United States Patent [19]

Stoneburner

[11] **3,829,148**

[45] **Aug. 13, 1974**

[54] **COIL RACK**

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[22] Filed: **Feb. 7, 1973**

[21] Appl. No.: **330,277**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 151,180, June 9, 1971, Pat. No. 3,724,675.

[52] **U.S. Cl.** ..... **296/3,** 211/13, 105/369 B, 105/367, 280/179 R

[51] **Int. Cl.** **B60p 9/00**

[58] **Field of Search** ..... 296/3, 35; 280/179; 105/367, 369 R, 369 A, 369 B; 214/10.5 R; 211/13

[56] **References Cited**

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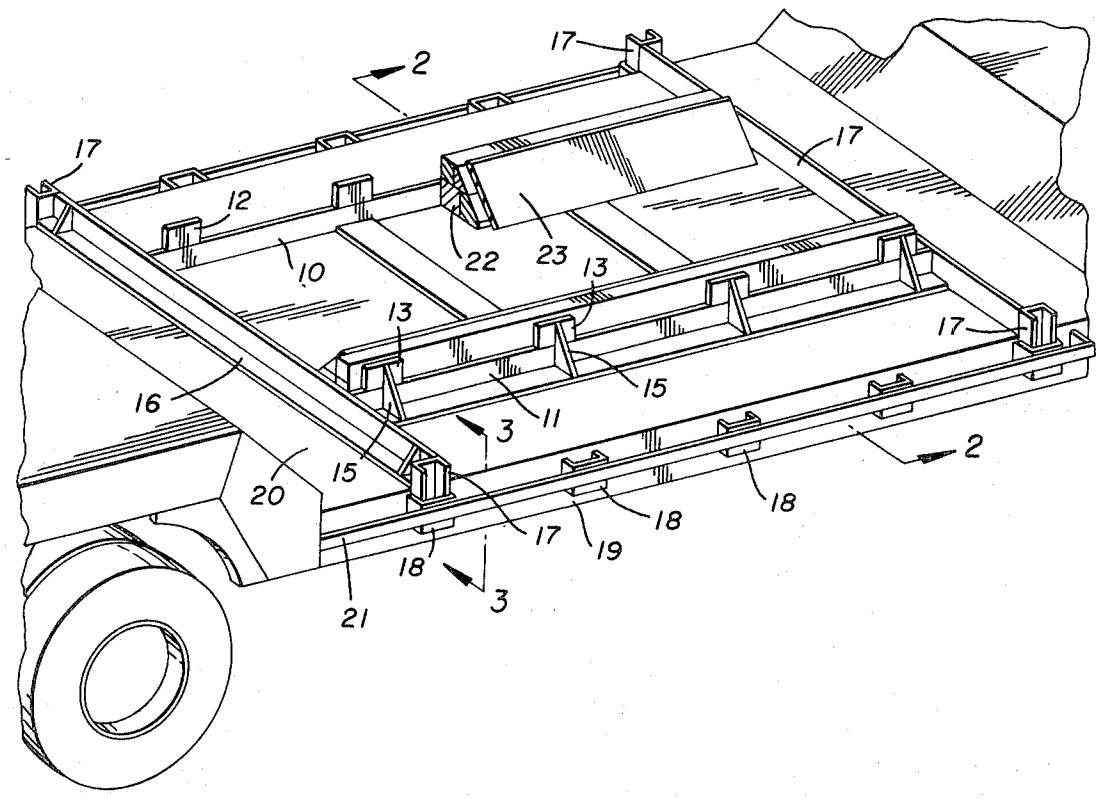
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Primary Examiner—Philip Goodman
Attorney, Agent, or Firm—Webster B. Harpman

[57] **ABSTRACT**

A rack for heavy steel coils has a pair of spaced parallel reinforced frame members with a plurality of secondary frame members positioned therebetween and transversely positioned angle members having stake pocket engaging configurations on their outer ends positioned at each of the ends of the spaced parallel reinforced frame members and secured thereto. Built up wooden coil cushioning members are positioned in oppositely disposed relation on the inner sides of the spaced parallel reinforced frame members for directly receiving and holding heavy steel coils.

