

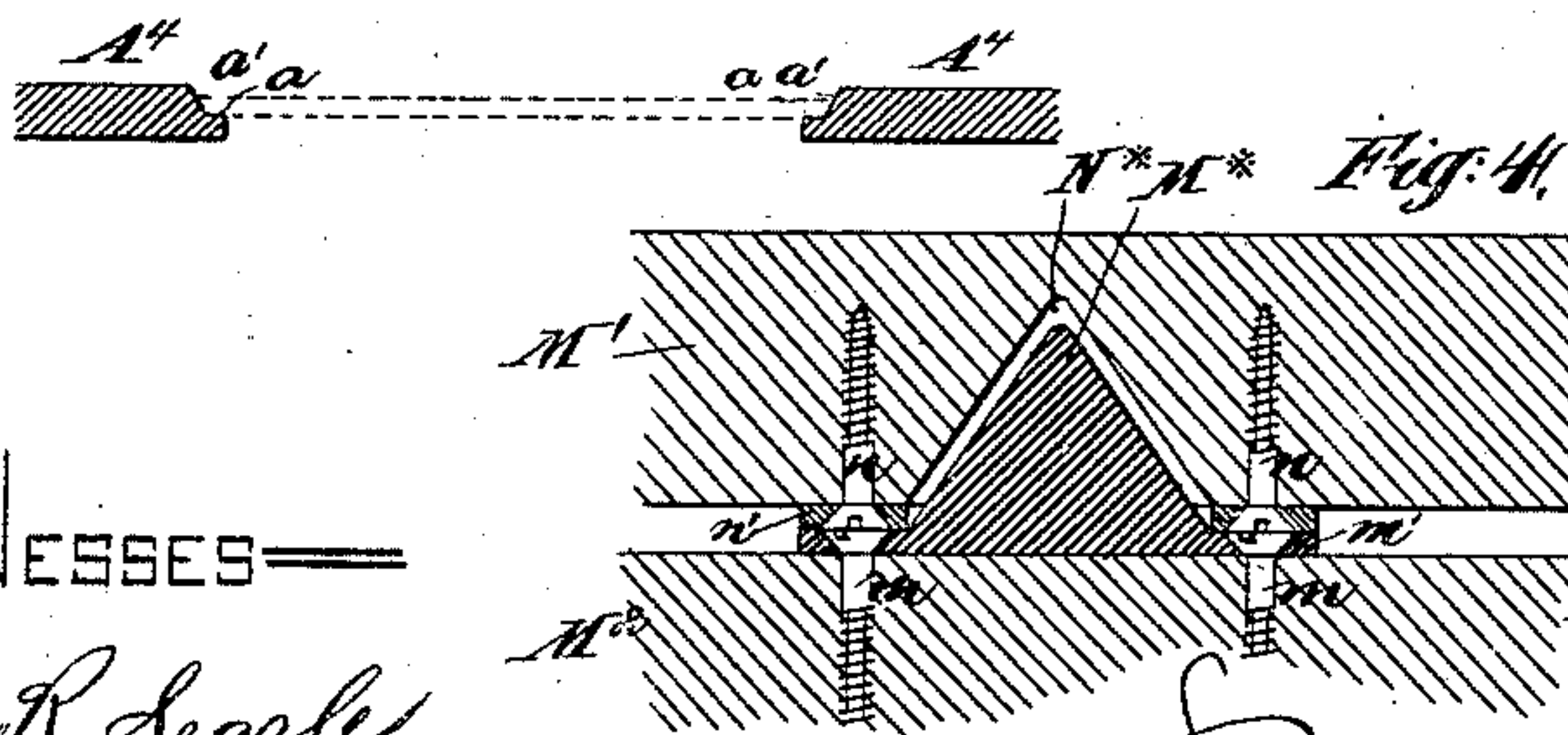
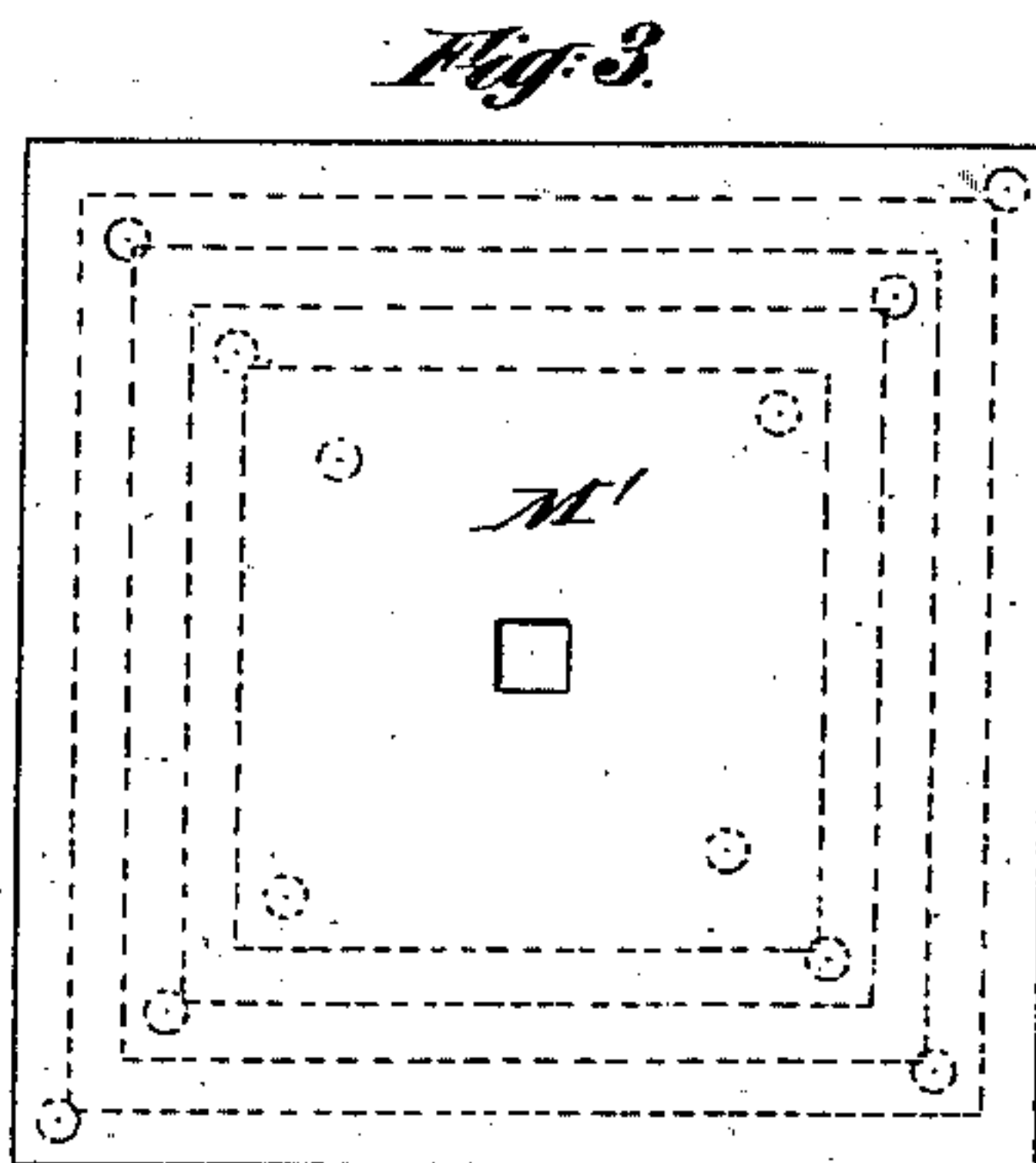
