

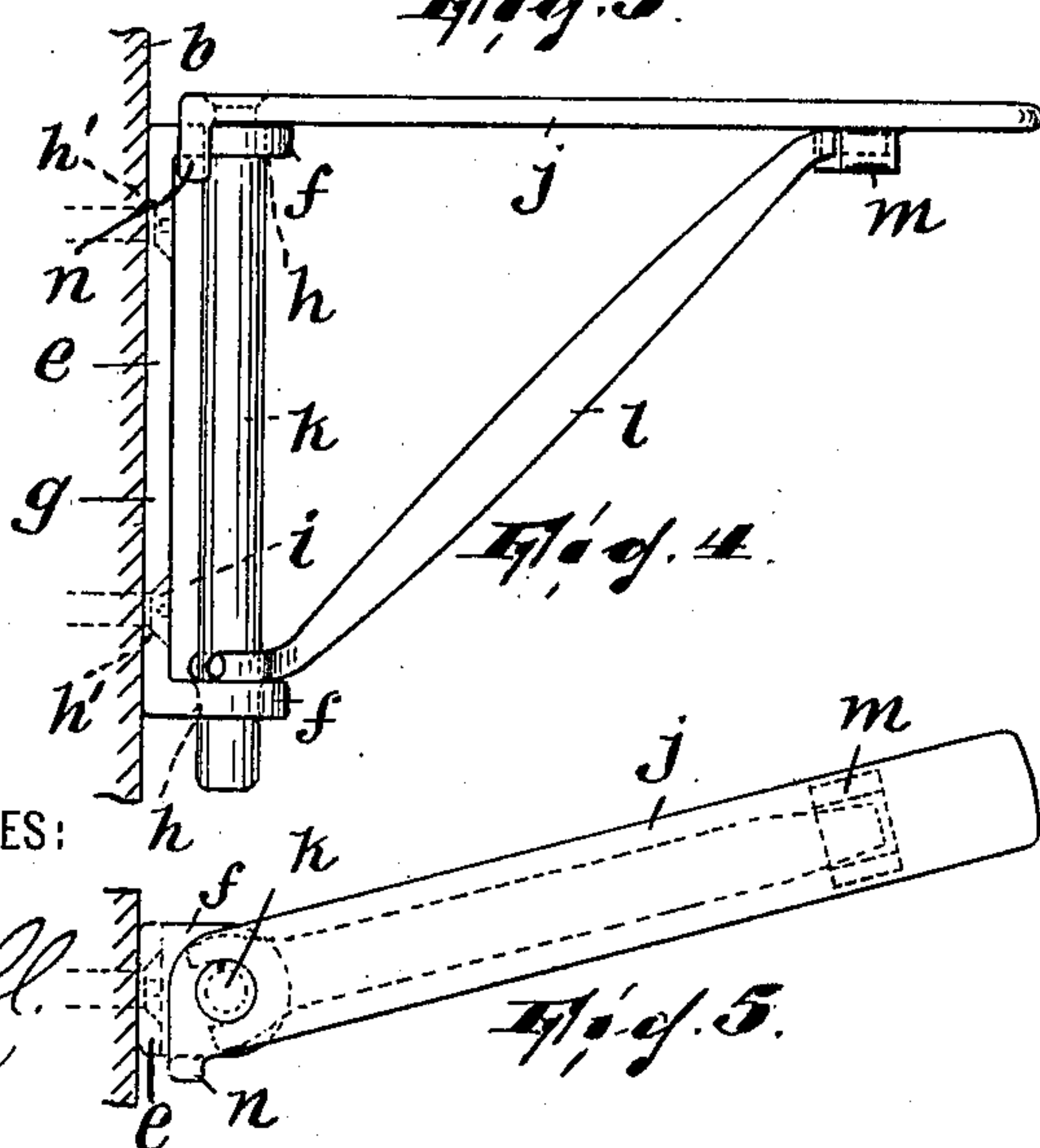
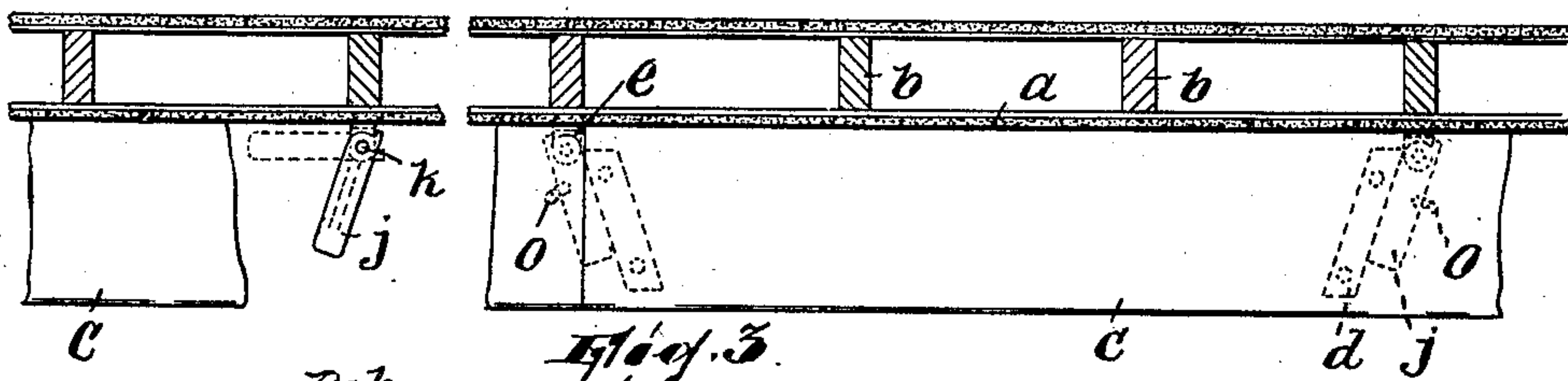
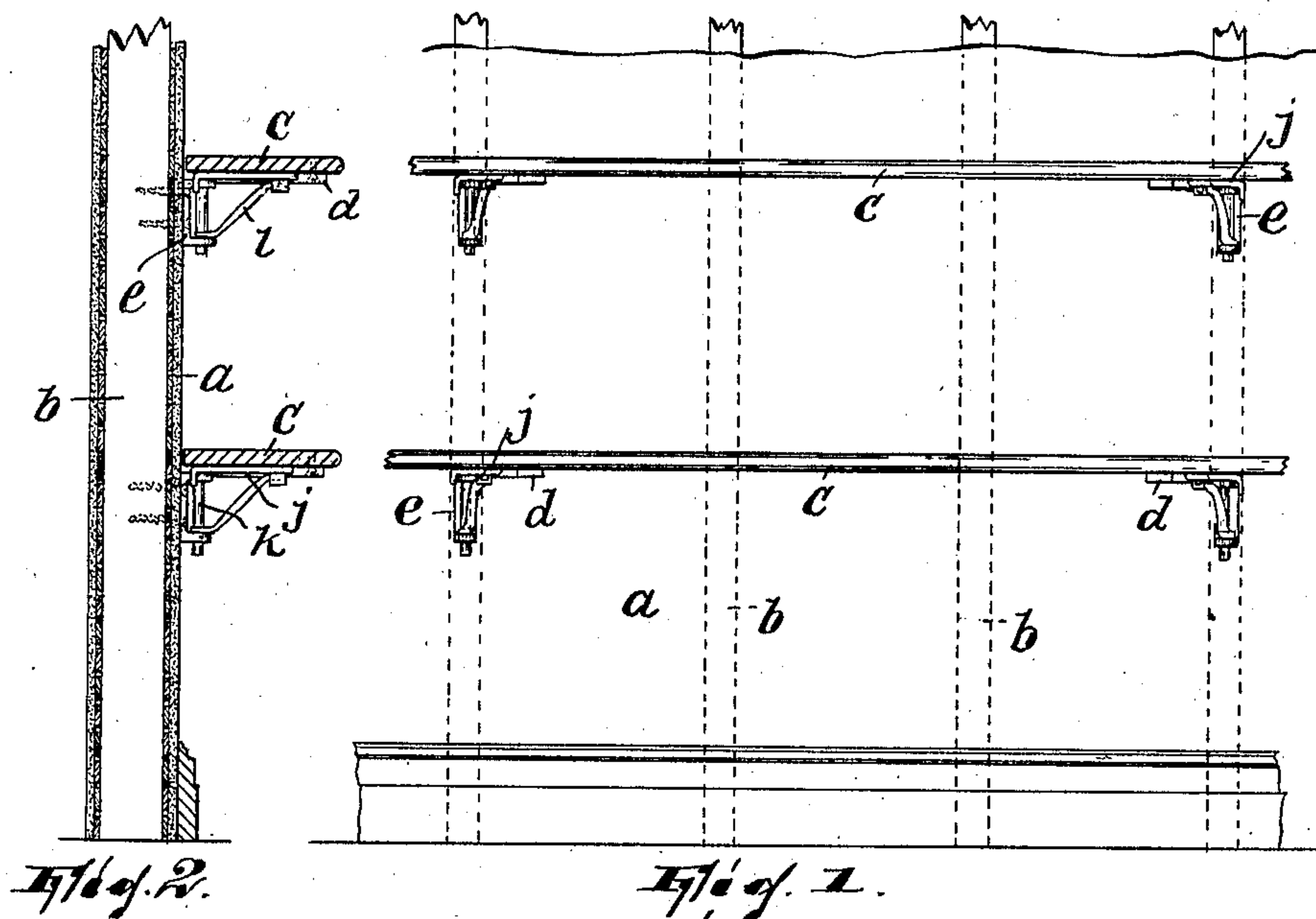
No. 827,540.

PATENTED JULY 31, 1906.

G. KRAHMER.
KNOCKDOWN SHELVING.

APPLICATION FILED FEB. 24, 1906.

2 SHEETS—SHEET 1.



WITNESSES:
Wm. Drell.
A. Blatt.

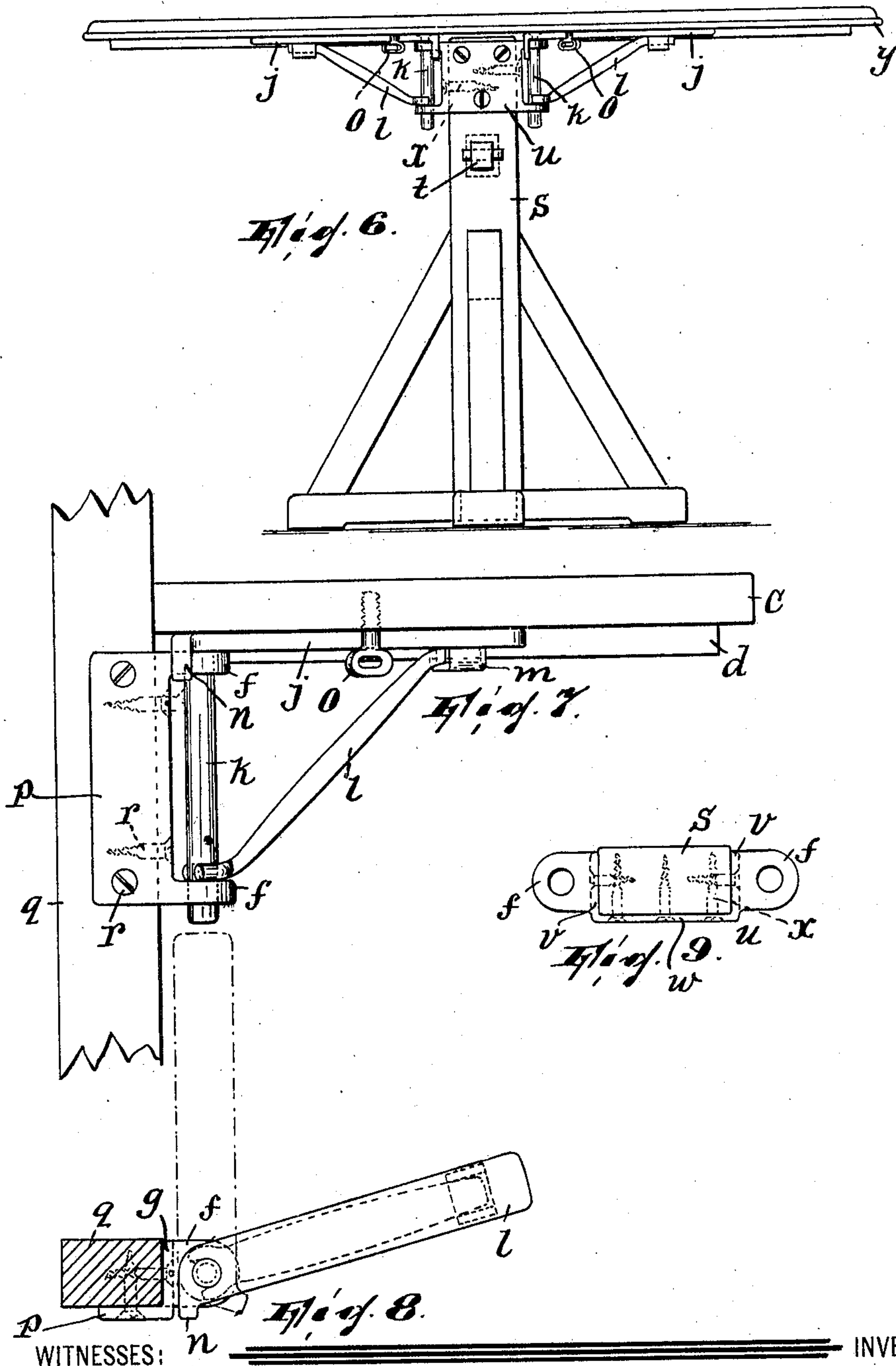
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George Krahmer,
BY
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ATTORNEYS.

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2 SHEETS—SHEET 2.



Wm. M. Bell.
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UNITED STATES PATENT OFFICE.

GEORGE KRAHMER, OF BUTLER, NEW JERSEY.

KNOCKDOWN SHELVING.

No. 827,540.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed February 24, 1906. Serial No. 302,719.

To all whom it may concern:

Be it known that I, GEORGE KRAHMER, a citizen of the United States, residing in Butler, county of Morris, State of New Jersey, have invented certain new and useful Improvements in Knockdown Shelving; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The principal object of this invention is to provide a system of knockdown shelving for stores and the like whereby the arrangement of the shelves themselves may be varied to suit the wishes or needs of different tenants without damaging the walls and wasting material. Built-in shelving now commonly used is a source of considerable expense and annoyance to the owners of stores, inasmuch as no two tenants usually require or want the same shelf arrangement. The shelving is constructed in such manner that it can only be removed by doing much damage to the walls as well as to the material for the shelving, so that the former constantly requires repairing, repainting, &c., and the latter when once used is usually of no further use except as fire-wood. I accomplish this and other objects hereinafter mentioned by the use of means which is essentially of cheap construction and which, furthermore, adds materially to the appearance of a store, is quickly and readily put together and taken apart, and affords a firm substantial support for the goods displayed thereon.

My invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 shows a store-wall with my improved system of shelving attached thereto. Fig. 2 is a vertical sectional view on Fig. 1. Fig. 3 is a horizontal sectional view taken just above one tier of shelves in Fig. 1 and showing the parts on a slightly-increased scale. Fig. 4 is a side view of one of the shelf-supports shown in the first three figures. Fig. 5 is a plan view of said shelf-support. Fig. 6 is an end view of a construction where the improvements are applied in a table or the like. Fig. 7 is a side view of a modified form of shelf-support, showing a

shelf arranged thereon. Fig. 8 is a plan view of the shelf-support seen in Fig. 7, and Fig. 9 is a detail of what is seen in Fig. 6.

Referring first to the first five figures, *a* denotes the wall, *b* the battens or wall-strips, and *c* the shelves, which latter may be wooden planks or strips of the ordinary form used for shelves, except that they are provided on their under sides each with two cleats *d*, preferably set near the ends thereof and arranged in lines converging in the direction of the front of the shelf. *e* denotes brackets secured horizontally in pairs to the battens or wall-strips. Each consists, preferably, of a metal plate having its ends *f* bent off at right angles to its body portion *g* and formed with aligned holes *h*, the body portion being itself formed with holes *h'* for screws *i* or the like, whereby to secure the bracket to the wall in the manner above indicated. *j* is an arm, preferably made of flat metal, and *k* a pivot-pin or bolt secured thereto and projecting downwardly from its rear end. The bolt or pivot-pin normally penetrates the holes *h*, and thus affords a pivot for the arm *j*. *l* is a brace which at one end is forked, normally receiving the pin or bolt *k* and resting against the lower end portion *f* of the bracket *e*, and which at the other end is slightly tapering and fits into a socket-piece *m* on the under side and near the free end of arm *j*. It is preferred to limit the pivotal movement of the arms *j*, so that each pair when in normal position will stand in lines converging to a point in front of the wall *a*. To this end each arm *j* in each pair of shelf-supports has a downwardly-depending lug *n* on the outside thereof at its pivot end adapted to bring up against the upper end portion *f* of bracket *e*. The cleats *d* on each shelf are so spaced that when the shelf is laid on the arms *j* with its back edge squarely against the wall the cleats just fit between the arms. Thus the shelf is firmly held against forward or endwise movement of any kind so long as it rests squarely on the arms in the proper position, as above described. To prevent the shelf becoming displaced by upward movement, it may have a button or buttons *o* to interlock with the arms *j*. (See Fig. 3.) The convergent or oblique arrangement of the arms has the further advantage that thereby the abutting ends of two adjoining shelves may be firmly supported on a single arm. (See Fig. 3.)

A modification of the bracket part of the

shelf-support, designed for scaffolding and the like for supporting heavy bodies, is shown in Figs. 7 and 8. In this instance the bracket has a vertical integral return-plate
 5 or wing-piece *p* standing at right angles to the body portion *g*. The bracket is thus adapted to be fitted to an angular surface, as that of the vertical beam *q*, screws *r* being passed through the plate or wing-piece *p* the
 10 same as through the body portion *g*.

In Fig. 6, *s* is one of a series of pedestals, which may be connected by a brace *t*. *u* is a twin bracket comprising the body portions *v* and web *w*, arranged as the three sides of a
 15 rectangle so as to fit around the pedestal *s*, to which said twin bracket may be secured, as by screws *x*. The portions *f*, pins *k*, arms *j*, braces *l*, and buttons *o* may be all substantially the same as in the construction shown
 20 in Figs. 1 to 5.

y is the table-top resting on the arms *j* and prevented from upward displacement by the buttons *o*.

My arrangement affords a firm substantial
 25 support at all times for the articles resting thereon. If it is desired to remove one or more of the shelves, this may be readily done upon manipulating the buttons and lifting the shelf off, whereupon the arms may be
 30 turned inwardly out of the way or entirely removed by lifting their pivot-pins out of the brackets, whereupon the braces fall away.

It will be obvious that my construction is adapted for use in shelving, scaffolding, and
 35 similar means wherein a firm substantial support is required, which it may be desirable in whole or in part at times to take apart. I therefore do not wish to be limited to any of the uses of my invention herein specifically
 40 mentioned. I furthermore do not wish to be

limited to details of construction herein set forth; but

What I claim is—

1. The combination of a supporting-bracket, an arm having a socket-piece, a
 45 pivot-pin or bolt carried by the arm and having its bearing in the bracket, and a brace arranged to swing with the arm and having one end removably engaged in the socket-piece of the arm and the other forked, receiving said
 50 pivot-pin or bolt and engaging the bracket, substantially as described.

2. The combination of a supporting-bracket, an arm, a pivot-pin or bolt carried by the arm and having its bearing in the
 55 bracket, said arm normally resting on the bracket and said pivot-pin or bolt being removable upwardly from the bracket, and a brace having one end engaged with the arm and its other end forked, receiving the pivot-
 60 pin or bolt and engaging the bracket, substantially as described.

3. The combination of a suitable support, a pair of brackets secured thereto, a shelf-
 65 support pivoted in each bracket, means for limiting the pivotal movement of said shelf-supports past positions where each forms an acute angle with a straight line connecting said brackets, a shelf arranged on said shelf-
 70 supports, and cleats on the under side of said shelf and adapted to bear against said shelf-supports when the latter are in the position aforesaid, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of
 75 February, 1906.

GEORGE KRAHMER.

Witnesses:

JOHN E. KRAHMER,
 WM. D. BELL.