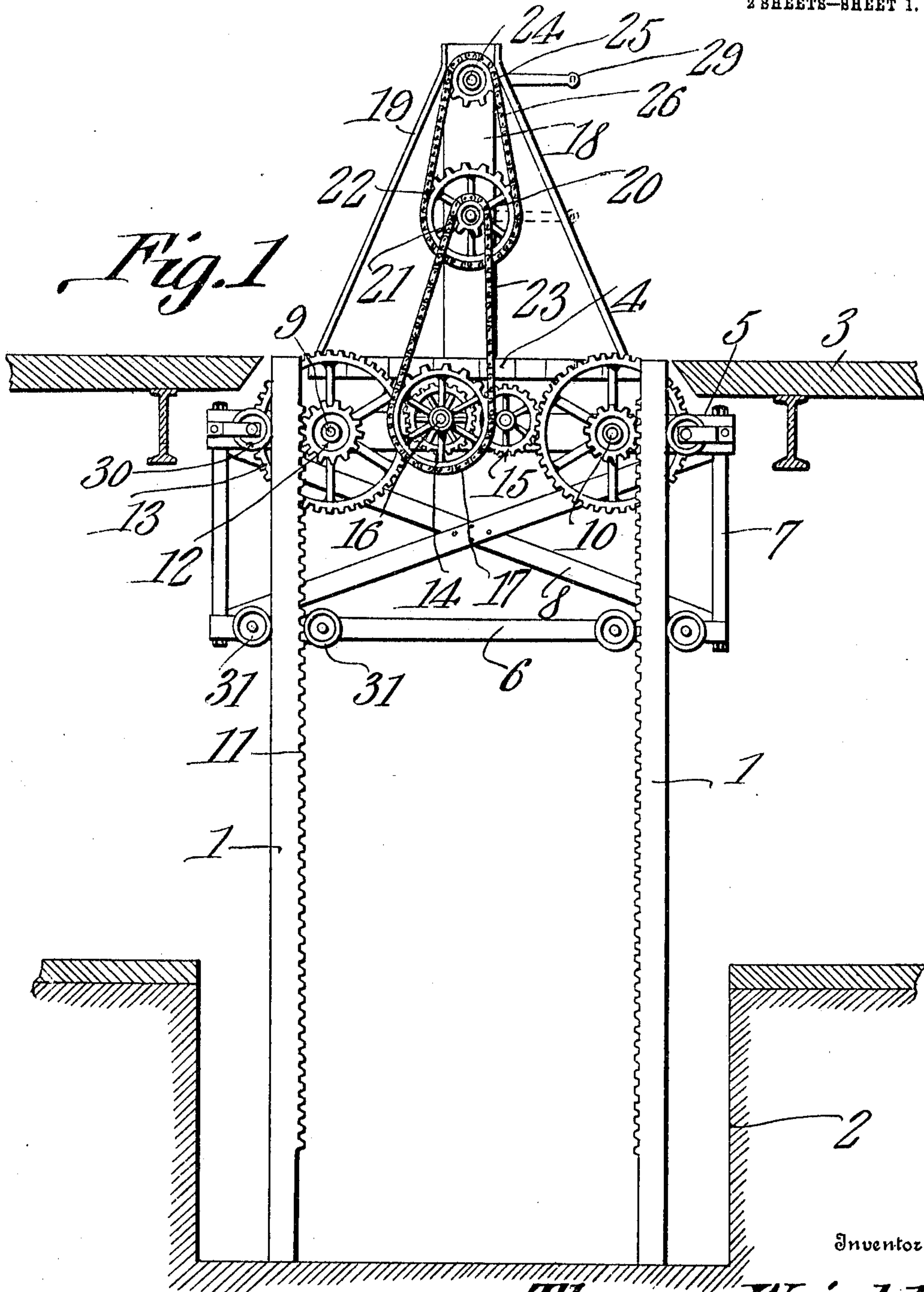


T. WRIGHT.
 SELF SUSTAINING ELECTRIC AND HAND POWER ELEVATOR.
 APPLICATION FILED JAN. 12, 1910.

955,932.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



Witnesses
E. J. [Signature]
H. J. Chapman

Inventor
Thomas Wright.
 By *C. A. Snow & Co.*
 Attorneys

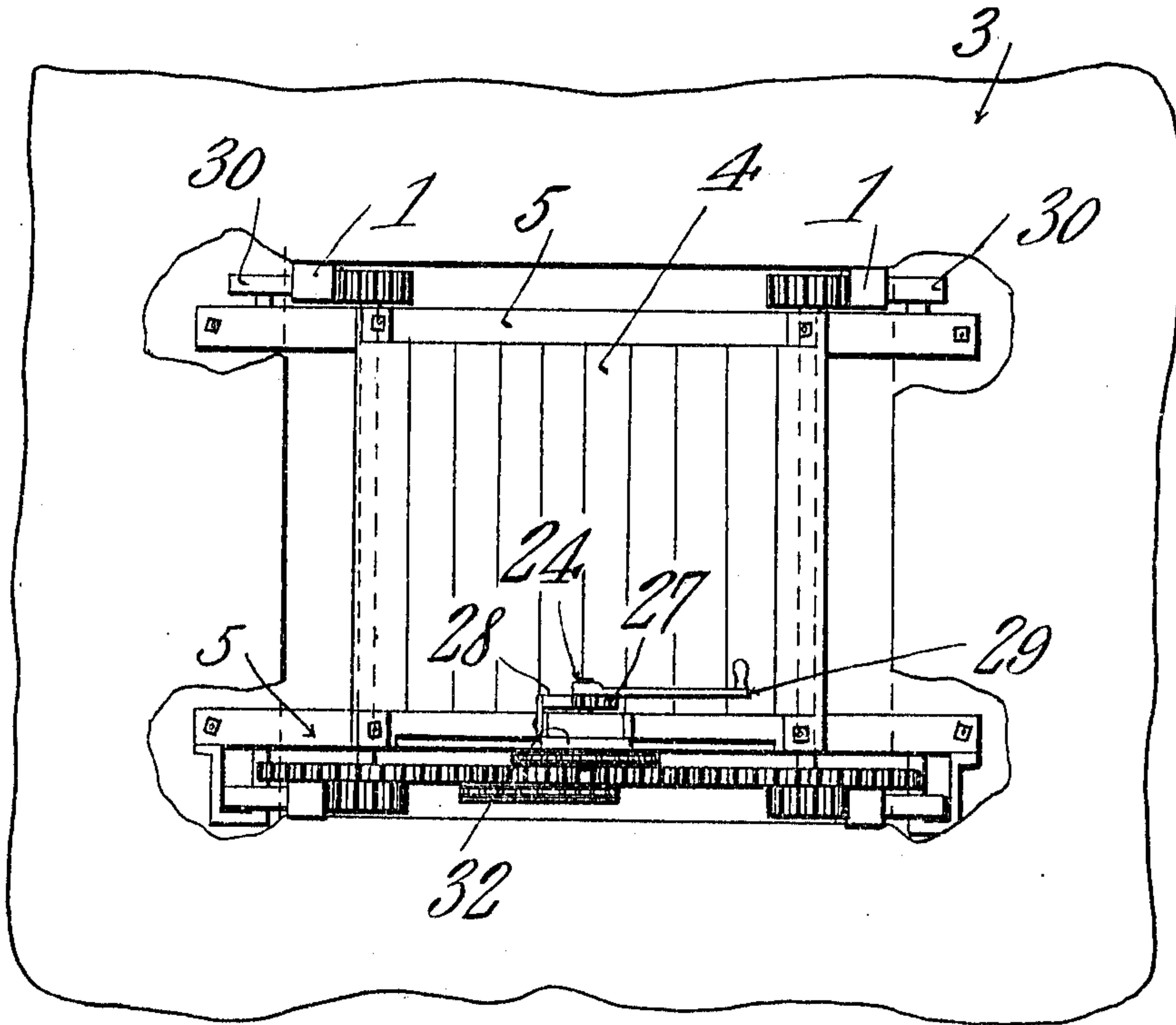
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2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS WRIGHT, OF JERSEY CITY, NEW JERSEY.

SELF-SUSTAINING ELECTRIC AND HAND POWER ELEVATOR.

955,932.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed January 12, 1910. Serial No. 537,735.

To all whom it may concern:

Be it known that I, THOMAS WRIGHT, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Self-Sustaining Electric and Hand Power Elevator, of which the following is a specification.

This invention has reference to improvements in elevators and its object is to provide a means whereby hand power may be utilized for the actuation of the elevator. Such elevator is particularly adapted for use in sidewalk cellars or vaults and in accordance with the present invention the elevator may be readily raised or lowered when loaded even though the load be heavy.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,

Figure 1 is an elevation of the elevator structure with portions of a sidewalk cellar or vault shown in section. Fig. 2 is a plan view of the structure of Fig. 1 with parts of the surrounding structure broken away.

