

Sept. 17, 1929.

C. H. DRIVER

1,728,673

JOINT FOR ABRASIVE BELTS

Filed April 16, 1928

Fig. 1

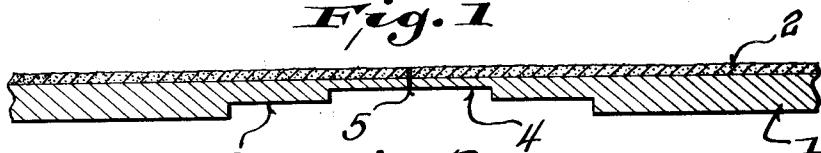


Fig. 2



Fig. 3

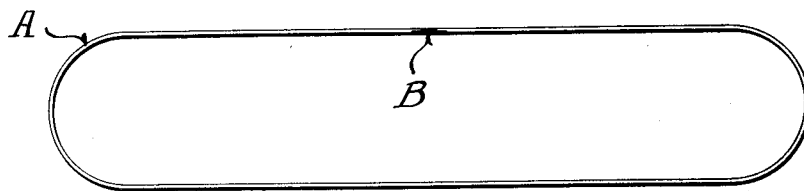


Fig. 4

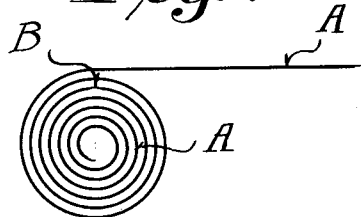


Fig. 5

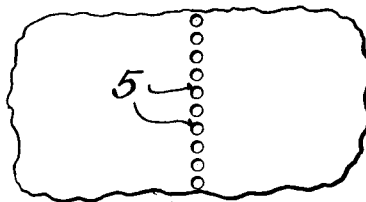


Fig. 7

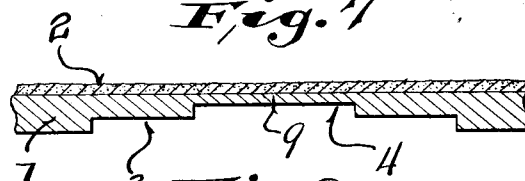


Fig. 8

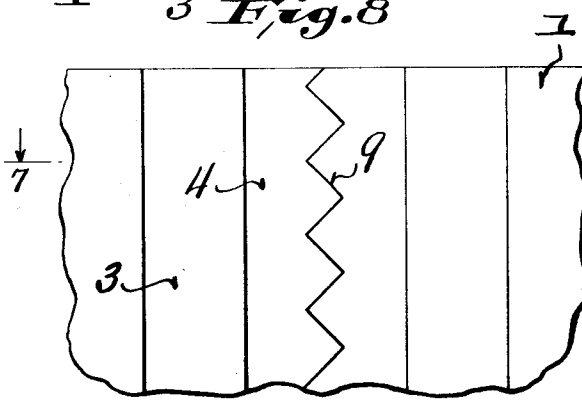
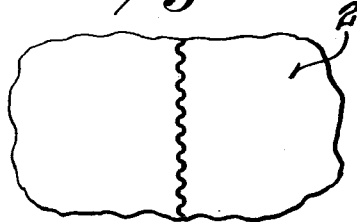


Fig. 6



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UNITED STATES PATENT OFFICE

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JOINT FOR ABRASIVE BELTS

Application filed April 16, 1928. Serial No. 270,373.

This invention relates to a joint for an abrasive belt.

In abrasive belts, such for example as the sanding belts used on sanding machines, great difficulty has been experienced in making a proper joint which will have the requisite strength, and also which will not produce clouds or blurred portions on the work, as it has been practically impossible, prior to this invention, to provide a joint for a sanding or other abrasive belt, which is of sufficiently small thickness and of sufficient strength to meet the requirements of actual practice.

This invention is designed to overcome the facts noted above, and objects of such invention are to provide a novel form of joint for an abrasive belt, which is so made that the thickness of the belt at the joint is not greater than the thickness of the belt, and in which this thickness is in reality preferably slightly less than the thickness of the belt so that the belt will not be forced into contact with the work at the joint and therefore will be free from the majority of wear to which belts joined, as has been the practice heretofore, have been subjected.

Further objects are to provide a novel form of abrasive belt which may be dispensed in rolls with weakened portions between successive sections, with the weakening occurring on one side of the belt so that the user may tear off the required length, which, as a matter of fact, is predetermined and may join the torn edges of a single length to provide a continuous belt with practically no portion of the joint showing on the working face of the belt.

Further objects are to provide a form of joint for an abrasive belt, which is reliable in operation, which is easy to produce, which is cheap as regards the manufacture of the belt, and which is extremely easy to handle in the actual renewal of the belts in service.

Embodiments of the invention are shown

in the accompanying drawings, in which Figure 1 is a sectional view through the belt at the weakened portion before the joint is made.

Figure 2 is a similar view, showing a section through a finished joint.

Figure 3 shows a continuous stretch or length of belt after the joint has been made.

Figure 4 shows how the belt is supplied in rolls.

Figure 5 is a view of one form of weakening which may be employed between the sections.

Figure 6 shows the same structure as Figure 5 after the sections have been severed and re-positioned.

