G. M. HENRY.

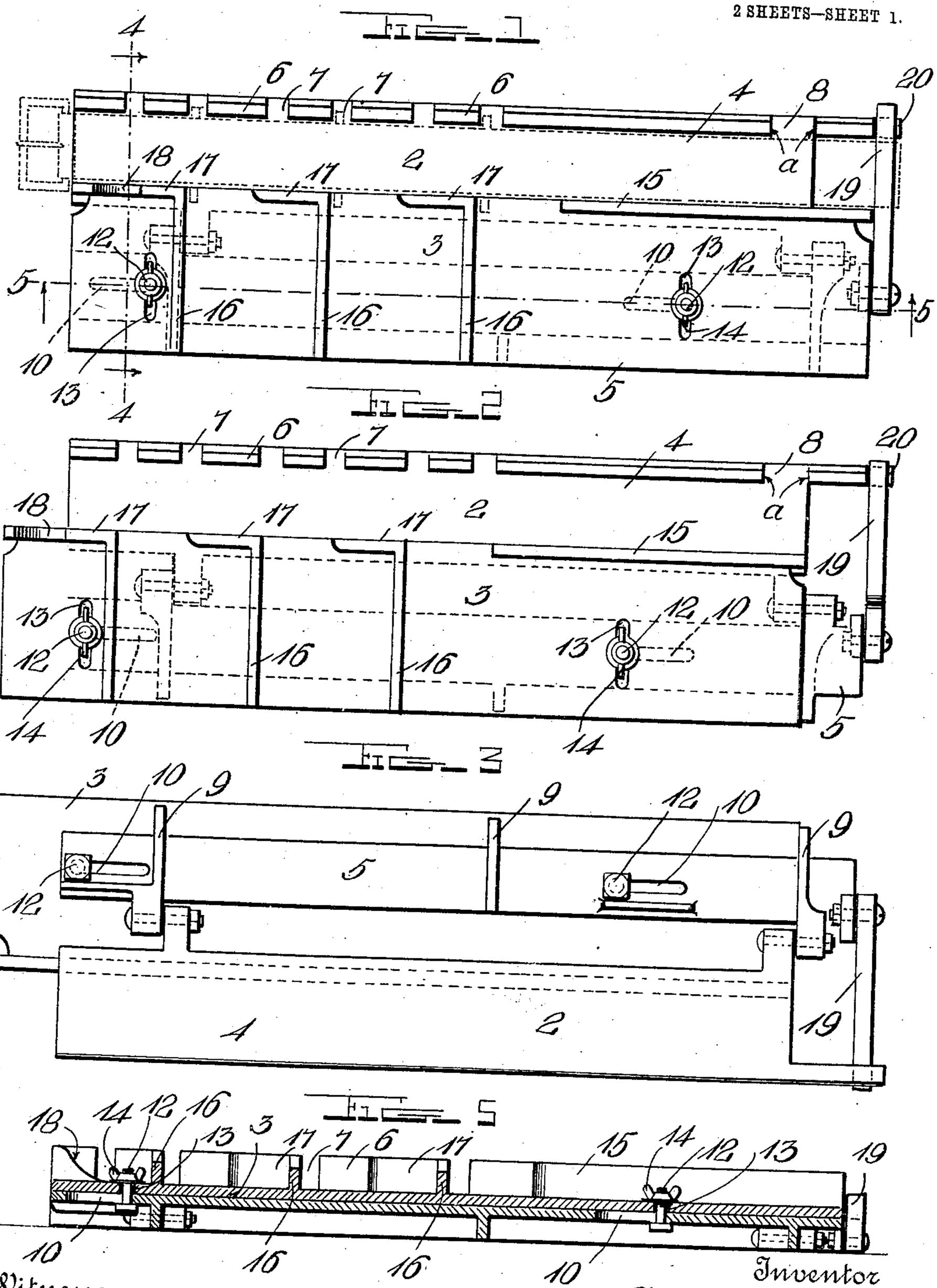
HARNESS CLAMP AND GUIDE.

APPLICATION FILED APR. 29, 1909.