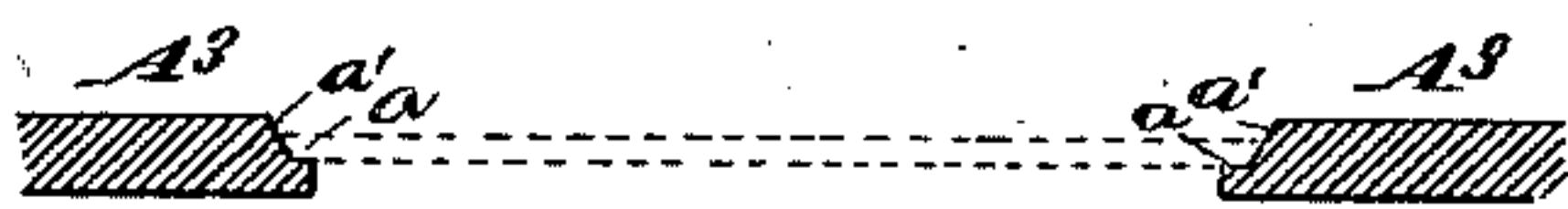
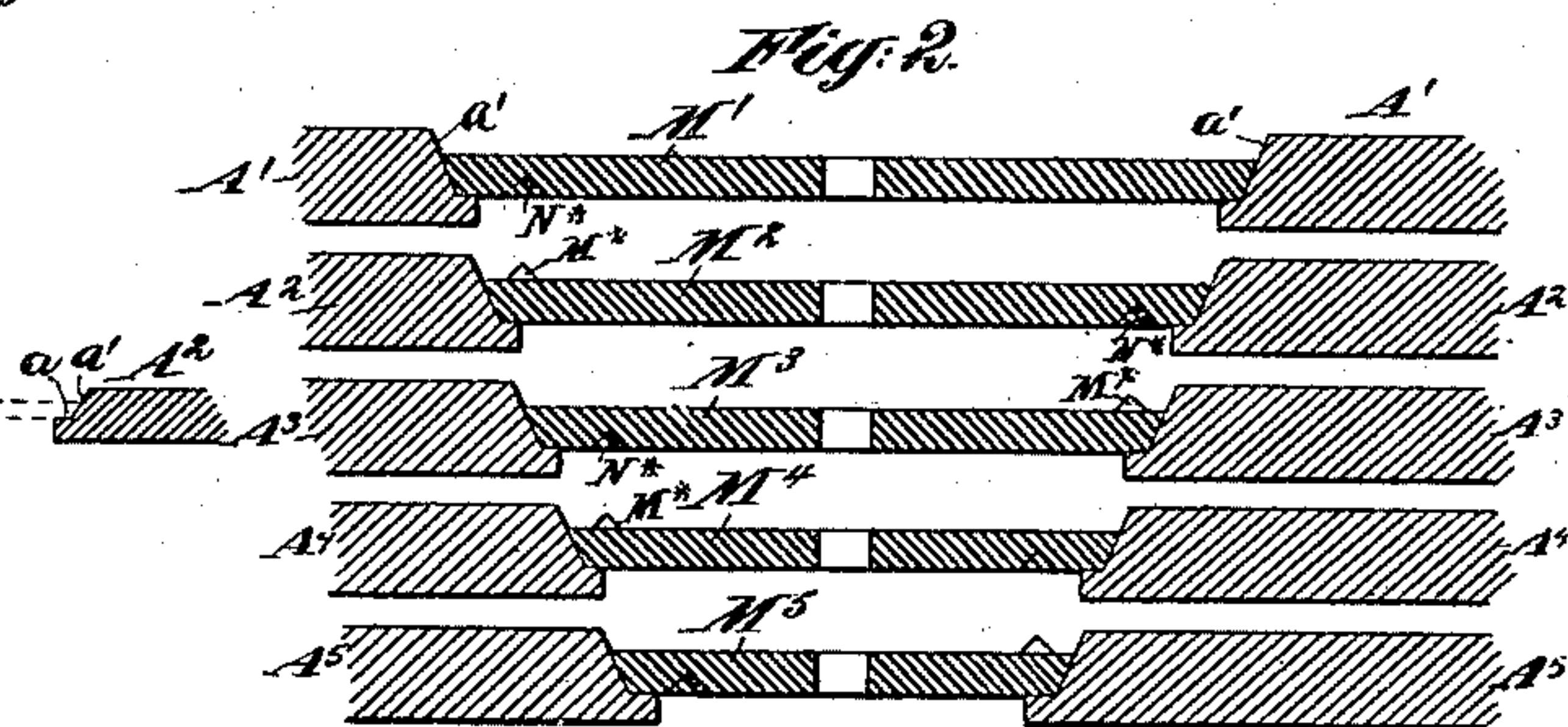
