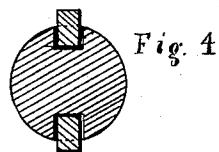
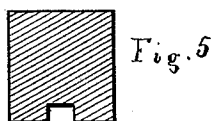
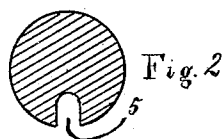
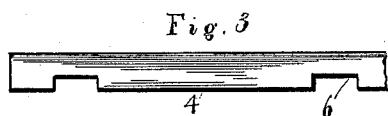
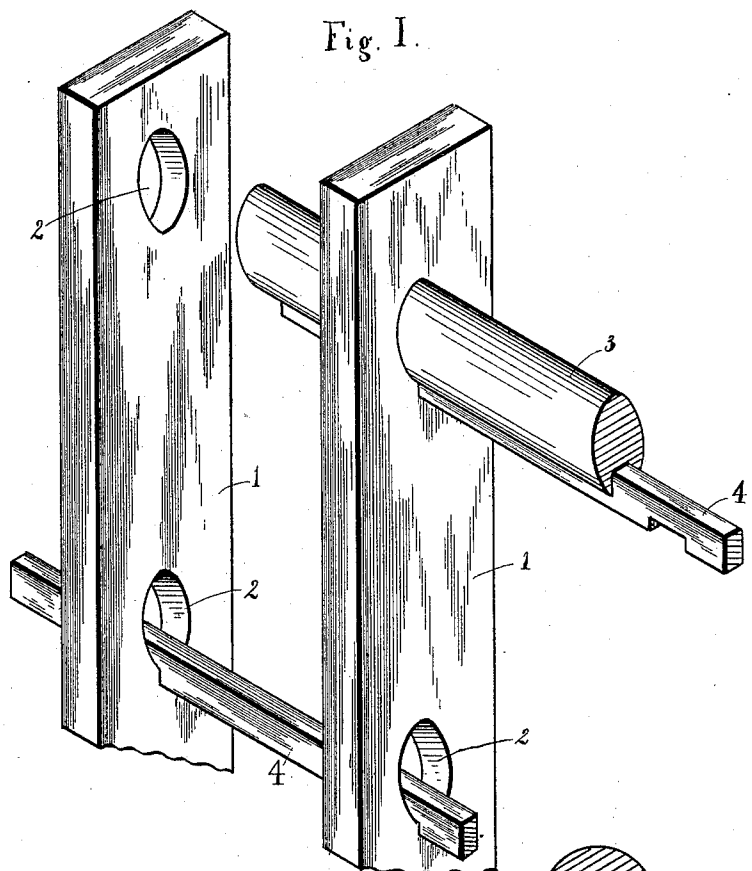


(No Model.)

P. HALE.
METALLIC GRATING.

No. 469,519.

Patented Feb. 23, 1892.



Witnesses.

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UNITED STATES PATENT OFFICE.

PERLEY HALE, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES H. SPARKS,
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METALLIC GRATING.

SPECIFICATION forming part of Letters Patent No. 469,519, dated February 23, 1892.

Application filed September 7, 1891. Serial No. 405,020. (No model.)

To all whom it may concern:

Be it known that I, PERLEY HALE, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Metallic Gratings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in metallic gratings for jails, vaults, or other purposes; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a perspective view of a portion of my complete invention, and showing the manner in which the grating is put together or constructed. Fig. 2 is an enlarged cross-section of a key-bar, which I employ in carrying out my invention. Fig. 3 is a side elevation of a locking-bar, which I also employ in carrying out my invention. Fig. 4 is an enlarged cross-section of a modification of the key-bar as illustrated in Fig. 2; and Fig. 5 is an enlarged cross-section of a further modification or an angular key-bar, which I employ in carrying out my invention.