930,287.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 4

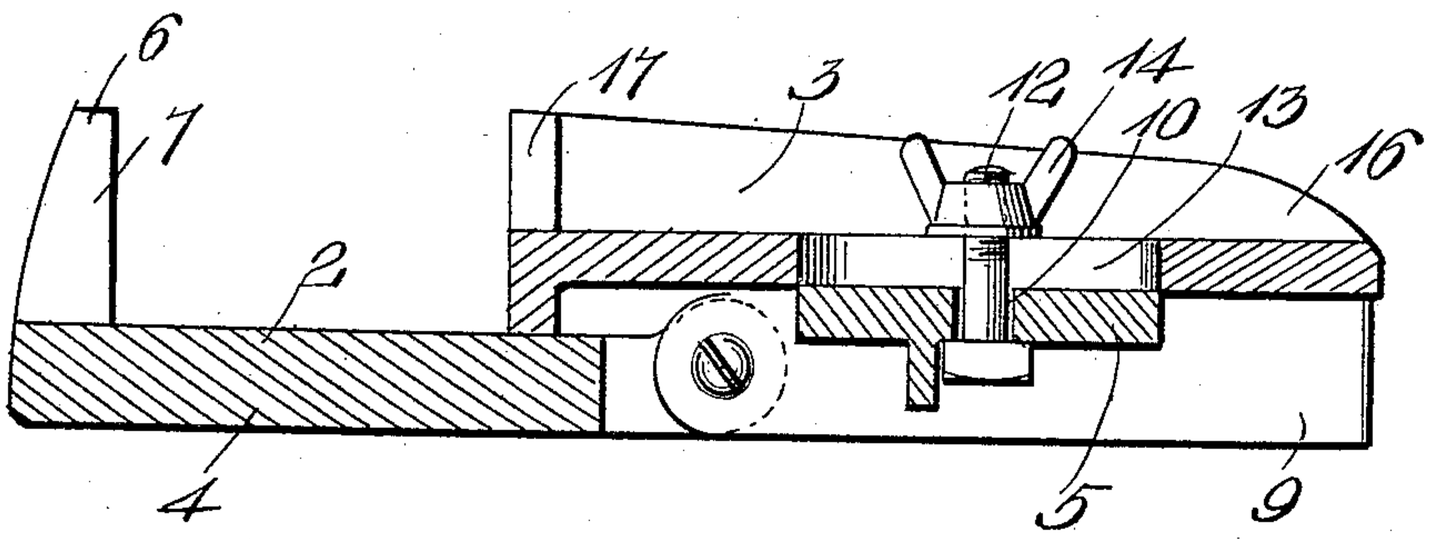


FIG. 6

