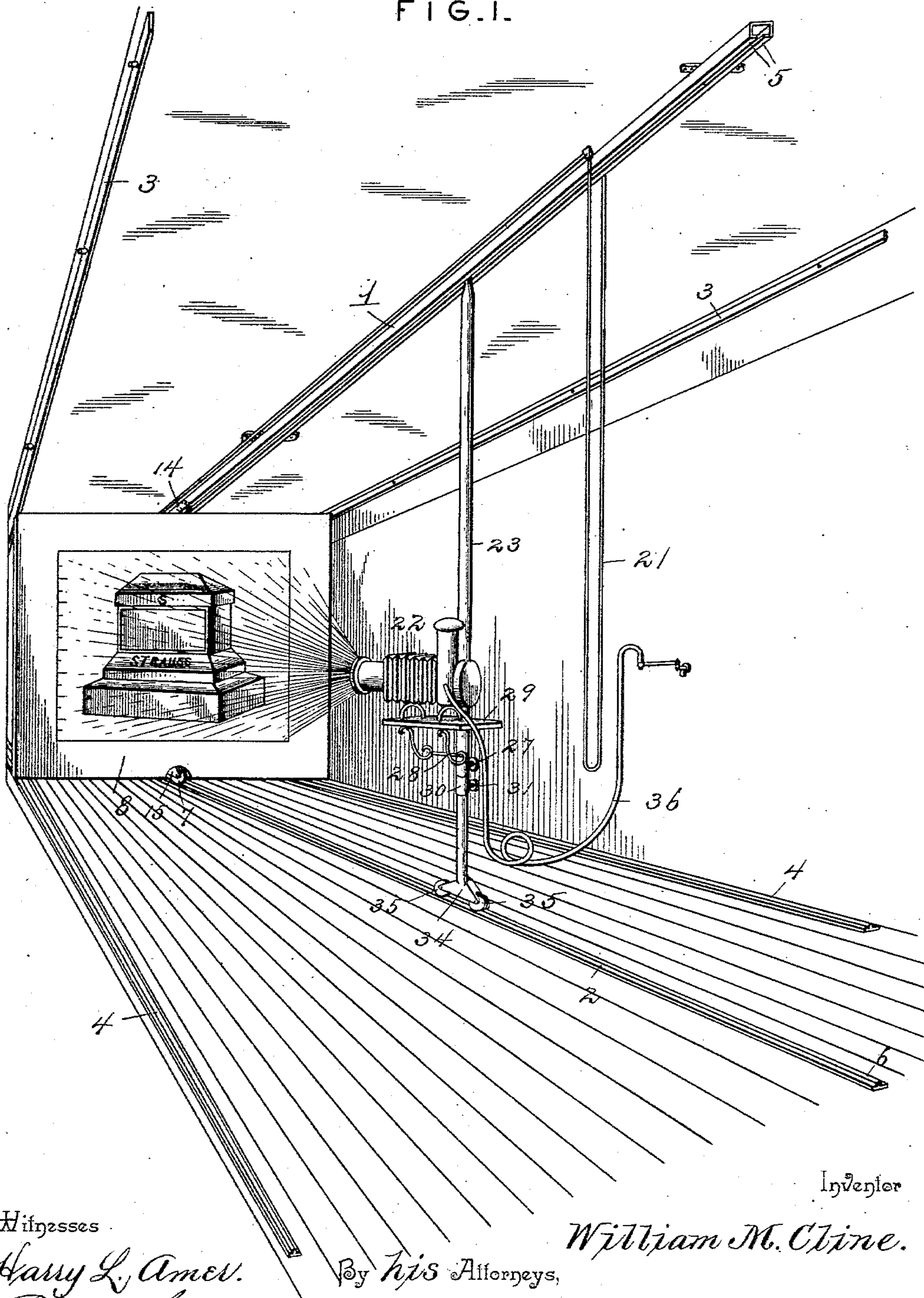


2 Sheets—Sheet 1.

No. 564,971.

