

Sept. 2, 1958

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2,850,288

RETRACTIBLE CARRIAGE MOUNTING

Filed June 10, 1955

2 Sheets-Sheet 1

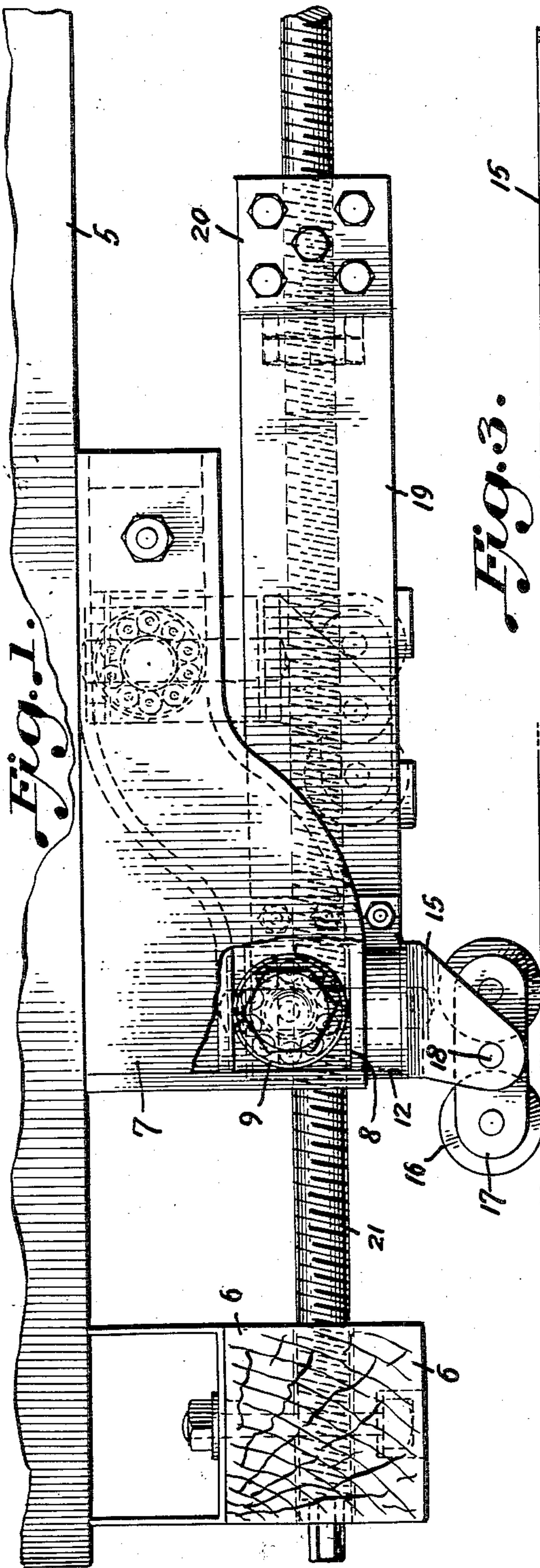
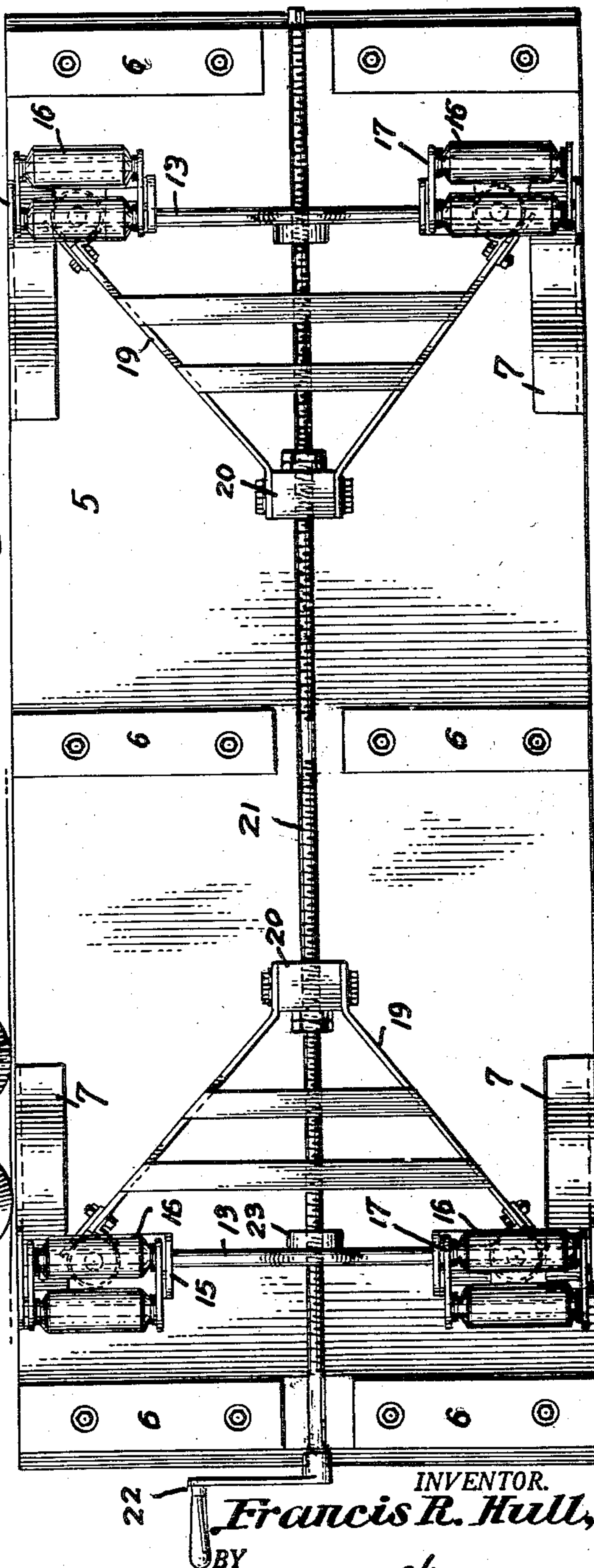