Referring to the drawings, 1 indicates a series of vertical grate-bars, substantially of the form and construction as illustrated in Fig. 1. Said bars are provided immediately of their upper and lower terminals with one or a series of perforations 2, through and in which the key and lock bars may be inserted in a manner as will be more specifically hereinafter described. The upper and lower terminal portions of said vertical bars 1 are secured to the ceiling and floor of the cells or corridors in any suitable and mechanical manner, so as to prevent the fracturing of the same at their respective conjunctions by the prisoners.

Having given a general description of the vertical bars of the grating, I will now proceed to describe the horizontal bars. The horizontal bars (or, as all the horizontal bars have or embody the same construction, I will only proceed to describe one) consist of a key-bar 3 and a lock-bar 4, of the construction as illustrated in Figs. 1, 2, and 3. The key-bar 3 is provided throughout its entire length with a longitudinal groove 5, as illustrated in Figs.

1, 2, 4, and 5. Said key-bar 3 may be circular or angular, as desired by the manufacturer. The lock-bar 4 is provided intermediately of its ends with a series of depressions or recesses 6, as illustrated in Fig. 3. The number of said recesses of course corresponds to the number of vertical bars in the grating and the width of the same should correspond to the width of the vertical bars. The position of the lock-bar when in use is illustrated in Fig. 1.

In Fig. 4 I show a modification of the key-bar, wherein said bar is provided with two diametrically-opposite grooves. Of course when I use a bar of this construction I use two lock-bars in connection therewith and located diametrically opposite to each other in the key-bar.

In place of using a circular key-bar, as illustrated in Figs. 1, 2, 3, and 4, I may use an angular key-bar, as illustrated in Fig. 5.

It can be readily deduced from the foregoing description that the key-bar 3 and the lock-bar 4 constitute one of the series of horizontal grate-bars.

The terminal ends of the key-bar and lock-bar are secured in any suitable and mechanical manner to the adjacent side of the grating or the walls of the cell, so as to prevent any horizontal movement of the same when in use. I desire to state in this connection that I can use the vertical bars 1 as horizontal grate-bars, and also use the key-bar 3 and lock-bar 4 (constituting the aforesaid horizontal bar) as vertical grate-bars. In other words, the vertical bars 1 and the key-bars 3 and lock-bars 4 may be used interchangeably without departing from the nature of my invention.

It can readily be perceived by referring to Figs. 1, 2, and 4 that the key-bar 3 is provided, as before stated, with a longitudinal groove 5, the same being U-shaped in cross-section, or I may provide said grooves with a plane straight bottom surface, as illustrated in Fig. 5. It is evident that the groove 5 will subserve its function whether it extends the entire length or only a portion of the length of the key-bar, providing a lock-bar of sufficient dimensions is inserted therein.

Having fully described my invention, what I claim is—

1. A metallic grating having a key-bar provided with a longitudinal groove and a lock-bar adapted to fit in said groove, substantially as set forth.
- 5 2. A metallic grating having a key-bar provided with a longitudinal groove and a lock-bar adapted to fit in said groove and protrude therefrom, substantially as set forth.
- 10 3. A metallic grating having a key-bar provided with a longitudinal groove throughout its entire length and a lock-bar adapted to fit in said groove and protrude therefrom, substantially as set forth.
- 15 4. A metallic grating having a key-bar provided with a longitudinal groove throughout its entire length and a lock-bar provided with recesses and adapted to fit in said groove and protrude therefrom, substantially as set forth.
- 20 5. A metallic grating having a key-bar provided with a U-shaped longitudinal groove throughout its entire length and a lock-bar adapted to fit in said groove and protrude therefrom, substantially as set forth.
6. A metallic grating having a key-bar provided with two diametrically - opposite 25 U-shaped longitudinal grooves extending throughout its entire length and lock-bars provided with recesses adapted to fit in said groove, substantially as set forth.
7. A metallic grating having, in combination, vertical bars 1, provided with perforations 2, key-bars 3, provided throughout their 30 entire lengths with grooves, and locking-bars 4, provided with recesses 6 and adapted to fit in said grooves, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses. 35

PERLEY HALE.

Witnesses:

BENJ. J. KLENE,
ED. E. LONGAN.