

No. 856,130.

PATENTED JUNE 4, 1907.

F. E. CANDA.

GRATING.

APPLICATION FILED MAR. 22, 1907.

Fig. 1,

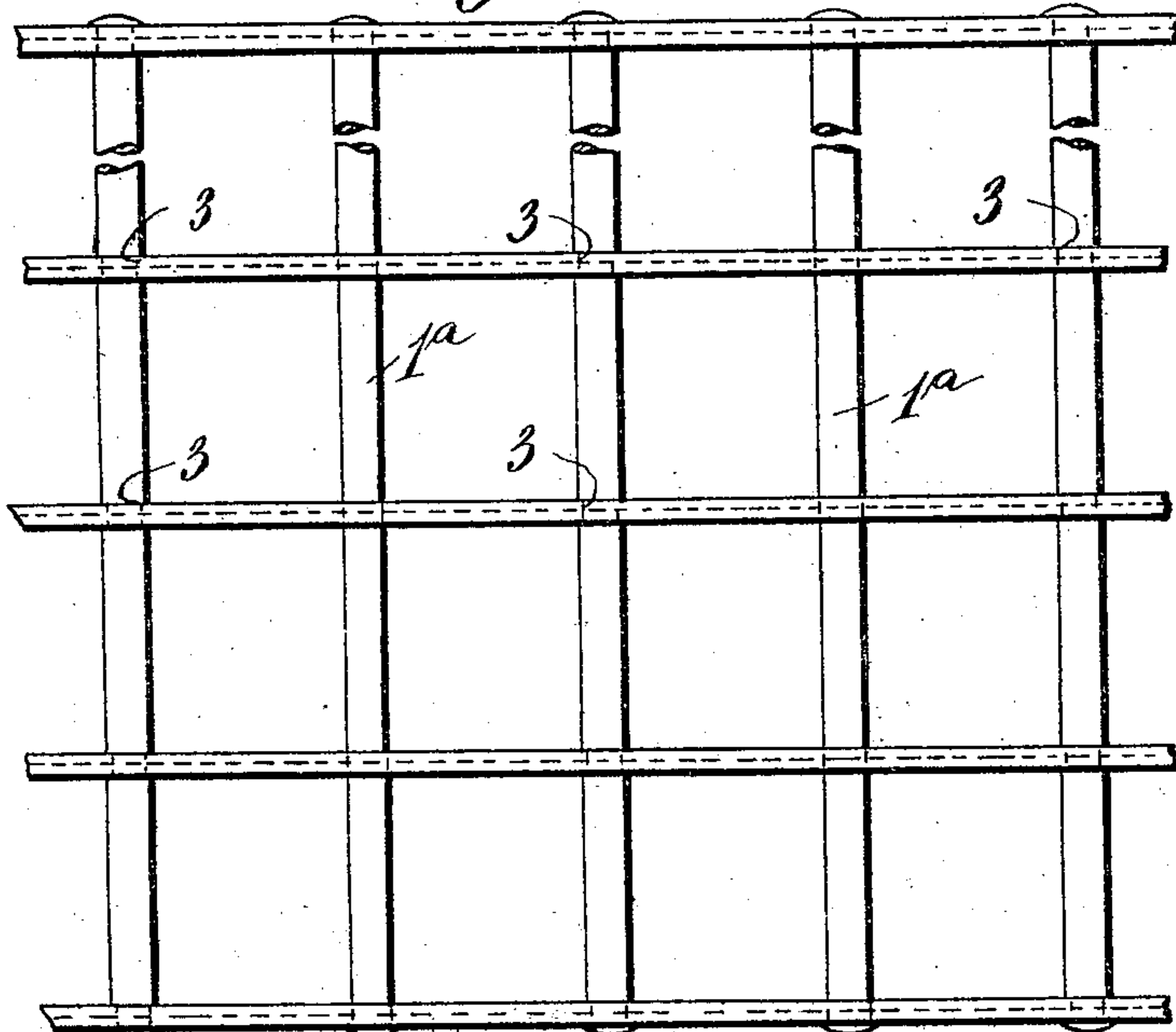


Fig. 2,

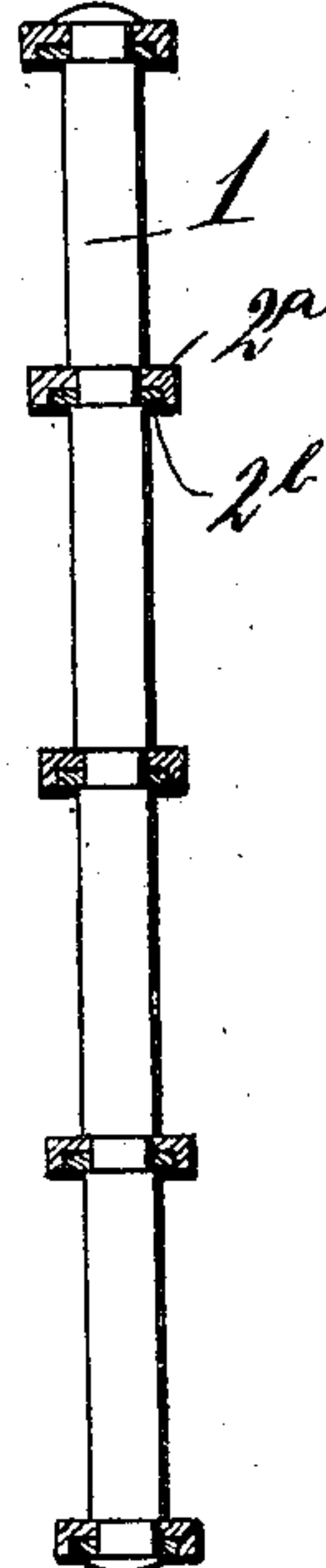


Fig. 3.

