction and manner of mounting the retaining rods 14, the sanding cloth will be held into close engagement with the rim of the sanding wheel at all times eliminating any possibility of the sanding surface becoming distorted due to centrifugal action, while the wheel is rapidly rotating.

I claim:

1. In a sanding wheel, a body portion, an annular flange extending from one edge of the periphery of the body portion, said flange having transverse grooves formed with circular enlarged portions, a disk-like retaining section having grooves and engaging said body portion, a resilient rim section fitted on the body portion between the flange and retaining section and having transversely disposed grooves, the grooves of the resilient rim section being in direct horizontal alignment with the grooves of the annular flange of the body portion and grooves of the retaining disk, substantially straight rigid rods, substantially straight rigid rods,
balls formed at the ends of the rods, certain of said balls being held within the circular enlarged portions of the first mentioned grooves, said rods extending through the aligning grooves, means cooperating with the balls at the opposite ends of the rods for securing the rods in position, and said rods adapted to clamp a sanding strip in said grooves.

2. A sanding head including a body portion having a peripheral flange, a radially grooved resilient rim held in the angle between the periphery and flange of the body portion, securing rods hinged to the flange and adapted to extend through the grooves of the rim and protrude therebeyond, a retaining disk having an internal cam surface adapted to engage the protruding ends of the rods, and means for forcing the body portion and retaining disk inwardly toward each other, whereby to apply inward pressure upon the protruding end of the rods, causing them to clamp the rim securely to the body portion.

3. A sanding head including a body portion having a peripheral flange, a radially grooved resilient rim held in the angle between the periphery and flange of the body portion, securing rods hinged to the flange and adapted to extend through the grooves of the rim and protrude therebeyond, a retaining disk having an internal cam surface adapted to engage the protruding ends of the rods, and means for forcing the body portion and retaining disk inwardly toward each other, whereby to apply inward pressure upon the protruding end of the rods, causing them to clamp the rim securely to the body portion.

4. A sanding head including a body portion having a peripheral flange, a radially grooved resilient rim held in the angle between the periphery and flange of the body portion, a notched disk, securing rods hinged to the flange and adapted to extend through the grooves of the rim and the notches of the notched disk, and protrude therebeyond, a retaining disk having an internal cam surface adapted to engage the protruding ends of the rods, and means for forcing the body portion and retaining disks together, whereby to apply inward pressure upon the protruding ends of the rods causing them to clamp the rim securely to the body portion.

5. A sanding head including a body portion having a peripheral flange, a radially grooved resilient rim held in the angle between the periphery and flange of the body portion and of a relative width to project somewhat beyond the body portion, a notched disk, securing rods hinged to the flange and adapted to extend directly through the grooves of the rim and the notches of the notched disk, and protrude therebeyond, a retaining disk having an internal cam surface adapted to engage the protruding ends of the rods, means for forcing the body portion and notched and retaining disks together, and force the notched disk against the projecting side of the rim, whereby to apply inward pressure upon the protruding ends of the rods, and lateral pressure against the rim, thereby causing them to clamp the rim securely to the body portion.

6. A sanding head including a body portion having a peripheral flange, a radially grooved resilient rim held in the angle between the periphery and the flange of the body portion, rigid retainers hinged on one side of the resilient rim substantially in alignment with the bottom of the radial grooves, and adapted to extend through the said radial grooves, and holding means adapted to secure the said rigid retainers on the side of the body portion remote from the peripheral flange.

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DISCLAIMER

Hereby enters this disclaimer to claim 6 in said specification.
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