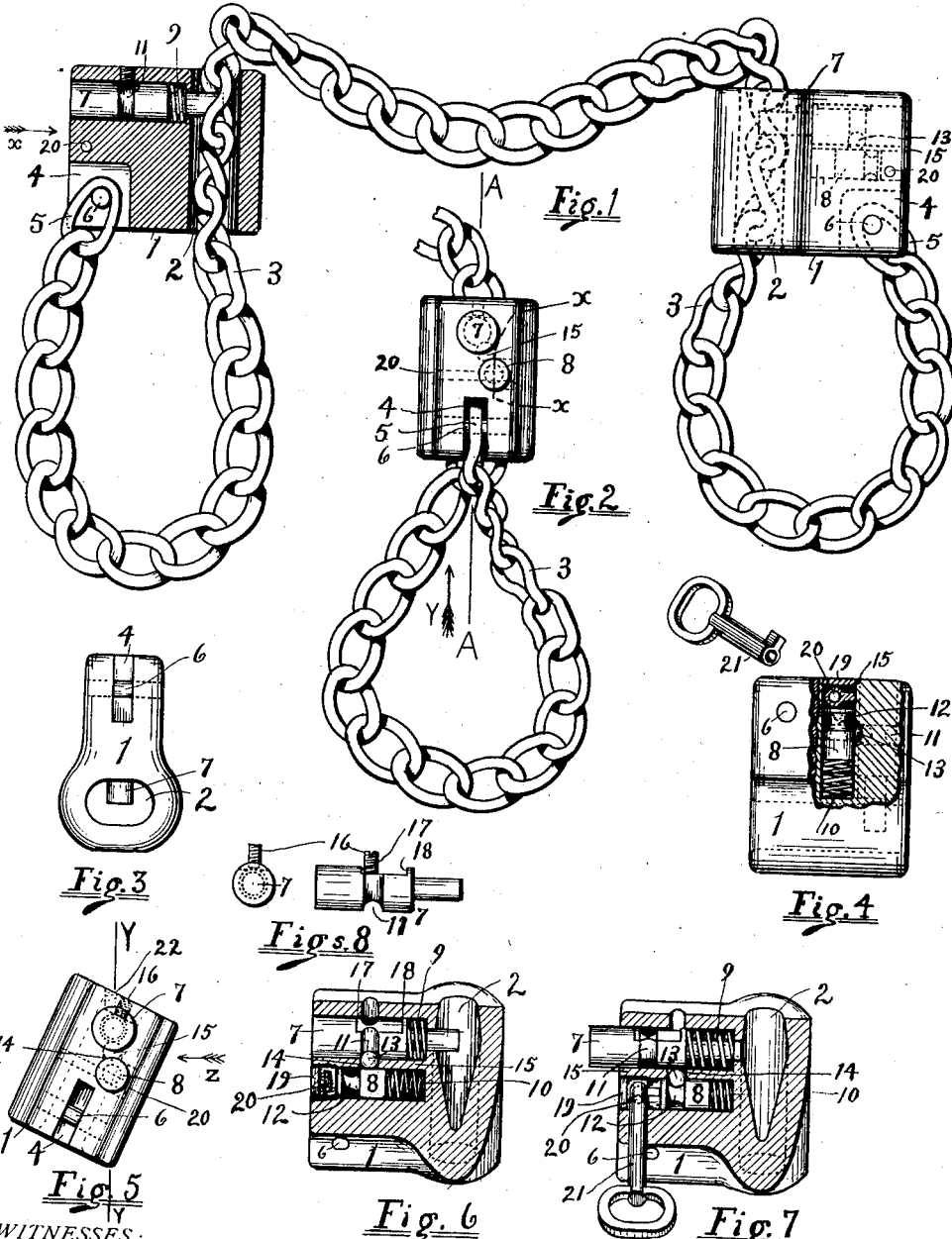


G. A. WOOD.
HANDCUFF.

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1,056,079.

Patented Mar. 18, 1913.



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HANDCUFF.

1,056,079.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE ALVIN WOOD, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Handcuffs, of which the following is a specification.

My invention relates to handcuffs; and consists in improvements by which I obtain first, a durable, quickly actuated and effective handcuff composed of but few parts, secondly independent and simplified lock collars connected by a single chain which can be formed and locked into one or more loops of variable dimensions, and finally, a light flexible article which may be conveniently carried in hand or pocket, and other general features all more particularly described hereinafter, with reference to the drawings and pointed out in claims.

Referring to the drawings, Figure 1 is a side view in elevation of the handcuffs embodying my improvements but showing one of the locking-collars on a central section line as indicated by A A Fig. 2, with the chain shown as locked therein. Fig. 2 is a plan view of a portion of the chain and one of the locking-collars looking in direction of the arrow X in Fig. 1. Fig. 3 is an end view of one of the collar-locks with the chain removed and looking in direction indicated by the arrow Y in Fig. 2. Fig. 4 is a side view of one of the collar-locks with a section broken away as indicated by the dotted line X X in Fig. 2, the section being central with the shorter or auxiliary locking bolt shown in full, and showing a section of the key for operating said bolt in position over it. Fig. 5 is a plan view complete in detail of one of the lock-collars. Fig. 6 is a sectional view complete in detail of one of the lock-collars on a central line of the locking bolts as indicated by the line Y Y in Fig. 5, looking in direction of the arrow Z, the bolts being shown in position of having the collar locked but not showing the chain therewith. Fig. 7 is a like sectional view to Fig. 6 but showing the bolts changed into position of being unlocked with the chain passage way clear through the collar. Fig. 8 represents both an end and side view in detail of the main bolt which intercepts and locks the chain with the collar, a screw is also shown in its position for holding said bolt from turning around while it may play freely endwise a

certain distance as regulated by the screw, and shoulders of said bolt. Fig. 9 represents both an end and side view in detail of the shorter or auxiliary locking bolt, showing also a ball which is stationed between and actuated by the bolts to alternately lock them with the intervening wall of the collar.