8 Claims, 3 Drawing Figures



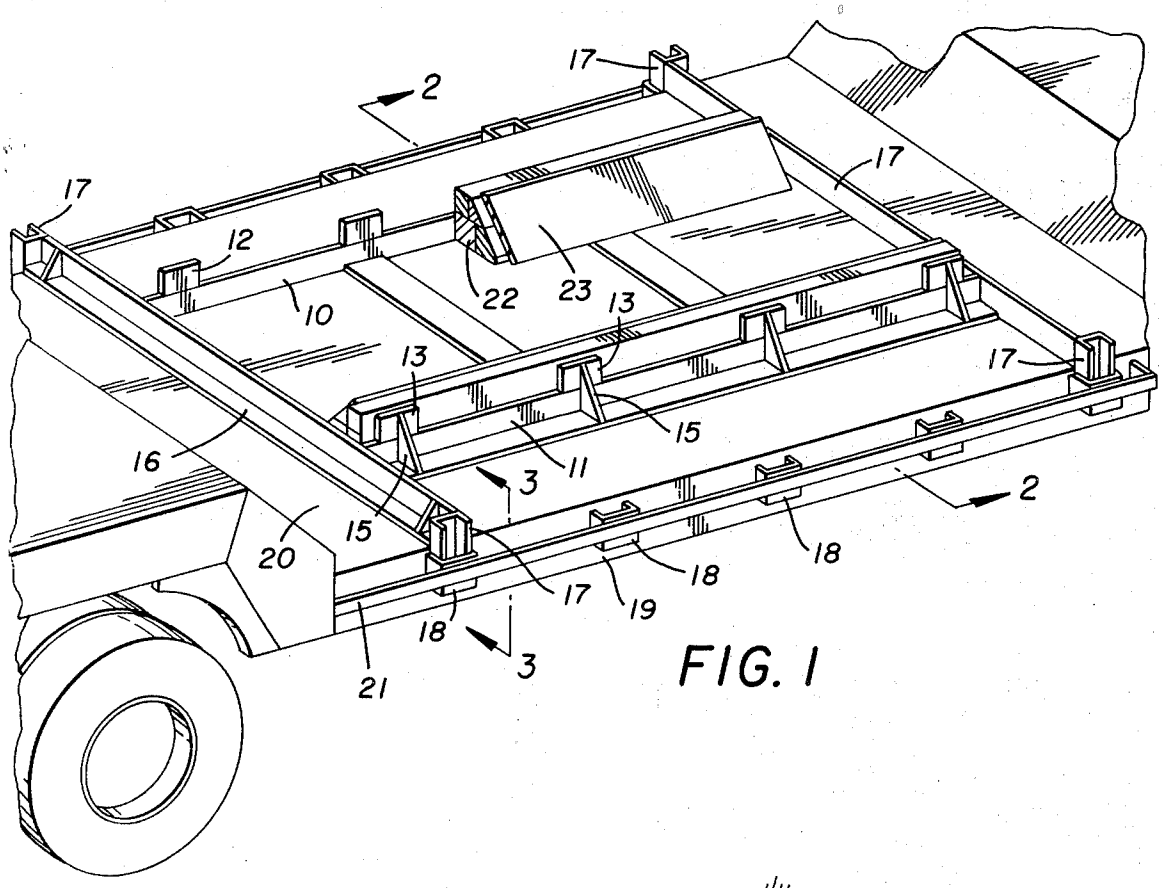


FIG. 1

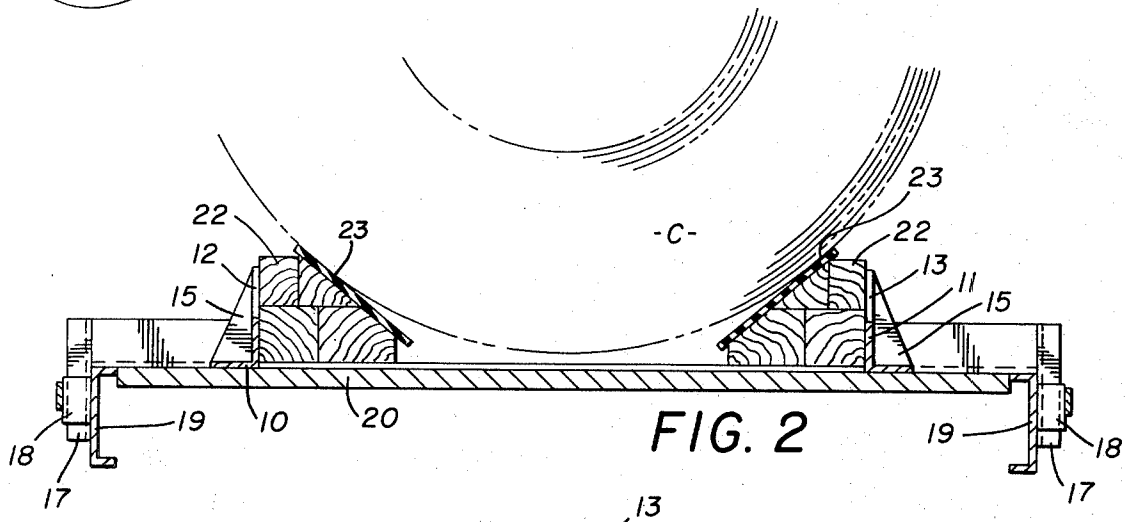


FIG. 2

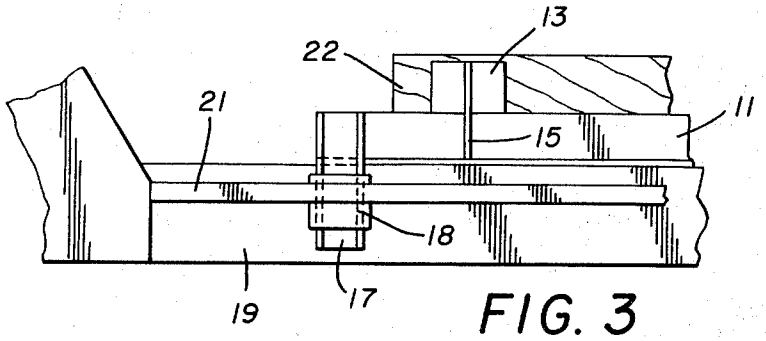


FIG. 3

COIL RACK

The invention is a continuation-in-part of my application for patent, Ser. No. 151,180, filed June 9, 1971 on HOT COIL RACK, now U.S. Pat. No. 3,724,675.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to coil racks of the type normally employed to support coils of rolled steel products and the like.

2. Description of the Prior Art

Prior structures of this type have usually comprised spaced, parallel wooden 4 × 4 members temporarily fastened to a flat bed trailer. Metal coil racks have been proposed for use in railway cars and for use on flat bed trailers, (see U.S. Pat. Nos. 3,291,073 and 3,460,684).

My co-pending patent application Ser. No. 151,180, filed June 9, 1971 on a HOT COIL RACK now U.S. Pat. No. 3,724,675, issued Apr. 3, 1973, comprises the only structure known having a similar configuration and is provided with heat insulation means.

This invention enables large heavy coils of strip steel to be loaded on special trailers for over-the-road transport thereby enabling faster and less expensive transport of such heavy coils than heretofore believed possible with conventional railway facilities.

SUMMARY OF THE INVENTION

A coil rack for large heavy coils of strip steel and arranged for positioning on a highway trailer or the like comprises a pair of spaced parallel reinforced frame members with secondary frame members positioned therebetween and transversely positioned angle members at each of the ends of the spaced parallel reinforced frame members. The transversely positioned angle members extend beyond the spaced parallel reinforced frame members and are provided with stake pocket engaging members on their outermost ends for registry with stake pockets on the trailer. Wooden members positioned inside and parallel with the spaced parallel reinforced frame members receive and cushion the heavy steel coils with respect thereto. Chains are secured to the trailer and passed over and through the coils on the coil rack and tensioned with binder clamps to insure the positioning of the coils on the coil rack.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a portion of a trailer having a lowered center section with the coil rack positioned thereon.