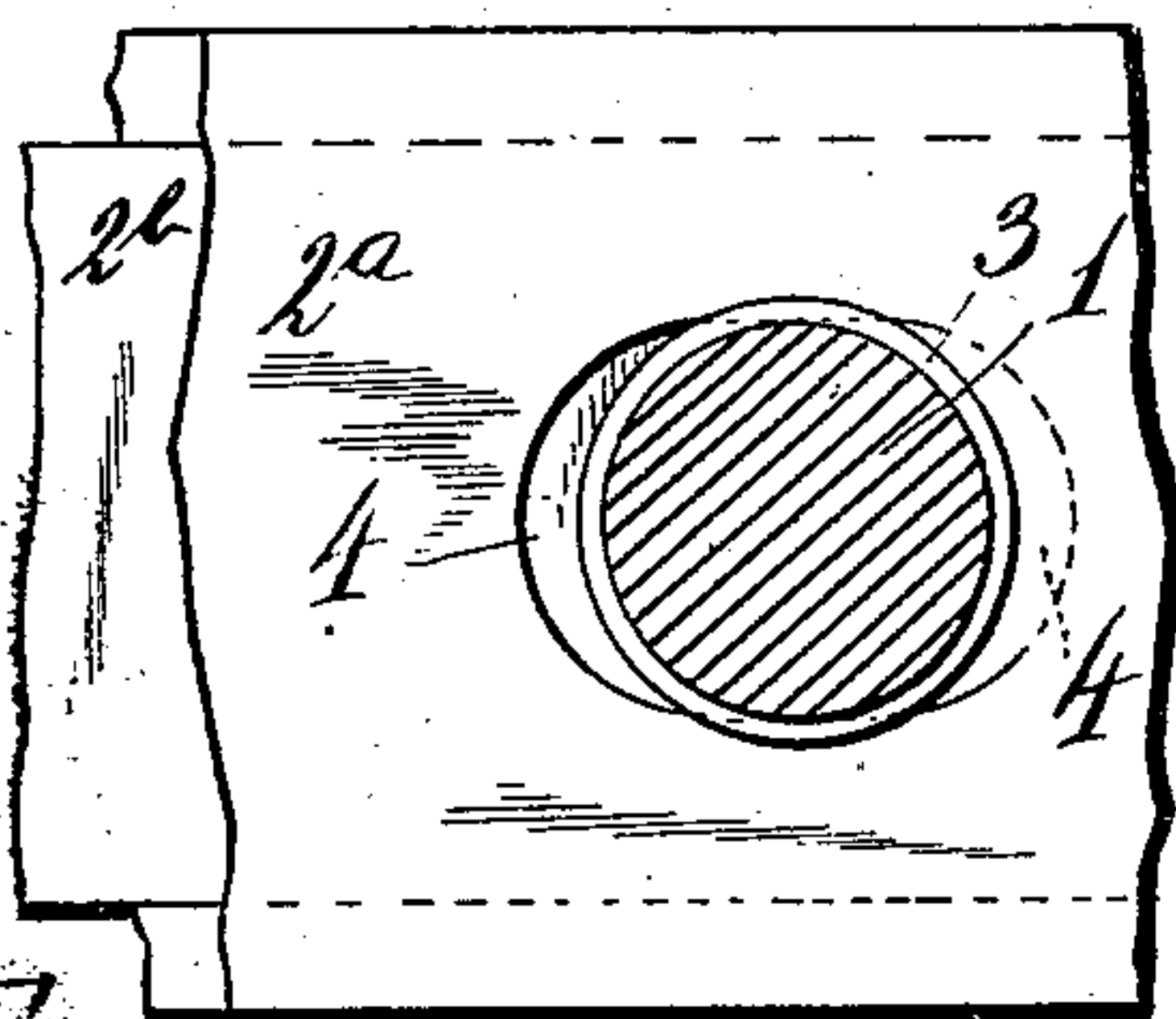


Fig. 4.

