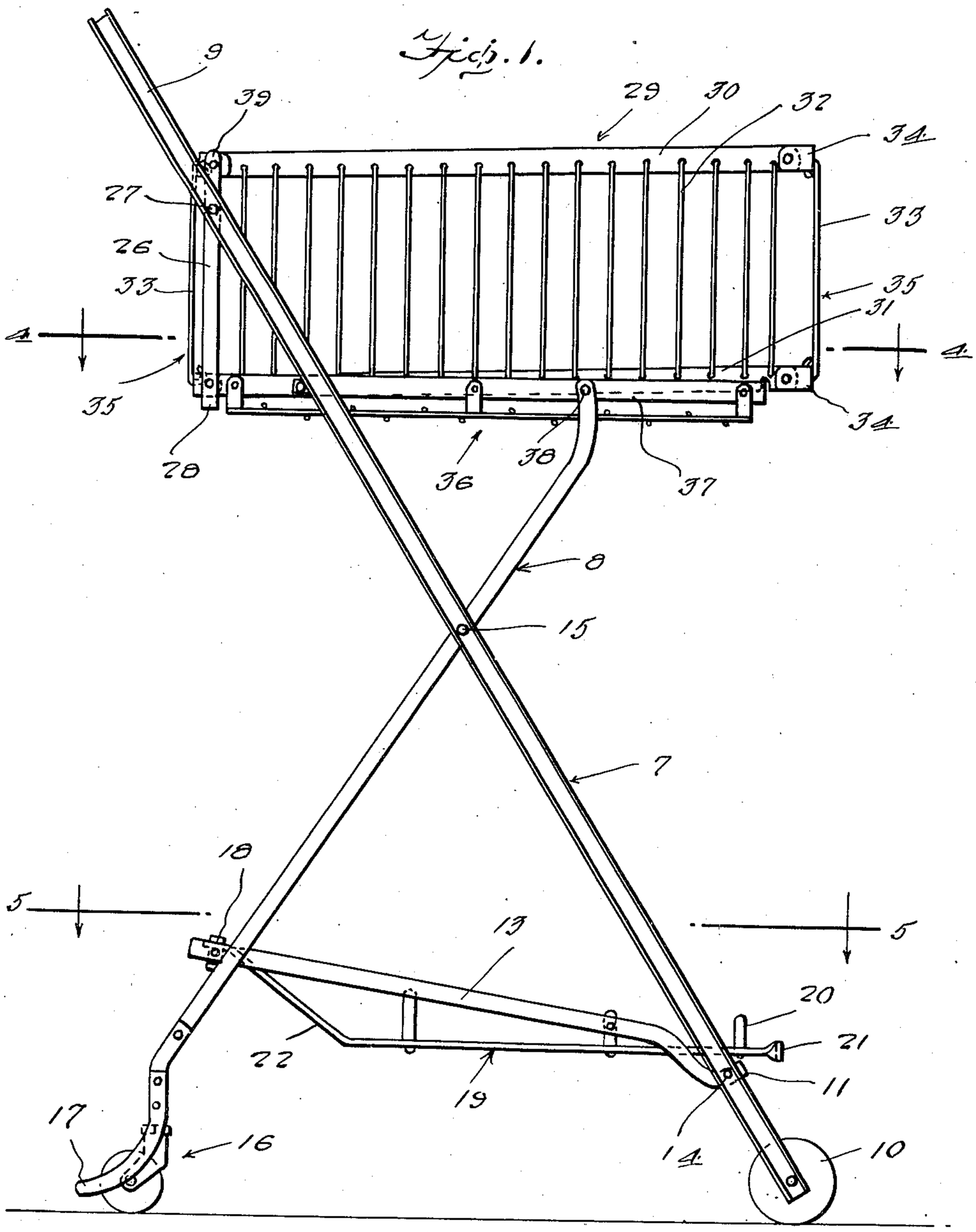
April 25, 1939. S. N. GOLDMAN 2,155,896

COMBINATION BASKET AND CARRIAGE

Filed May 4, 1937 4 Sheets-Sheet 1

Fig. 1.



