

P. A. LORENZ.

SHELVING.

APPLICATION FILED MAY 31, 1906.

975,053.

Patented Nov. 8, 1910.

Fig. 1.

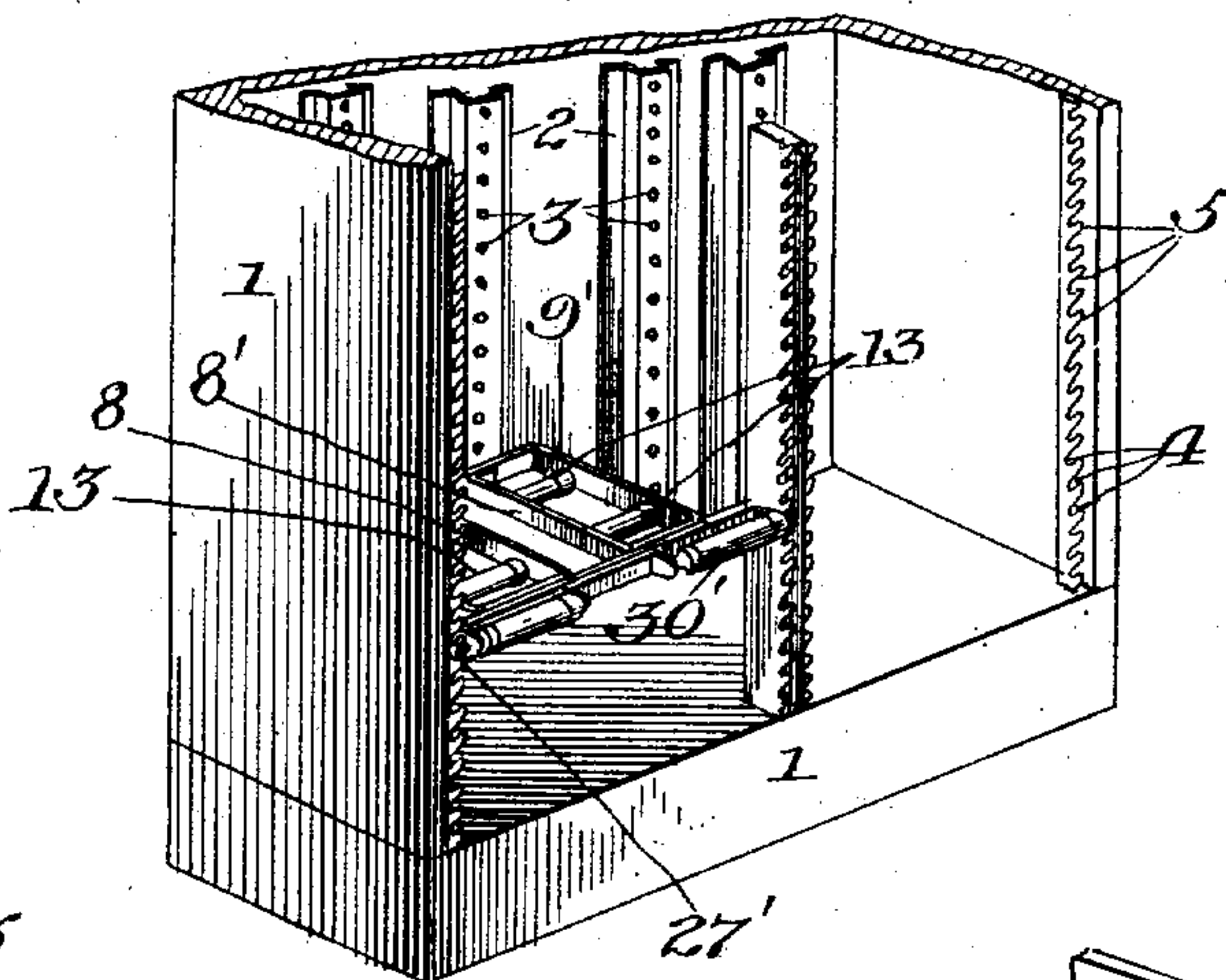


Fig. 3.

