United States Patent Office 2,783,780 Patented Mar. 5, 1957

2,783,780

REED

Curt Wagner, Reutlingen-Betzingen, Germany

Application January 7, 1954, Serial No. 402,783

Claims priority, application Germany July 24, 1953

1 Claim. (Cl. 139—192)

This invention relates to certain improvements in or relating to reeds of the type used for the production of sieves or similar wire fabrics.

Hitherto, in the manufacture of reeds, pairs of baulks were soldered to the upper and lower outer edges of the dents in order to provide the dents with straps for their attachment in the stay or lathe and to weight them by said four baulks in such a way that the reed can be beaten against the woven fabric with great force. In order to produce a reed, the single dents were spaced from each other by the insertion of spacing or binding wires which were wound spirally about semicircular bars extending in a longitudinal direction on both sides of the reed, i. e. parallelly to the baulks. The upper semicircular bars are located below the upper baulks and the lower semi-circular bars are above the lower baulks. Such a conventional reed therefore resembles a rake which is closed at its top and bottom ends. In order to secure the binding or spacing wires on the baulks, they were also soldered thereto. Thus, a further bar was obtained on both sides on the top and bottom ends of the dents.

Since with metal fabric the weft is not picked in the middle of the reed but close to the binding wire, it easily happened that in case of hard beating up of the weft the solder or tin came off and the reed thus was rendered unserviceable.

It is an object of the present invention to provide means ensuring a reliable connection between the dents or reed blades and the ribs or baulks of the reed.

A special object of the invention is to protect the wires and solderings by which the dents are connected to the baulks.

Another object of the invention is to provide a stable and durable construction of a reed which can be produced at very low cost.

With these and further objects in view, according to the present invention the baulks are shaped so as to protect the solder from coming off and to ensure a more intimate connection of the blades or dents of the reed with the bars of semicircular cross section. The baulks in accordance with the invention are shaped and constructed in such a way that the binding wires and the semi-circular bars are completely covered by the baulks and received in grooves thereof, in such a way that the end of the grooved profile of the baulk engages the surface of the reed so that the woven wire can no longer contact the binding wire. Thus it is ensured that the binding wires are completely protected and that the solder cannot come off. The reed, therefore, is more robust and durable, and it can be produced at a lower price.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and appear in the appended claim forming part of the application.

In the accompanying drawing a now preferred embodiment of the invention is shown by way of illustration and not by way of limitation.

Fig. 1 is a cross section of a conventional reed, on a somewhat enlarged scale,

Fig. 2 is a cross section on line II—II of Fig. 3, showing a reed having the invention applied thereto,

Fig. 3 is a front view and section on line III—III of Fig. 2, on removal of the forward baulk,

Fig. 4 is a cross-section of the baulk.

Similar reference numerals denote similar parts in the different views.

Referring now to the drawings in greater detail, and first to Fig. 1, it will be seen that in the conventional reed as per Fig. 1, the top and bottom ends of the dents or reed blades 1 are sandwiched between pairs of baulks 2 which are soldered onto both sides of the dents 1, so as to project slightly over the ends thereof. The interspaces between the ends of the baulks 2 and the dents 1 are filled up with solder 3. Thus the dents 1 are reliably fastened and the weight of the entire reed is increased. Below the upper and above the lower pairs of baulks 2, semi-circular bars 5 are provided. The single dents 1 (see Fig. 3) are spaced from each other by means of spacing wires 4 which are spirally wound about the semi-circular bars 5 including the single dents 1. The diameter of the binding wires 4 depends on the mesh size of the wire fabric and is larger with coarse mesh size and smaller with fine mesh screens. The binding wires 4 are held in their positions by being soldered to the semi-round bars 5. Since the warp wire 6 indicated in Fig. 1 contrary to the warp thread in a textile weaving machine is guided through the reed in a rather high or low position, i. e. in the vicinity of the binding wire 4 or of the semi-round bars 5, it will oftentimes sweep past the soldering, whereby parts of the solder are caused to split off. Such splitting off also occurs by the hard beating of the dents on the woven fabric, the more so as the dents in reeds for wire weaving looms are in the form of stiff blades. Thus the whole reed became unserviceable within a relatively short time and the coming-off solder soiled the weaving loom and the fabric, thus also causing disturbances in operation.

According to the present invention, as shown in Fig. 2 the semi-round bar 5 holding the binding wires 4 in their position is received in a groove 7, Fig. 4, of the baulks or covering strips 2, which groove is shaped in such a way that the longitudinal edges of the groove 7, more particularly the lower ends 2*a* thereof in Fig. 2, engage the dents. Thus the solder is prevented from getting loose and falling out of the reed. At the upper end of the dents 1 the baulks or covering strips 2 are fixedly connected with the dents 1 in per se known manner, by the insertion of solder 3.

As shown in Fig. 3, the solder 3′ through the ends of the dents 1 penetrates into the interspaces between the dents and actually embeds the same. The right hand side of Fig. 3 shows the end face of the solder 3 between a covering strip 2 and the end edges of the dents 1, as well as the semi-round bar 5. In the lower part of Fig. 3 the covering strip 2 is shown in a side view.

Fig. 4 shows on a considerably enlarged scale the configuration of a groove 7 in a covering strip, and the longitudinal edge 2*a* at the end of the groove 7.

While the invention has been described in detail with respect to a now preferred example and embodiment of the invention it will be understood by those skilled in the art after understanding the invention that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, to cover all such changes and modifications in the appended claim.

I claim:

A reed for weaving screens and similar wire fabric, comprising a plurality of mutually spaced dents, two pairs of baulks between which the upper and lower ends of the dents are sandwiched, so as to form weighting and fastening ribs for securing the reed in the lathe, two pairs of half-round bars provided on opposite sides of the dents, and binding wires for fastening the bars on the dents and spacing the dents from each other, said baulks having grooves in which the half-round bars and the projecting portions of the binding wires are located, the configuration of said grooves being of semi-circular cross-section adapted to the shape of the binding wires and adapted to engage the dents at spots lying inwardly beyond the binding wires, thereby forming a protecting member for said wires and for a mass of solder surrounding said wires.

References Cited in the file of this patent

UNITED STATES PATENTS

1,112,741	Wagner	Oct. 6, 1914
1,997,560	Kaufmann	Apr. 9, 1935
2,172,972	Hall	Sept. 12, 1939

FOREIGN PATENTS

90,271	Switzerland	Jan. 2, 1922
602,973	Great Britain	June 7, 1948
838,306	France	Dec. 7, 1938