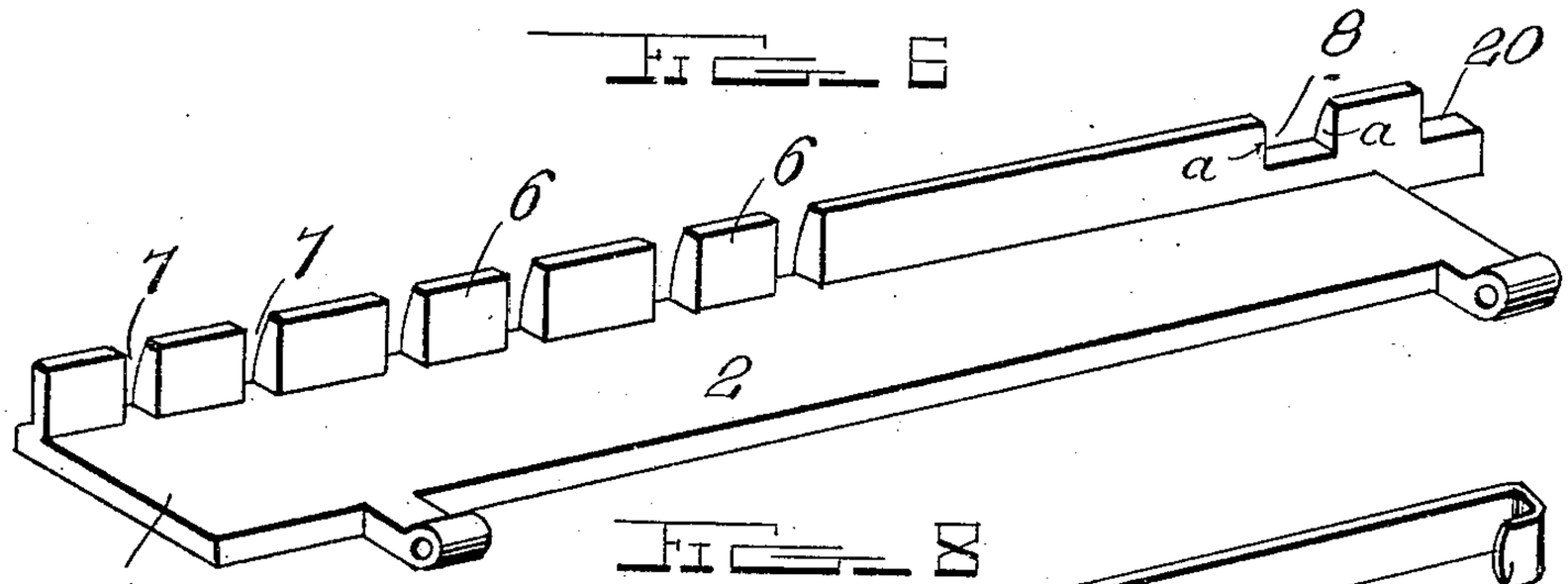


FIG. 8

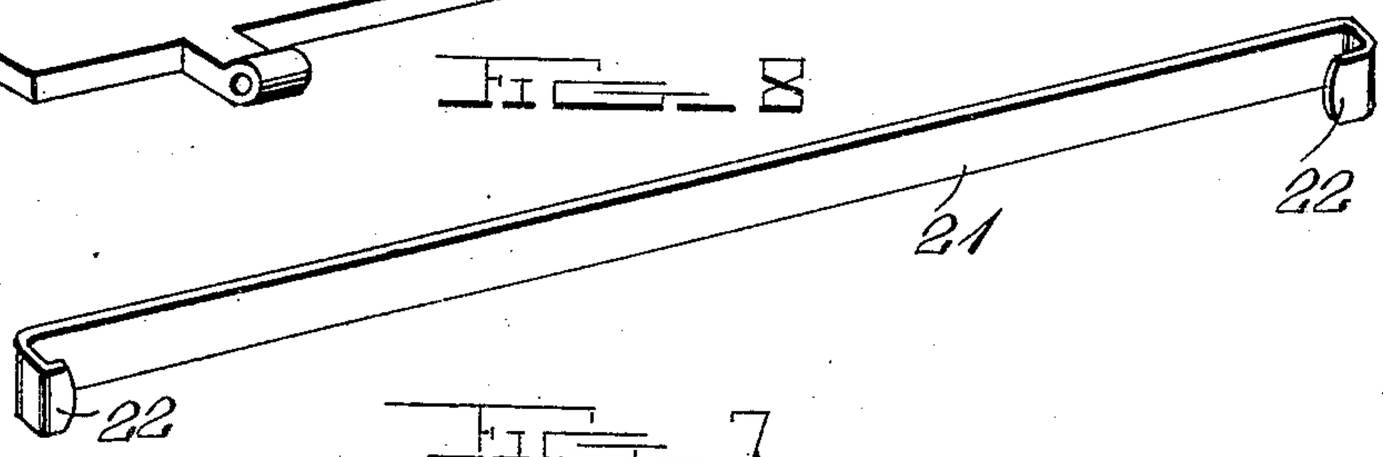
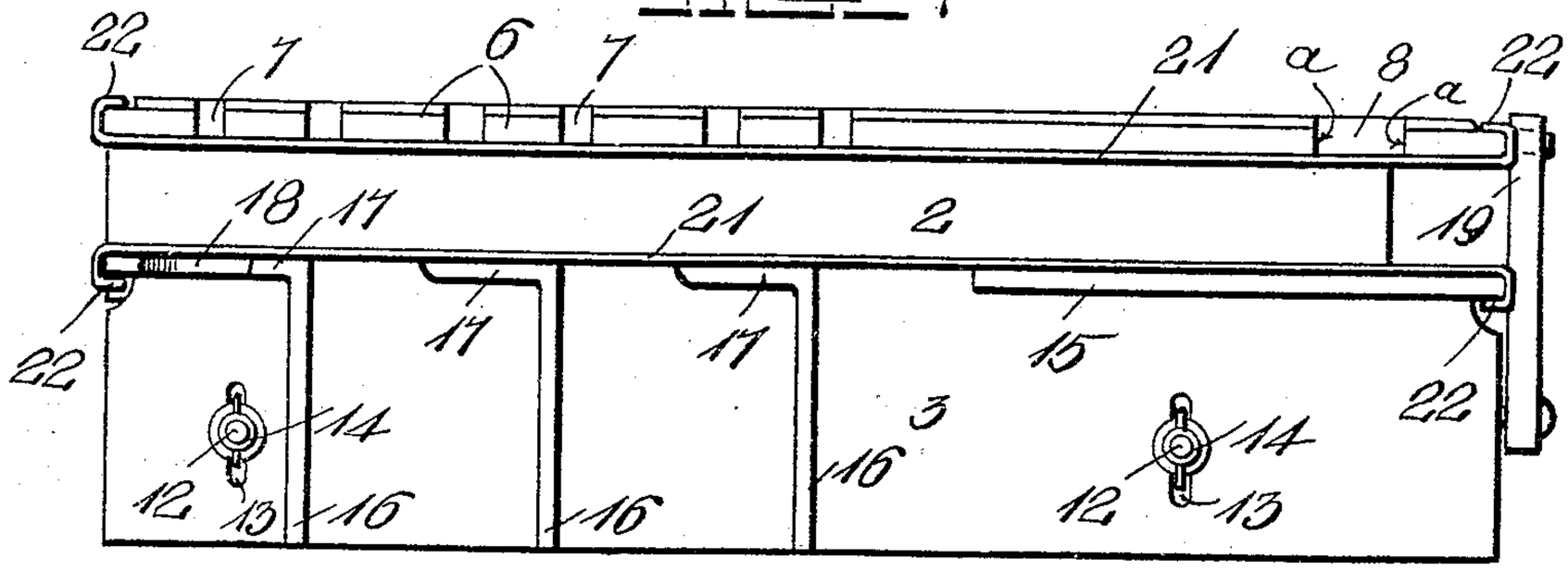