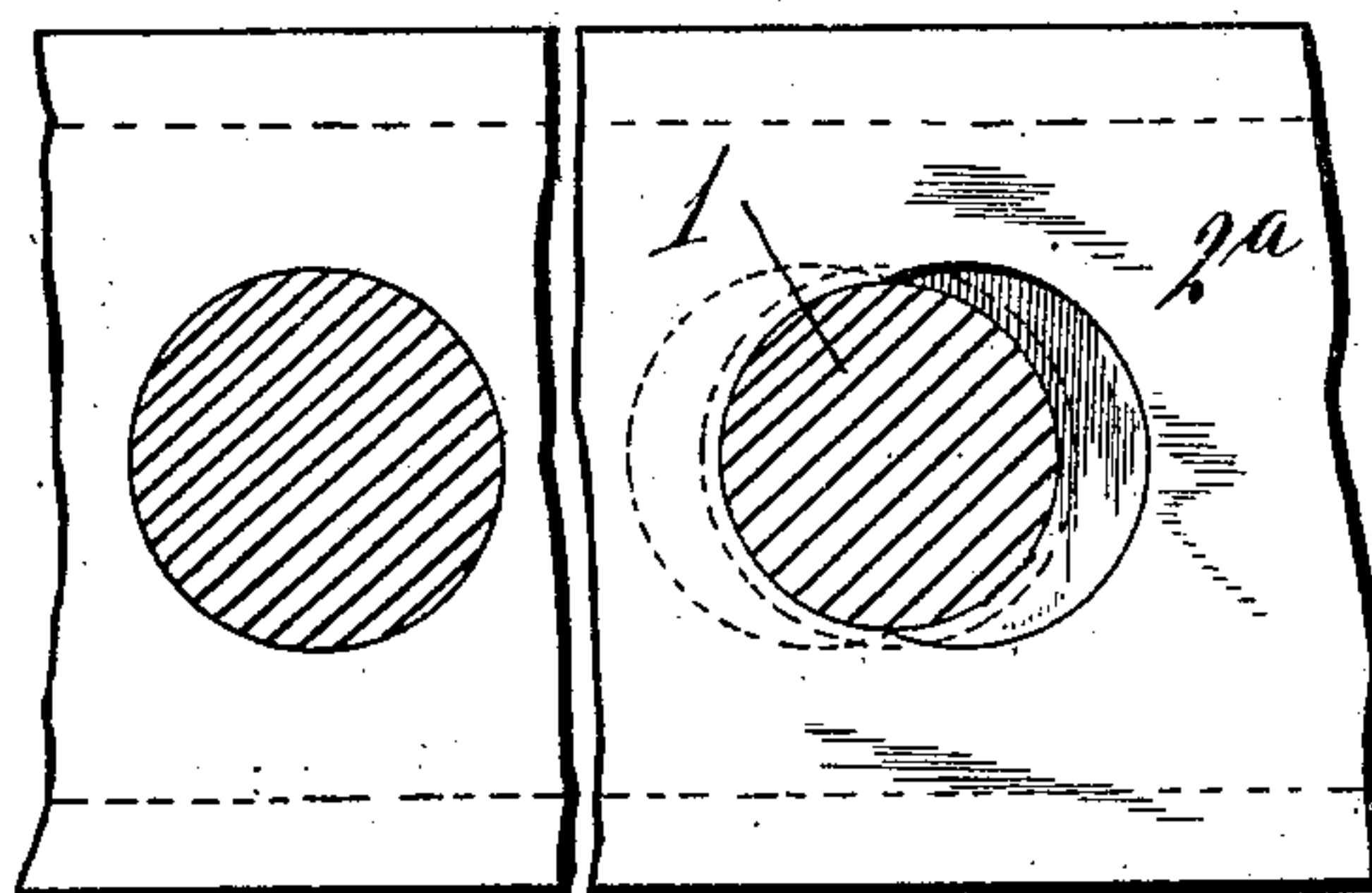


Fig. 6.