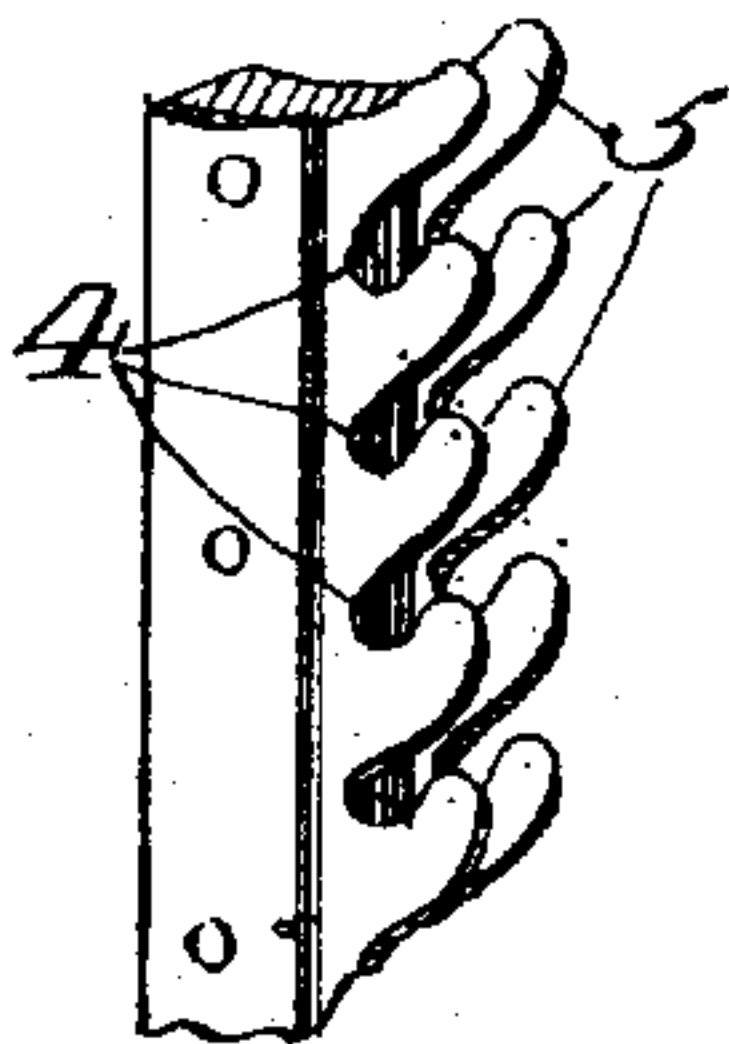


Fig. 4.

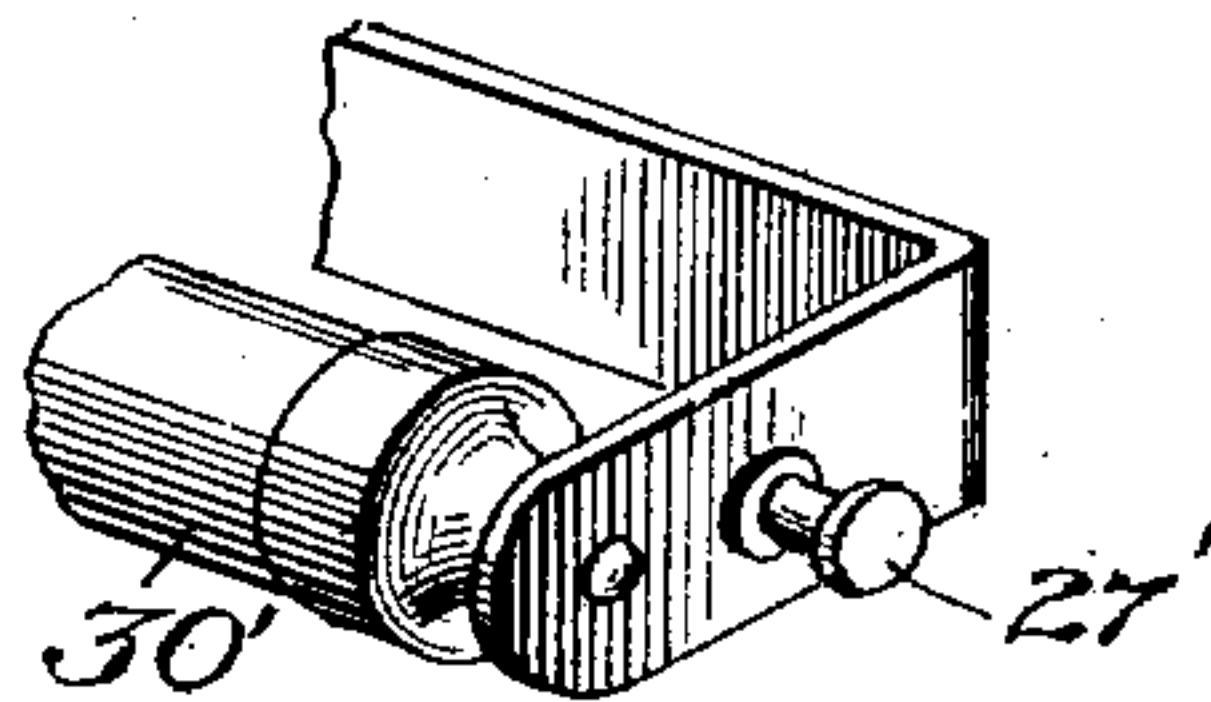


Fig. 2.

