June 26, 1962 E. A. FEIFERT 3,041,001

COLLAPSIBLE SPIDERS

Filed Feb. 10, 1959

FIG. 1

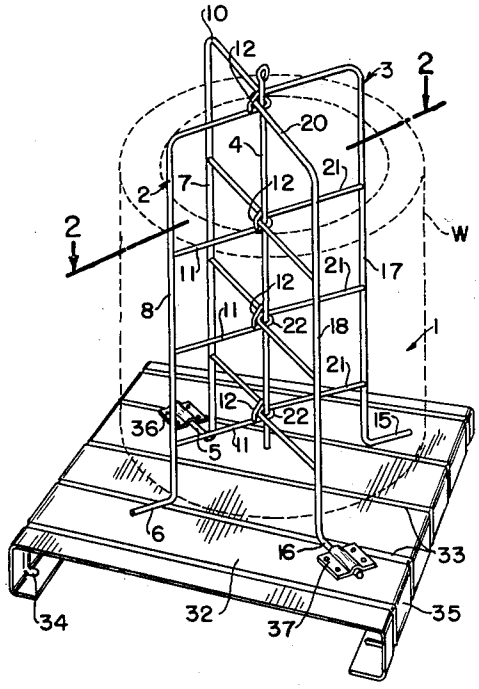


FIG. 2

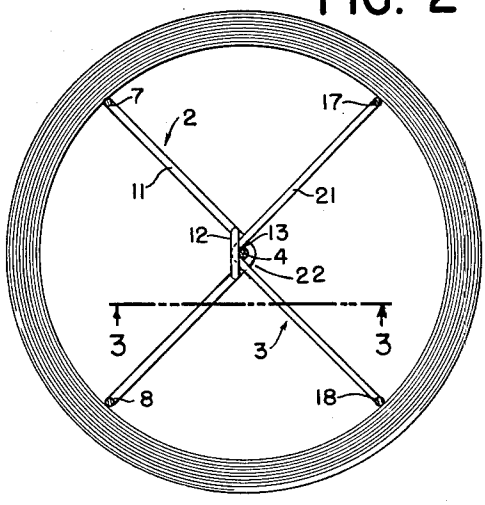


FIG. 3

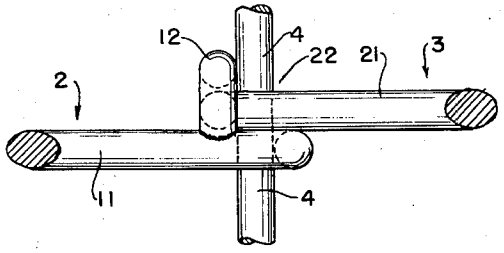


FIG. 4

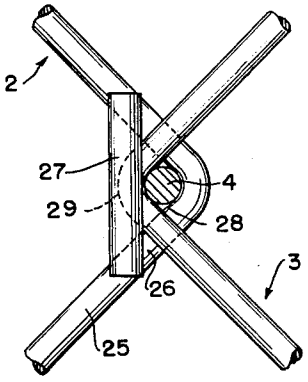
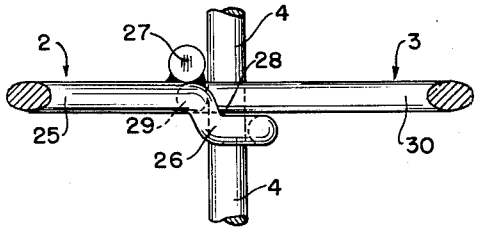


FIG. 5



INVENTOR
EDWARD A. FEIFERT

BY Pennie, Edmonds, Morton
Barrows & Taylor
ATTORNEYS

United States Patent Office 3,041,001
Patented June 26, 1962

3,041,001

COLLAPSIBLE SPIDERS

Edward A. Feifert, Orinda, Calif., assignor to The Colorado Fuel and Iron Corporation, Denver, Colo., a corporation of Colorado

Filed Feb. 10, 1959, Ser. No. 792,307
4 Claims. (Cl. 242—55.54)

This invention relates to the so-called spiders or metal frames similar to reels on which wire is wound and distributed to customers by the wire manufacturers, and has for its object the provision of an improved spider which is collapsible, and the combination of the collapsible spider and a pallet with which the spider is removably attached.

It has been the practice heretofore to wind wire around spiders or reels which are supported on pallets and to ship the loaded reel and pallet to the customer. When the wire has been consumed the reel or spider and pallet are destroyed because they are too bulky and cumbersome to be returned on an economical basis.

The collapsible spider and pallet of the invention can be dismantled and arranged in a small space making it practical to return them to the wire manufacturer for re-use. Moreover, they have the advantage of requiring less storage space.

The collapsible spider comprises two parts each of which has two upright connected legs, angular connecting bars and means for removably connecting the two parts together. The two spider parts are preferably arranged with the apexes of the connecting bars overlapping, and are held together by means of a removable locking pin inserted between the overlapping bars. The legs preferably have lateral feet which can be removably attached to the pallet.