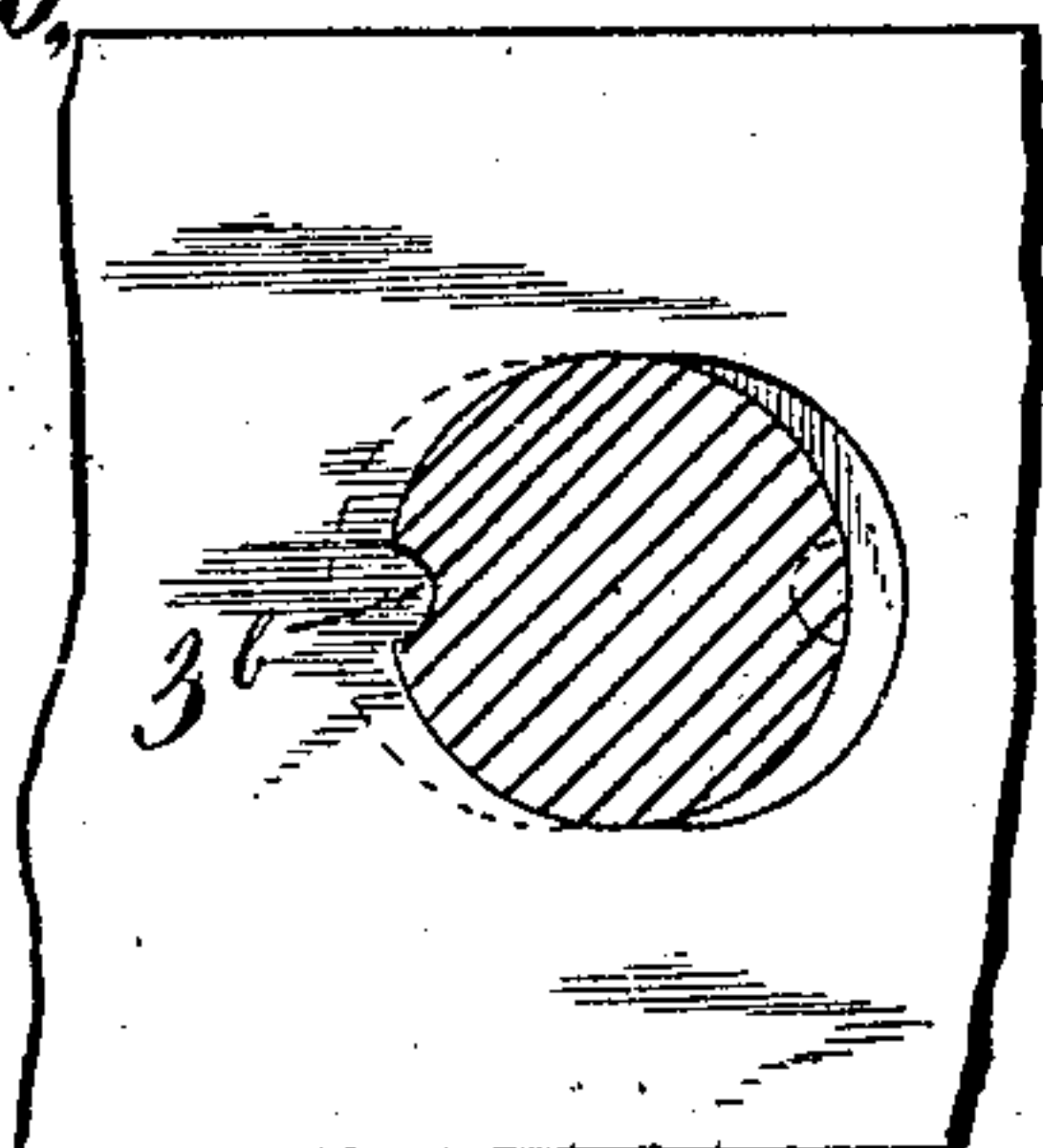