Referring to the drawings there are shown posts 1 which may be erected in a cellar way and preferably in a pit 2 and extend to the level or nearly to the level of a sidewalk 3, assuming that the elevator is a sidewalk elevator.

The posts 1 are so spaced as to include a platform 4 constituting the movable platform of the elevator. This platform is mounted upon girders 5 movable between pairs of the posts 1 and below the girders are bars or beams 6 in parallel relation to the girders and connected thereto by bolt rods 7 and cross braces 8.

Traversing the beams 5 are shafts 9, 10, respectively adjacent to the facing edges of the posts 1 and applied to these edges of the posts 1 are gear racks 11 with which pinions 12 on opposite ends of the shafts 9 and 10 are in mesh. Each shaft 9 and 10 near one end thereof carries a gear wheel 13 and these gear wheels are operatively connected by two pinions 14, 15, in mesh one with the other. The pinion 14 is fast on the shaft 16 which in turn carries a sprocket wheel 17.

At one side of the platform 4 there is

erected a post 18 connected to the platform by suitable braces 19 to impart rigidity to the post.

Extending through the post 18 and mounted in suitable journal bearings carried by the post is a shaft 20 carrying at one end a sprocket pinion 21 and a sprocket wheel 22. The pinion 21 is connected with the sprocket wheel 17 by the sprocket chain 23. Higher up on the post than the shaft 20 there is journaled another shaft 24 traversing the post and carrying at one end a sprocket pinion 25 connected to the sprocket wheel 22 by a sprocket chain 26. The shaft 24 is provided with a ratchet wheel 27 and a pawl or dog 28 is mounted on the post 18 in operative relation to the ratchet wheel 24.

The ends of the shafts 20 and 24 are shaped to receive a crank handle 29 and this crank handle may be applied to either shaft 20 or 24 at will.

It will be observed that if the crank handle 29 be applied to the shaft 24 power therefrom is transmitted from the pinion 25 through the chain 26 to the gear wheel 22 which latter is considerably larger than the pinion 25 and then power is transmitted from the pinion 21 fast to the gear wheel 22 by way of the chain 23 to the sprocket gear 17 so that power applied to the crank handle 29 is greatly multiplied at the sprocket wheel 17 and this power is further augmented by transmission through the pinions 14 and 15 to the large gears 13 and ultimately by way of the pinions 12 to the rack bars 11 on the posts 1, the great increase of power thus effected enabling the application of manual power to the crank handle 29 to result in the elevation of the platform 4 even though containing a heavy load. If the load be lighter and it be desirable to move the elevator at a greater speed then the crank handle 29 may be applied to the shaft 20 and the same speed of rotation of the crank handle will result in a faster movement of the elevator than takes place when the crank handle is applied to the shaft 24.

The beams 5 carry rollers 30 engaging those faces of the post 1 remote from the gear racks 11 while the bar 6 carries rollers 31 on opposite sides of the post 1. By this means the pinions 12 are held in permanent engagement with the racks 11 against possible escape therefrom by the rollers 30 and

these rollers 30 together with the rollers 31 prevent any spreading of the posts so that bracing for such purpose may be omitted.

5 In order that the elevator may be lowered without the necessity of resisting the turning of the crank handle 29, there is provided a band brake wheel 32 of ordinary construction and this band brake wheel may be
10 mounted on the shaft 24 so as to offer the greatest resistance to the lowering of the elevator under load with a minimum degree of applied force.

It will be understood that an electric motor may be applied to the shaft 20 when
15 such may be desirable, but this will not prevent the hand operation of the driving mechanism.

What is claimed is:—

1. In an elevator, a movable platform,
20 fixed corner posts in operative relation thereto, gear racks on the posts, shafts on the platform, gear pinions on the shafts in mesh with the racks on the posts, inter-connecting gearing between the shafts, a post on the
25 platform, shafts traversing the same one above the other, sprocket connections be-

tween the shafts on the post and the gearing connecting the shafts on the platform, and means for the application of power to either of the last named shafts.

30

2. In an elevator, a movable platform, fixed corner posts in operative relation thereto, shafts on the platform, gear pinions on the shafts in mesh with the racks on the posts, inter-connecting gearing between the
35 shafts, a post on the platform, shafts traversing the same one above the other, sprocket connections between the shafts on the posts and the gearing connecting the shafts on the platform, means for imparting
40 rotation to the shafts on the posts, and a brake carried by the shaft on the post on the platform which is the more remote from the platform.

In testimony that I claim the foregoing as
45 my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS WRIGHT.

Witnesses:

ARTHUR A. TOMPKINS,
CHARLES HILLIARD.