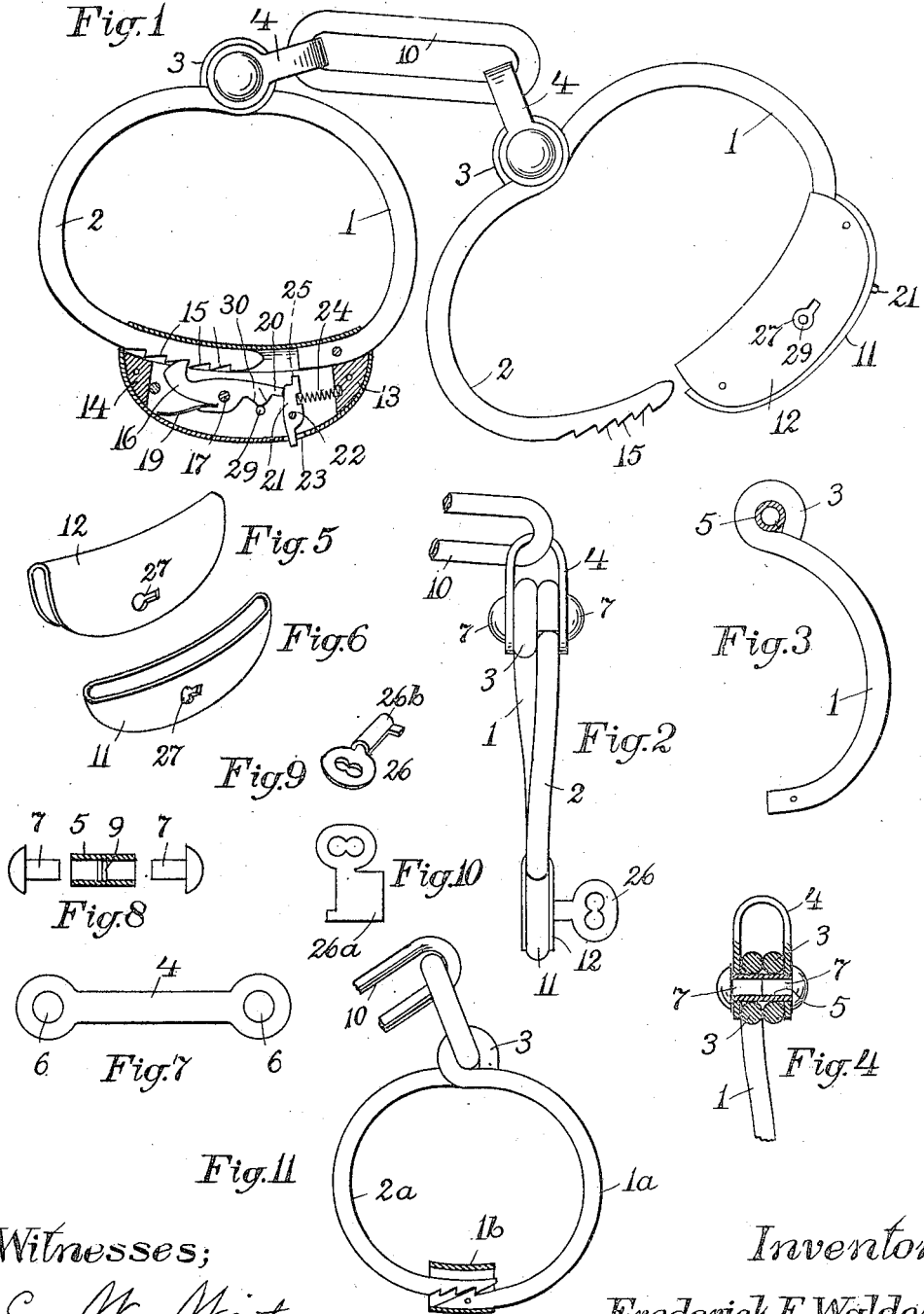


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HANDCUFF.

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1,252,517.

Patented Jan. 8, 1918.



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UNITED STATES PATENT OFFICE.

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1,252,517.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK E. WALDEN, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Handcuffs, of which the following is a full and exact description.

The object of this invention is the construction of hand-cuffs which shall possess the minimum of weight and expense, and the maximum of convenience and strength.

To these ends I have devised means whereby the main portions of the devices shall be composed of heavy wire, and substantially all the remainder shall be stampings or forgings.

Referring to the drawings forming part of this specification, Figure 1 is a face view of a pair of hand-cuffs embodying my improvements, one of the coupled members being illustrated as locked and partially in section, while the other member is shown as partially open. Fig. 2 is an edge view of one of the coupled members or bracelets. Fig. 3 is a detail view of a portion of one of said members. Fig. 4 is a sectional view of the hinge or joint of one of the members. Fig. 5 is a perspective view of one of the two sheet metal parts composing the lock-case of a bracelet. Fig. 6 is a similar view of the other of said sheet metal parts. Fig. 7 is a detail view of the stamping prior to bending into permanent form, of one of the coupling links. Fig. 8 is a detail view of the pivotal members of one of the hinges or joints, a part thereof being in section. Fig. 9 is a perspective view of the key employed in unlocking these hand-cuffs. Fig. 10 is a face view of the blank which is bent up into said key. Fig. 11 is a view, partly in section, of one member of another form of the invention.