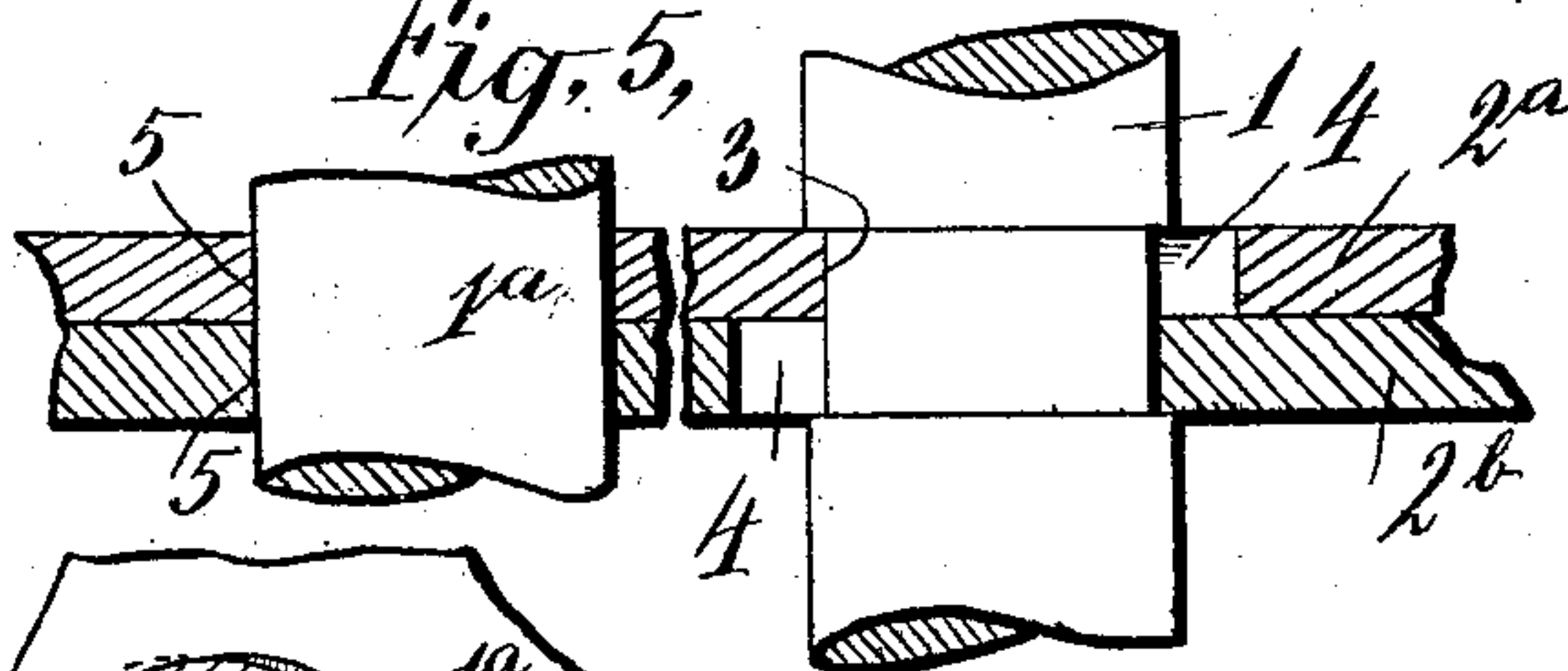