Patented Aug. 4, 1896.

FIG. 1.



Witnesses

Harry L. Amer.

R. M. Smith.

By *his* Attorneys,

William M. Cline.

Chas. Knowlton.

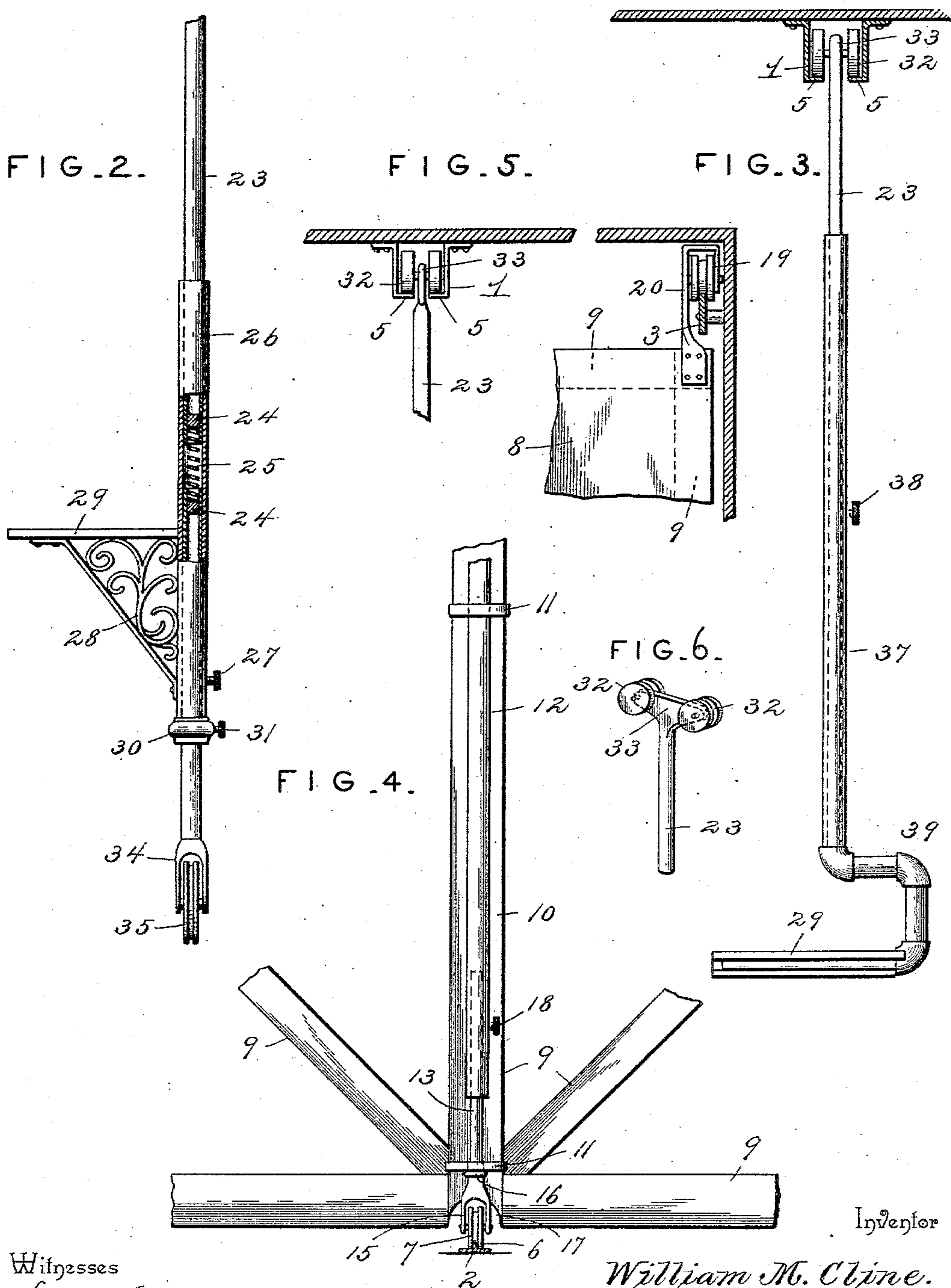
(No Model.)