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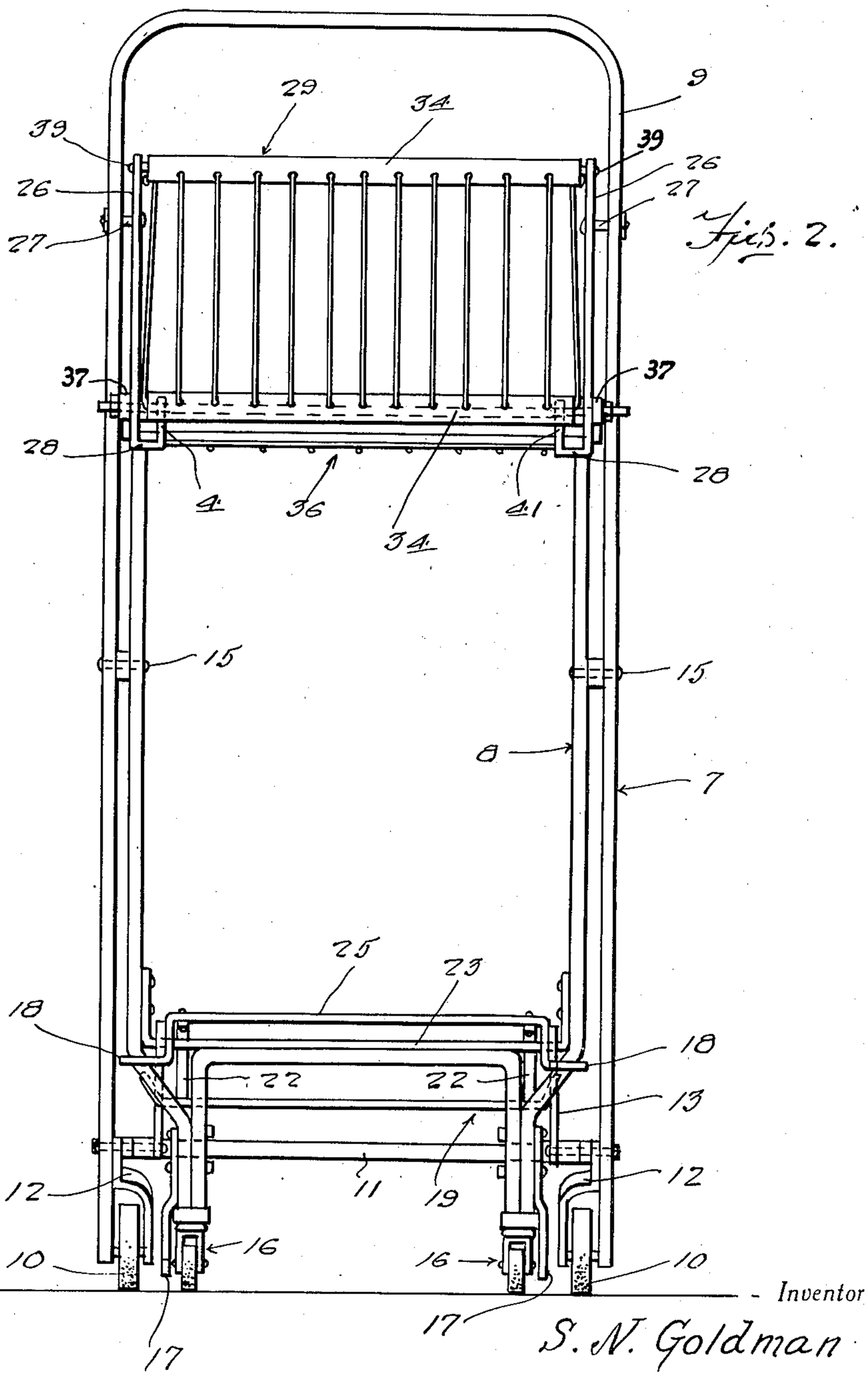

Fig. 2.

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Fig. 3.

