

901,925.

Patented Oct. 20, 1908.

2 SHEETS—SHEET 1.

Fig. 1

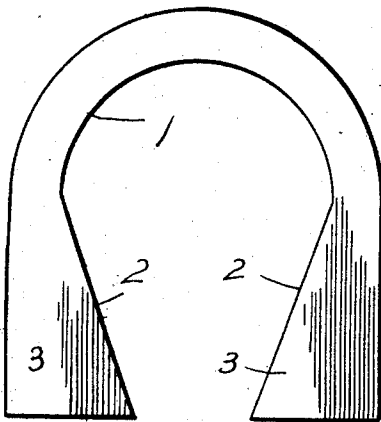


Fig. 2

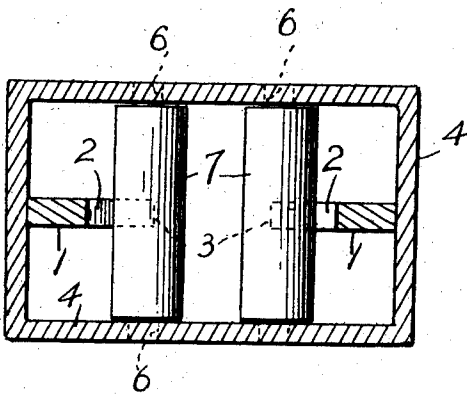
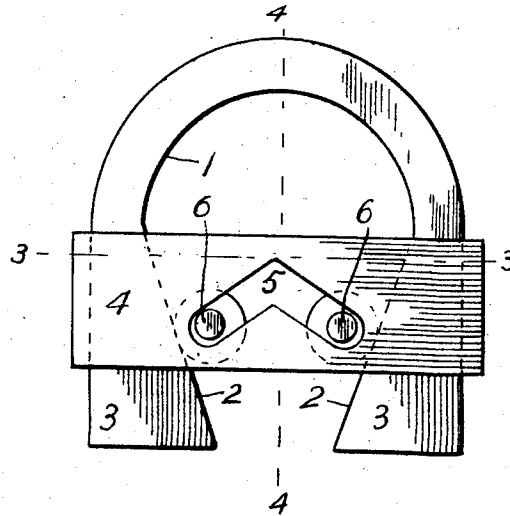


Fig. 3

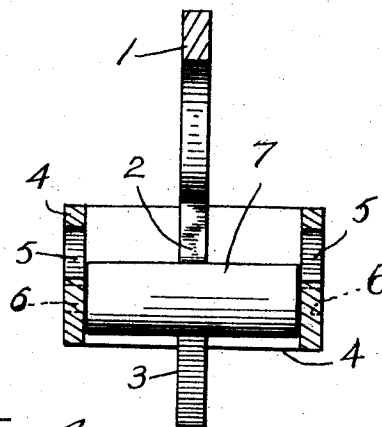


Fig. 4

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CLAMP.
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2 SHEETS—SHEET 2.

Fig. 5.

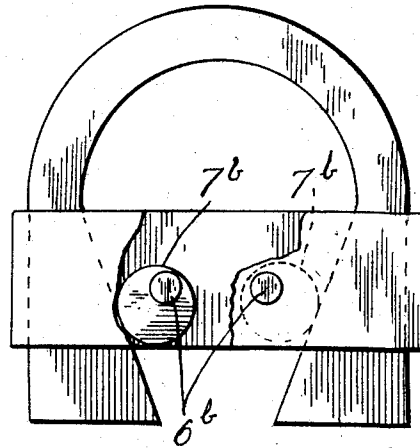
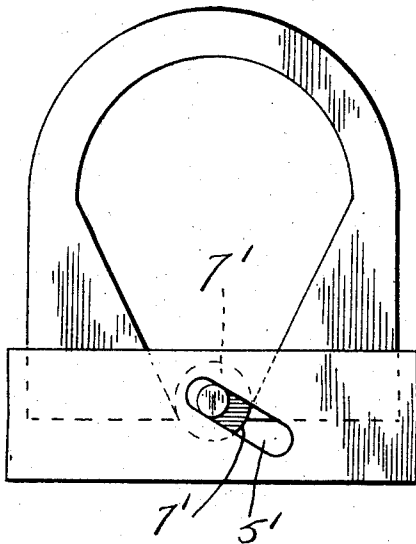
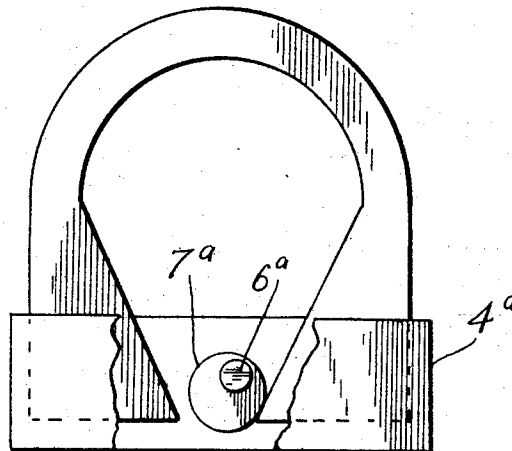


Fig. 7

Fig. 6.



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UNITED STATES PATENT OFFICE.

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CLAMP.

No. 901,925

Specification of Letters Patent.

Patented Oct. 20, 1908.

Application filed December 31, 1907. Serial No. 408,790.

To all whom it may concern:

Be it known that I, HARRY A. THOMPSON, a citizen of the United States, residing at Cambridge, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Clamps; and I do hereby 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.

