Nov. 20, 1962 F. J. MARINO 3,064,667

PORTABLE LOADING CANOPY

Filed April 6, 1960 2 Sheets-Sheet 1

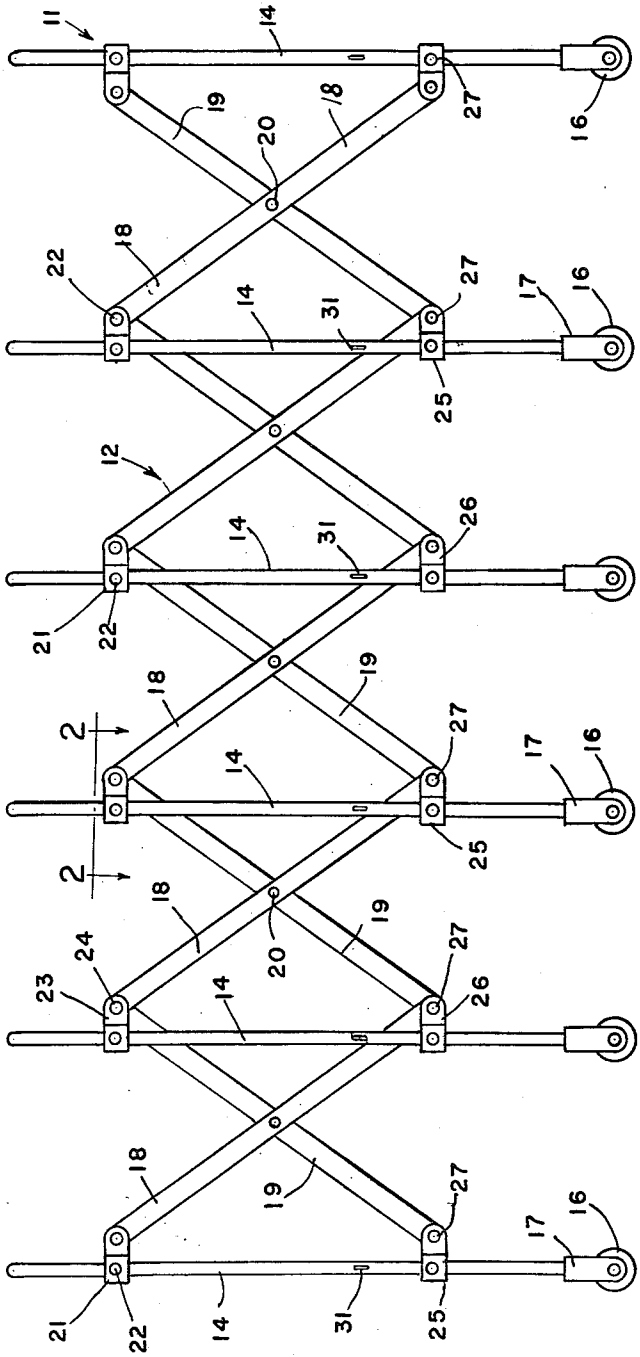

FIG. 1

INVENTOR.

