Nov. 18, 1924.

1,516,382

E. C. EVENSON

DUMB WAITER

Filed Oct. 8, 1923

2 Sheets-Sheet 1

Fig. 1.

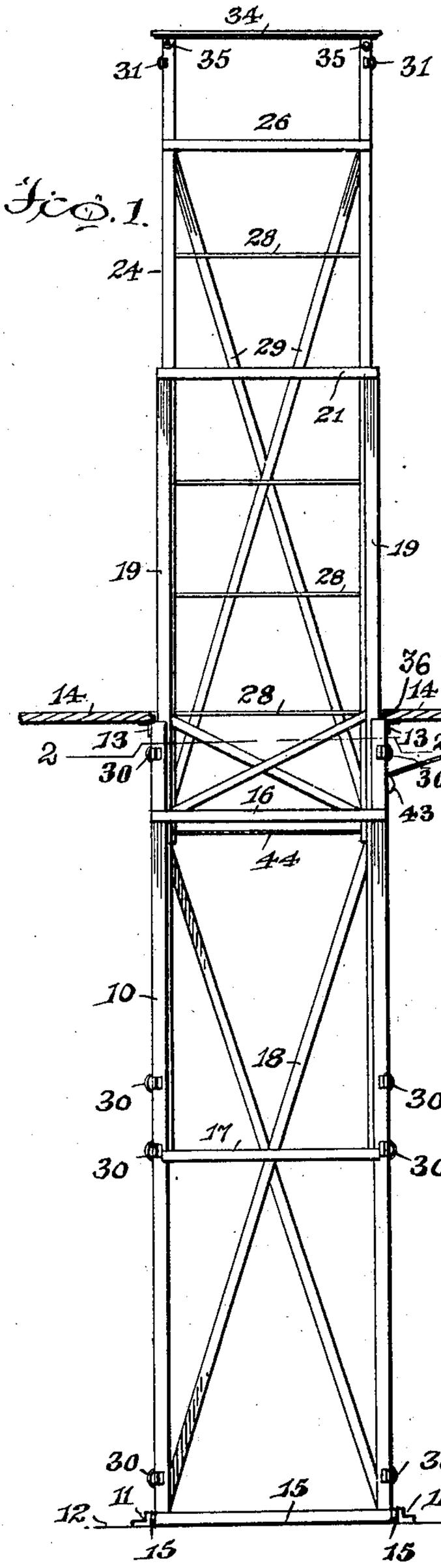


Fig. 2.