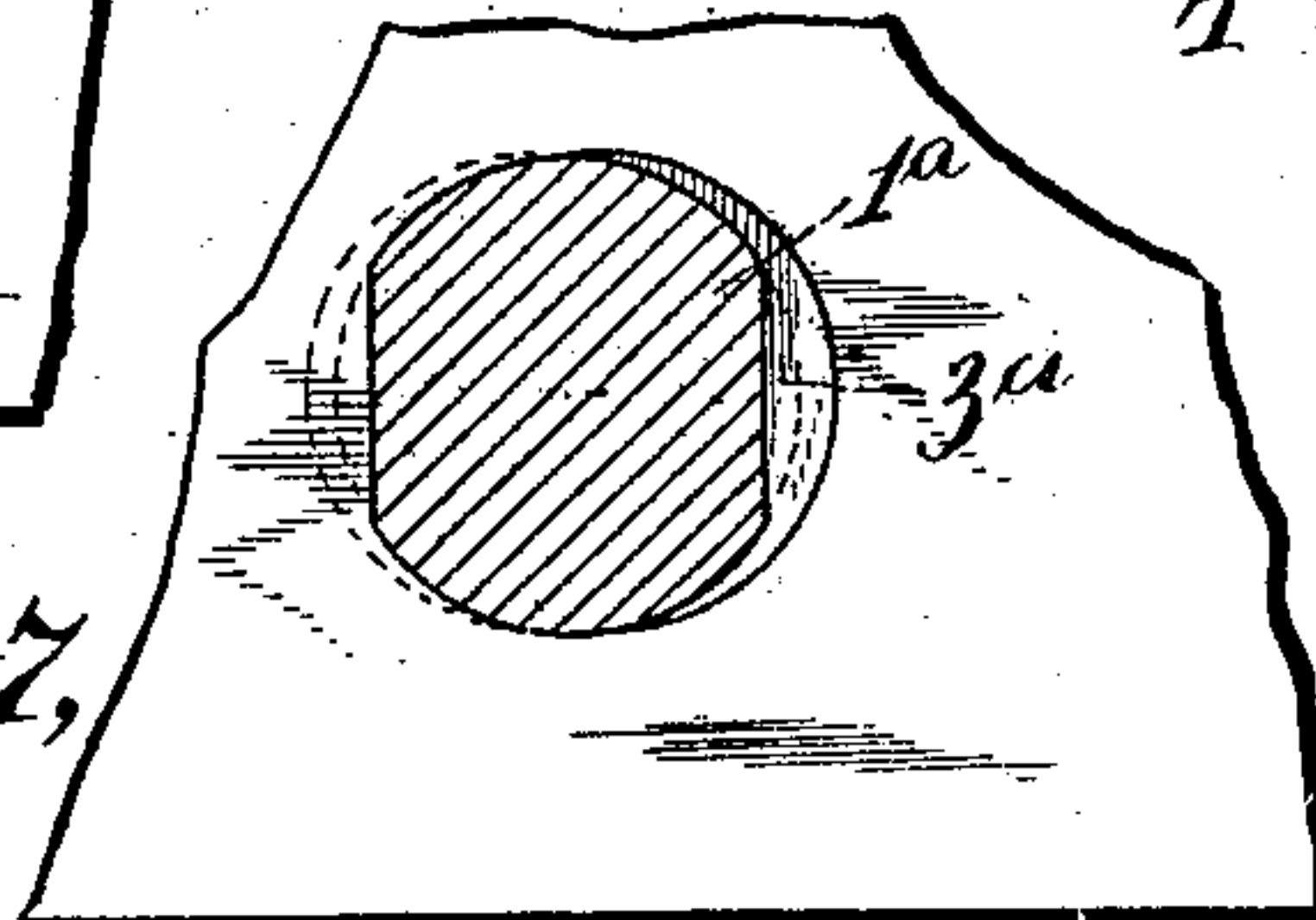


