(No Model.)

F. McDONALD.

SHACKLE.

No. 375,945. Patented Jan. 3, 1888.

Fig. 1.

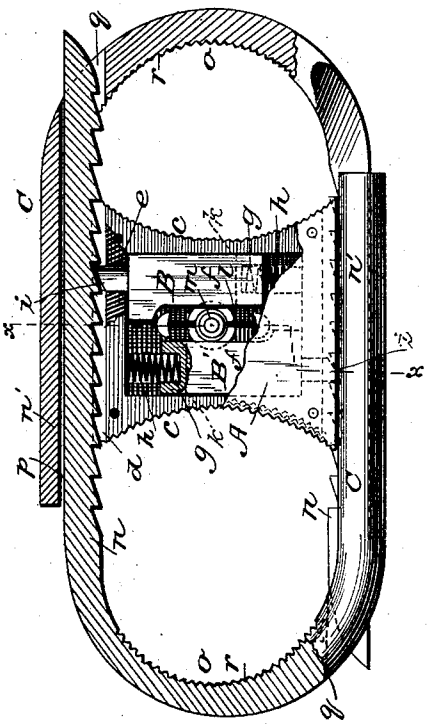
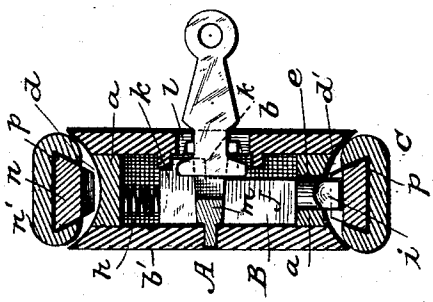


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK McDONALD, OF BOISE CITY, IDAHO TERRITORY.

SHACKLE.

SPECIFICATION forming part of Letters Patent No. 375,945, dated January 3, 1888.

Application filed September 10, 1887. Serial No. 249,393. (No model.)

To all whom it may concern:

Be it known that I, FRANK McDONALD, of Boise City, in the county of Ada and Territory of Idaho, have invented a new and useful Improvement in Shackles, of which the following is a specification.

This invention relates to shackles or handcuffs; and it consists of a lock-case provided with spring-bolts and a pair of shackle arms or bows which slide upon each other and upon the lock-case, the thumbs, wrists, or other parts of the body inserted being held between the curved parts of the shackle arms and the sides of the lock-case.

It also consists in the special construction and the combination and arrangement of the parts, as will be hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of my improved shackle; and Fig. 2 is a cross-section on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the lock-case of the shackle, consisting of the frame *a* and the front and back plates, *b b'*.

c c represent the sides of the lock-case, which are cut out or made concave, as shown, this concave surface being roughened. The top and bottom of the case are also made concave or grooved, as shown at *d d*, in order to receive and hold the shackle-arms, as will be hereinafter described. The top and bottom of the case are also provided with the bolt-holes *e e*.

B B represent spring-bolts contained in the lock-case. The bodies *f f* of these bolts are rectangular in shape, and each of them has a longitudinal opening, *g g*, at one end to receive the spiral spring *h*. The heads of the bolts that pass through the case are cylindrical, the extremities *i i* being beveled. A part of the front surface of these bolts projects slightly, forming a recess between the bolts and the front plate. The key-bit turns in this recess and engages with the lugs or projecting portions *k k*. The front plate, *b*, has a key-hole, *l*, the central portion of the hole being enlarged to receive the slotted end of the key-stem *m*. This stem passes through the case between the bolts and enters the back plate.

The heads of the bolts are forced out of the case by the springs, and are retracted by means of a key having a T-shaped bit, as shown in Fig. 2. The key being inserted into the key-hole, the bits project from each side of the stem, and when turned engage with the projecting portions *k k* of the bolts.

I do not restrict myself to the use of the spring-bolts above described, as any suitable bolts or catches for fastening the shackles can be used.

C C represent the shackle arms or bows. These are two in number, and are each composed of two straight arms, *n n'*, united by a bent portion, *o*. The longer arms, *n n*, are beveled on each side toward the inner surface, the inner surface being serrated or notched. The shorter arms, *n' n'*, are provided with dove-tailed grooves *p p* on the inner side. These grooves terminate in the openings *q q*, which pass through the shackle-arms at the junction of the shorter arm and the bent portion. The inner surface, *r*, of the bent portion of the arms is preferably roughened.

The parts are put together by slipping one of the shackle-arms C or C partly over the lock-case, the arms sliding in the grooves on the upper and lower sides of the case. The other shackle-arm is then brought into position, the serrated or long arms entering the grooves of the short arms.

If the fingers or wrists are placed in the openings on each side of the lock-case and the shackle-arms are pressed toward each other, the serrations or notches will readily pass over the beveled ends of the spring-bolts, and the shackle-arms will close upon the parts inserted and hold them firmly between the roughened surfaces. When closed, the shackle cannot be opened until the bolts are withdrawn from the notches by the key. This shackle can be made in different sizes to hold the fingers, wrists, &c., but is especially adapted as a shackle for the thumbs, fingers, or toes.

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

1. In a shackle, the combination, with a lock-case, of shackle-arms sliding upon each other and upon the lock-case, and bolts or catches for locking the same, substantially as described.

2. The combination, with a lock-case having grooved upper and lower surfaces and pro-

vided with bolts, of the shackle-arms C C, adapted to slide in the grooves on the lock-case and upon each other, and having the straight serrated portions *n n* to engage with the bolts, as set forth.

3. The shackle arms or bows C C, each of which is provided with a central curved portion and two straight arms, one of said arms being notched or serrated and the other grooved, in combination with a lock-case upon which the shackle-arms are adapted to slide, and bolts for fastening the same, substantially as herein set forth.

4. In a shackle, the combination, with a lock-case provided with spring-bolts, of the shackle-arms C C, having the curved portions *o o*, the straight arms *n n*, provided with serrations or notches for engagement with the spring-bolts, the grooved arms *n' n'*, in which the serrated arms move, and the openings *q q* at the ends of the grooves for the passage of the serrated arms, substantially as specified.

5. In a shackle, the combination, with a lock-case provided with spring-bolts, and having a concave surface on its sides and a groove on its upper and lower surfaces, of the shackles having the serrated or notched arms, the grooved arms in which the serrated arms move, and the curved portion uniting the two arms, the said shackles being adapted to engage with and slide in the grooves on the upper and lower surface of the lock-case, substantially as described.

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