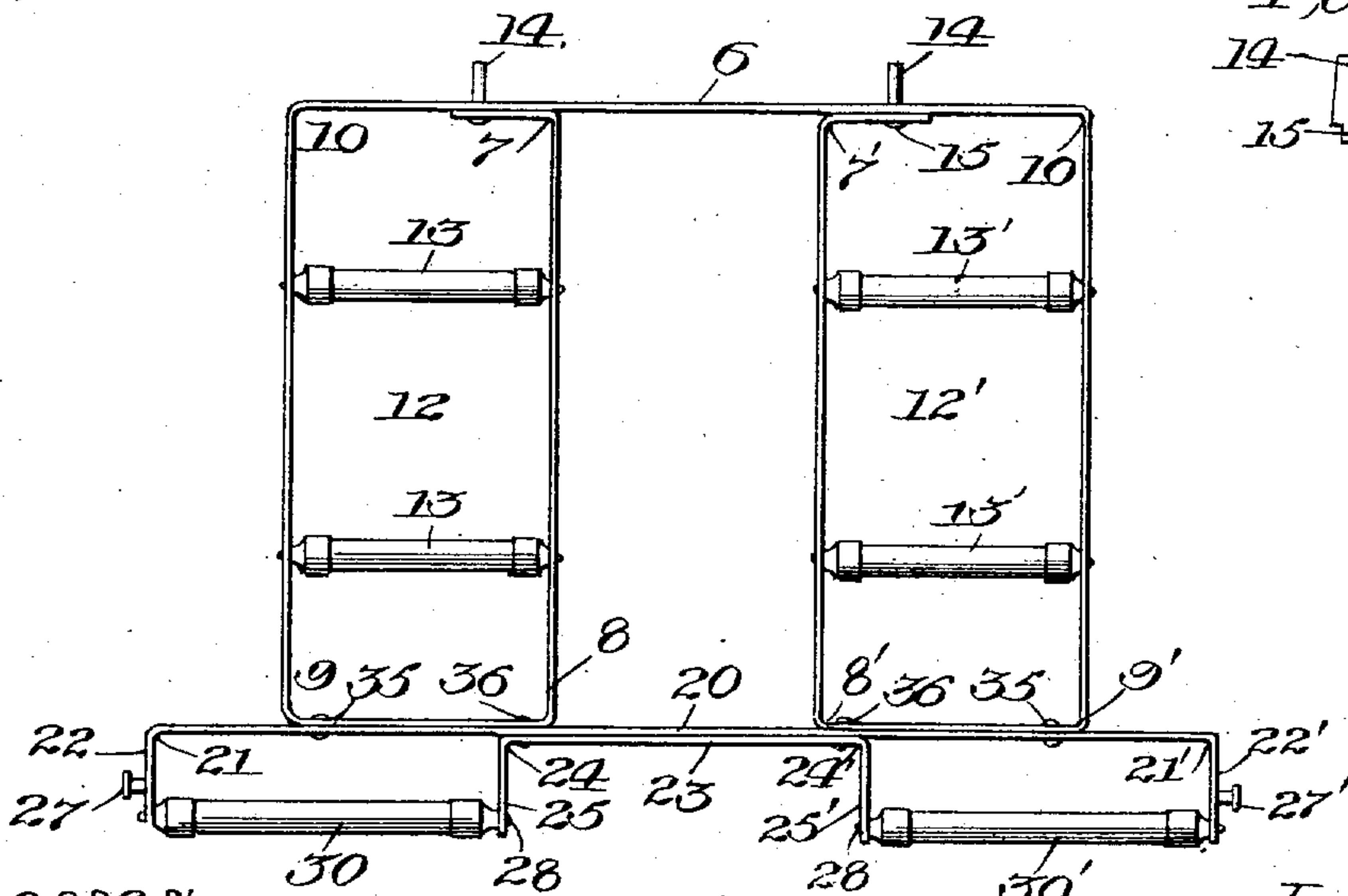
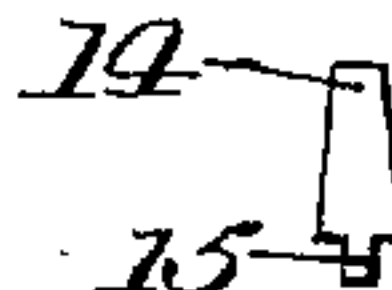


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SHELVING.