Fig. 5,



WITNESSES:
May J. Jumble
Harry L. L. *Fig. 7,*



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UNITED STATES PATENT OFFICE.

FERDINAND E. CANDA, OF NEW YORK, N. Y.

GRATING.

No. 856,130.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed March 22, 1907. Serial No. 363,928.

To all whom it may concern:

Be it known that I, FERDINAND E. CANDA, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gratings; and I do hereby declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in metallic gratings—particularly jail door and window gratings and the like.

My invention consists in the novel construction of the bars or members of the grating, whereby the easy manufacture of the same from rolled shapes is rendered possible, and whereby the bars are firmly locked in place.

The objects of my invention are to improve the construction of gratings, and particularly jail gratings and the like, to make the same more secure, to facilitate the construction of such gratings, and to permit the use of rolled shapes and reduce machine work to a minimum.

I will now proceed to describe my invention with reference to the accompanying drawing, and will then point out the novel features in claims.

Figure 1 shows a side view of a grating constructed in accordance with my invention; Fig. 2 shows a vertical transverse section thereof; Fig. 3 shows a detail top view of a portion of one of the horizontal bars and a section of one of the notched vertical bars, the members of the horizontal bar being in position to permit the passage of said vertical bar; Fig. 4 is a view similar to Fig. 3 showing the members of the horizontal bar shifted laterally to lock said vertical bar and permit the passage of the unnotched or locking vertical bars; Fig. 5 shows a detail vertical section with the parts positioned as shown in Fig. 4; Fig. 6 is a view similar to Fig. 4 but illustrating a modified construction; and Fig. 7 is another view similar to Fig. 4 but illustrating a further modified construction.

These gratings, like most gratings for the purpose, consist of two series of members placed angularly, and preferably at right angles, to each other. According to my invention the members of one of said series, for ex-

ample the horizontal members, each consists of two sub-members which cooperate to lock said horizontal bars and said vertical bars together, preventing the spreading of either.

Referring now to the accompanying drawing, numerals 1 designate one of the two series of cross bars of the grating, that is to say, the vertical bars thereof, and numerals 2 designate the other series of members of the grating, that is to say, the horizontal bars. As shown particularly in Figs. 2 and 5 the horizontal members 2 each consist of two sub-bars or sub-members 2^a and 2^b , member 2^a being preferably of channel section and member 2^b being adapted to fit within and slide within the channel of the corresponding member 2^a . Certain of the vertical bars 1 are provided with notches 3, while others numbered 1^a are not. It is preferable that at least alternate vertical bars of the grating be so notched, and it is permissible that only one or two of the vertical bars be not notched; the unnotched vertical bars serving to lock the sub-members 2^a and 2^b of the horizontal bars, as described hereafter. The sub-members 2^a and 2^b of the horizontal bars have oval holes 4 for the passage of the notched bars 1, and have other holes 5 (which register only when holes 4 are not in complete registry) for the passage of the unnotched bars 1^a .

The notches 3 may extend completely around the bars 1, as shown in Fig. 1, or may be mere gains as indicated by numeral 3^a , Fig. 7, or depressions, as indicated by numeral 3^b , Fig. 6, the apertures 4 in bars 2^a and 2^b being of corresponding shape.

In assembling the bars of the grating, the horizontal bars 2 are first placed at suitable distances apart, the holes 4 of members 2^a and 2^b in perfect registry, and then the notched vertical bars 1 are passed through said holes and are so placed that their notches are opposite the openings 4 of members 2^a and 2^b . These members 2^a and 2^b of each of the horizontal bars are then moved in opposite directions so that the portions of the bars 2^a and 2^b adjacent opposite ends of said holes 4 enter between the shoulders of notches 3; this motion of members 2^a and 2^b bringing into line the openings 5 of members 2^a and 2^b . The unnotched bars 1^a are then passed through these openings 5 and their ends, and those of notched bars 1, are riveted over. As will be seen, the members 1^a pass-

ing through the holes 5 now lock members 2^a and 2^b against relative movement, and such members 2^a and 2^b, engaging the shoulders of the notches in the notched bars 1, prevent spreading of the horizontal bars. The bars 1 are preferably made of very hard steel, such as hardened chrome steel, which cannot be cut or drilled. The members 2^a of the horizontal bars are also preferably formed of such hard material; but the members 2^b may be of softer steel, for the flanges at the edges of the members 2^a make it practically impossible to reach and cut through sub-members 2^b.