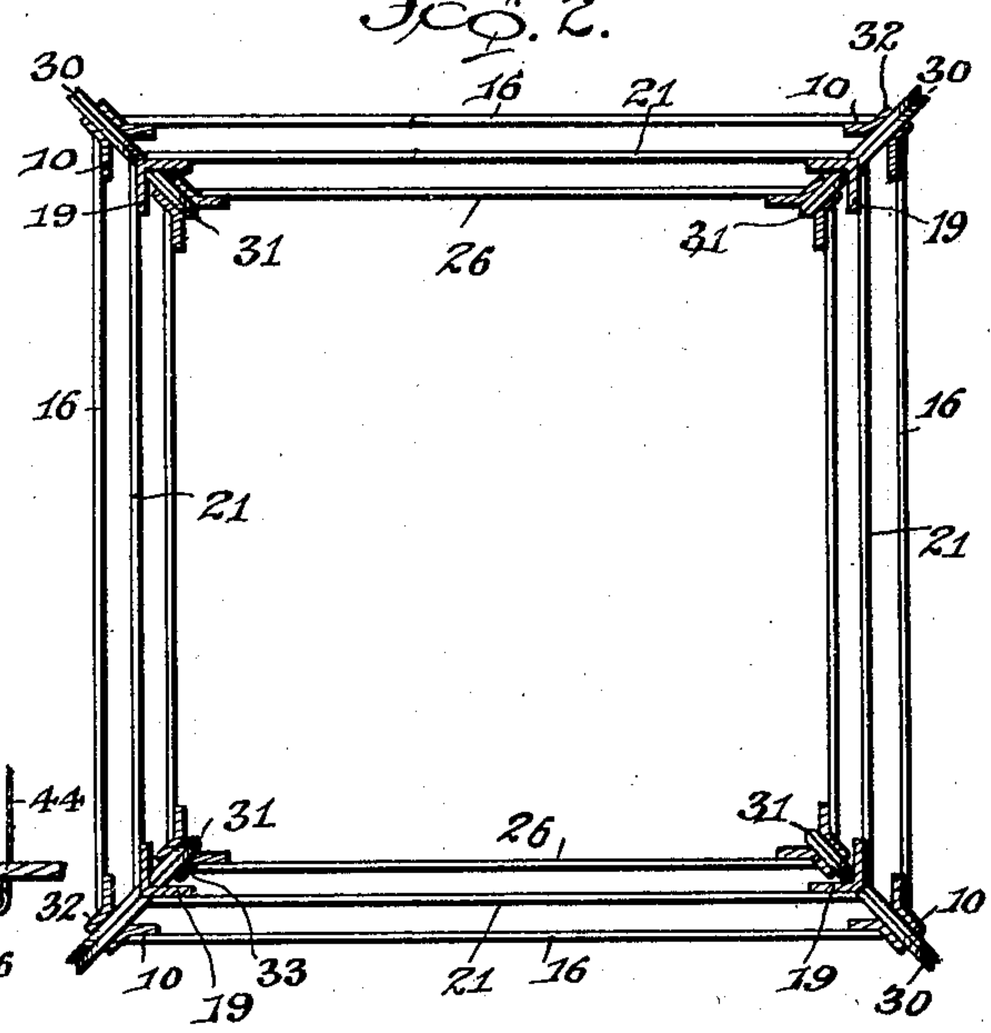
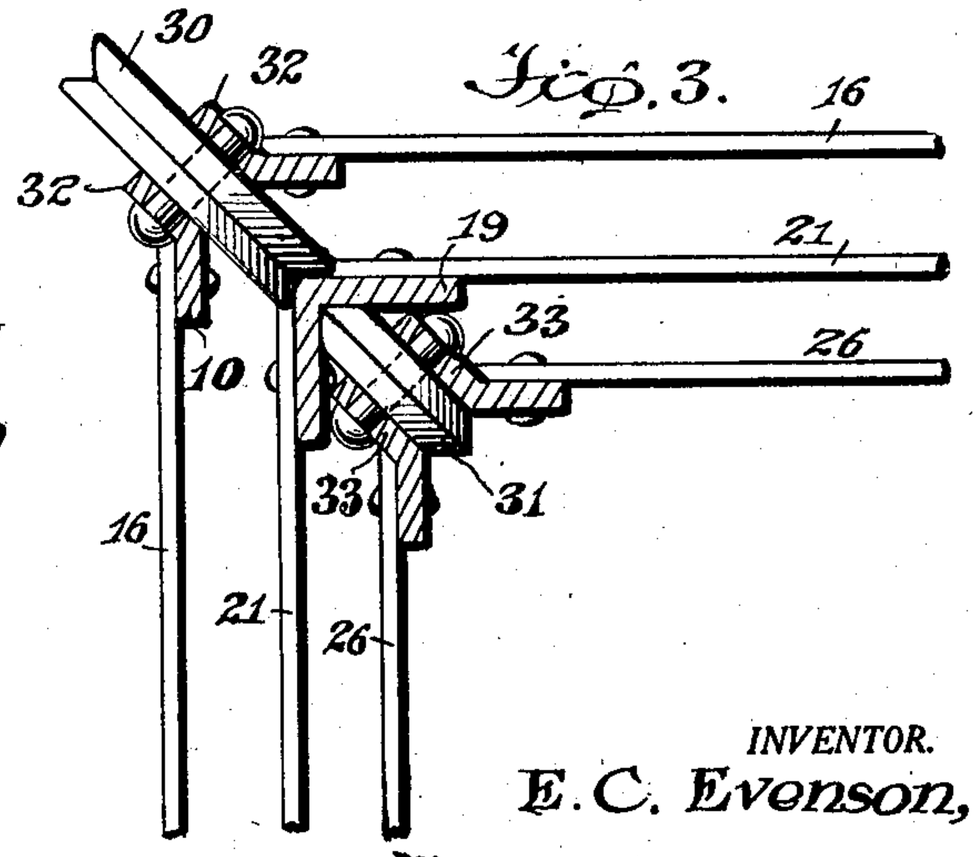


Fig. 3.