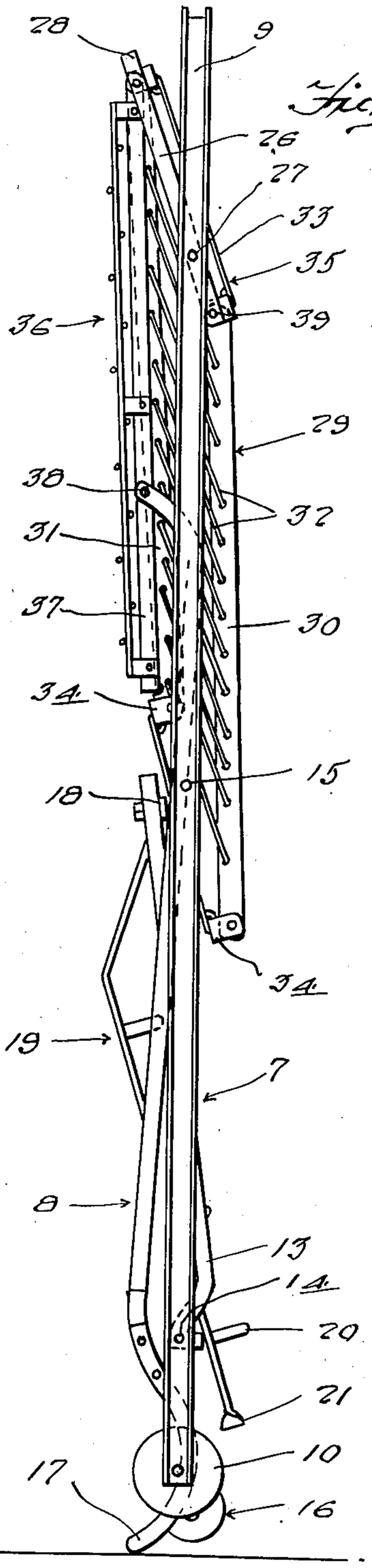
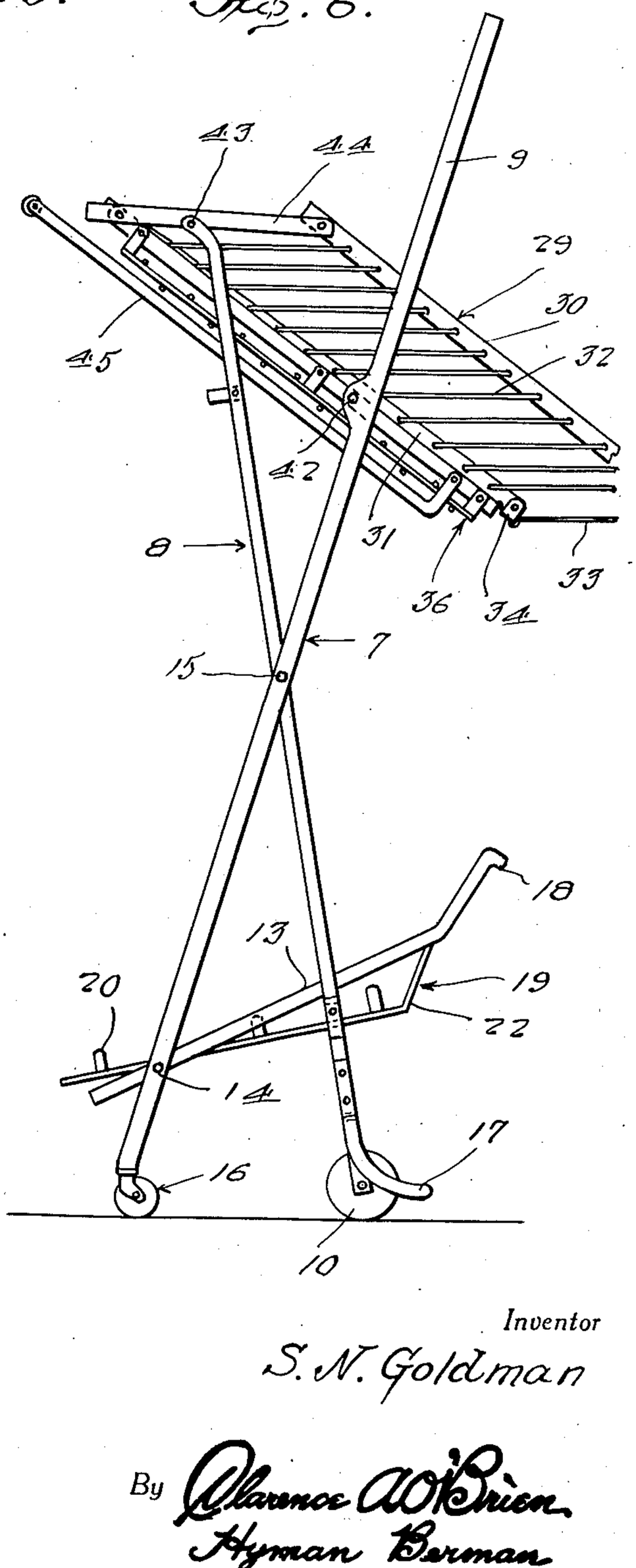


Fig. 6.