Fig. 3.



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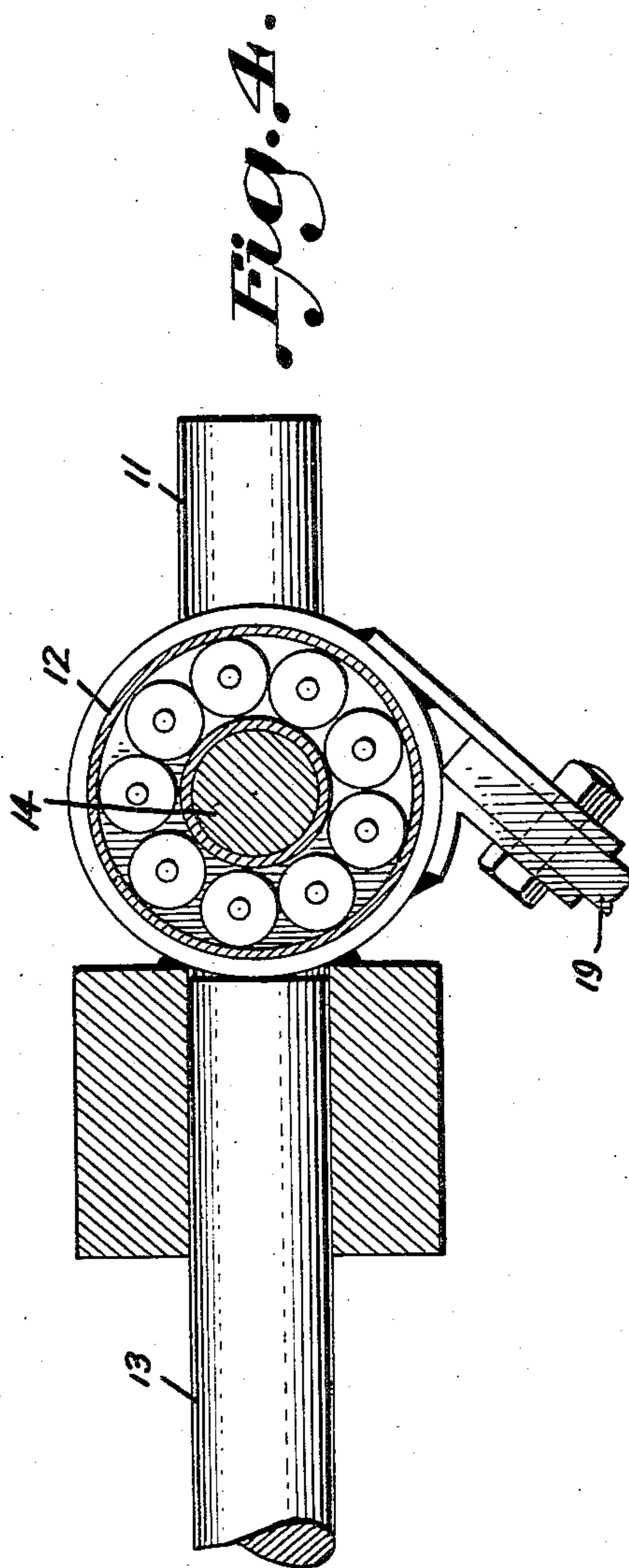