FIG. 2 is a cross sectional elevation on line 2—2 of FIG. 1 and,

FIG. 3 is a vertical section on line 3—3 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In its simplest form the coil rack for large, heavy steel coils consists of a pair of spaced, parallel reinforced frame members **10** and **11** as seen in FIGS. **1** and **2** of the drawings and which frame members **10** and **11** are cross sectionally angular in configuration and provided at spaced intervals longitudinally thereof with a plurality of blocks **12** and **13** which are welded to the upper edges of the frame members **10** and **11** respectively and additionally secured thereto by a plurality of triangular reinforcing brackets **14** and **15** respectively, the lower edges of which are welded to the horizontal portions of the spaced parallel reinforced frame members **10** and **11** respectively.

Transversely positioned angle members **16** and **17** are positioned at and secured to the opposite ends of the spaced, parallel reinforced frame members **10** and **11** and are of lengths greater than the spacing of the frame members **10** and **11** and provided at each of their outermost ends with stake pocket engaging members **17** which depend below the plane of the lower surfaces of the transversely positioned angle members **16** and **17.**

Still referring to FIGS. **1** and **2** of the drawings, it will be seen that the stake pocket engaging members **17** are illustrated as engaged in stake pockets **18** which are welded to or formed integrally with side frame members **19** of the trailer which frame members **19** are welded to or integrally formed with the flat bed **20** of the trailer. Rails **21** are positioned along the outer sides of the pockets **18** and flush with the opposite end portions of the trailer.