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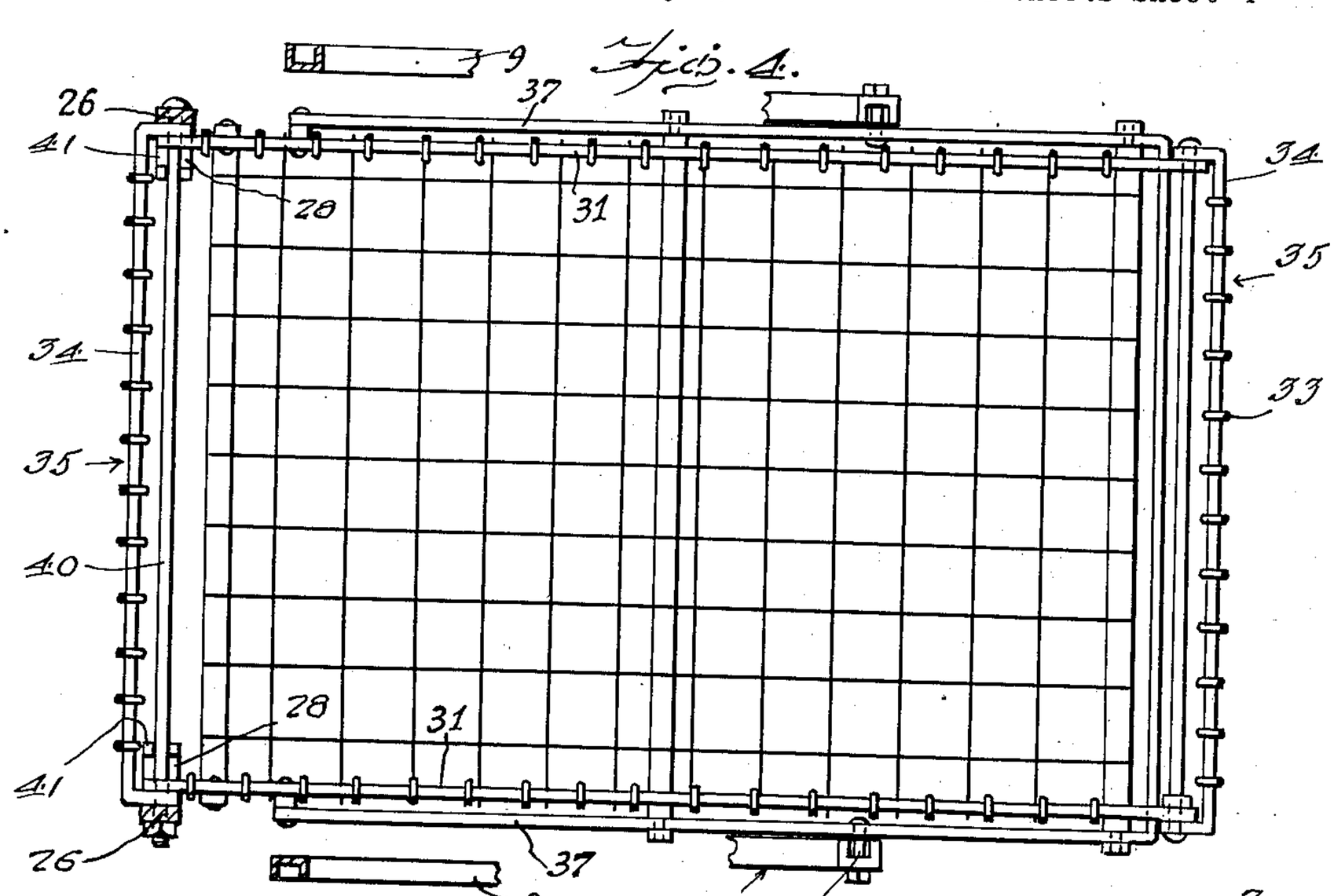

Fig. 4.