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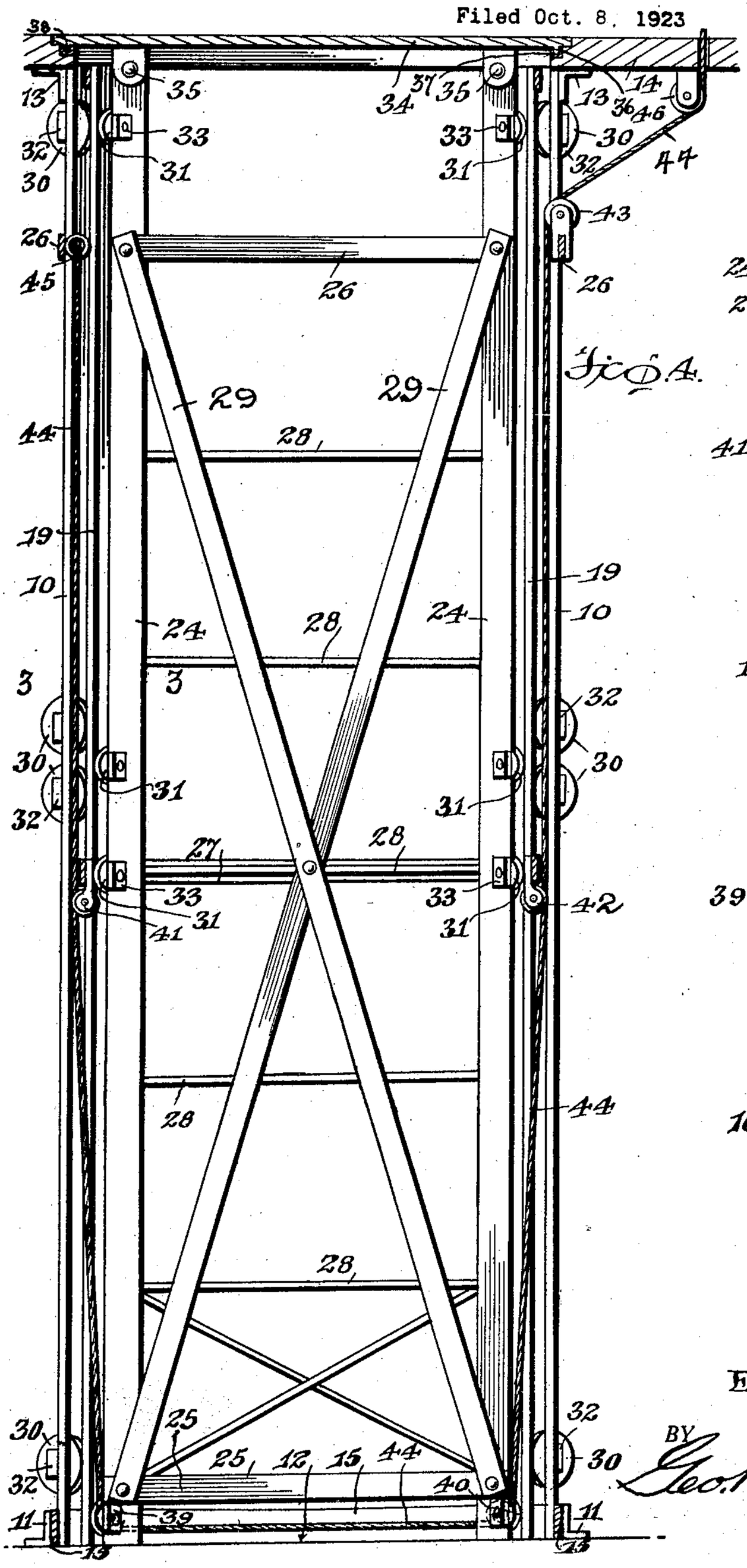

Fig. 4.

