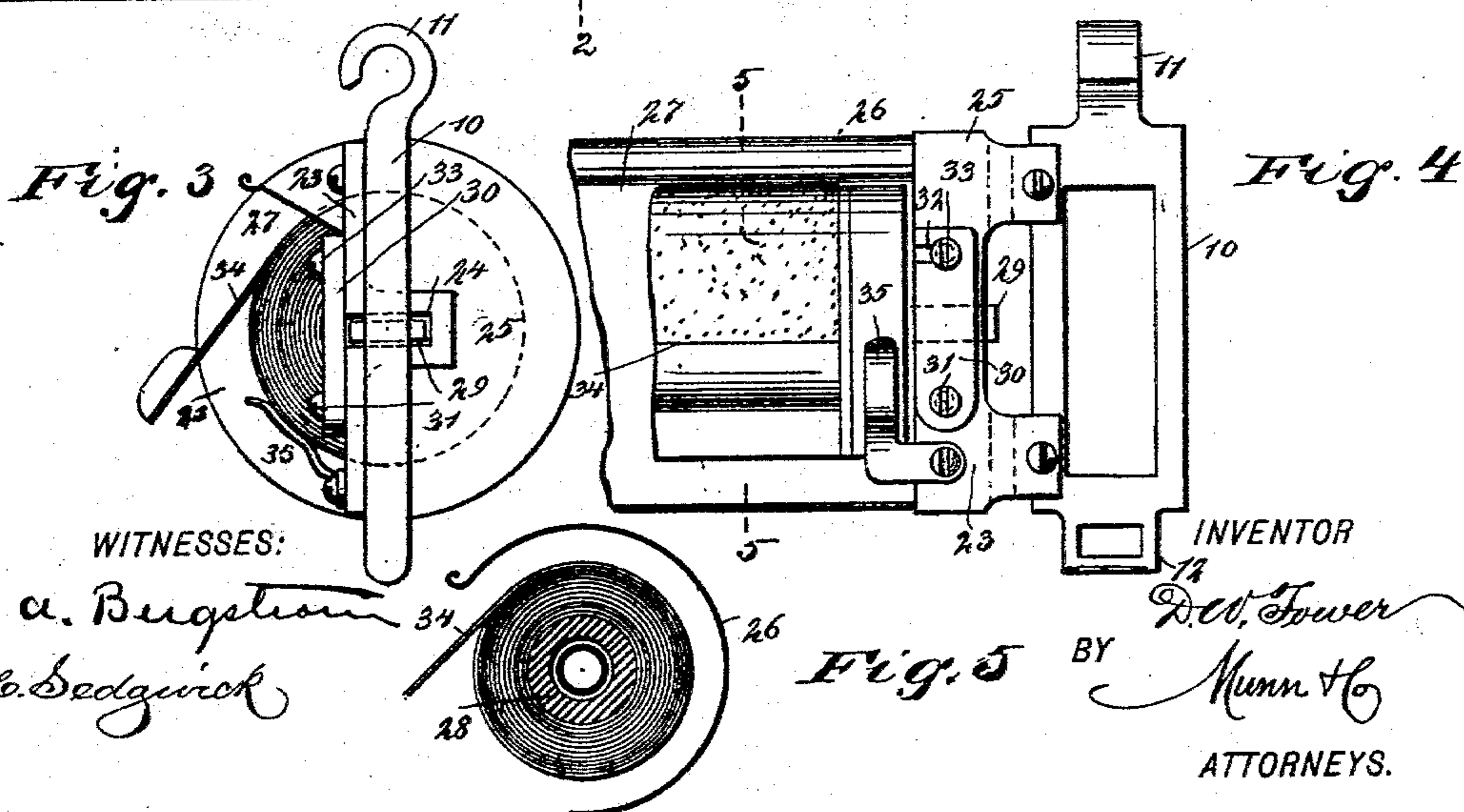