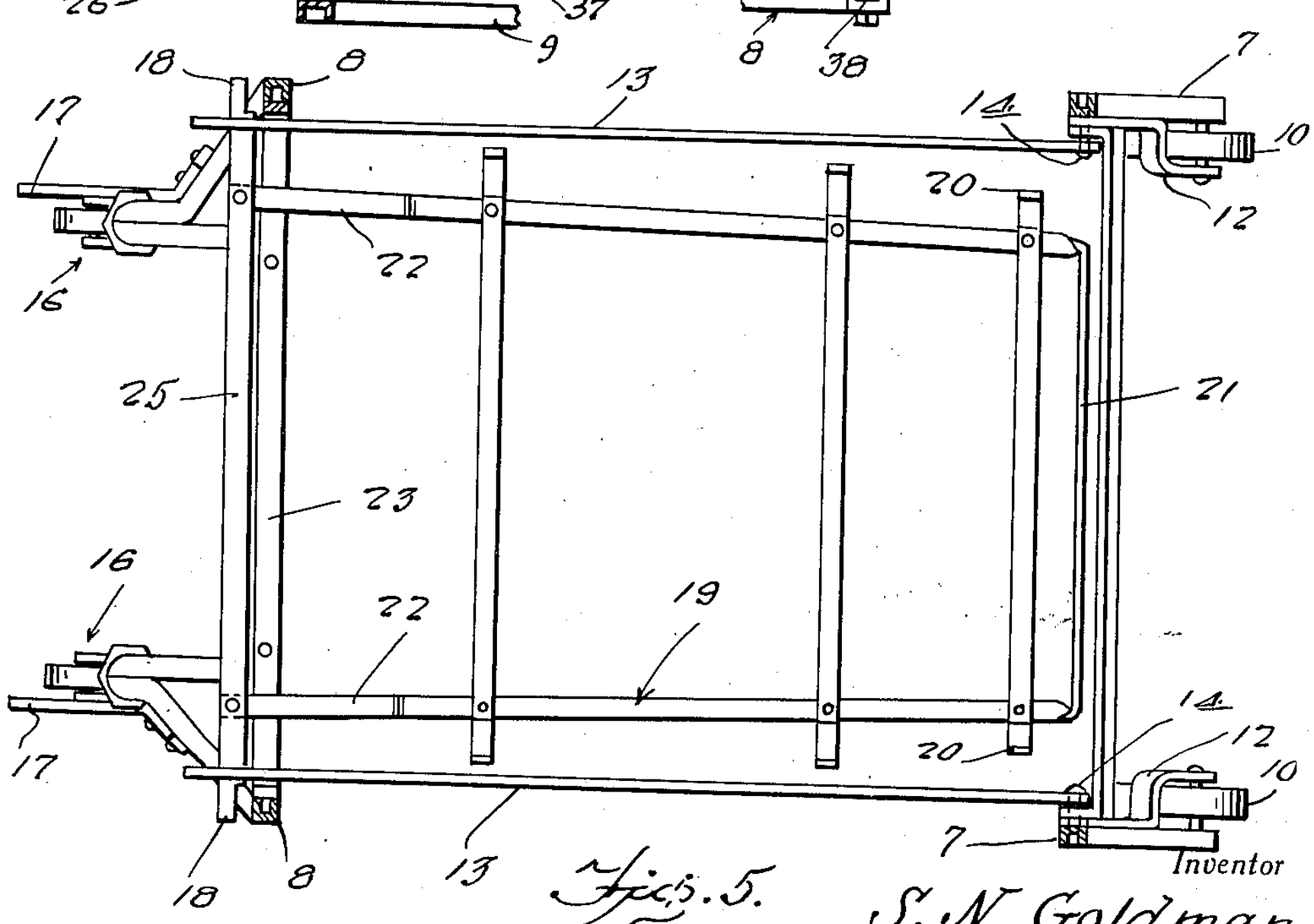

Fig. 5.