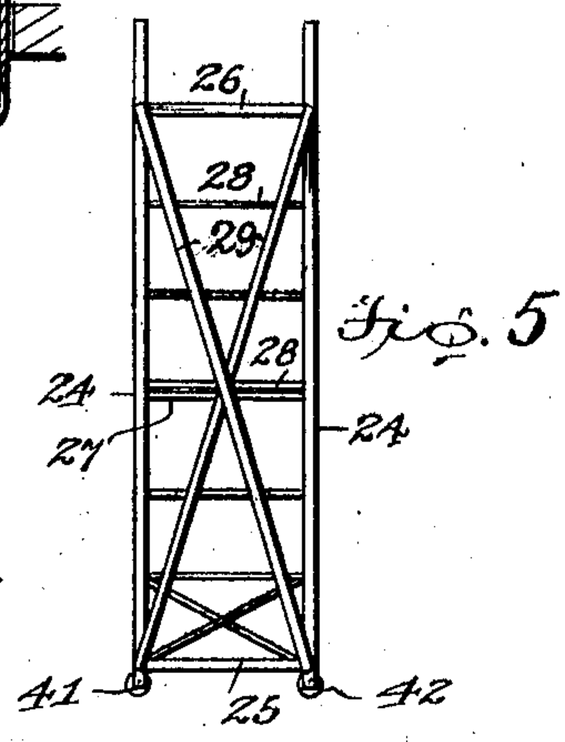

Fig. 5

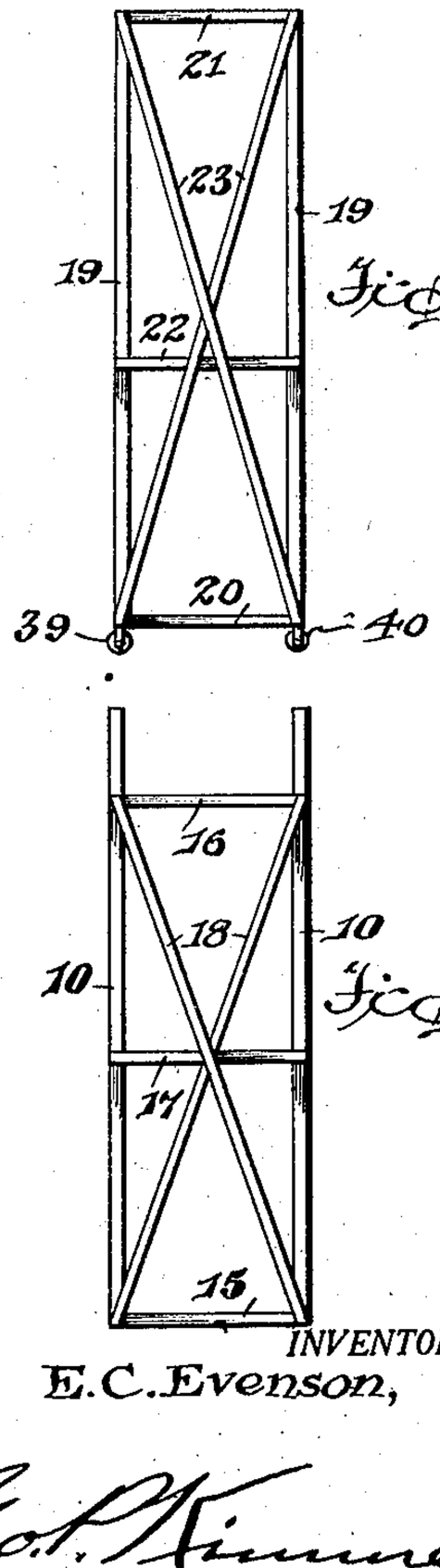

Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE.

EDWARDT C. EVENSON, OF BOTTINEAU, NORTH DAKOTA.

DUMB-WAITER.

Application filed October 8, 1923. Serial No. 667,289.

To all whom it may concern:

Be it known that I, EDWARDT C. EVENSON, a citizen of the United States, residing at Bottineau, in the county of Bottineau and State of North Dakota, have invented certain new and useful Improvements in Dumb-Waiters, of which the following is a specification.

This invention relates to dumb waiter devices, and has for one of its objects to provide a device of this character formed of telescoping sections and movable through an opening in a floor, whereby the device when collapsed can be disposed in a relatively small space below the floor.

Another object of the invention is to provide a device of this character preferably formed principally of metal, and rigidly supported by diagonal braces.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention—

Figure 1 is an elevation of the improved device with the telescoping sections expanded or elevated.

Figure 2 is a transverse section, enlarged on the line 2—2 of Figure 1.

Figure 3 is an enlarged detail in section on the line 3—3 of Figure 4.

Figure 4 is an enlarged sectional elevation with the telescoping sections collapsed.

Figures 5, 6 and 7 are side views of the various sections on a reduced scale.