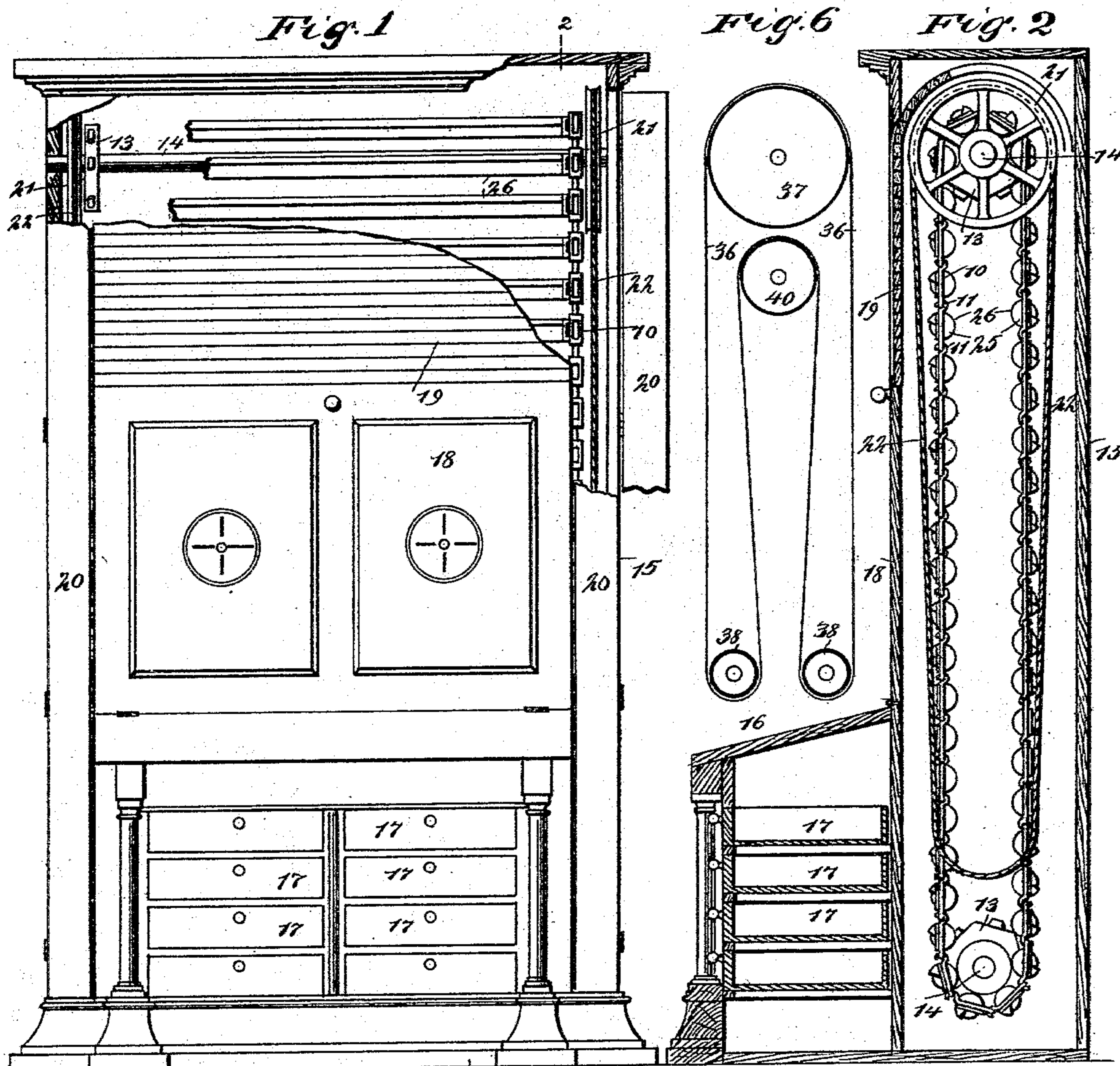