Referring to the drawings the reference numerals 1 1 represents two like lock-collars each provided with a hole 2 elliptic in outline, for the chain 3 to pass through them and on which both collars may slide in either direction the full length of the chain connecting them that may be free of its fastening to the said locks or collars. It will thus be seen that the locking-collars may be brought together and the whole of the chain remaining free formed and locked into one large loop, or a small loop may be formed at one end of the chain and none at the other, or a loop may be formed and locked at each end of the chain varying in size as the locking-collars are slipped toward or from each other thereon. The said locking-collars are identical in construction having a raised rib portion outside the collar portion in one end of which is provided a slot 4 for the reception of the end link 5 of the chain, pivoting it on the pin 6 put across the slot and secured in the remaining outer walls of the rib. In the remaining portion of the said raised rib adjoining where the chain is thus secured, in holes drilled therefor, is inserted a locking bolt 7, and an auxiliary locking bolt 8, the locking bolt 7 being fitted to travel downwardly against the action of a spring 9 into the opening 2 in the collar through which the chain travels, and thus locking the collar with the chain by the lower end of the bolt which is fitted to enter through the center opening of any one of the chain links. The bolt 8 is shorter and not fitted to enter the opening 2 for the chain, but like bolt 7 is spring actuated outwardly, the springs 9 and 10 being seated individually underneath the bolts in the bottom of the holes in which the bolts are fitted to play.

Each of the bolts 7 and 8 are provided with a circular groove 11 and 12 respectively, and corresponding in depth to about one half the diameter of a ball 13 which is fitted to travel in a channel 14 made through the intervening wall 15 of the lock separating the bolts. The depth of groove in each bolt,

plus the thickness of the wall 15 between them, equals the diameter of the ball, thus it will be seen that at all times when the grooves of the bolts are not in line with each other, the one bolt receiving the ball in its groove will be locked with the wall 15, the ball being retained by the body of the other bolt which has been pushed upward by its spring, see Figs. 6 and 7.

To limit the bolt 7 in either direction of movement a screw plug 16 is put through the outer wall of the rib and fitted to engage the shoulders 17 and 18 of the bolt, the flattened part of the bolt forming said shoulders over which the screw travels also preventing the bolt from turning around while moving back and forth.

The outer opening for the bolt 8 is completely closed so it cannot be tampered with, and movement of said bolt is limited by the plug 19 which is screwed in place over it and firmly held by a cross pin 20 put through it and the outer wall, the lower end of said plug being cut partly away permitting the pin to project within the diameter of the plug for the reception of a hollow key 21 over it, and to hold said key when turned to press down the bolt 8 so its groove will register with the opening in the wall 15 and receive the ball from the groove of the lock-bolt 7 as the spring of said bolt pushes it upward, see Fig. 7.

The hole through the dividing wall 15 for the ball is made by drilling through the outer wall as well as inner one after which said outer hole is securely closed by a plug 22 as indicated in Fig. 5.

Each of the chain links are twisted thus permitting the chain to flatten or form itself broader in one direction than in the other, and correspondingly the hole 2 in the collars is made oblong or flat, thus forcing the chain as it goes through the collars to present itself flatwise to the locking bolt 7 as represented in Fig. 1. This formation of the locking-collars tends to shift the chain flatly about the member of the person confined and the links being smoothly rounded they cannot puncture or cause injury to such person like a chain having rectangularly formed links.

Having thus fully described my improvements what I claim and wish to secure by Letters Patent is:—

1. In a pair of handcuffs, in combination, two like lock-collars, a continuous chain running through the collars and connecting them, movable bolts carried by the collars, a ball for alternately locking the bolts, where-

by the collars are locked or unlocked with the chain.

2. In a pair of handcuffs a chain and locking-collars thereon, said collars having bolt receiving chambers, bolts fitted to reciprocate in the chambers and a wall of the collar separating them, said wall having a ball retaining channel through it opening into the chambers and located to register alternately with the ball retaining aperture in the bolts.

3. In a pair of chain handcuffs a locking-collar having spring actuated bolts and a ball fitted to alternately engage the bolts and lock them with the collar and chain.

4. In a chain handcuff a lock-collar having a spring actuated locking bolt suited to be pressed by the thumb or finger against the action of its spring into engagement of the chain, a ball for engaging and locking said bolt when so pressed, and means for actuating the ball.

5. In a pair of handcuffs, in combination, a chain, a locking-collar having a lock bolt suited to engage and lock the chain against the action of a spring on said bolt, a locking ball suited to engage and lock said bolt, a secondary bolt incased within the collar and spring actuated upwardly to engage and hold the ball locked, a key for pressing down the secondary bolt whereby the ball is freed and the locking bolt permitted to be actuated by its spring to unlock the chain.

6. In a pair of handcuffs, like locking-collars, one secured to each end of a chain passing through them, said locking-collars having a locking bolt fitted to enter the chain, with an aperture in it fitted to register with a ball retaining aperture in the collar wall, means for forcing and holding a ball within the aperture whereby the bolt is made unmovable and the collar locked with the chain.

7. In a pair of handcuffs two like lock-collars, one each secured to the end of a single continuous chain on which they may slide in the formation of loops of various dimensions at either end of the chain, said collars having a chain locking bolt and a ball for engaging and locking said bolt with the chain.

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

GEORGE ALVIN WOOD.

Witnesses:

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