15 What I claim is:—

1. A grating comprising in combination two intersecting series of members, certain of the members of one said series notched at intervals for engagement by the members of the other series, the members of such second series consisting of sub-members longitudinally movable and provided with apertures which, when in registry, permit the passage of the notched members of the first series, relative longitudinal movement of said sub-members causing said second series of grating members to enter the notches of said first series and lock the two series of grating members, and means holding such sub-members in such locking position.

2. A grating comprising in combination two intersecting series of members, certain of the members of one said series notched at intervals for engagement by the members of the other series, the members of such second series consisting of sub-members longitudinally movable and provided with apertures which, when in registry, permit the passage of the notched members of the first series, relative longitudinal movement of said sub-members causing said second series of grating members to enter the notches of said first series and lock the two series of grating members, said sub-members having also other apertures, in registry when said sub-members are in such locking position, through which pass other members of the first series.

3. A grating comprising in combination two intersecting series of members, the members of one series comprising longitudinally movable sub-members having apertures which, when in registry, permit the passage of members of the other series, said apertures elongated, relatively to the section of the members passing therethrough, to permit longitudinal motion of such sub-members, the members of said second series so passing through said elongated apertures having notches which said sub-members enter when so moved longitudinally relative to each other, and means holding the sub-members of said first series in such locking position.

4. A grating comprising in combination two intersecting series of members, the members of one series comprising longitudinally movable sub-members having apertures which, when in registry, permit the passage of members of the other series, said apertures elongated, relatively to the section of the members passing therethrough, to permit longitudinal motion of such sub-members, the members of said second series so passing through said elongated apertures having notches which said sub-members enter when so moved longitudinally relative to each other, said sub-members having also other apertures, in registry when said sub-members are in such locking position, through which pass other members of the second series.

5. A grating comprising in combination two intersecting series of bars, the bars of one series consisting each of longitudinally movable sub-bars, one a channel bar and the other a bar fitting within the channel of such first sub-bar, said bars having apertures therein, registering in one position of each set of sub-bars, for the passage of the bars of the other series, and elongated to permit relative movement, the bars of the other series so passing through said apertures having notches which said sub-bars engage when so moved longitudinally, and means holding each set of sub-bars in locking position.

6. A grating comprising in combination two intersecting series of bars, the bars of one series consisting each of longitudinally movable sub-bars, one a channel bar and the other a bar fitting within the channel of such first sub-bar, said bars having apertures therein, registering in one position of each set of sub-bars, for the passage of the bars of the other series, and elongated to permit relative movement, the bars of the other series so passing through said apertures having notches which said sub-bars engage when so moved longitudinally, said sub-bars having also other openings which are in registry when said sub-bars are in locking position, through which other bars of the first series pass.

7. A composite grating bar comprising two longitudinal members relatively movable one to the other and provided with elongated apertures which are in registry in one position of said members, and provided with other apertures which are in registry only when said first apertures are not in registry.

8. A composite grating bar comprising two longitudinal members, one a channel bar and the other a bar fitting within such channel, said members provided with elongated apertures which are in registry in one position of said members, and provided with other apertures which are in registry only when said first apertures are not in registry.

9. A composite grating bar comprising two members, one a channel bar and the other a bar fitting within said channel, said bars provided with means for permitting the passage therethrough, and for locking them to, intersecting bars, said channel bar of relatively hard material and the bar within said channel of relatively softer material the flanges of the channel bar protecting the bar of softer material.

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

FERDINAND E. CANDA.

Witnesses:

ROGER H. LYON,
H. M. MARBLE.