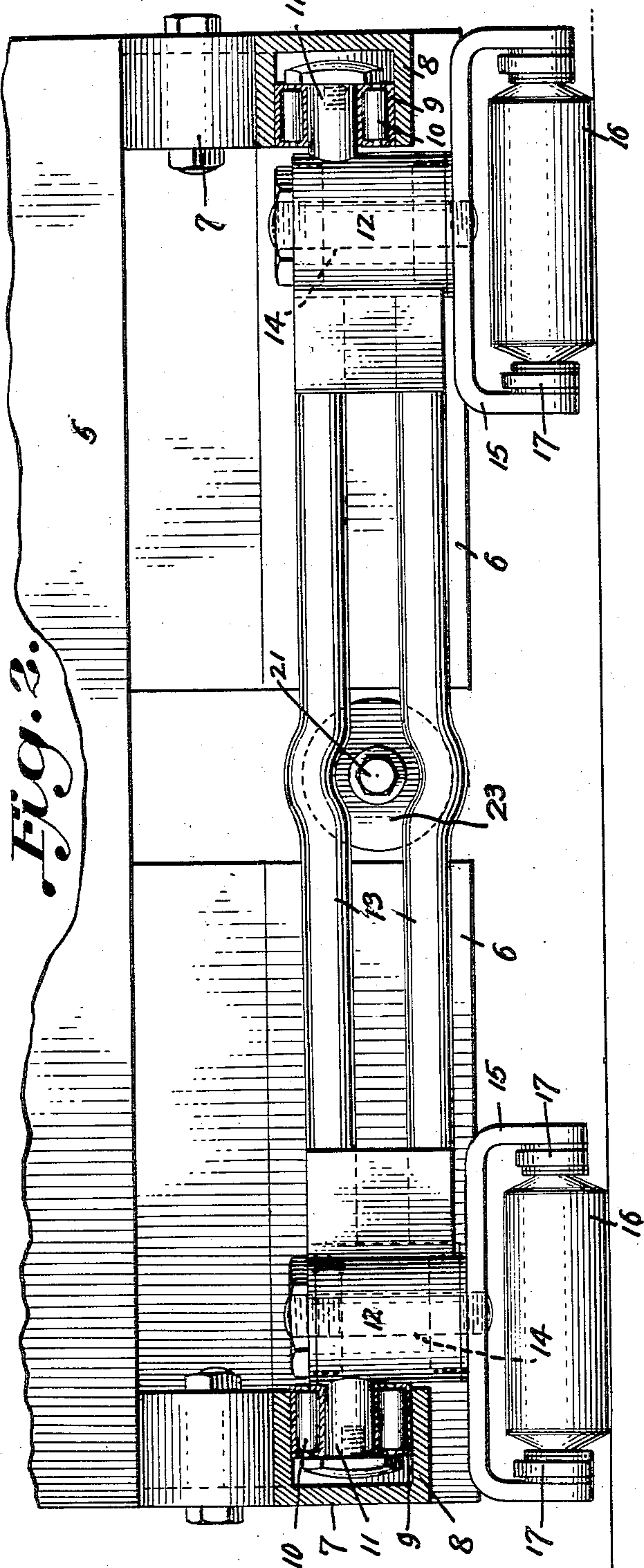
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RETRACTIBLE CARRIAGE MOUNTING

