

(No Model.)

J. MILLS.

WARPER'S BEAM AND WEAVER'S BEAM.

No. 577,558.

Patented Feb. 23, 1897.

Fig. 1

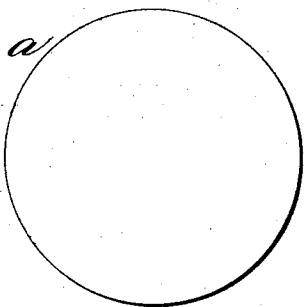


Fig. 2

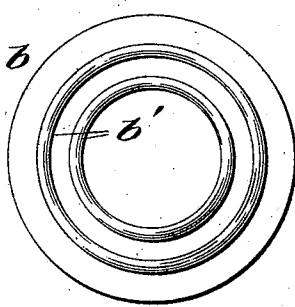


Fig. 3

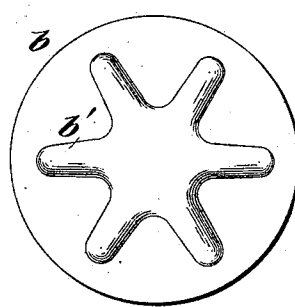


Fig. 4

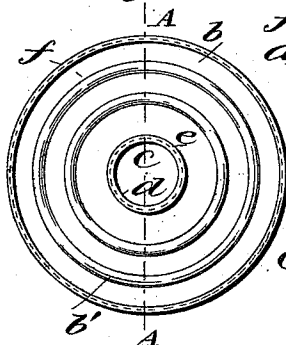


Fig. 5

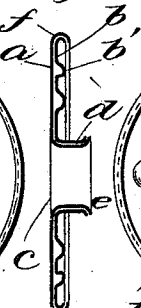


Fig. 6

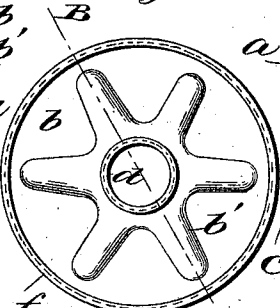


Fig. 7

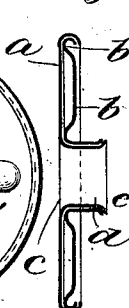


Fig. 8

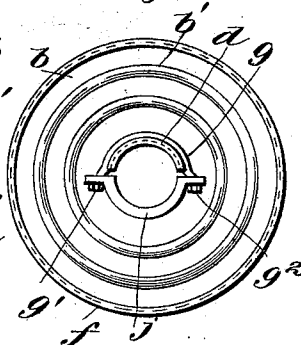


Fig. 9

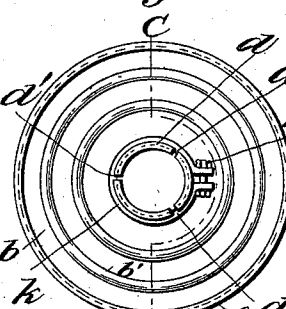


Fig. 10

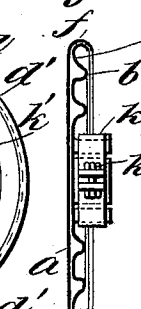


Fig. 11

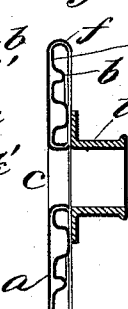


Fig. 12

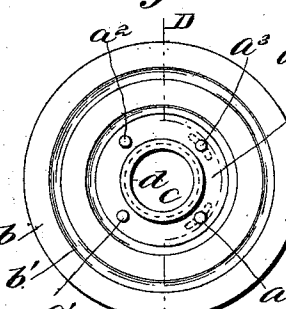
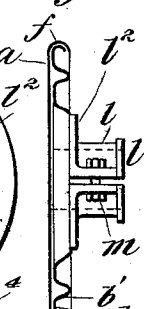


Fig. 13



Witnesses
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CXXIX

UNITED STATES PATENT OFFICE.

JOHNSON MILLS, OF MANCHESTER, ENGLAND, ASSIGNOR OF ONE-HALF TO
JOHN BLEARS, OF SWINTON, ENGLAND.

WARPER'S BEAM AND WEAVER'S BEAM.

SPECIFICATION forming part of Letters Patent No. 577,558, dated February 23, 1897.

Application filed January 8, 1896. Serial No. 574,732. (No model.) Patented in England February 27, 1895, No. 4,203, and
May 23, 1895, No. 10,183, and in Belgium July 25, 1895, No. 116,263.

To all whom it may concern:

Be it known that I, JOHNSON MILLS, a subject of the Queen of Great Britain, residing at Manchester, in the county of Lancaster, England, have invented a certain new and useful Improvement in or Relating to Warper's Beams, Weavers' Beams, and the Like, (the same having been patented in Great Britain, No. 4,203, dated February 27, 1895, and No. 10,183, dated May 23, 1895, and in Belgium, No. 116,263, dated July 25, 1895,) of which the following is a full, clear, and exact description.

My invention relates to the construction of the metallic ends or flanges in warpers' beams and weavers' beams such as are employed in calico-loom and for similar purposes; and it consists in a flange formed from two stamped plates, one plain and the other corrugated, and joined together so as practically to be one plate with a smooth side and a corrugated side; and the invention also consists in the means employed for attaching the flanges, when completed, to the wooden roller or to the metal center.