2 Sheets—Sheet 2.

W. M. CLINE.
EXHIBITION APPARATUS.

No. 564,971.

Patented Aug. 4, 1896.



Witnesses
Harry L. Amer.
R. M. Smith.

By his Attorneys,

William M. Cline.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WILLIAM M. CLINE, OF LANSING, MICHIGAN, ASSIGNOR OF ONE-HALF TO
GERARD N. DE MERELL, OF SAME PLACE.

EXHIBITION APPARATUS.

SPECIFICATION forming part of Letters Patent No. 564,971, dated August 4, 1896.

Application filed February 20, 1896. Serial No. 580,049. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. CLINE, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented a new and useful Exhibition Apparatus, of which the following is a specification.

This invention relates to appliances for exhibiting to prospective purchasers or patrons representations in varying sizes of such articles as the proprietor may have on sale and ready for shipment or which he can make to order. The object of the invention is to dispense with the necessity for maintaining a large stock on hand solely for samples and exhibition purposes, as the carrying of such stock sometimes involves enormous expense.

With this general object in view the invention consists in a novel appliance or system of appliances with the aid of which an accurate representation of any article may be projected by a magic lantern or stereopticon upon a screen and increased or diminished in size until the dimensions required by the intended purchaser are obtained and accurately delineated.

In the accompanying drawings, Figure 1 is an interior perspective view of an apartment, illustrating the application of the improved apparatus thereto. Fig. 2 is an enlarged detail elevation, partly in section, of the traveling support, &c., for the lantern. Fig. 3 shows the same in the form of a swinging support depending from an overhead track. Fig. 4 is a rear elevation of a portion of the movable screen. Fig. 5 illustrates detail sections of the overhead tracks and carriers for the movable screen. Fig. 6 is a detail perspective view of the upper end of the vertical support.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

While the invention herein contemplated is applicable to many branches of trade, the same will, for the sake of convenience and clearness, be described as applied to retailing and wholesaling of monuments and cemetery-work. It is usually necessary in such a line of business as that just named to carry a large and expensive stock weighing many

tons and requiring expensive and careful handling, also extensive show rooms or yards or both, and even then the stock must be necessarily somewhat limited. It is true that an unlimited number of photographs or lithographic or hand-made designs may be carried, but there still remains the disadvantage that the average customer cannot comprehend how monuments built after these designs will appear when finished. To visit a cemetery for the purpose of examining monuments there requires too great an expenditure of time. For the reasons above stated the business indicated has been growing more and more unsatisfactory on account of the demand for larger work, thus making it impossible for the dealers to carry such large pieces in stock.

Now the present invention contemplates photographing finished monuments or other designs upon lantern-slides and projecting them upon a screen, and also making either the screen or the lantern-support, or both of said parts, movable and adjustable relatively to each other, whereupon by changing the distance between the lantern and the screen the monument or design may be thrown upon the screen in any desired size to meet the approval of the customer. This gives the advantage of showing the work just as it will appear when set and complete, and at the same time the appropriate surroundings may be thrown upon the screen, thus adding to the artistic effect. The purchaser is thus not liable to order work under a misapprehension as to the size and general appearance.

In order to illustrate the manner of carrying out the invention, the general nature of which has been hereinabove revealed, reference will now be had to the accompanying drawings.

A long narrow room, such as that illustrated in Fig. 1, is preferably selected, and within such room and centrally of the ceiling and floor are arranged overhead and floor tracks and rails 1 and 2, respectively. Other tracks 3 are arranged in the corners between the ceiling and side walls, and still other tracks 4 in the corners between the side walls and the floor, all of said tracks being extended longitudinally of the room. The upper central track 1 is composed of separate-spaced

rails, as indicated in Fig. 5, said rails being provided at their lower edges with horizontal flanges 5, which are intumed toward each other, but which terminate at a sufficient distance apart to permit the passage of the upper end of the supporting device. The lower track is in the form of a shallow flat rail having a central longitudinal rib or vertical portion 6, which, in connection with the peripheral groove of the carrying-roller 7, serves to guide the article carried by the roller in the proper direction.