The present invention has reference to clamps, and it aims, primarily, to provide an exceedingly simple, readily manipulated, and efficient device of that class in which the gripping member or members are adapted to engage any substance passed therebetween, or between one member and a side or arm of the clamp, as the case may be, and to hold the same with increased security as the strain or stress on the same substance may be increased.

The invention, in its preferred form consists of an inverted U-shaped frame having the inside surfaces of the legs inclined inward and downward, a band embracing the legs of the frame and provided with inverted V-shaped slots formed in its sides, in which slots the reduced ends of a pair of clamping rollers may operate, the bodies of the rollers being adapted to travel on said inclined frame sides, so that any substance placed between the rollers and drawn down will be clamped between said rollers, and the harder the substance is drawn upon, the closer will the rollers be drawn together and the tighter will be their grip on the substances.

The invention is clearly shown in the annexed drawings, forming a part of this specification.

Of the said drawings: Figure 1 is a detail side elevation of the frame. Fig. 2 is a similar view showing the various equipments applied. Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2. Fig. 4 is a vertical section taken on the line 4—4 of Fig. 2. Figs. 5, 6, and 7 are side elevations of modified forms of the invention.

Similar characters of reference designate similar parts or features, as the case may be, wherever they occur.

In the drawings, 1 designates a frame, preferably of inverted U-shaped form, hav-

ing the inner sides 2 of its legs 3 inclined inward and downward, toward each other.

4 designates a band of metal or other suitable material adapted to embrace both legs of the frame, and provided on each side with an inverted V-shaped slot 5 in which fit the journal pins 6 formed on the outer ends of the rollers 7 whose bodies roll along the inclined faces of the legs of the frame 1, as indicated in Fig. 2.

By reason of the formation of the inverted V-shaped slots 5 in the band sides (which slots register with each other as is obvious) and of the inward and downward inclination or convergence of the sides 2 of the frame legs, it will be apparent that when a substance is passed between the rollers whose journals 6 fit in said slots, and downward pressure is applied to said substance, it will be gripped by said rollers, whose clamping pressure increases according as the tension upon the substance is increased, this resulting from the movement of the rollers towards each other as they travel along the inclined sides of the frame legs above referred to.

In the modified construction shown in Fig. 5 the sides of the band are each provided with a single slot 5' in which the journal ends of a roller 7' fit, so as to permit the substance to be clamped between the roller and the frame leg opposite that upon which the roller travels. In the modification shown in Fig. 6 the substance is clamped between one leg of the frame and a single roller 7^a, the latter being mounted upon pivots 6^a arranged eccentrically with respect to the roller ends, said pivots fitting in openings formed in the band 4^a which is broken away in this figure and in Fig. 7 to more clearly illustrate the roller. In the last-mentioned figure, two eccentrically mounted rollers 7^b are shown, said rollers swinging bodily towards and from each other upon their pivots 6^b.

When it is desired to release the clamped substance from between the rollers, or from between the single roller and the frame leg, as the case may be, it is only necessary to apply stress in the opposite direction to said substance, or, in other words, to pull it upwardly, whereupon the clamping action of the rollers or roller will cease.

The term "pivots" occurring in the ap-

pendent claims has reference both to the reduced ends of the rollers shown in Figs. 1 to 5, and to the pivot pins or rods upon which the rollers shown in Figs. 6 and 7 are mounted.

The various forms of clamps shown have been found very efficient in testing the strength of fabrics, yarn, wire, etc.

What is claimed is:—

10 1. The combination, in a clamp, of a U-shaped frame, a band encompassing said frame, and a revoluble clamping roller carried by said band and disposed between the legs of the frame, the pivots of said roller
15 fitting in slots formed in the sides of the band.

2. The combination, in a clamp, of a U-shaped frame, the inner sides of the legs of the frame being inclined inward and downward, a band encompassing said frame and provided with registering slots formed in the opposite sides thereof, and a clamping roller carried by the band and having its pivots projecting through the slots in said band, to
25 permit a bodily movement of the roller along the inclined side of the adjacent leg.

3. The combination, in a clamp, of a U-shaped frame, the inner sides of the legs of the frame being inclined inward and downward, a band encompassing said frame, and a roller carried by said band and movable
30 along the inclined side of the adjacent leg.

4. The combination, in a clamp, of a U-shaped frame, the inner sides of the legs of the frame being inclined inward and downward, a movable band encompassing the frame and a roller carried by said band and movable bodily therewith along the inclined

side of the adjacent leg, said roller being disposed at right angles to the plane of the frame and having the ends of its pivots fitted in openings in the band. 40

5. The combination, in a clamp, of a U-shaped frame, a movable band encompassing the frame, and a pair of parallel rollers carried by the band and movable bodily therewith towards and from each other, to exercise a clamping pressure upon a substance between the rollers. 45

6. The combination, in a clamp, of a U-shaped frame having the inner sides of its legs inclined inward and downward, a movable band encompassing the frame, and a pair of parallel rollers carried by the band, and movable bodily therewith towards and from each other along the inclined sides of said legs, to exercise a clamping pressure upon a substance between the rollers. 50 55

7. The combination, in a clamp, of a U-shaped frame having the inner sides of its legs inclined inward and downward, a movable band encompassing the frame, and provided with registering V-shaped slots in its sides, and a pair of parallel rollers carried by the band and provided at their ends with journal pins extending through said slots, said rollers being adapted to roll towards and from each other along the inclined sides of said legs, to exercise a clamping pressure upon a substance between the rollers. 60 65 70

In testimony whereof, I affix my signature, in presence of two witnesses.

HARRY A. THOMPSON.

Witnesses:

HARLAN H. WHITE,
SAMUEL TOWNE.