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Application June 10, 1955, Serial No. 514,543

1 Claim. (Cl. 280—44)

This invention is a retractible carriage mounting, the primary object of which is to provide a carriage supported upon rollers, casters or the like, for use in supporting a shipping container to be stored in a shipping van, car or ship, and which is possessed of mechanism capable of being operated to permit easy and accurate maneuverability of the container and also to provide means whereby the supporting rollers for the carriage may be retracted in order that the shipping container and its supporting carriage may rest firmly upon its base when stored.

In the shipping of merchandise, either over land or by sea, it is proposed to enclose the merchandise in a proper container to be placed within the transport carrying structure in such manner as to economize space, to enable the container to be readily and easily handled for stowage aboard the carrier, and to enable the loaded container to be easily and quickly manipulated to a proper position within the carrier preparatory to its being permanently stowed properly positioned therein.

The main purpose of the present invention is to provide a carriage for such use which is equipped with supporting rollers, wheels or casters in order to enable the carriage to be easily and quickly maneuvered for loading or stowage purposes, after which the supporting rollers may be readily retracted or moved from supporting position to enable the container to rest upon its bottom in the selected position.

A further object of the invention is to provide a mounting for the carriage equipped with the usual supporting sills, and wherein the transporting rolling structure may be moved easily and quickly to a retracted position when desired, and may equally as easily and readily be extended to such position as to support the carriage and its load.

With the foregoing objects in view, together with others which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawings, and particularly pointed out in the claim.

In the drawing:

Fig. 1 is a fragmentary side elevation of one end of a supporting vehicle equipped with retractible supporting mechanism constructed in accordance with my invention,

Fig. 2 is an end view of the carriage, parts broken away,

Fig. 3 is a bottom plan view, on a reduced scale, showing the retractible mechanism as applied to the carriage, and

Fig. 4 is an enlarged fragmentary sectional view showing a portion of the retraction frame.

Referring now more particularly to the drawing, 5 indicates a conventional carriage body which may be of any desired size and construction. This carriage or vehicle frame is provided upon its under side with supporting sills 6 arranged in spaced parallelism at the ends

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and in the middle of the said frame and disposed transversely thereof.

Secured to the bottom of the frame 5 and depending therefrom near each end of the vehicle frame are a pair of trackway castings indicated generally at 7. These castings will be made of suitable metal and of sufficient strength to withstand the strains and pressures to which they will be subjected in use. These castings are provided with trackways 8, and the trackways of each pair of castings extend upwardly from the adjacent end of the frame 5 toward the center thereof. In the present instance, these trackways are of sinuous form but straight inclined tracks may equally as well be employed. Each trackway has arranged therein a supporting roller indicated at 9, the same being equipped with roller bearings 10 to support the roller upon a trunnion 11 projecting outwardly from a caster housing 12 secured to the ends of spreader bars 13 arranged in parallelism with one another and disposed transversely of the vehicle frame.

Each caster housing receives a rotatable upstanding shaft 14 secured at its lower end to a transversely disposed yoke 15 which carries supporting rollers 16. While a single supporting roller may be employed if desired, in the present instance I provide each of the caster housings with a pair of rollers as shown having their axles connected by links 17, said links being pivoted intermediate their ends as at 18 to the yoke arms 15. These supporting rollers 16 are at all times freely rotatable, and the mounting of the upstanding pin 14 provides a swivel to enable the supporting rollers to have a caster effect. It will be understood that a pair of frame bars 13 is arranged at each end of the vehicle frame transversely thereof, and each of the caster housings 12 is provided with a roller 9 for engagement in its adjacent inclined trackway.