8 designates a screen made of white canvas or other similar material and mounted upon a suitable stretcher or frame 9, a portion of which is shown in Fig. 4. This stretcher comprises, in addition to the usual rectangular frame, a central vertical bar 10, to the rear face of which are secured suitable metal brackets or bearings 11. A telescopic vertical support is mounted in said bearings, the same comprising an upper tubular section 12 and a lower telescoping section in the form of a rod 13. To the upper end of the tube 12 is attached a roller or caster 14, and a similar wheel or caster 15 is mounted on the lower end of the rod 13, the said lower end being forked to receive the roller or caster and also provided with a collar or shoulder 16, upon which rests one of the brackets or bearings 11, thus affording the necessary support for the stretcher. The stretcher is also hollowed out or cut away, as at 17, to accommodate the lower roller or caster. A set-screw 18 provides for adjusting the two sections of the vertical support to agree with the height of the room and the distance between the floor and ceiling tracks. The upper corners of the screen have attached to them carrying-rollers 19, which are peripherally grooved to engage the corner-tracks 3, above referred to, said tracks consisting of flat metal bars disposed edgewise vertically, as shown in Fig. 5, and spaced a short distance from the wall and secured in any convenient manner. The hanger 20, in which each of said rollers 19 is journaled, consists simply of a flat metal strip, bent at its upper portion into U shape to embrace the roller 19 and to receive its spindle, and twisted a quarter-turn at its lower end, so that such lower end is disposed flatwise to the screen 8, to which it is secured. An adjusting-rope 21 attaches at both ends to the center of the top of the screen 8, from which point it extends over pulleys arranged adjacent to either end of the room, the rope at one end of the room being allowed to depend from the ceiling in loop form, as shown, where it may be conveniently manipulated by the operator for moving the screen at the other end of the room.

The magic lantern indicated at 22 is carried by a vertical support 23, made preferably in two sections or divided intermediate its ends, and having its adjacent ends plugged, as indicated at 24, and an expansive spring 25, interposed between said plugs and re-

ceived at its ends in the tubular open ends of the said sections of the support 23. A long vertical sleeve 26 covers the adjacent ends of the sections of the support 23 and is mounted to slide vertically on said support, and to be held at any desired height by means of a binding-screw 27. The sleeve 26 carries one or more brackets 28, which in turn support a horizontal shelf 29, upon which the lantern 22 is placed. A sliding collar 30 also surrounds the support 23 below the sleeve 26 and may be held fixed by means of a set-screw 31. The sleeve 26 with its shelf is first carried to the desired height and fastened by the screw 27, after which the collar 30 is moved into contact with the lower extremity of the sleeve and fastened by the screw 31, whereupon by loosening the screw 27 the shelf may be revolved about the support 23 until brought into the desired position. The upper end of the support 23 is flattened or reduced and inserted between the horizontal flanges 5 of the central overhead track, where it receives a short transverse shaft or spindle, upon which are mounted carrying-rollers 32, the same traveling upon the said horizontal flanges and thus supporting the upper section of the support 23. Instead of one pair of rollers 32, it is preferred to use two pairs, the same being spaced a considerable distance apart longitudinally by means of a yoke 33, attached rigidly to the upper end of the support. The lower section of the support 23 is similarly provided with a yoke 34, carrying widely-spaced rollers or casters 35, which travel upon the central floor-track 2. As the support 23 is moved lengthwise of the room, the spring 25 will compensate for any variance in the height of the room or distance between the lower and upper tracks. The gas or electricity is supplied to the lantern through a flexible pipe or connection 36, having one end attached to a fixture near the center of the room and the other end to the lantern.