FRANK J. MARINO

BY Philip B. Hilbert

ATTORNEY

Nov. 20, 1962 F. J. MARINO 3,064,667

PORTABLE LOADING CANOPY

Filed April 6, 1960 2 Sheets-Sheet 2

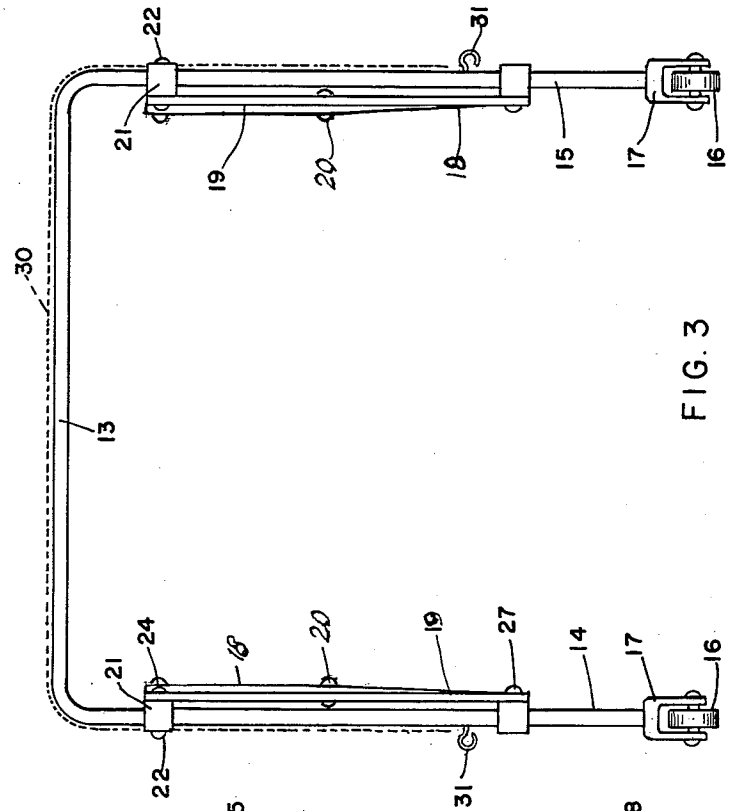

FIG. 3

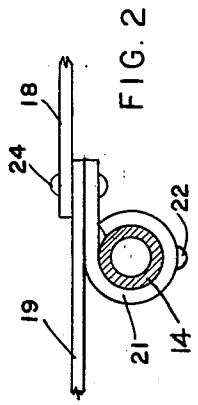

FIG. 2

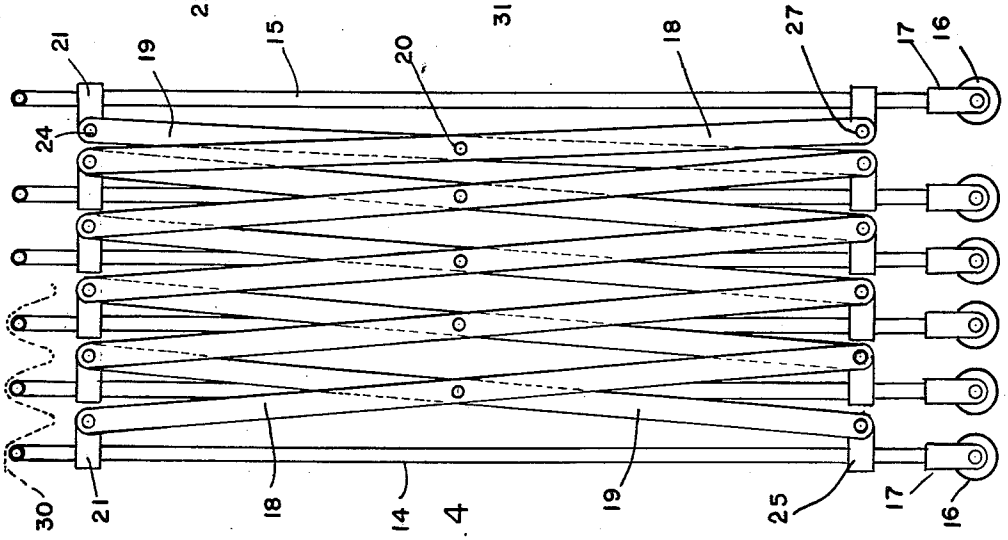

FIG. 4

INVENTOR.
FRANK J. MARINO

BY Philip B. Hilbert

ATTORNEY

United States Patent Office 3,064,667 Patented Nov. 20, 1962

3,064,667

PORTABLE LOADING CANOPY

Frank J. Marino, 8802 Foster Ave., Brooklyn, N.Y.

Filed Apr. 6, 1960, Ser. No. 20,474
4 Claims. (Cl. 135—7.1)

This invention relates to a portable canopy which is particularly useful in connection with the loading or unloading of goods and the transfer of the same between warehouses, loading docks, piers, ships, trains and the like.

In loading and unloading operations, it is desirable to protect the goods being handled, as well as the handlers, from adverse weather conditions. However, the open area which is to be covered to achieve the desired protection, and extends between a ship, train or trunk on the one hand, and the loading dock, warehouse or the like, on the other hand, may vary substantially in length.

Accordingly, one object of this invention is to provide an improved loading canopy which is extensible to various lengths, to enclose open areas of varying lengths; such canopy being contractible to minimum longitudinal extent; and further, being portable, so as to simplify storage of the canopy when not in use.

Another object of this invention is to provide an improved portable loading canopy, which is of relatively simple construction and inexpensive to manufacture; which is readily manipulated to extend or contract the same; and which may be easily moved to any desired location for either use or storage.

A further object of this invention is to provide an improved portable loading canopy which may be moved to any desired location of an exposed nature for protecting goods deposited in such location.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

In the drawing,

FIG. 1 is a side elevational view of a portable canopy embodying the invention;

FIG. 2 is a sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is an end view thereof; and

FIG. 4 is side elevational view thereof showing the canopy in contracted condition.

Essentially, the portable canopy embodying the instant invention comprises a plurality of U-shaped frames in inverted, parallel relation; the side portions of the frames being interconnected by movable means which permits the frames to be extended to vary the length of the canopy, and to be contracted to compact form when the device is not in use. A flexible covering is applied to the frames for coextensive movement with the frames, as the same are extended or contracted. The frames are provided with rollers at their lower ends to facilitate the movement of the canopy.

Thus, as shown in FIGS. 1–3, the portable canopy embodying the invention is generally indicated at **10**. The same comprises a plurality of inverted U-shaped frame members **11** which are disposed in parallel relation and interconnected by linkages **12**, which permit frame members **11** to be displaced from each other, to an extended position, or to be contracted.