The improved device is formed of any required number of telescoping sections, but three are shown for illustration, an outer stationary section, an intermediate movable section and an inner movable section, the latter preferably having spaced shelves.

The outer stationary section is formed of corner members 10, preferably of L bars, and coupled at the lower ends as by clips 11 to a lower floor or foundation 12, and at the upper ends as by clips 13 to the underside of the floor 14 of the room above.

At their lower ends the members 10 are coupled by horizontal braces 15 and at their upper ends by horizontal braces 16, preferably spaced below the upper ends. The corner members 10 are also coupled by horizontal braces 17 intermediate the ends and by reversely oblique braces 18 on three sides of the section.

The intermediate section is constructed of vertical corner members 19 lower transverse braces 20, upper transverse braces 21, intermediate transverse braces 22 and obliquely directed braces 23, on three sides of the section substantially the same as the outer section, except that transverse braces are shorter to permit the corner members 19 of the intermediate section to be disposed within the outer section as illustrated in Figure 2.

The inner section is constructed of vertical corner members 24, lower transverse braces 25, upper transverse braces 26 spaced below the upper ends of the corner members, and intermediate transverse braces 27. The inner section is provided with a plurality of shelves 28 in spaced relation.

Obliquely directed braces 29 are connected to the members of the inner section on three sides, but are omitted from the fourth side, to permit access to the shelves through the open sides of the other sections when the sections are elevated.

Supported for rotation in the corner members 10 of the outer section at suitable intervals are antifriction pulleys or rollers 30 while similar rollers 31 are mounted for rotation in the corner members 24 of the inner section. The rollers are directed diagonally of the sections, the outer rollers 30 being concaved or grooved to engage the outer corners of members 19 of the intermediate section, while the rollers 31 are V shaped to engage the inner corners of the same members, to reduce the friction when the inner and intermediate sections are operated.

The several rollers are supported by forming clefts in the members 10 and 24 to produce tongues 32 and 33 which when bent outwardly form bearings between which the rollers are pivoted, as shown.

Formed in the floor 14 is an opening large enough to permit the movable sections to pass as illustrated in Figure 1, and this opening is closed by a floor section 34 which also constitutes the top of the inner section to whose corner members 24 it is attached at 35. Thus when the sections are collapsed as shown in Fig. 4, the member 34 completely

fills the opening 14, so that the presence of the dumb waiter is not apparent from the room above.

Encompassing the opening 14 is a rabbet or shoulder 36, and mounted on this shoulder is an upwardly opening channelled or socket member 37, and attached to the underface of the filler member 34 is a rib 38 to engage in the channel when the device is collapsed, to form a dust proof joint between the member 34 and the floor 14.

Attached to an opposite pair of the lower braces 20 of the inner section intermediate the ends thereof, are cable guide pulleys 39—40, and attached to an opposite pair of the lower braces 28 of the inner section, are cable guide pulleys 41 and 42, while a cable guide pulley 43 is mounted on one of the transverse braces 26 of the outer stationary section. A pull cable 44 is connected at 45 to the brace section 26 at the opposite side from the guide pulley 43, and passes thence downwardly around the pulleys 39 and 40, thence upwardly over the guide pulley 43 and thence to a point convenient to the operator.

For the purpose of illustration the cable is shown leading over a guide pulley 46 beneath the floor 14 and thence through the floor.

Any means may be employed for applying a pulling force upon the cable.

By this arrangement when a pulling force is applied to the cable, the inner section will be elevated within the intermediate section until the bight of the cable 44 engages the pulleys 41 and 42, when the intermediate section will be picked up and thereafter the intermediate and inner sections will be carried upwardly together. The connected end of the cable at 45 and the guide pulley 43 are spaced below the floor 14 and are substantially in horizontal alinement so that a part of the intermediate section will remain at all times below the line of the floor, to operate as a support for the upper section when elevated, as illustrated in Fig. 1.

The improved device is simple in construction, can be made of any required size or capacity and with any required number of the sections.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed as new is:—

The combination of a floor having an opening with an encompassing shoulder, an upwardly opening socket member supported on said shoulder, a filler member for said opening, a rib carried by said filler member and engagable in said socket, a plurality of telescoping sections, means for coupling said filler member to the innermost of said sections, and means for elevating said sections.

In testimony whereof, I affix my signature hereto.

EDWARDT C. EVENSON