J. A. CLARK.

CARRIAGE FOR TUFT YARN NEEDLES.

APPLICATION FILED FEB. 18, 1910.

970,608. Patented Sept. 20, 1910.

Fig. 1

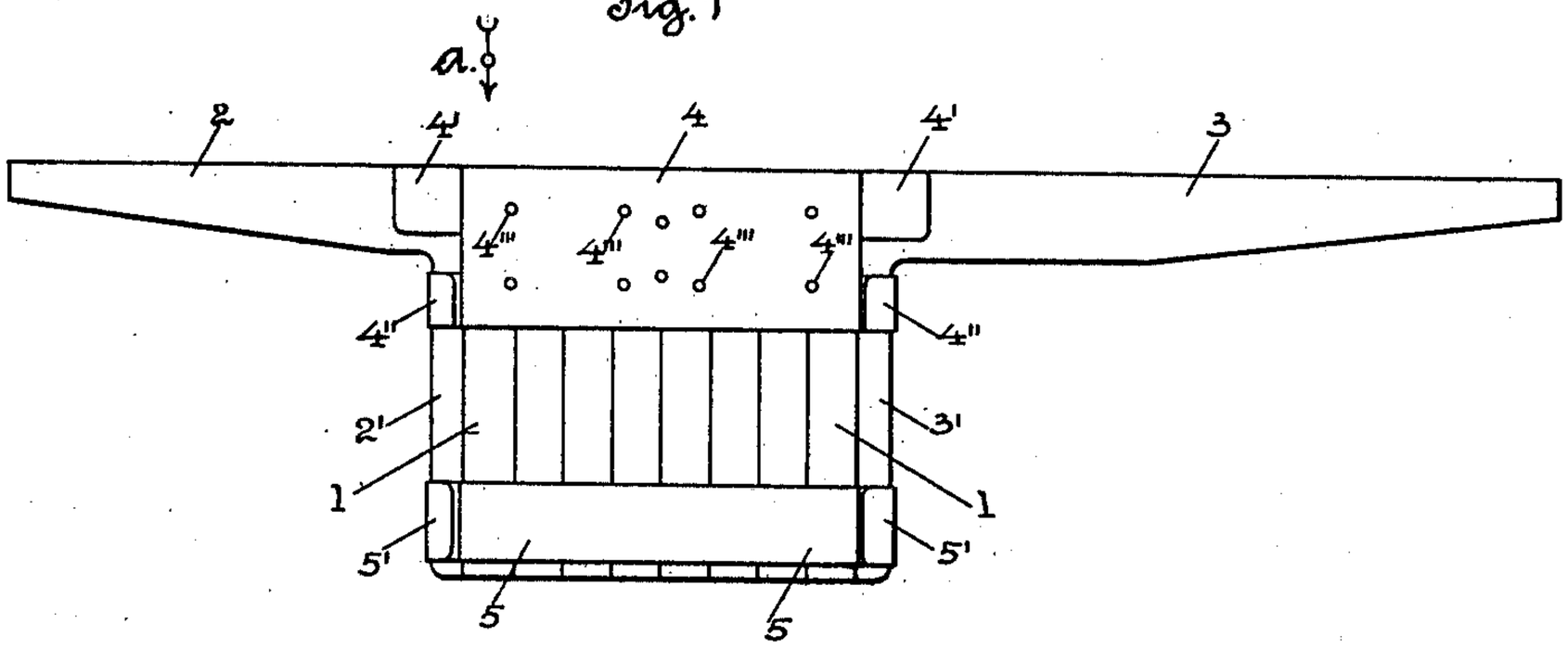
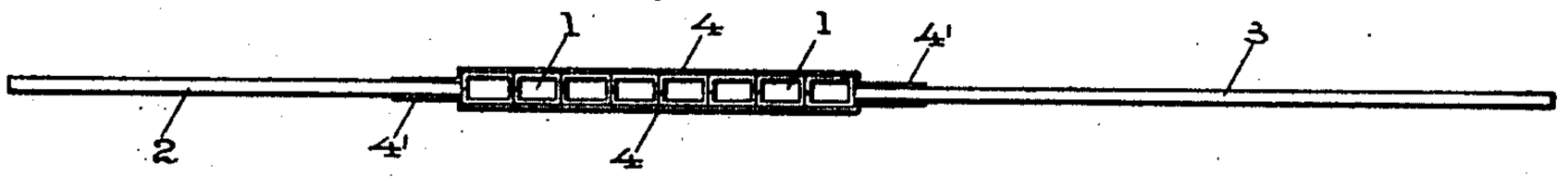


Fig. 2.



b.

Fig. 3.