Each frame member **11** comprises a top portion **13** and depending side portions **14, 15**. Rollers **16** are mounted in brackets **17**, which in turn are affixed to the lower ends of frame portions **14, 15**.

Each linkage **12** comprises a pair of similar bars **18, 19** interpivoted at their mid-portions as at **20**. A series of collars **21** are respectively fixed on upper portions of frame side portions **14, 15** by cross pins **22**. Each collar **21** includes a laterally projecting portion **23** to which the

overlapped upper ends of bars **18, 19** are pivoted as by a pivot pin **24**. The collars **21** are maintained at a common horizontal level on frame portions **14, 15**.

A series of collars **25** are slidably mounted on frame portions **14, 15**; said collars **25** having laterally projecting portions **26**. The lower, overlapped ends of bars **18, 19** are pivoted on collar portions **26** by pivot pins **27**. It will be apparent that the collars **21, 25** on the opposite end frames **11** have single bars **18, 19** pivoted thereto.

A flexible, weatherproof covering **30** of canvas or plastic coated fabric, is disposed over the exterior of frames **11** and suitably lashed to frame portions **13, 14** and **15**, in a manner known in the art. It will be apparent that covering **30** will be stretched when frames **11** are extended, and will pleat and fold between the frames **11**, when the same are moved toward each other, as indicated in FIG. 4.

Thus, frames **11** may be moved away from each other through operation of linkages **12**, to any desired length within the limit of maximum extension, thereby accommodating a particular length of open spacing between loading platforms, trucks and the like, which is to be enclosed. Rings **31** on frame portions **14, 15** at the lower ends thereof, may be used to lash the canopy **10** to cleats or the like on floors, door frames or the like, to secure said canopy **10** against movement.

Since canopy **10** is highly mobile, the same may be readily moved from place to place, as desired. Furthermore, the canopy may be used as an independent shelter on piers or the like, the same being extended to desired length for protecting cargo or the like disposed on the pier.

The frame members **11** and linkages **12** may be formed from aluminum or other light alloys, to minimize weight of the same. Furthermore, the members **11** and linkages **12** may be of channel or other suitable cross section to attain maximum strength.

As various changes might be made in the embodiment of the invention herein shown without departing from the spirit thereof, it is understood that all matter herein shown or described shall be deemed illustrative and not limiting except as set forth in the appended claims.

Having thus disclosed my invention, I claim as new and desire to protect by Letters Patent:

1. A portable canopy comprising a plurality of inverted U-shaped frames, each frame comprising a top portion and side portions depending from opposite ends of said top portion, means for interconnecting said frames for movement toward and away from each other, said interconnecting means comprising a plurality of pairs of interpivoted bars, each pair of interpivoted bars being located between the side portions of a pair of adjacent frames, first collar means fixedly mounted on the side portions of each frame of said pair of frames, means pivotally connecting one end of one bar in a pair of interpivoted bars to the first collar means on one frame of said pair of adjacent frames, means pivotally connecting one end of the other bar in said pair of interpivoted bars to the first collar means on the other frame of said pair of adjacent frames, second collar means slidably mounted on the side portions of each frame of said pair of adjacent frames, means pivotally connecting the other end of said one bar to the slidable collar means on the other frame of said one pair of adjacent frames, and means pivotally connecting the other end of said other bar to the slidable collar means on the one frame of said one pair of adjacent frames.

2. A canopy as in claim 1 wherein each of said interpivoted bars has a length substantially equal to the length of said frame side portions.

3. A portable canopy comprising a plurality of in-

verted U-shaped frames, each frame including a top portion and side portions, a plurality of sets of linkage means interconnecting said frames to allow said frames to be moved toward and away from each other, each linkage means comprising a pair of bars interpivoted at their midportions and located between the side portions of a pair of adjacent frames, means fixed on a portion of the side portions of each frame of said pair of adjacent frames and respectively pivotally connected to one end of each bar of said pair of interpivoted bars, means slidably mounted on another portion of each frame of said pair of adjacent frames and respectively pivotally connected the other end of each bar of said pair of interpivoted bars, and flexible covering means secured to the top and side portions of said frames for concurrent movement therewith as said frames are moved toward and away from each other.

4. A canopy as in claim 3 wherein said fixed means comprises a collar mounted on the upper portion of the

side portions of each frame and the slidable means comprises a collar slidably mounted on the lower portion of the side portions of each frame, and further including roller means at the lower ends of the side portions of said frames.

References Cited in the file of this patent

UNITED STATES PATENTS

364,034	Nye	May 31, 1887
675,519	McDonnell	June 4, 1901
694,097	Freuler	Feb. 25, 1902
2,470,337	Campbell	May 17, 1949
2,486,170	Kavanaugh	Oct. 25, 1949
2,598,844	Simons	June 3, 1952

FOREIGN PATENTS

626,838	France	May 21, 1927