FIG. 7



Witnesses

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UNITED STATES PATENT OFFICE.

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HARNESS CLAMP AND GUIDE.

No. 930,287. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed April 29, 1909. Serial No. 492,948.

To all whom it may concern:

Be it known that I, GELASIUS M. HENRY, a citizen of the United States, residing at Pierre, in the county of Hughes and State of South Dakota, have invented certain new and useful Improvements in Harness Clamps and Guides; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in harness clamps and guides.

The object of the invention is to provide an improved construction of clamp and guide whereby the straps may be securely held in position for forming parts of the harness and whereby guides are provided to facilitate the accurate placing of leather or metal loops.

A further object is to provide a device of this character which may be readily adjusted to hold straps of different widths and lengths.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of the clamp, showing in dotted lines, the hame tug therein in position for forming; Fig. 2 is a similar view showing the parts adjusted for placing the loop guides nearer the buckle; Fig. 3 is a bottom plan view of the clamp; Fig. 4 is a vertical cross section on the line 4—4 of Fig. 1; Fig. 5 is a longitudinal section on the line 5—5 of Fig. 1; Fig. 6 is a plan view of one section of the lower member of the clamp; Fig. 7 is a plan view showing the device arranged as a clamp for holding and forming belly bands and the like; Fig. 8 is a detail perspective view of one of the channel forming members which are applied to the clamping flanges of the device when arranged for clamping belly bands and the like, as shown in Fig. 7.

Referring more particularly to the drawings, 1 denotes the clamp which comprises a lower member 2 and an upper member 3. The lower member 2 is formed in two hingedly connected sections 4 and 5. The section 4 is provided along its free edge with an upwardly projecting guiding and clamping flange 6 in which, adjacent to one end is formed a series of guiding notches 7 which are spaced apart and provided for a purpose hereinafter described. The flange 6 is provided adjacent to its opposite end with a notch 8, the purpose of which will also be hereinafter described.

The section 5 of the lower member 2 consists of a flat comparatively thin and narrow plate, on the underside of which is formed a series of supporting lugs or flanges 9. In the section 5 of the lower member is formed longitudinally disposed slots 10, through which are inserted clamping bolts 12, said bolts also passing through transversely disposed slots 13 formed in the upper member 3 of the clamp, thereby connecting the upper and lower members of the clamp together and providing for the movement of the upper member, both longitudinally and laterally. On the upper ends of the bolts 12 are screwed clamping nuts 14 whereby when the upper member of the clamp has been adjusted to the desired position, said member is clamped down and secured to the section 5 of the lower member.

On the inner edge of the upper member 3 at one end of the same is formed an upwardly projecting guide flange 15. On the opposite end portion of the plate 3 is formed a series of transversely disposed guide flanges 16 which connect at their inner ends to short guide flanges or lugs 17 formed on the inner edge of the member 3, as shown. In the outer lug or flange 17 is formed a curved notch or recess 18 which is adapted to receive the buckle on the end of the tug when the clamp is adjusted to bring the loop-guides 16 nearer to the buckle end of the tug.