As the two members of the hand-cuffs are exactly alike, a description of one thereof will suffice. Such member comprises the lock-carrying arm 1 and the latch 2, each being of heavy steel wire suitably curved, with an eye 3 formed by curving the terminal of the wire over outwardly, as shown in Fig. 3. The said eyes of the latch and arm being positioned side by side, as shown in Fig. 2, with the horse-shoe link 4 embracing them, the tubular rivet 5 is thrust through said eyes and through the eyes 6 of said link, and then the headed pins 7 are driven into

the ends of said tube 5. Each pin being a trifle over half the length of the tube, the contacting ends of the pins will be upset into engagement with the grooves 9 within the tube, (Fig. 8), and thereby lock the pins in place. Before this operation the ends of the tube 5 may be expanded into sufficiently strong engagement with the eyes 6 of said link or strap 4 to hold the parts together, even without the pins 7, but the latter act both to give added strength, and to give a finish to the arrangement.

A single strong link 10 is provided for joining the said straps 4 of the pair of bracelets, as shown in Fig. 1, said link, of course, being connected with the straps before the latter have been fixed to the bracelets.

For locking the parts of the hand-cuffs or bracelets about the wrists of the wearer, each arm 1 is provided with a case comprising the two members 11 and 12, the member 11 being deeply dishd, as shown in Fig. 6, and the member 12 being folded over to inclose the other, as shown in Fig. 2. Within the member or jacket 12 and close above the edges of the member or inner case 11, are received the ends of the arm 1 and latch 2, the arm being riveted, brazed, sweated or otherwise rigidly fixed in place, while the latch is adapted to be readily swung in and out from said space.

Further to aid in holding said arm in place, and also to strengthen the lock-case, I prefer to fit therein the block 13, as shown in Fig. 1, and to locate at the opposite end a similar block 14.

Several notches 15 are formed in said latch 2 adapted to be engaged by the detent 16 pivoted at 17 in the case 11, the detent being resiliently pressed into such engagement by a leaf spring 19. This detent is prolonged to a tail 20 with which a dog 21 is adapted to be engaged when the detent is out of contact with the latch; said dog being pivoted within the case at 22 and extending out through a slot 23 to the exterior of the case. A spiral spring 24 terminally confined within recesses in said dog and block 13 serves to press the dog toward said tail, while a shoulder 25 keeps the dog from being pressed too far.

A key 26 being introduced through the key hole 27 and turned on the pintle 29, the shoulder 30 on the tail of the detent is met

and the latter swung out of engagement with the latch 2, simultaneously therewith, the dog 21 snaps forward into position beneath said tail and thereby locks the detent out of its engagement with the latch, so that the latter can be freely moved in and out of the lock case without the possibility of its being locked therein. The key being deposited elsewhere, the patrolman can keep the hand cuffs in his pocket with perfect freedom, knowing that he can instantly pull the same out and apply them without having first to unlock them. As soon as the hand cuffs have been applied to the wrists of a prisoner, or even just before the action, the protruding ends of the dogs 21 are pushed to release the detents and so to permit the automatic locking of the hand cuffs.

The key for unlocking the hand cuffs is preferably made from sheet metal, a blank being first cut out similar to that shown in Fig. 10, the flap 26^a being then curved into a cylindrical form to compose the pintle hole 26^b, as illustrated in Fig. 9.

An even cheaper form of the invention is that illustrated in Fig. 11, which shows the arm 1^a carrying a sleeve 1^b and notched, while the latch 2^a is provided with a plurality of notches adapted to be engaged with the notch or tooth of the arm as the said latch is introduced within said sleeve, the resilience of said arm and latch insuring the said engagement. To unlock the parts, the latch is pressed out of engagement and swung open. This form of hand cuff is designed as a toy for the use of boys playing detective.

What I claim as my invention and for which I desire Letters Patent is as follows, to wit:—

1. A hand cuff member comprising an arm and a latch each composed of heavy wire having an end curved over to form an eye, a pivot extending through said eyes,

and a lock held by the free end of said arm, the free end of said latch being constructed to be engaged by said lock.

2. A hand cuff member comprising an arm and a latch each composed of heavy wire having an end curved over outwardly to form an eye, a pivot extending through said eyes, and a lock held by the free end of said arm, the free end of said latch being constructed to be engaged by said lock.

3. A hand cuff member comprising an arm and a latch each having an eye at one end, a tubular rivet extending through said eyes and internally roughened at an intermediate point, and headed pins within said tubular rivet and engaging said roughened section at their inner ends.

4. A hand cuff member comprising an arm and a latch each having an eye at one end, a horse-shoe strap having an eye at each end and embracing the eyes of said latch and arm, a tubular rivet extending through all said eyes, and headed pins entering said tubular rivet and terminally fixed therein.

5. A hand cuff member comprising an arm, a latch pivoted to said arm, and a lock containing case for said arm embracing a deeply dished member having its open portion close beneath a portion of the arm, a member folded over to embrace said arm portion and the first mentioned member, said members being rigidly fastened to the arm and adapted to receive the end portion of said latch, and a locking device disposed in said case for engaging said latch.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 7th day of May, 1913.

FREDERICK E. WALDEN.

Witnesses:

A. B. UPHAM,
FRANK A. SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."