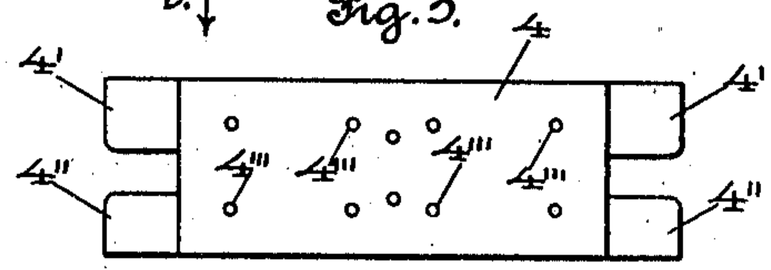


Fig. 4.

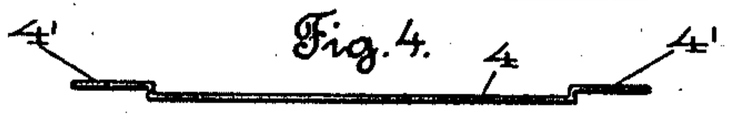


Fig. 6.

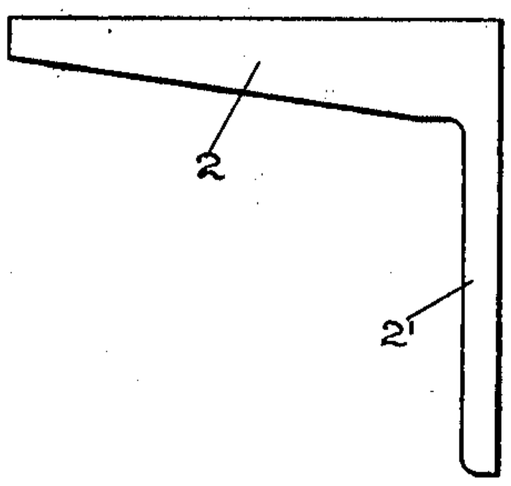


Fig. 5

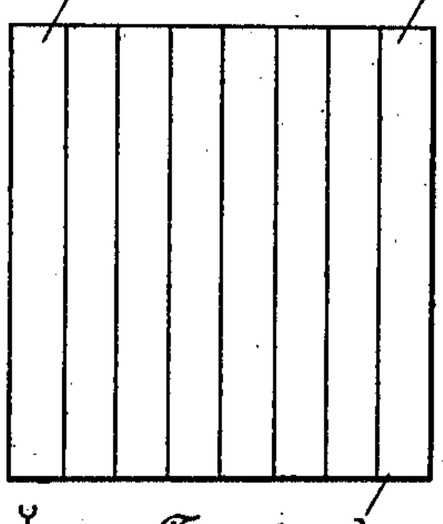
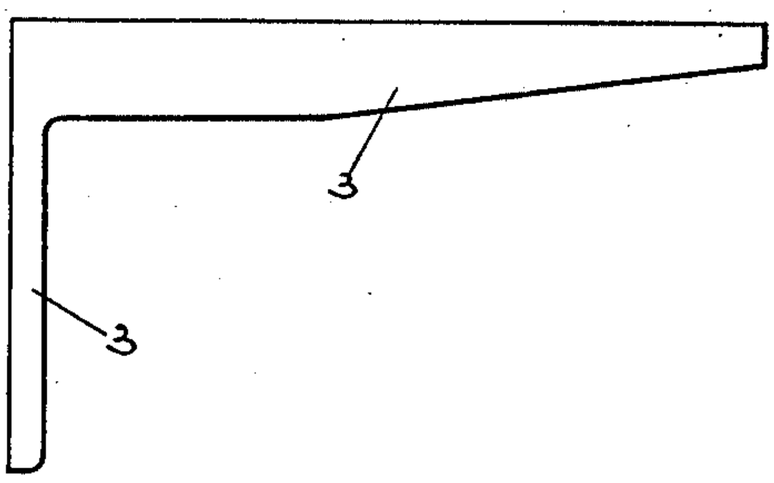


Fig. 7.



c.

Fig. 8.

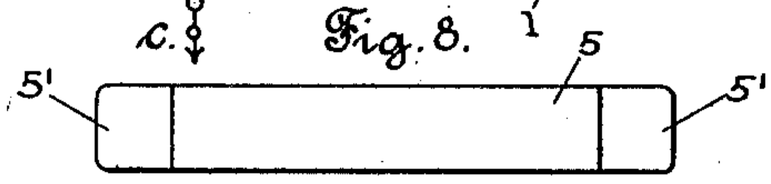
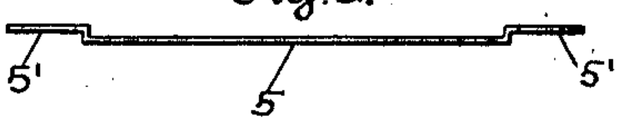


Fig. 9.



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UNITED STATES PATENT OFFICE.