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UNITED STATES PATENT OFFICE

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COMBINATION BASKET AND CARRIAGE

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Application May 4, 1937, Serial No. 140,721

5 Claims. (Cl. 280—41)

This invention relates to an ingenious self-service store-type vehicle, which may be unitarily visualized as a combination foldable basket and carriage, the carriage having the additional function of a carrier for the ordinary hand-type market basket.

In reducing to practice the principles of the broad inventive concept, I have had in mind the provision, for self-service store use, a collapsible or foldable, roller-equipped carrier for an ordinary market basket, a structure of this type being aptly fitted for the purposes intended in that when not in use it may be folded into compact form for convenient placement in an out-of-the way location in the store.

As a more specific exemplification of the preferred embodiment of the invention, it has been found expedient and practicable to not only provide a collapsible carriage usable as a carrier for an ordinary market basket, but to also build into the carriage a readily available and foldable receptacle which may be employed as the principal basket to facilitate shopping by self-serving customers.

Other features and advantages of the invention will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a side elevational view showing one embodiment of the invention constructed in accordance with the principles of the conception and showing how the structure is set up for use by the customer.

Figure 2 is a view which may be conveniently described as a rear elevational view, that is, a view of Figure 1, observing it in a direction from left to right.

Figure 3 is a side elevation based on Figure 1 and showing the relationship of features when the complete structure is collapsed into its folded form to occupy an out-of-the-way position when not in use.

Figures 4 and 5 are horizontal sections on the lines 4—4 and 5—5, respectively, of Figure 1.

Figure 6 is a side elevational view showing a modification of the invention and illustrating the parts in the process of folding into collapsed state.

Referring now to the drawings by distinguishing reference numerals, it will be observed that the portable wheel-supported carrier or carriage is made up primarily of two complemental leg units 7 and 8 having the function of basket expanding and contracting levers. The main unit 7 is here shown as of general U-shaped form and the upper portion thereof functions as a convenient handle as at 9. On the lower ends of the arm portions thereof I provide suitable wheels 10. As seen in Figure 2, the numeral 11 constitutes a cross-brace, while the numerals 12 indicate adapter brackets to accommodate the rollers or wheels 10. Then, as shown in Figure 1, the numerals 13 designate stay members in the nature of metal straps or arms, these being pivotally attached at one end as at 14 to the lower portions of the arms of the leg frame 7.

The units 7 and 8 are disposed in intersecting relationship and pivotally joined together as at 15 intermediate their ends. It will be observed that the legs 8 are somewhat shorter than the legs embodied in the frame 7. On the lower ends of the legs 8 I provide any suitable type swivelly mounted castors 16. Associated with the castors are extension brackets 17 suitably designed to rest on the floor when the structure is folded, as seen in Figure 3, to lift the rollers and castors up out of contact with the floor and to allow the device to be rested against a wall or the like without falling. Returning to the stay arms 13, it will be seen that these are collapsible with the frames 7 and 8 and at their rear ends they project between the legs 8 and have stop elements 18 to engage said legs and to prevent the spread of the lower diverging portions of said parts 7 and 8. This is brought out in Figure 1 of the drawings. It might also be conveniently mentioned here that the numeral 19 designates a basket rack which may be of any suitable type, and this is built on and supported by the same stay members 8. At its front the rack is provided with appropriate guards 20 to facilitate maintaining the ordinary market basket (not shown) on the rack when desired. The frame member of the rack 19 is of general U-shaped form, and its front portion 21 projects beyond the guards 20. The rear end portions are inclined in relation to the arms 13, as indicated at 22.

Looking now at Figure 2, attention comes to the numerals 23 and 24, which designate companion yokes mounted between the legs 8. The inclined members 22 rest on the yoke 23. It is thus evident that these elements 22 are in effect cams for lifting the rack 19 in conjunction with the stay arms 13, this being accomplished as the diverging lower portions of the frames 7 and 8 are brought together during the process of collapsing or folding. The cross-piece 25, which

includes the stop elements 18 on its ends, forms a convenient foot lifting element to facilitate collapsing. It follows that the basket rack 19 supported on the stay arms 13 is in effect the means for spreading and maintaining the leg frames in extended carrier forming positions.