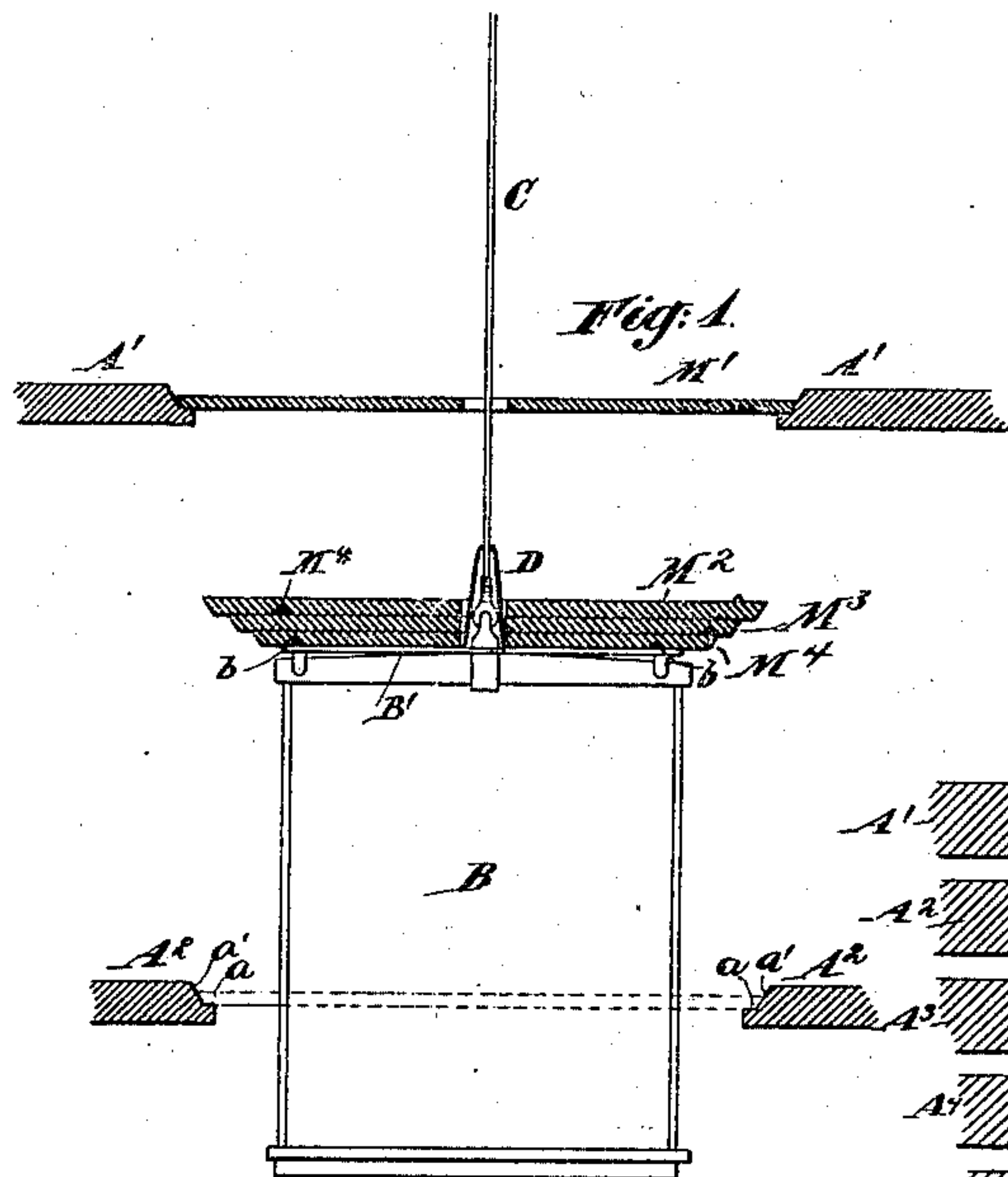
(No Model.)