The pallet may be made of pressed steel or wood and has sockets for the attachment of the feet. The sockets are preferably in the form of clips which can be connected to steel pallets as by welding or to wooden pallets by nails or bolts.

These and other novel features of the invention will be better understood with reference to the accompanying drawings in which—

FIG. 1 is a perspective view of a spider-pallet combination of the invention showing in broken lines a supply of wire;

FIG. 2 is a sectional view at 2—2 of FIG. 1;

FIG. 3 is a fragmentary enlarged view at 3—3 of FIG. 1; and

FIGS. 4 and 5 are fragmentary plan and side views of a modification.

The combination of collapsible spider and pallet illustrated in the drawings comprises a spider 1 consisting of two parts 2 and 3 which are almost identical, and a coupling pin 4. The part 2 is formed of a metal rod having lateral feet 5 and 6, upright reel rods 7 and 8 and a horizontal top 10 bent at right angles. At spaced intervals between the feet and the top a plurality of identical right angle stay-bars 11 are attached. The top and the stay-bars are similarly proportioned and each has a short cross-bar 12 welded across the angle so as to form an enclosed space 13 at the apex for the insertion therein of the coupling pin 4. These cross-bars are each in the general form of an inverted U so as to provide a space between the stay-bars 11 and the cross-bars 12 for the insertion of the stay-bars of spider 3.

The part 3 is also formed of a metal rod and has lateral feet 15 and 16, upright reel rods 17 and 18, and an integral horizontal top bar 20 bent at right angles. At spaced intervals between the feet and the top 20, a plurality of identical right-angle stay-bars 21 are attached.

The spaces 22 at the apexes of the angles of top 20 and bars 21 coincide with the spaces 13 when the two halves are assembled forming a common opening for the insertion of pin 4 which provides an interlocking engagement as shown in FIGS. 1, 2 and 3. When the pin 4 is inserted through the coincident holes 13 and spaces 22, the two spider halves are permanently secured together, and can easily be separated on removal of the pin.

A modification of the means for connecting together the two spider halves 2 and 3 is shown in FIGS. 4 and 5. In this form of the invention the top and stay-bars 25 of one spider have an off-set 26 near the apex of the angle and the cross-bar 27 is attached straight across the angle to form the space 28 for the insertion of the apex part 29 of the stay-bars 30 of the opposite spider part 3. The top and stay-bars 25 of spider part 2 and the top and stay-bars 30 of part 3 are interconnected and locked together with the pin 4 as shown in FIGS. 4 and 5.

The spider-pallet combination illustrated in FIG. 1 comprises a pallet formed of sheet metal having a flat top 32, stiffened with creases 33, and supporting legs 34 and 35 on two of the opposite sides. The assembled spider rests upon the flat top and at least two of the feet are secured to the pallet by means of clips 36 and 37 which straddle the feet and secure them to the pallet. It will be noted that only the foot 5 of spider-part 2 and the foot 16 of the other spider-part 3, which are diametrically opposite, are used to secure the spider to the pallet. When the pallet is made of metal, the clips may be welded or bolted to the top and when it is made of wood, the clips may be nailed to the top. In either case, one foot of each spider half is slipped into a pocket between the clip and the pallet top, and when the spider halves are locked together by the pin 4, the spider is secured to the pallet.

The spider is wound with the wire W as shown in broken lines, FIG. 1, and the spider, wire and pallet are shipped to the customer, for example, a factory or hardware store. When the wire has been removed, the pin 4 is pulled out, the two spider halves are removed from the clips and the resulting parts can be arranged in a compact package for return to the wire mill for re-use.

I claim:

1. A spider-pallet combination for receiving a coil of wire comprising a spider consisting of two half-parts each having two similar and independent upright reel-bars and an integral connecting top, a plurality of stay-bars fixedly connected to and interconnecting the upright reel-bars of each half part, the top and at least one of the stay-bars of each half-part including connecting means engageable with the connecting means of the other half-part, a removable coupling member for engaging the connecting means of the two half-parts and locking them together, a pallet on which the spider and coil of wire are supported, and means for removably connecting the two half-parts to the pallet, whereby removal of the coupling member permits separation of the two half-parts and their removal from the pallet.

2. A spider-pallet combination as defined in claim 1 in which the connecting top and stay-bars are bent at about right angles to form respective apexes, and in which

the connecting means on one half-part comprises the apexes thereof and the connecting means on the other half-part comprises the apexes thereof plus associated receiving means into which the apexes of the first-mentioned half-part may be inserted.

3. A spider-pallet combination as defined in claim 1 in which the means for removably connecting the two half-parts to the pallet comprises at least two clips on the pallet for the removable attachment thereto of the spider.

4. A spider-pallet combination as defined in claim 1 in which each half-part of the spider has a lateral foot integral with the reel-bar and at least one foot of each half-part being attached to the pallet.

References Cited in the file of this patent

UNITED STATES PATENTS

1,286,085	Peters	Nov. 26, 1918
1,497,506	Hagman	June 10, 1924
2,644,650	Burke	July 7, 1953