I next call attention to the numerals 26 which designate hanger links. These links are pivotally mounted, as at 27, adjacent the handle 9. The lower ends 28 are formed into inturned suspension hooks to rockably support the foldable basket unit 29. It is to be understood that this basket can be built into the carriage or carrier or omitted as desired. When omitted, the rack at the bottom provides a convenient holder and transporting medium for an ordinary market basket. The preferred embodiment of the invention, however, is to have the foldable basket 29 as a part thereof.

Considering the preferred embodiment of the basket 29, it will be seen that it comprises longitudinal side members and transverse end members. The upper and lower rails 30 and 31 of the side walls or members are joined together by pivotally mounted wires 32 which form the desired retention elements. Similar wires 33 are connected to the U-shaped elements forming the foldable basket ends 35.

The numeral 36 unitarily designates the bottom of the basket, this including an open work grid of appropriate type, which grid includes longitudinal straps 37 to which the lower rails 31 of the basket 29 are rigidly connected. The upper curved ends of the legs 8 are pivotally attached as at 38 either to the members 37 or directly to the lower part of the basket. Thus, the basket is fulcrumed on the upper ends of the legs 8 and is suspended on the pendulous links 27. The upper ends of the links pivotally join the upper corner portions of the basket, as indicated at 39, to provide the desired thrust action for collapsing the basket when the two frames 7 and 8 are folded together on the pivots 15. As seen in Figure 4, the suspended end of the basket is provided with a cross-rod 40 located in the bifurcated portions 41 of the hooks 28.

It is evident that with the basket set up, as seen in Figure 1, and the carriage expanded, the device is in readiness to be maneuvered in the store for convenient shopping. When it is desired to fold the structure to the position seen in Figure 3, all that is necessary is to lift up the stay arms 13 including the basket rack 19. Then forcing the lower diverging portions of the leg frames 7 and 8 together, this brings the upper portions into closing relationship and exerts a thrust on the pivot points 38 of the legs 8. This swings the basket rearwardly, that is, toward the user, tilting the links 26 on the pivots 27. In so doing the upper pivoted ends 39 exert a folding stress on the basket 29 and the whole basket collapses into compact form, as seen in Figure 3.

Substantially the same basic principle of construction is seen in the modification depicted in Figure 6. Thus, the same numerals are employed to designate corresponding parts.

In this arrangement instead of the basket folding forwardly and downwardly, as seen in Figures 1 and 3, it folds upwardly and backwardly. This is accomplished by pivotally supporting the collapsible basket, as a unit, at the points 42 on the main leg frame 7. The upper ends of the legs 8 are here shown as pivotally attached as at 43, the connection being made through the instrumentality of folding links 44 forming features of the basket. The numeral 45 merely designates a rigidly mounted handle which is designed to lift and facilitate folding and collapsing of the basket and leg structure.

It is desirable to interpret the conception as comprising a pair of leg frames 7 and 8 pivotally joined together in intersecting relation, as shown at 15 in Figure 1, the leg frames being roller supported, and there being stay devices 13 to limit the spreading of the diverging portions of said frames when expanded. Thus, in this simple phase of the invention we would have a folding carriage roller supported to accommodate an ordinary market basket. As before intimated, however, it is more desirable to have not only the rack 19, but to have built into the leg or carriage structure the collapsible or foldable basket 29. Hence, by properly suspending and pivotally mounting the collapsible basket on the upper complemental ends of the leg frames, as said frames fold together, they exert simultaneous pressure for squeezing the readily foldable basket into its compact state, as seen in Figure 3. The same principle of operation is evident in Figure 6.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. A collapsible and mobile carriage for use in self-service stores comprising a pair of companion intersecting pivotally connected leg frames, collapsible basket supporting means mounted on the upper end portions of said frames, rollers attached to the lower end portions of said frames, a pair of duplicate links, said links being pivotally attached at corresponding ends to the lower end portions of the leg members of one of the frames at points above the adjacent rollers, a horizontal cross-piece between the leg members of the remaining frame adjacent the lower ends of said leg members, said links resting on and projecting beyond said cross-piece, a transverse connecting member between the free ends of said links, and a basket accommodation rack disposed between the links and wholly supported at one end by said transverse connecting member.