On one end of the section 5 is pivotally connected a tug holding arm 19 which is adapted to be inserted through the looped end of the tug and to engage a notched extension 20 formed on the adjacent end of the section 4 of the lower member of the clamp, as clearly shown in Fig. 1 of the drawings. The arm 19 is engaged with the notched extension of the section 4 when the clamp is adjusted for forming long tugs. In this ar-

rangement of clamp, the buckle at the opposite end of the tug is engaged with the end of the flange 6 and the end of the notched flange 17 on the member 3 of the clamp. The edges *a*—*a* of the notch 8 in the flange 6 serve as markers or measuring gages for tugs when the pivoted arm 19 is thrown back and not used.

The notches 7 in the flange 6 are so arranged that when the plate or member 3 of the clamp is adjusted to either of its operative positions, the flanges 16 thereon will be in alinement with one of said notches. The edge of the notch thus marking or indicating the position in which the end of the guide loop of the tug is to be engaged therewith, after being secured to the opposite edge of the tug and brought over the same to form the loop. The notches 7 also form passages which provide for the insertion of metal guide loops when the latter are applied to the tugs and facilitate the accurate placing of the loops in the tug.

In connection with the clamp, I provide an attachment whereby the same may be employed for holding or clamping belly bands or similar parts of the harness, while the latter are being formed. The attachment employed for this purpose consists of two metal strips or bars 21 having formed on their opposite ends hooks 22. The bars or strips 21 are adapted to be applied to the inner sides of the flanges 6 of the lower member 2 of the clamp and with the flanges and lugs on the edge of the upper member 3 of the clamp and when so engaged, the hooks 22 on the ends of the bars are hooked around or engaged with the opposite ends of said flanges thereby holding the bars in operative position on the inner side of the flanges to form the guide channel which may be adjusted by moving the upper member 3 of the clamp to accommodate bands of different widths which are clamped and securely held in position while being formed by the adjustable members of the clamp.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a clamping device of the class described, a lower member having formed thereon a notched flange, an upper member adjustably connected to said lower member and having formed thereon a coöperating flange, and a series of transversely disposed guide flanges adapted to be brought into alinement with the notches in the flange of the lower member, and means to secure a tug in position between the flanged ends of said members of the clamp.

2. In a clamping device of the class described, a lower member formed in hingedly connected sections, a notched flange formed along the outer edge of one section of said lower member, an upper clamping member adjustably secured to the other section of said lower member, a clamping flange formed on the inner edge of one end of said upper clamping member, a series of upwardly projecting right angularly formed guide flanges formed on the opposite end of said upper member, one of said flanges having formed therein a buckle receiving notch, and a tug holding arm arranged at the opposite end of said clamp.

3. In a clamping device of the character described, a lower member formed in hingedly connected sections, one of which is provided with longitudinally formed slots, a guide flange formed on the outer edge of the opposite section, said flange having formed therein a series of marking notches and a length gaging notch, an upper clamping member arranged on the slotted section of the lower member and having formed therein transversely disposed slots arranged above the longitudinal slots of the lower member, clamping bolts arranged in said slots, clamping nuts on said bolts whereby said upper member may be adjusted longitudinally or transversely and secured in its adjusted position, a flange formed on the inner edge of said upper member, adjacent to one end, a series of upwardly projecting right-angularly formed guide flanges arranged on the opposite end of said member and adapted to be brought into alinement with the marking notches in the flange on the lower member, one of said right-angularly formed flanges having a buckle engaging notch, a tug arm pivotally mounted on the end of the slotted section of the lower member, said arm being adapted to be engaged with the looped end of the tug and with the end of the flange of the opposite lower member whereby the looped ends of the tugs may be secured between the flanges of the upper and lower members of the clamp.

4. In a clamping device of the class described, a lower member having formed thereon a notched flange, an upper member adjustably connected to said lower member and having formed thereon a coöperating flange, and a series of transversely disposed guide flanges adapted to be brought into alinement with the notches in the flange of the lower member, and means adapted to be engaged with said flanges to form channels.

5. In a clamping device of the class described, a lower member having formed

thereon a notched flange, an upper member adjustably connected to said lower member and having formed thereon a coöperating flange, and a series of transversely disposed guide flanges adapted to be brought into alinement with the notches in the flange of the lower member, channel forming strips, and means on the opposite ends of said strips to secure the same to the flanges of said clamping members to form a continuous channel between said flanges.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GELASIUS M. HENRY.

Witnesses:
M. M. BREEDEN,
C. H. WHITCHER.