Figure 7 is a sectional view corresponding to Figure 1, showing a further form of weakening, such view corresponding to a section on the line 7—7 of Figure 8.

Figure 8 is a view from the under side of the structure shown in Figure 7.

Referring to the drawings, it will be seen that the belt chosen for illustration is provided with a body portion 1 and an abrasive surface 2. This body portion is routed or thinned on one side only at regular intervals to provide a plurality of sections. This may be secured by provided stepped cutout portions, one of such cutout portions being indicated by the reference character 3, and the other by the reference character 4 in Figure 1. The belt is further weakened by a series of perforations 5 extending transversely across the belt. These perforations are indicated in Figure 5. From Figure 6 it will be seen that after a section of the belt has been torn from the roll, the scalloped projecting ends resulting from tearing across the perforations, may be staggered by shifting the adjacent edges to be joined laterally the distance between a single pair of perforations. This lateral shifting is scarcely noticeable in the width of the belt ordinarily

employed. This provides for the close, inter-fitting of the scalloped edges.

After the belt has been handled, as described above, a fabric, or other tape, 7 is glued in the cutout portion 4 transversely of the belt. Immediately over this strip a wider strip 8 is glued in place. Thus, a multi-ply joint is formed between successive sections of the belt. It is preferable to employ two of these strips, although it is obvious that under certain conditions, one only need be employed, and in this case one of the cutout portions would be omitted.

It is to be noted particularly from Figure 2 that the actual thickness of the belt at the joint is less than the thickness of the belt at any other portion.

In dispensing the belt it is preferable to furnish the consumer with a roll of the belting with the different sections as indicated by the reference character A in Figure 4. These sections are separated or defined by the thinned portions indicated by the reference character B in Figure 4, and corresponding to that described in connection with Figure 1. Any number of these sections may be provided in a single roll, and the sections are of predetermined length to fit the particular machine for which the roll is sold. Obviously, any desired length could be formed for each section. The purpose of furnishing the belt in the form illustrated in Figure 4 is to facilitate the storing and handling of the belt, and also to facilitate the quick renewal of a worn belt.

It is obvious from the invention thus far described that all that is necessary when a belt is to be renewed is to remove the old belt and to tear a section from the roll shown in Figure 4. Thereafter the ends are joined, as has been described in detail above.

The weakening between successive sections may be produced in any other manner than that described, without departing from the spirit of this invention. For example, the belt may have a zigzag score line or shallow cutout 9 (see Figures 7 and 8) which extends part way through the thinned portion of the belt. It is obvious that when these sections are torn apart, the scallops may be interfitted, as described in connection with Figure 6. Obviously, if desired, a straight cut across the belt could be made without departing from the spirit of the invention.

It will be seen that a novel form of joint for an abrasive belt has been disclosed, and a novel form of belt whereby the belt may be dispensed in rolls with the successive sections defined or separated by cutout portions formed on one side only of the belt.

It will be seen further that a novel form of joint for an abrasive belt has been provided by this invention, which is of less thickness than the belt itself, and which thus relieves the belt of wear as the belt passes beneath the

work as this portion does not contact with the work. The result of this construction is not only a vastly increased life for the belt, but also a very much improved product resulting from the use of the belt.

It will be seen further that the invention may be very readily carried out with a minimum of expense and with scarcely any effort on the part of the user.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:—

1. An abrasive belt comprising a body portion, abrasive material on one side thereof, said body portion having cutout portions at the meeting edges of a continuous stretch of belting, said cutout portions forming a recessed part at the joint between the ends of the section, and a tape glued in place within the cut out portions and extending across the joint between the sections, whereby the abrasive surface is uninterrupted on one side of the belt.

2. An abrasive belt comprising a body portion having on side provided with abrasive material, the other side of said body portion having regular cutouts forming a double shouldered portion adapted to receive glued tapes.

3. An article of manufacture comprising an indeterminate length of abrasive belting having the body portion provided with abrasive on one side thereof, the other side of said body portion being provided with a regular series of cutouts extending part way through the body portion and forming shouldered recesses adapted to receive glued tapes.

4. An article of manufacture comprising a roll of abrasive belting comprising a body portion having an abrasive surface on one side, said body portion being divided into joined sections by cutout portions on the side opposite that provided with the abrasive material, said cutout sections being stepped inwardly with respect to the inner surface of the belt and adapted to receive glued tapes.

5. An article of manufacture comprising a roll of abrasive belting comprising a body portion having an abrasive surface on one side, said body portion being divided into joined sections by cutout portions on the side opposite that provided with the abrasive material, said cutout sections being stepped inwardly with respect to the inner surface of the belt and adapted to receive glued tapes, said belt being weakened along transverse lines at the cutout portions whereby the belting may be torn off in sections of predetermined length, and whereby the cutout portions at the ends of the length may receive glued tapes.

6. A sanding belt comprising a continuous length of abrasive belting consisting of a body portion and an abrasive on the outer side thereof, said body portion having juxtaposed ends, the inner portion of such juxtaposed ends being provided with stepped cut-out portions adapted to receive glued strips of different widths, said glued strips and the adjacent portions of the belt forming a joint of less thickness than the body of the belt itself.

10 In testimony that I claim the foregoing I have hereunto set my hand at Racine, in the county of Racine and State of Wisconsin.

CHARLES H. DRIVER.

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