The object of this invention is to obtain a light metallic end or flange of strong construction, with a boss or collar forming either a part of the flange or with a cast, wrought, or stamped metal boss or collar attached thereto, by which the flange may be easily adjusted or removed.

In the accompanying sheet of drawings my invention is illustrated. In the several views shown therein similar letters refer to similar parts.

Figure 1 is an elevation of the plain disk or plate, and Figs. 2 and 3 are similar views of two forms of corrugated plates. Fig. 4 is an elevation, and Fig. 5 a section on line A A, Fig. 4, of a flange made up of plates such as shown in Figs. 1 and 2. Fig. 6 is an elevation, and Fig. 7 a section on line B B, Fig. 6, of a flange made up of plates such as shown in Figs. 1 and 3. Fig. 8 is a front elevation of a flange having one form of fastening. Fig. 9 is a front elevation, and Fig. 10 a section on line C C, Fig. 9, of a flange having another form of fastening. Fig. 11 is a section showing still another form of fastening. Fig. 12

is a side elevation, and Fig. 13 a section on line D D, Fig. 12, of still another form of fastening.

For the purposes of this invention I produce in either stamped steel or iron or pressed from sheets of steel or iron of any required thickness two plates, one of said plates, as *a*, Fig. 1, being plain and the other plate, *b*, having corrugations *b'*, as in Figs. 2 and 3, which may vary in shape and size, formed thereon. I place the plates thus produced one on the other, with the center of one plate over the center of the other. I then form the hole *c* and the boss or collar *d* by pressure with a suitably-formed tool, the collar *d* being produced from the metal that is contained in the central portions of the plates. Both the inner edges *e* and the outer edges *f* are rolled over, the edges of the plate *a* clipping the edges of the plate *b*. A complete metallic end or flange for a warper's or a weaver's beam and for similar purposes is thus constructed from two plates of stamped steel or iron, which by these means are practically united and form one complete flange, as shown in Figs. 4 and 6 on the drawings. Fig. 5 represents a section on line A A, and Fig. 7 a section on line B B.

The hereinbefore-described metallic flanges may be fitted onto a wood or a metal center by means of the collar *d*, that forms a part of said flange, as is represented in Figs. 4 to 7, or may be secured to the beam by a clip or by means of a cast-metal boss.

Fig. 8 represents a part of the collar *d* cut away and a clip *g*, that is screwed at both ends and flattened in the middle, riveted or otherwise secured to the remaining part of the collar. A detachable semicircular metallic clip *j* is placed on the screwed ends of the clip *g*, to which it is secured by the nuts *g'* and *g''*, thereby gripping the beam.

Fig. 9 is a front view, and Fig. 10 a section, on line C C, showing the collar *d* of the beam-flange divided in places, as at *d'*, and a clip *k* placed thereon, which when tightened by means of the bolt *k'* securely grips the wood or the metal center.

Fig. 11 is a section showing a cast or other metal boss, which may be either as *l* or of

other preferred pattern, affixed to the collar *d* and to the corrugated or outer side of a beam-flange, such as hereinbefore described.

Fig. 12 is a front view, and Fig. 13 a section, on line D D of a like form of boss, but split through one side, and which may be secured to the collar *d* by means of the bolts *a'*, *a²*, *a³*, and *a⁴*, the bolts *a³* and *a⁴* passing through slotted holes in the base *b²* of the boss *l*. The flange with the boss *l* attached is placed on the beam in the position required, when said boss is tightened on the beam by a bolt or bolts, as *m*, which causes the split portion *l'* to close and the boss to tighten on and clip the beam. When the beam-flange is required to be readjusted or to be removed, the nuts on the bolts *a³* and *a⁴* and *m* are slackened, when the boss with flange may be easily removed.

It is obvious that other forms of metallic bosses may be employed for attaching the hereinbefore-described stamped metal flanges to the wood or the metal center without departing from my invention; but

What I claim, and desire to secure by Letters Patent, is—

1. A flange or end for a warper's or a weaver's beam, composed of a plate of flat metal and a plate of corrugated metal placed one against the other and in intimate contact, and

united by overbending their peripheries, and supplied with a collar by means of which the said flange or end may be secured to the beam, substantially as shown and described.

2. A flange or end for a warper's or weaver's beam constructed of two plates of metal, the outer plate being plain and the inner plate being corrugated, and the two plates being united by overbending their peripheries, and provided with means whereby the said flange or end may be rigidly connected to the beam, substantially as described.

3. In a warper's beam or weaver's beam or like structures, a metallic flange or end constructed from two stamped steel or iron plates, one of said plates being plain and the other corrugated, and the two connected together by the central portion of said plates being pressed out to form a boss or flange, both the inner and outer edges of said plates being rolled over so that the edges of the plain plate shall clip over the edges of the corrugated plate, substantially as described.

In testimony whereof I have hereunto set my hand this 13th day of December, A.D. 1895.

JOHNSON MILLS.

Witnesses:

THOS. PRESCOTT,
WM. SYKES.