975,053.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PETER A. LORENZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shelving, of which the following is a specification.

My invention relates to shelving for vaults and the like. This usually consists of a frame-work of iron or steel on which are mounted rollers whose upper faces lie above the plane of the frame-work. On these, books or other heavy articles rest and may be easily adjusted or withdrawn without injury or wear. The frame-work on which such rollers are mounted is usually made of a large number of strips of steel secured together by a correspondingly large number of rivets or by shouldered ends which pass through openings suitably placed and fitted to receive them and which are then upset or riveted down to secure them in place. By applying the principles of my invention, however, I am able to reduce the parts of the frame-work to a minimum, the principal portion being in a single piece, while the staying and reinforcing members are also used to provide bearings for the auxiliary rollers.

The principles of my invention are illustrated in the drawings, in which—

Figure 1 represents a portion of a stack adapted to receive the shelving of the kind described; Fig. 2 is a top plan view of a shelf made according to the principles of my invention; Fig. 3 represents a portion of a rack adapted to support the front edge thereof; Fig. 4 is an enlarged detail of an end of a stay member and its off-set bearing and Fig. 5 is a shelf supporting lug.

Further describing my invention with reference to the drawings: 1 is a case such as is usually made of steel for vault and fire proof storage. 2 is a rack at the rear portion provided with perforations 3. 4 is a rack at the front portion of said case provided with the teeth 5.

6 is a continuous strip of metal forming the principal frame-work of my roller shelf. By making right angle bends therein 7 and 7', 8 and 8', 9 and 9', 10 and 10' two panels 12 and 12' may be formed of any desired or suitable dimension within which may be mounted the rollers 13 and 13'. Adjacent to the bend 7 and 7' should be placed perforations and similar perforations should

be made at corresponding points between the bends 10 and 10'. A shouldered pin 14 shown in Fig. 5 may have the stem 15 passed through said openings and up-set to act as a rivet to hold the parts in secure attachment.

A stay piece 20 is given a right angle bend at 21 and 21' so as to form feet off-sets 22 and 22'. A reinforcement 23 is given a right angle bend 24 and 24' so as to form the feet off-sets 25 and 25'. The length of the stay piece should be such that the feet 22 and 22' should fit between the racks 4 and the lugs 27 and 27' provide means by which the teeth 5 of the rack 4 may be engaged to support the front edge of the shelf. The reinforcement should be of such length that the space between the off-set portions 25 and 25' and the corresponding feet or off-set portions 22 and 22' respectively of the stay piece shall give a proper distance for the bearings 28 formed therein and in which the rollers 30 and 30' may be supported. The stay piece 20 is primarily adapted to secure the independent frames or panels 12 and 12' in proper relation to each other at their forward edges. To this it is secured by the rivets 35 and 36. The strip 23 acts as a further support and reinforcement for the space between the panels 12 and 12', and may be secured in place by the rivets 36 which also secure the primary stay piece in place. The lugs 14 which are used as rivets also provide means to support the rear parts of the shelf frame-work in the rear of the case, while the lugs 27 and 27' support the front part by engaging the racks 4 adjustably as stated.

It will be seen that a complete frame-work and roller support is thus formed of three strips of metal; that but four rivets are necessary to hold the structure together, the two additional rivets being provided by the lugs which form the rear part and which perform the double office of supporting the frame and holding the same together.

I claim:

A roller shelf comprising two longitudinally-extending strips of metal of unequal length having offset portions at right angles to the body portion, means for securing the shorter of said strips within the longer to form a reinforcement therefor and whereby the offset portions of the shorter strip will associate with an offset portion of the elongated strip to provide a bearing, a roller journaled in each pair of bearings, a pair of

spaced horizontally-extending rectangular frames formed from a single bar of metal and projecting from the inner face of said elongated strip and each positioned at a point inwardly of an end of said elongated strip, said frames coupled together at their inner ends by a portion of said bar, a plurality of transversely extending rollers journaled in each of said frames, supporting pins securing the ends of the bar to a portion thereof whereby the shape of the frames will be maintained and said pins

projecting rearwardly from said frames for engagement in a support, and supporting pins projecting laterally from the offset portions of said elongated strip for engagement with a support. 15

In witness whereof I have hereunto set my hand this 26th day of May A. D. 1906, in the presence of two subscribing witnesses. 20
PETER A. LORENZ.

Witnesses:

C. K. CHAMBERLAIN,
A. S. PHILLIPS.