Each caster housing has secured thereto a yoke frame bar 19; the said bars extending inwardly of the vehicle body in converging relationship and are connected at their rear extremities to a traveller 20 having a threaded opening to receive the threads of a floating shaft 21 extending throughout the length of the vehicle and centrally thereof. The threads on the shaft 21 at one end thereof are inclined in a direction opposite to the threads at the opposite end of said shaft, so that rotation of the shaft by operation of a handle 22 to be engaged with either end of the shaft will cause the travellers to be moved toward or away from one another, depending upon the direction of rotation of the shaft. The spreader bars 13 are also equipped with a traveller nut 23 engaged with the threads of the adjacent shaft end in order to insure a true and proper feeding of the traveller frame upon rotation of the shaft.

It will be observed, particularly with reference to Figs. 1 and 2 of the drawings, that when the rollers 16 are in position to support the vehicle frame 5, the caster members are at the forward or outer ends of the trackway. When in this position, the sill members 6 are spaced a substantial distance above the ground or floor and it is apparent that the carriage 5 may be readily moved by a rolling operation to any desired position. When it is desired to retract the roller carriages, the shaft 21 is rotated in such direction as will cause the yoke frames to move inwardly toward the mid-portion of the vehicle, whereupon the rollers 9 will ride upwardly in the inclined trackways 8 until they reach the limit of such movements as indicated by dotted lines in Fig. 1. When in this position, it will be observed that the lower edges of the rollers 16 will be above the plane of the bottom of the sill members 6 so that all supporting weights will have been removed from the roller carriage and will be borne entirely by the sills. When it is desired to again move the vehicle with its supporting roller, it is but necessary to ro-

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tate the shaft 21 in such direction as will cause the yoke frames to move in an outward or downward direction in their trackways, bringing the caster wheels 16 into engagement with the ground or supporting surface, whereupon the vehicle frame and its load will be lifted upwardly until the sills 6 clear the supporting surface as shown in full lines in Fig. 1.

From the foregoing it is obvious that I have provided means of extremely simple construction for effectively mounting the retractible carriage mechanism. The parts are so constructed and assembled with respect to one another as to equally divide the supporting load to the four sets of supporting rollers, thus minimizing strains which might otherwise occur. It will be understood that the floating shaft 21 moves upwardly in a true horizontal plane when the same is rotated, thus enabling the yoke frames to be advanced or retracted uniformly during the rotation of the shaft.

I claim:

In a retractible carriage mounting, a vehicle body, a pair of inclined tracks mounted on the underside of said body inwardly of each end thereof, the tracks of each pair spaced from each other laterally of said body and each pair inclining upwardly and inwardly from the body ends, a floating threaded shaft disposed longitudinally of said frame beneath the latter and between the tracks of each pair, the threads inwardly from one end of said shaft

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being inclined in a direction opposite to the inclination of the threads inwardly from the opposite end thereof, a traveller frame for each of said pairs of tracks, each frame comprising straight spreader bars disposed transversely of said body, a traveller secured to each frame threadedly engaged with said shaft and connected to said bars intermediate the ends of the latter, a roller secured to the outer end of each of said bars resting on the adjacent track, a roller housing depending from each spreader bar inwardly from the ends thereof, rollers supported by said housings, a second traveller threaded on said shaft spaced from the first mentioned traveller of each frame, yoke frame bars secured at one end to said second traveller and rigidly secured at their other ends to said roller housings, sills secured to the underside of said vehicle frame and spaced from one another, and the distance between the vehicle body and the lower end of each sill being greater than the distance between said body and the supporting surfaces of said rollers when the traveller frames have reached the highest point of said inclined tracks.

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