P. M. WILSON.

ELEVATOR HATCH.

No. 312,782.

Patented Feb. 24, 1885.



WITNESSES—
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UNITED STATES PATENT OFFICE.

PETER M. WILSON, OF NEW YORK, N. Y.

ELEVATOR-HATCH.

SPECIFICATION forming part of Letters Patent No. 312,782, dated February 24, 1885.

Application filed June 20, 1884. Renewed January 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, PETER M. WILSON, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements Relating to Elevator-Hatches, of which the following is a specification.

The invention may apply to all elevator-hatches which are lifted successively by the rising of the elevator and carried on the elevator until the latter descends again to the same floor from which it received the hatch. Such have been before known. I have invented important improvements in the details.

I make the several hatchways of a building differing a little in size, the largest at the top, contracting the dimensions successively at each floor until the lowermost is only sufficient to allow the passage of the elevator. The recesses in which they are received are correspondingly varied in size. Each hatch is made with a beveled edge, and is received in a corresponding beveled rabbet in the floor in which it matches. A central casing of metal having a smooth exterior, conical or flaring from the top downward, incloses the complex work at the point where the rope attaches. As the elevator-car rises this casing enters a corresponding hole in the hatch and insures that the hatch is received and held in the correct position.

In the lower face of each hatch are two or more recesses—I will represent them as two—re-enforced by a metal plate, so as to form a definite and reliable guide, which receives a tapering spur carried on the upper face of the hatch below.

It will be understood that my hatchways may be defended by partitions or railings in the ordinary way, to prevent people from walking over them; but the construction allows their use without such railing or lateral defense. They may be walked over with impunity. In case of fire or other emergency the hatches may serve as a part of the floor. I will show them as of only moderate thickness, but they may be varied in that respect. I prefer two thicknesses of boards, nailed or otherwise strongly secured together, the grain of one thickness running crosswise to that of the other.