2. A collapsible and mobile carriage for use in self-service stores comprising a pair of companion intersecting pivotally connected leg frames, collapsible basket supporting means mounted on the upper end portions of said frames, rollers attached to the lower end portions of said frames, a pair of duplicate links, said links being pivotally attached at corresponding ends to the lower end portions of said leg members of one of the frames at points above the adjacent rollers, a horizontal cross-piece between the leg members of the remaining frame adjacent the lower ends of said leg members, said links resting on and projecting beyond said cross-piece, a transverse connecting member between the free ends of said links, and a basket accommodation rack disposed between the links and wholly supported at one end by said transverse connecting member, said rack embodying longitudinal side members having inclined portions

forwardly of said cross-piece, said inclined portions having cam sliding contact with the cross-piece to function as retention elements to maintain the leg frames spread apart.

3. In a collapsible, mobile style basket equipped carriage for use in self-service stores, a pair of complemental leg frames disposed in intersecting relation and having their intermediate portions pivotally connected together to dispose the respective end portions of the frames in diverging relationship when the structure is set up for use, a folding basket comprising parallel side units, said side units comprising longitudinal upper and lower members and vertical wires having their opposite ends pivotally connected to said members, duplicate end closing transversely disposed units of collapsible openwork construction having portions foldably attached to the opposite ends of the upper and lower members, a pair of pendulous suspension links, said links having their intermediate portions attached to opposed points on the companion leg members of one of said frames, the upper and lower ends of said links being pivotally connected with the adjacent end portions of the basket as a unit, the lower members of the sides of the basket having pivotal supporting and folding connection with the adjacent ends of the remaining leg frames.

4. An ambulatory carrier comprising a first inverted U-shaped frame having ground engaging rollers secured on the lower ends of its legs, a second frame, said second frame being of erect U-shape and having ground engaging rollers depending from the lower ends of the legs and at opposite ends of the bight portion thereof, said second frame having its legs disposed between the legs of the first frame, the adjacently positioned legs of the frames being crossed and pivoted together at their points of intersection, a basket support comprising a pair of laterally spaced lower longitudinal elements, a pair of laterally spaced upper longitudinal elements, upper and lower transverse elements connecting the opposite ends of the respective pairs of longitudinal elements, vertical elements pivotally connected between adjacent ends of the upper and lower longitudinal elements on either side of said basket support, first and second pivot means located above the pivotal intersections of the legs of the first and second frames, said first pivot means connecting the upper ends of the legs of said second frame to the said lower longitudinal elements intermediate the ends thereof, said second pivot means connecting the legs of said first frame to the vertical elements at one end of said basket support, whereby collapsing of said first and second frames toward each other causes said basket support to swing toward vertical alignment with the frames with the pairs of upper and lower longitudinal elements moved toward each other.

5. An ambulatory carrier comprising a first inverted U-shaped frame having ground engaging rollers secured on the lower ends of its legs, a second frame, said second frame being of erect U-shape and having ground engaging rollers depending from the lower ends of the legs and at opposite ends of the bight portion thereof, said second frame having its legs disposed between the legs of the first frame, the adjacently positioned legs of the frames being crossed and pivoted together at their points of intersection, a basket support comprising a pair of laterally spaced lower longitudinal elements, a pair of laterally spaced upper longitudinal elements, upper and lower transverse elements connecting the opposite ends of the respective pairs of longitudinal elements, vertical elements pivotally connected between adjacent ends of the upper and lower longitudinal elements on either side of said basket support, first and second pivot means located above the pivotal intersections of the legs of the first and second frames, said first pivot means connecting the upper ends of the legs of said second frame to the said lower longitudinal elements intermediate the ends thereof, said second pivot means connecting the legs of said first frame to the vertical elements at one end of said basket support, whereby collapsing of said first and second frames toward each other causes said basket support to swing toward vertical alignment with the frames with the pairs of upper and lower longitudinal elements moved toward each other, a U-shaped auxiliary basket support and spreader located below the pivotal intersections of the legs of the said frames, the free ends of the legs of the last-mentioned support being pivoted to and between the legs of said first frame above its rollers, the opposite end of the last-mentioned support being arranged to rest upon the bight portion of said second frame for support in the horizontal operative position thereof, the last-mentioned support having a depending cam surface for cooperation with the said bight portion of the second frame whereby upon collapsing movement of the frames the last mentioned support will be cammed out of horizontal position by the bight portion of said second frame toward vertical alignment with said frames.

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