If desired, the lower section of the support 23 may be dispensed with where it is inconvenient to support the same from the floor. In other words, a pendent support may be employed, as shown in Fig. 3. In this event an additional lower section 37 is employed, which is made tubular and arranged to telescope with the support 23, and to be held at any point of adjustment or height by means of a set-screw 38. The lower portion of the tube 37 is bent into U form, as shown at 39, and has the lantern-shelf 29 mounted on the lower horizontal arm of such bend, so as to bring the center of the shelf in alignment with the support 23 and upper portion of the tube 37. Instead of bending the lower portion of the tube 37 to form the U bend described, said bend may be formed by employing separate elbow-couplings and short-pipe sections, as shown. This forms a convenient shelf for the purpose, but it is preferred to use the construction first described, as it is steadier and more reliable in operation.

From the foregoing description it will be apparent that the lantern - support may be moved either toward the screen or the screen may be moved in the direction of the lantern, and in either of these ways or by both of such ways combined it is possible to project the image on the lantern-slide upon the screen in any size, and by providing the screen with suitable graduations, as illustrated in Fig. 1, the image or design of the monument or other article may be brought with precision to the exact size the same will appear when finished and ready to be set.

I do not wish to be limited to the precise means hereinabove described for accomplishing the end sought, for it will be apparent that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

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

1. In an apparatus of the character described, the combination with a screen provided with graduations, of a lantern-support having provision for vertical longitudinal and transverse adjustment, whereby an image may be projected upon the screen and increased or diminished in size, the dimensions being readily calculated by the graduations, substantially as described.

2. In an apparatus of the character described, the combination with a stereopticon, and the adjustable support upon which the same is placed, of a movable screen provided with a graduated scale represented thereon, rollers carried by said screen at top and bottom, upper and lower tracks against which the rollers run, and an operating cord, rope or cable attached to the screen and running around pulleys and carried to a point within reach of the operator, whereby the screen may be adjusted, substantially in the manner and for the purpose described.

3. In an apparatus of the character described, a screen having at its upper edge a carrying-roller arranged in proximal relation to its center, and other rollers arranged at the opposite upper corners thereof, in combination with a series of overhead tracks upon which the said rollers move and are supported, substantially as described.

4. In an apparatus of the character de-

scribed, a lantern-support comprising an upper and a lower section adjustable with relation to each other, the upper section having a roller attached thereto and traveling upon an overhead track, and a shelf adjustable with relation to said upper section, substantially as and for the purpose described.

5. In an apparatus of the character described, the combination with a pair of rails or tracks arranged one above the other, of a vertical rod-support composed of two relatively-movable sections, a sleeve surrounding the adjacent extremities of said sections and slidingly mounted thereon and also carrying a shelf or rest for the lantern, provision for securing said sleeve and shelf at any height, and a spring interposed between the adjacent extremities of such sections, substantially as and for the purpose described.

6. In an apparatus of the character described, the combination with a pair of rails or tracks located one above the other, of a vertical support, comprising two tubular sections movable relatively to each other and carrying rollers which move upon or against the said rails, a sleeve surrounding and receiving the adjacent ends of said sections, plugs inserted in the open adjacent ends of the tubular sections, a spring having its end portions received in the ends of the sections, and a rest or shelf upon which the lantern is received, all arranged substantially as described.

7. In an apparatus of the character described, the combination with a pair of rails arranged one above the other, of a vertical support having at its upper and lower ends rollers which travel against said rails, a sleeve surrounding said support and slidingly mounted thereon, a shelf or rest carried by the sleeve, provisions for holding the sleeve at any height, and an independent sleeve or collar surrounding and slidingly mounted on said support and having provision whereby it may be retained at any point to serve as a shoulder upon which the shelf-sleeve may rest and turn, substantially as described.

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

WILLIAM M. CLINE.

Witnesses:

CHARLES B. COLLINGWOOD,
J. DAN BAUERLY.