(No Model.)

D. W. TOWER.  
EXHIBITING APPARATUS.

No. 511,104.

Patented Dec. 19, 1893.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

DANIEL W. TOWER, OF GRAND RAPIDS, MICHIGAN.

## EXHIBITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 511,104, dated December 19, 1893.

Application filed March 14, 1893. Serial No. 465,914. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL W. TOWER, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and Improved Exhibiting Apparatus, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of exhibiting devices which are adapted to exhibit materials which are usually or may be carried in rolls; and the object of my invention is to produce an extremely simple apparatus which is adapted to carry a large quantity of such material and is especially adapted for carrying maps, charts, drawings and different kinds of fabrics; and a further object of my invention is to arrange the apparatus so that the materials may be advantageously displayed and conveniently unrolled or rolled up when necessary.

To these ends my invention consists in certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation of the apparatus embodying my invention. Fig. 2 is a vertical section on the line 2—2 in Fig. 1. Fig. 3 is an enlarged detail end view of one of the roll holders, showing a connected link in side elevation. Fig. 4 is a broken enlarged front elevation of one of the roll holders and its attaching links. Fig. 5 is a cross section on the line 5—5 in Fig. 4; and Fig. 6 is a detail diagrammatic view showing a modified arrangement of the carrier.

The rolls of maps, fabrics, or other material, are carried in holders, which in turn are supported upon an endless carrier formed by parallel chains made up of links 10, each link having at one end a hook 11 and at the opposite end an eye 12 so that the links may be conveniently hooked together or detached, and the chains thus formed run on sprocket wheels 13 which are carried on shafts 14 placed parallel with each other and one above the other, the shafts, as shown in the drawings, being arranged in the upper and lower portions of a case 15 but they may be supported

in any convenient manner, and the chains which form the carriers may be of any desired kind, or belts or equivalent devices may be substituted for the chains.

The case, as shown, is provided with a desk front 16 in which are numerous drawers 17 adapted to hold any necessary articles, and the upper portion of the desk has a downwardly swinging lid 18 and an upwardly swinging wooden curtain 19 like the curtain of an ordinary roll top desk. The case has also on the front and near opposite ends, swinging doors 20, but as before remarked, any suitable case may be used for supporting the apparatus.

The upper shaft 14 is provided with hoisting drums 21 over which extend endless ropes or cables 22 and by pulling upon these ropes, the drums may be turned and the shafts 14, sprocket wheels 13, and the carriers mounted on the sprocket wheels, also moved. Each link 10 of the chain has secured to its front side a plate 23, and this plate carries a nearly cylindrical socket 25 adapted to receive one end of the roll holder 26 which extends from the link of one chain to the corresponding link of the opposite chain, and the socket 25 has in its front edge a slot 24 to receive the squared stud 29 of the roller 28 which turns in the roll holder. The roll holder 26 is open on its front side, as shown at 27, to provide for the movement of the map, or other material carried on the roller 28 within it.

On the front side of the plate 23 is a swinging keeper plate 30 which is pivoted, at its lower end, on a screw 31 and which is slotted transversely at its upper end, as shown at 32, so as to fit upon a screw 33, and when the keeper plate is in a vertical position, it locks the stud 29 in place and prevents its removal. The map or other fabric 34 is carried on the roller 28 so as to be readily wound thereon or unwound therefrom in the usual way, and the roller 28 is actuated like the ordinary shade roller, which is of such common use that its construction is not shown in detail. On the plate 23, near its lower end is a spring brake 35 which presses one end of the roller 28, as shown best in Figs. 3 and 4, and which therefore prevents the roller from moving too easily, so that when the fabric on the roller is unwound, the roller will be prevented by

the brake from turning back and winding up the fabric. When the fabric is to be wound up, the pressure of the brake is removed by the finger.

5 It will be seen by reference to Fig. 2, that the roll holders and the rollers are arranged between every pair of links and extend completely around the endless carrier, so that a great number of maps, drawings, or similar  
10 things may be carried upon the carrier and any one be quickly referred to and pulled out when necessary.

To make the machine of still greater capacity, however, the form of carrier shown in  
15 Fig. 6 may be advantageously employed; and as here shown a large drum 37 is arranged at the top, and at the bottom of the carrier are opposite pulleys or drums 38 while just beneath the drum or pulley 37 is another drum  
20 or pulley 40, and the belt or carrier 36 runs over the pulley 37 beneath the pulleys 38 and over the pulley 40, thus giving to it a great carrying surface.

Having thus described my invention, I  
25 claim as new and desire to secure by Letters Patent—

1. An exhibiting device, comprising an endless carrier held to run over suitable supporting wheels, a plurality of parallel roll  
30 holders secured to the carrier, and detachable spring rollers arranged within the roll holders, substantially as described.

2. An exhibiting device, comprising an endless carrier, parallel roll holders secured to the  
35 carrier and having openings on one side, detachable spring rollers arranged within the roll holders, and a fastening device to lock

the rollers into the holders, substantially as described.

3. An exhibiting device, comprising an endless carrier having oppositely arranged members, roll holders held between the members of the carrier and provided with longitudinal openings in one side, the holders having slot-  
40 ted ends to receive the studs of a spring roller, spring rollers held within the holders, and keeper plates pivoted in front of the stud slots and adapted to lock the roller studs in place, substantially as described.

4. An exhibiting device, comprising an endless carrier mounted on oppositely arranged  
50 shafts, a drum and cable mechanism for turning the shafts, a plurality of parallel open sided roll holders secured to the carrier, and a detachable spring roller in each of the hold-  
55 ers, substantially as described.

5. The combination with the traveling depending carrier, of the transverse roll holders carried thereby, a roller mounted in said  
60 holders and spring brakes on the holders and bearing on the rollers, substantially as set forth.

6. The combination, with the endless chains carried on sprocket wheels, of plates secured to the links, each plate having a socket there-  
65 in, an open sided roll holder held in each pair of plate sockets, and a spring roller detachably mounted in the roll holder, substantially as described.

DANIEL W. TOWER.

Witnesses:

CLARENCE E. BIGELOW,  
CHARLES E. PEEPS.