In the drawings, wooden members **22** will be seen in position along the inner sides of the spaced, parallel reinforced frame members **10** and **11** with at least two of the wooden members having angular surfaces forming an angular plane with respect to the vertical walls of the spaced, parallel reinforced frame members **10** and **11** as well as the flat bed **20** of the trailer. Sections of belting **23** are preferably positioned on the inclined surfaces of the wooden members **22** so as to receive and cushion the large, heavy coils of steel which are positioned thereon.

By referring to FIG. **2** of the drawings a broken line representation of the lower portion of such a coil of steel may be seen and it will be observed that it rests on the sections of belting **23,** its weight being supported by the wooden members **22** and carried on the flat bed **20** of the trailer and well between the spaced, parallel reinforcing frame members **10** and **11.** When one or more coils are positioned on the coil rack as seen in FIG. **1** of the drawings, binder clamps and chains are used to secure the coils to the trailer and in position in the rack as will be understood by those skilled in the art. Preferably such chains are passed over the coils and secured at their ends with binder clamps to the stake pockets **18** and/or the rails **21** and additional chains are positioned through the coils with their ends secured to the stake pockets **18** as aforesaid.

The coils are covered with waterproof membrane and means is positioned between the chains and the coils to protect the steel in the coils from damage. Such coils weighing for example 75,000 lbs. and formed of strip steel 80 inches wide may be easily and quickly loaded in the coil rack of the invention, positioned on the lowered center section of the trailer arranged to hold the same and the coils quickly and inexpensively transported to fabricators located a considerable distance from the rolling mills producing the coils.

The several components of the coil rack are welded together to form an exceedingly strong integral structure with the stake pocket engaging members **17** arranged to engage stake pockets on the trailer. Those skilled in the art will observe that the coil rack of the invention may be advantageously positioned on and used with special over-the-road trailers heretofore designed for handling heavy earth moving equipment and

the like with the modifications of the stake pockets added thereto in proper positioning for the reception of the stake pocket engaging members **17** which act to insure against sideward motion of the coil rack relative to the trailer.

Although but one embodiment of the present invention has been illustrated and described, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit of the invention.

I claim:

1. A coil rack for a trailer having a flat bed portion with openings therein and consisting of a pair of spaced longitudinally extending parallel frame members arranged longitudinally of said flat bed portion for receiving a coil with its axis parallel thereto, means extending between and engaging and holding said spaced parallel frame members in spaced parallel relation and a pair of transversely positioned secondary frame members joined to the opposite ends of said spaced parallel frame members, depending members on said transversely positioned secondary frame members arranged to engage said openings so as to hold said coil rack on said trailer.

2. The coil rack of claim **1** and wherein the parallel frame members have vertical walls in opposed relation and blocking members located therebetween and against said vertical walls and arranged to support said coil.

3. The coil rack of claim **1** and wherein the parallel frame members are cross sectionally angular and braces are secured thereto so as to maintain said angular shape.

4. The coil rack of claim **1** and wherein the parallel frame members are cross sectionally angular with vertical portions thereof defining opposed walls and horizontal portions thereof extending outwardly oppositely therefrom and triangular braces are secured between said vertical and horizontal portions so as to maintain said angular shape, blocks positioned along the upper edge of said vertical portions to increase the effective height thereof in longitudinally spaced areas thereof.

5. The coil rack of claim **1** and wherein said secondary frame members are joined to said parallel frame members at the ends thereof and extend therebeyond.

6. The coil rack of claim **1** and wherein said means extending between and engaging said parallel frame members consists of transversely positioned members in tension arrangement so as to prevent said parallel frame members from moving away from one another.

7. The combination of an over-the-road trailer having a flat bed and openings along the sides thereof and a coil rack consisting of a pair of parallel frame members arranged longitudinally of said flat bed for receiving a coil with its axis parallel thereto, cross frame members joining said parallel frame members, some of said cross frame members extending outwardly beyond said parallel frame members, depending members formed on the extending cross frame members and engaged in said openings in said flat bed of said trailer.

8. The combination set forth in claim **7** and wherein the trailer has a depressed section defining said flat bed so as to permit carrying of coils of greater diameter on said coil rack within a predetermined overhead clearance.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,829,148 Dated August 13, 1974

Inventor(s) Jerry L. Stoneburner

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

The patentee's address is corrected to read ---
P.O. Box 277, North Jackson, Ohio 44451---

Signed and sealed this 5th day of November 1974.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents