

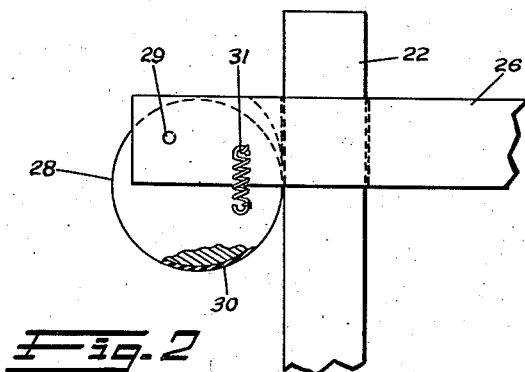
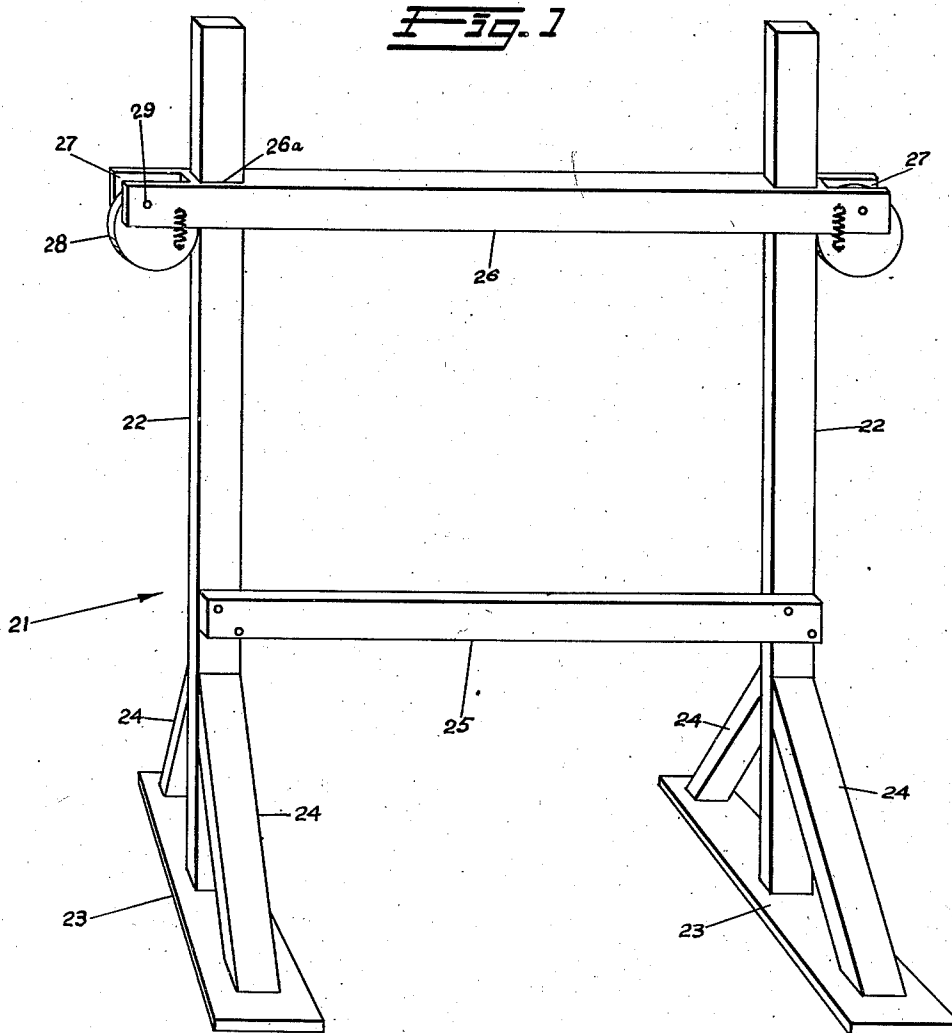
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2,398,413

ADJUSTABLE SUPPORT

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## UNITED STATES PATENT OFFICE

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## ADJUSTABLE SUPPORT

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3 Claims. (Cl. 304-5)

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This invention relates to an adjustable frame support, and more particularly to such a device of the class known as a horse.

In many types of construction and experimental work it is frequently desirable to use a temporary support to retain objects in a desired elevated position. For example, in experimental laboratories it is often necessary to support ventilation or heating ducts temporarily in different positions in order to determine their characteristics under varying conditions of installation. It is the present practice to use a support of a non-adjustable nature commonly known as a "horse" and this practice has proved both cumbersome and consuming of much time. According to this invention there is provided a means to support an object such as for example a ventilating duct in a predetermined and easily variable position by means of an adjustable support which is simple in installation.

An object of this invention is to provide an adjustable support which may be quickly and accurately set to any desired position.

Another object of this invention is to provide an apparatus of this character in which the supporting member is movable to any desired position with respect to the framework surrounding said supporting member.

A further object of this invention is to provide an apparatus of this character having means to automatically lock the movable supporting member in any desired position.

Further objects and advantages of this invention, as well as its construction, arrangement and operation, will be apparent from the following description and claims in connection with the accompanying drawing, in which,

Figure 1 is a perspective view of the adjustable supporting member and framework according to one embodiment of the invention.

Figure 2 is a front view, partially in section, of the locking means shown in Figure 1, disclosing a friction surface rigidly secured to said locking means and showing the coaction between said locking means and the supporting member.

Referring to the drawing in detail, Figure 1 shows a support assembly generally designated 21 comprising a pair of vertical supports 22 secured to a pair of feet 23 with additional supporting members 24 connecting the lower section of members 22 with feet 23. A cross bar 25 having the ends thereof fixedly secured to vertical members 22 is provided as a stiffening element to retain the vertical members 22 in a given spaced relationship to each other.

Slidably mounted on the vertical members 22 is a cross bar 26 having a pair of slotted openings 26a cut therethrough, said openings being found to snugly and slidably surround said vertical members 22 when cross bar 26 is mounted on said vertical members 22.

Adjacent to each end of cross bar 26, grooves 27 are formed to receive a wheel member 28, said wheel members being eccentrically and pivotally mounted in said grooves by means of a pin 29. On the circumference of each wheel there is rigidly secured a friction surface 30 such as rubber (Figure 2). A pair of springs 31 is provided having one end secured to cross bar 26 and the other end secured to wheel 28 in such manner as to normally urge said wheels to contact the outer surface of vertical supports 22.

In operation, cross bar 26 may be moved in an upward direction with respect to supports 22 without interference from the eccentrically mounted wheels 28. As heretofore stated, springs 31 normally cause the circumference of wheels 28 to contact supports 22. When cross member 26 tends to move in a downward direction with respect to supports 22, however, as by action of the weight of a member being supported by said cross bar, the pivotally and eccentrically mounted wheels 28 will be forced into closer contact with supports 22 and thus the friction created by this wedging action will automatically retain cross bar 26 substantially in any given position to which it may be raised. In order to lower the slidable cross bar 26, it is necessary only to raise the bar slightly and pull wheels 28 out of contact with members 22.

From the above description of construction and arrangement of the elements of this invention, it is clear that there is provided an adjustable support by which an object may be quickly and accurately supported in any desired position with respect to the framework thereof, and that the support will automatically retain the supported object in any position to which it may be set.

It is to be understood that various modifications and changes may be made in this invention without departing from the spirit and scope thereof as set forth in the appended claims.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. An adjustable support comprising a pair of support members rigidly secured in a spaced re-

lationship to each other, a foot support rigidly secured to each of said support members, a cross bar slidably mounted on said support members, a pair of wheels pivotally and eccentrically secured to said cross bar, said wheels allowing said cross bar to be moved in one direction along said support members, and preventing movement of said cross bar in the opposite direction along said support members.

2. An adjustable support comprising a pair of support members having a foot rigidly secured to each member, a cross bar slidably mounted on said members, a pair of wheels pivotally and eccentrically mounted on said cross bar and having a friction surface secured to the circumference thereof and a pair of springs having one end secured to said cross bar and the opposite end secured to each of said wheels in such manner as

to cause said friction surfaces to normally contact said support members.

3. An adjustable support comprising a pair of support members having a foot attached to each member, a beam fixedly securing said support members in a fixed spaced relationship to each other, a cross bar slidably mounted on said support members, a pair of wheels having a friction surface secured to the perimeter thereof pivotally and eccentrically secured to said cross bar, and a pair of springs having one end thereof secured to said cross bar and the opposite end thereof secured to one of said wheels in such manner as to normally cause said friction surface to physically contact said support members.

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