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CARRIAGE FOR TUFT-YARN NEEDLES.

970,608. Specification of Letters Patent. **Patented Sept. 20, 1910.**

Application filed February 18, 1910. Serial No. 544,607.

To all whom it may concern:

Be it known that I, JOHN A. CLARK, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Carriages for Tuft-Yarn Needles, of which the following is a specification.

My invention relates to a carriage for tuft yarn needles used in looms for weaving tufted fabrics, and more particularly to an improved construction of the carriage for tuft yarn needles shown and described in U. S. Letters Patent, No. 411,410.

The carriages for tuft yarn needles of the class above referred to, are made movable in the direction of the length of the warp, and each carriage is provided with a series of pockets into which extend the upright tuft yarn needles, which are separated from each other by the pockets, and the movement of the carriages enables any one of the series of tuft yarn needles coöperating with it, to be placed in proper position with relation to the warp, to enable tufts to be formed from the yarn carried by said tuft yarn needles, in the usual and well known way.

The object of my invention is to improve upon the construction of the carriage above referred to, and shown and described in said Patent, No. 411,410.

My invention consists in certain novel features of construction of my improvements as will be hereinafter fully described.

Referring to the drawings:—Figure 1 is a side elevation of a needle carriage of my improved construction. Fig. 2 is a plan view of the carriage shown in Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 is a detached view of the upper connecting plate. Fig. 4 is an edge view of the plate shown in Fig. 3, looking in the direction of arrow *b*, same figure. Fig. 5 shows the series of pockets, detached. Fig. 6 is a supporting bar at one edge of the pockets, detached. Fig. 7 is a supporting bar at the opposite edge of the pockets, detached. Fig. 8 shows the lower connecting plate, detached, and, Fig. 9 is an edge view of the plate shown in Fig. 8, looking in the direction of arrow *c*, same figure.

In my improved needle carriage, there are a series of individual pockets 1, made separate from each other, in this instance eight pockets, one pocket for each tuft yarn needle, not shown. Each pocket 1 is made separate, and each pocket is preferably made in one piece, of thin sheet metal, which is bent into the shape in cross section, shown in Fig. 2. The separate pockets 1 are then soldered together to extend in line with each other, as shown in Figs. 1, 2, and 5.

On one end of the series of pockets 1 is a metal plate or supporting bar 2, which is preferably made of angle shape, as shown in Fig. 6, with the vertically extending part 2′, soldered to the outer end of the series of pockets 1. On the opposite end of the series of pockets 1 is a second metal plate or supporting bar 3, preferably longer than the bar 2, and of angle shape, as shown in Fig. 7, with the vertically extending part 3′ soldered to the outer end of the series of pockets 1. On the upper part of the pockets 1, on each side thereof, is soldered a transverse plate 4, preferably made of thin sheet metal. The plate 4 has offset ears or projections 4′, and 4″ on its ends. The ears or projections 4′ are soldered upon the flat surface of the bars 2 and 3, and the ears or projections 4″ are bent around the vertical extensions 2′ and 3′ on the bars 2 and 3, respectively, and soldered thereto. The upper plate 4 is preferably provided with small holes 4‴, to cause the solder to float more readily. On the lower part of the pockets 1, on each side thereof, is soldered a transverse plate or strip 5, preferably made of thin metal. The plate 5 has offset ears or projections 5′ on each end, which are bent around the lower part of the vertical portions 2′ and 3′ of the bars 2 and 3, and soldered thereon, as shown in Fig. 1.

In my improved construction of a carriage for tuft yarn needles, of the class referred to, the several parts of the carriage are readily made and assembled, and are all readily secured together. By making the supporting bars 2 and 3 in separate pieces, and securing them on the ends of the series of the pockets 1, they will extend out from the central portion of the series of pockets, at each end.

It will be understood that the details of construction of my improvements may be varied if desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A carriage for tuft yarn needles,

comprising a series of individual pockets made separate from each other, in the desired shape, and secured together in line with each other, a metal bar secured to each end of the series of pockets, and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets, at their upper part, and also secured to said bars.

2. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other, and bent in the desired shape, and secured together in line with each other, a metal bar secured to each end of the series of pockets and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets, at their upper part, and also secured to said bars, a second transverse plate secured to the lower part of said series of pockets, and also secured to the vertical extensions on said bars.

3. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other and bent in the desired shape, and secured together in line with each other, an angle metal bar secured to each end of the series of pockets and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets at their upper part, and also secured to said bars.

4. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other, and bent into the desired shape and secured together in line with each other, and an angle metal bar secured to one end of the series of pockets, and extending out from the upper part thereof, and a second angle metal bar secured to the other end of the series of pockets and extending out from the upper part thereof.

JOHN A. CLARK.

Witnesses:
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