The following is a description of what I con-

sider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a vertical section on a small scale, showing the several floors of a tall building. The remaining figures are on a larger scale. Fig. 2 is a diagram showing in vertical section the several floors brought near together the better to show the relative sizes and relations of the hatches and hatchways. Fig. 3 is a plan view corresponding to Fig. 2. Fig. 4 is an enlarged detail section.

Similar letters of reference indicate corresponding parts in all the figures.

A' A², &c., are the several floors of a tall warehouse. B is the car of an elevator raised or lowered by any ordinary or suitable mechanism actuating a connecting-rope or set of ropes, C. There may be any ordinary or suitable guiding means equipped with racks or other devices, with means (not represented) on the car for engaging therewith in case of failure of the hoisting rope or ropes. A series of hatches, M' M², &c., apply in the rabbets in the several floors. The lowermost is but little larger than the car, and flared at the edges, as shown. The next is larger, and so on upward, each being larger than the hole below. The hatchways are correspondingly formed. Each of the rabbets around the several hatches is formed with a flat bottom, *a*, which supports the weight of the hatch. The flaring side *a'* is matched by a corresponding beveled edge on the hatch. When the hatch is lowered into position, the flaring side *a'*, acting against the correspondingly-beveled side of the hatch, guides it correctly into position.

D is a casing of cast-iron or other suitable material inclosing the attachment of the rope or ropes C to the car and smoothly finished on its outer surfaces. Its upper portion is tapered. The holes in the several hatches are correspondingly formed. When the elevator in rising approaches a hatch, the small upper end of the casing D easily enters the hole in the hatch, and as the larger portion of the casing D is presented, the form insures that it shall be received in the correct position. There may be additional pins (not represented) extending upward from the top of the car B, which may be received in holes in the hatches,

if such shall be found necessary or desirable. In all cases I provide recesses on the under face of each hatch peculiarly arranged to receive short tapering spurs carried on the hatch below. The spurs are marked M^* , and may be formed of cast-iron with sufficient flanges, m' , to allow their being strongly secured by screws m . The recesses in the under side of each hatch are marked N^* . Each is encircled and defended by a plate, n' , having a sufficient hole in the middle to receive the spur. The plate is secured by screws n . These spurs M^* and their corresponding holes N^* are arranged as follows: The uppermost hatch, M' , is provided with two holes, N^* , near two opposite corners. There are two spurs, M^* , in exactly corresponding positions on the upper face of the next hatch below. On the under face of this second hatch are two recesses, N^* , located in a line transverse to the line of the first. In other words, the corners which do not carry spurs M^* are provided with the holes N^* . The next hatch below the hatch last named carries the spur M^* near the corners, which match to the recesses above. This third hatch is provided also with recesses N^* , but they are arranged in the plane of the holes in the uppermost hatch. They are on the corners of the third hatch, which are not occupied by the spurs M^* . Thus each hatch, except the uppermost, is provided both with a pair of recesses N^* and with a pair of spurs M^* , and in each case the spurs are near the corners which are not provided with the recesses N^* . The car B at its top carries a platform, B' , of light wrought-iron. The upper face of this platform B' carries spurs b , which engage in the recesses N^* in the lowest hatch.

Modifications may be made in the forms and proportions of the details without departing from the principle or sacrificing the advantages of the invention.

The obliquity or flare of the sides a' of the

several rabbets in the flooring may be varied. I can vary the depths of the several rabbets, and consequently the extent to which the hatch shall sink guided by the flaring surfaces a' . It is important that the flare be smooth, so that the function of guiding shall be performed without ever tilting the hatch by positively supporting one side at a higher elevation than the other.

The casing D may be varied in size and in degree of taper. It is important that it be kept as small as practicable in order to reduce the area of the opening which is left uncovered when the elevator sinks below any given hatch.

I claim as my invention—

1. The series of hatches M' M^2 , differing in size, in combination with corresponding seats having flaring rabbets $a a'$ at the several floors, and with an elevator-car, B, and means for operating it, all arranged for joint operation, as herein specified.

2. The hatches M' M^2 , differing in size, in combination with the floors A' A^2 , having rabbets with flaring edges a' , and with an elevator-car, B, operating-rope C, and hollow tapering casing D, arranged for joint operation, as herein specified.

3. The hatches M' M^2 , differing in size and provided with recesses N^* and tapering spurs M^* , arranged out of line, in combination with the floors A' A^2 , having rabbets a' , with an elevator-car, B, carrying a platform, B' , having spurs b , and suitable means for operating the car, substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, New York, this 6th day of June, 1884, in the presence of two subscribing witnesses.

P. M. WILSON.

Witnesses:

N. HUYLEE DEMOTTE,
RICHARD GWYNNE.